

TOSHIBA

Qosmio G20

Portable Personal Computer

User's Manual

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*TOSHIBA Qosmio G20 Portable Personal Computer User's Manual*

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## 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.

## Optical disc drive safety instructions



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

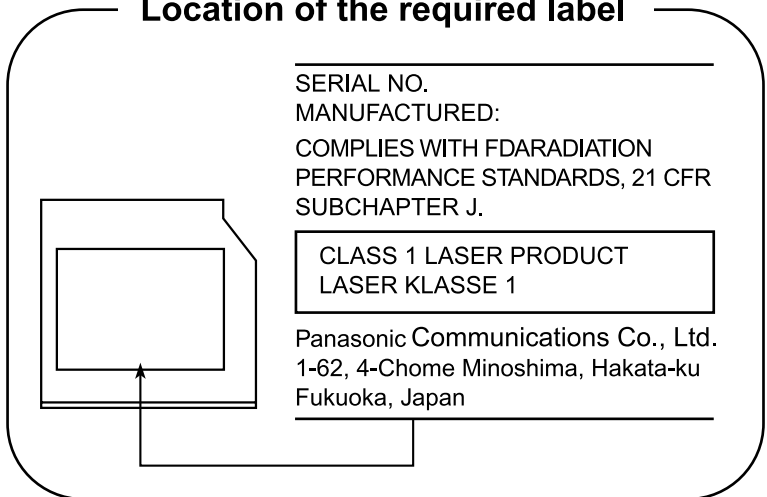
### Panasonic

#### DVD Super Multi with Double Layer Recording UJ-845



- *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



## International precautions

CLASS 1 LASER PRODUCT  
LASER KLASSE 1 PRODUKT  
TO EN 60825-1

**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 UDSÆTTSELSE  
FOR STRÅLING

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

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

*Indvendigt i apparatet er anbragt den her gengivne advarselsmærkning, 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.** Suojakoteloä si saa avata. Laite sisältää laserdiodin, joka lähettää näkymätöntä silmille 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.





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# Preface

Congratulations on your purchase of the Qosmio G20 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 manual tells how to set up and begin using your Qosmio G20 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*.

If you are going to install PC cards or connect external devices such as a monitor, be sure to read Chapter 9, *Optional Devices*.

## Manual contents

This manual is composed of the following ten chapters, eight 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 (optional), TV Tuner (optional), 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, Front operation panel and QosmioPlayer*, explains how to use the Remote Controller on TV Tuner 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 appear on its display screen are 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 *Safety Instruction Manual*. 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

### **LCD**

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

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

### **CPU**

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)

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 Requirements* in Appendix A.

### ***Copy Protection***

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

### ***HDD Drive Capacity***

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

### ***Non-applicable Icons***

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

### ***Wireless LAN/Atheros***

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.

[xxMbps 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.

### ***SRS***

SRS TruSurround XT is available only when using WinDVD applications. SRS WOW is available only when using Windows Media Player 10 in the standard Windows interface.

### ***TV Tuner***

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

### ***Images***

All images are simulated for purposes of illustration.

### ***Qosmio™ Player***

The Qosmio™ Player is not a Windows based application. Battery life will be less than when using similar applications in a Windows operating system.

### ***LCD Brightness and Eye Stain***

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.

### ***Safety Use for TV Tuner***

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 adapter 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.



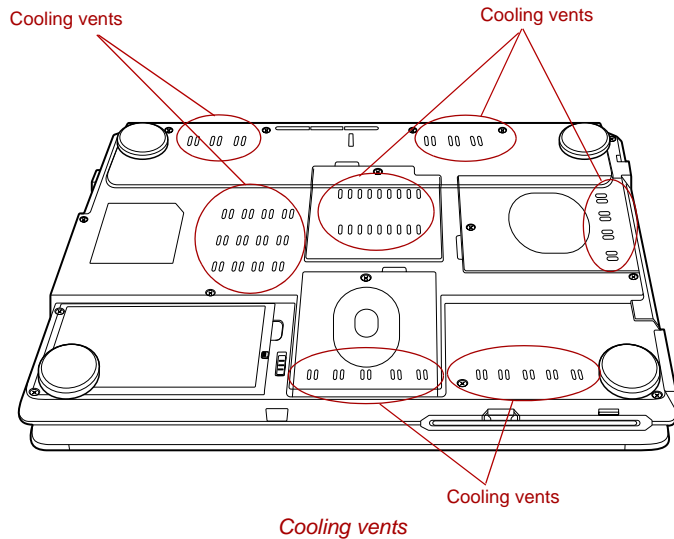
## The cautions on use of a Qosmio G20 series computer

1. Cleaning of dust accumulated on the cooling vent of the computer.



*When you use your computer in a dusty area, dirt and debris may accumulate on the cooling vents at the under side of your unit. If this occurs, the accumulated dust can cause insufficient heat dissipation which may result in the computer shutting down during use. Carefully clean the dust from the vents using a vacuum cleaner.*

2. Cooling vents on the underside of the computer.



*To prevent possible overheating of the CPU, make sure the cooling fan's air intake is not blocked. The fan draws in air by creating a vacuum. If the fan is blocked, it could cause the CPU to run at a lower performance level or cause the computer to shut down. Loose items such as notebook and tissue paper, plastic wrappers, or other similar materials can block the air intake, preventing air from reaching the CPU. Do not use the computer on surfaces with objects that can be drawn in by the cooling fan.*



## 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 G20 Portable Personal Computer
- AC adaptor and power cord
- Modular cable (optional)
- Monitor-in cable (TV Tuner models only)
- Remote Controller (TV Tuner models only)
- Remote control receiver (Windows XP Media Center Edition models only)
- Infrared transmitter cable (Windows XP Media Center Edition model only)
- Antenna adaptor (optional)

## 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 Assist
  - TOSHIBA Controls
  - TOSHIBA PC Diagnostic Tool
  - TOSHIBA Touch and Launch
  - TOSHIBA TouchPad On/Off Utility
  - TOSHIBA Zooming Utility
  - TOSHIBA Picture Enhancement Utility
  - InterVideo WinDVR (TV Tuner models only)
  - TOSHIBA SD Memory Card Format
  - TOSHIBA Acoustic Silencer
  - TOSHIBA Virtual Sound
  - TOSHIBA Hotkey Utility for Display Devices
  - TOSHIBA Display Device Change Utility
  - TOSHIBA Password Utility
  - TOSHIBA RAID Utility
  - Wireless Hotkey
  - Online manual
- Product Recovery DVD-ROM

## **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 Assist
  - 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 Virtual Sound
  - TOSHIBA Hotkey Utility for Display Devices
  - TOSHIBA Display Device Change Utility
  - TOSHIBA Password Utility
  - TOSHIBA RAID Utility
  - Wireless Hotkey
  - Online manual
- Product Recovery DVD-ROM

## Documentation

- *Qosmio G20 Portable Personal Computer User's Manual*
- Qosmio G20 Quickstart
- *Safety Instruction Manual*
- QosmioPlayer Software License Agreement
- Warranty information

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

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<b>Built-in</b>	The computer is equipped with an Intel® Pentium® M processor, which incorporates a 2MB level 2 cache memory. It also supports Enhanced Intel® SpeedStep™ technology.
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*Some models in this series carry Intel® Centrino™ technology, which is based on three separate technologies of Intel® Pentium® M processor, Intel® PRO/Wireless Network Connection, and Intel® 915 Chipset Family.*

### Memory

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<b>Slots</b>	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.
<b>Video RAM</b>	64 or 128 MB of dedicated RAM is provided for video display.

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### Power

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<b>Battery pack</b>	The computer is powered by one rechargeable lithium-ion battery pack.
<b>RTC battery</b>	The internal RTC battery backs up the Real Time Clock and calendar.
<b>AC adaptor</b>	<p>The AC adaptor provides power to the system and recharges the batteries when they are low. It comes with a detachable power cord.</p> <p>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 <a href="#">AC adaptor</a> section in Chapter 2, <i>The Grand Tour</i>.</p>

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## Disks

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<b>Hard disk drive</b>	<p>Available in three sizes.</p> <ul style="list-style-type: none"> <li>■ 60.0 billion bytes (55.88 GB)</li> <li>■ 80.0 billion bytes (74.52 GB)</li> <li>■ 100.0 billion bytes (93.16GB)</li> </ul> <p>Depending on your configuration, your computer is equipped with either one or two hard disk drives.</p> <p>Other hard disk drives may be introduced.</p>
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<b>DVD Super Multi drive Double Layer (UJ-845)</b>	<p>Your computer is equipped with a full-size DVD Super Multi drive module that lets you record data to rewritable CD/DVDs as well as run 12cm (4.72") CD/DVDs. 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 5 speed.</p>
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## 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.



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<b>Built-in</b>	17" TFT screen 16 M colors, with a resolution of 1440 horizontal × 900 vertical pixels WXGA+.
<b>Graphics controller</b>	Graphics controller maximizes display performance. Refer to Appendix B, <a href="#">Display Controller and Modes</a> , for more information.

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## Keyboard

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<b>Built-in</b>	85 keys or 86 keys, compatible with IBM® enhanced keyboard, embedded numeric overlay, dedicated cursor control,  and  keys. Refer to Chapter 5, <a href="#">The Keyboard</a> , for details.
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## Pointing Device

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<b>Built-in Touch Pad</b>	A Touch Pad and control buttons in the palm rest enable control of the on-screen pointer and scrolling of windows.
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## Ports

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<b>External monitor</b>	Analog VGA port supports VESA DDC2B compatible functions.
<b>Universal Serial Bus (USB 2.0)</b>	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).
<b>i.LINK™ (IEEE1394)</b>	This port enables high-speed data transfer directly from external devices such as digital video cameras.

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## Slots

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<b>PC card</b>	The PC card slot accommodates a 5 mm Type II card.
<b>ExpressCard</b>	The ExpressCard slot accommodates an ExpressCard. Refer to the <a href="#">ExpressCard</a> section in Chapter 9, <a href="#">Optional Devices</a> .
<b>Bridge media</b>	This slot lets you insert SD card, Memory Stick (Pro), xD picture card and MultiMediaCard device. Refer to Chapter 9, <a href="#">Optional Devices</a> .

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## Multimedia

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<b>Sound system</b>	Windows sound system compatible sound system provides internal speakers and a microphone as well as jacks for an external microphone and headphones.
<b>Monitor-in port</b>	This port can be used for displaying video from your digital camcorder or video recorder on the internal LCD. It can also be used as a line-in port to enable the connection of a stereo device for audio input. Refer to the <a href="#">Monitor-in</a> section in Chapter 9, <a href="#">Optional Devices</a> .
<b>TV antenna port</b>	This port is available on configurations with built-in TV Tuner only. Connect the antenna adaptor to this port to watch TV programs on your computer or record them.

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<b>S-Video in Port</b>	A camcorder or other recording device can be connected to your computer via an S-Video in cable (optional) for importing video data. Connect the cable to this port. Refer to the <a href="#">S-Video-in</a> section in Chapter 9, <a href="#">Optional Devices</a> .
<b>S-Video out port</b>	The S-Video out port lets you transfer NTSC or PAL data to external devices. Refer to the <a href="#">TV</a> section in Chapter 9, <a href="#">Optional Devices</a> .
<b>D-Video out port</b>	The D-Video out port lets you transfer 525i (480i), 525p (480p), 1125i (1080i) or 750p (720p) data to external devices. Refer to the <a href="#">TV</a> section in Chapter 9, <a href="#">Optional Devices</a> .
<b>Headphone (S/PDIF) jack</b>	This jack lets you connect digital speakers or stereo headphones (16 ohm minimum). When you connect a digital speaker or headphones, the internal speakers are automatically disabled. This jack can be used also as S/PDIF jack and enables connection of optical digital correspondence apparatus.
<b>Microphone jack</b>	A 3.5 mm mini microphone jack enables connection of a three-conductor mini jack for monaural microphone input.
<b>Built-in TV Tuner</b>	Some models in this series are equipped with a built-in TV Tuner. Windows XP Home Edition: Use the WinDVR program to display TV programs on the built-in LCD and record them. It is also possible to edit recorded programs and save them on a DVD. Windows XP Media Center Edition: Start Media Center and select My TV.
<b>Infrared receiver window</b>	This is a sensor window that receives signals from the Remote Controller which is provided with your computer. Not supported by Windows XP Media Center Edition.
<b>Remote Controller</b>	Use this device to navigate when watching TV or playing CDs/DVDs. Its type and functions may depend on the model of your computer.
<b>Remote control receiver</b>	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 Windows XP Media Center Edition.

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## Communications

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<b>Modem</b>	<p>An internal modem provides capability for data and fax communication. It supports V.90 (V.92). The speed of data transfer and fax depends on analog telephone line conditions. It has a modem jack for connecting to a telephone line. Both of V.90 and V.92 are supported only in USA, Canada, UK, France, Germany and Australia. Only V.90 is available in other regions.</p>
<b>LAN</b>	<p>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).</p>
<b>Wireless LAN</b>	<p>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.</p> <ul style="list-style-type: none"><li>■ Theoretical maximum speed: 54Mbps (IEEE802.11a, 802.11g)</li><li>■ Theoretical maximum speed: 11Mbps (IEEE802.11b)</li><li>■ Theoretical maximum speed: 108Mbps (Turbo Mode; Atheros module type)</li><li>■ Frequency Channel Selection (5 GHz: Revision A / 2.4 GHz: Revision B/G)</li><li>■ Roaming over multiple channels</li><li>■ Card Power Management</li><li>■ Atheros Super G™ or Super AG™ technology (Atheros module type).</li><li>■ Wired Equivalent Privacy (WEP) data encryption, based on 152 bit encryption algorithm (Atheros module type).</li><li>■ Wired Equivalent Privacy (WEP) data encryption, based on 128 bit encryption algorithm (Intel module type).</li><li>■ Advanced Encryption Standard (AES) data encryption, based on 256 bit encryption algorithm (Atheros module type).</li><li>■ Wi-Fi Protected Access (WPA).</li></ul>

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- *The numerical values shown above are the theoretical maximums for Wireless LAN standards. The actual values may differ.*
- *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 (at X 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™ function, your client and access point must support the corresponding feature. Performance of these functions may vary depending on the format of data transmitted.*

<b>Bluetooth</b>	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.
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<b>Wireless communication switch</b>	This switch turns the Wireless LAN and Bluetooth functions on and off.
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### **Security**

<b>Security lock slot</b>	Connects an optional security lock to anchor the computer to a desk or other large object.
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## Special features

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

<b>Hot keys</b>	Key combinations let you quickly change the system configuration directly from the keyboard without running a system configuration program.
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*The Hot key functions are supported only under Windows, they are not supported under QosmioPlayer.*

<b>Display automatic power off</b>	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 <i>Monitor power off</i> item of the <i>Basic Setup</i> tab in TOSHIBA Power Saver.
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<b>HDD automatic power off</b>	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 <i>HDD power off</i> item of the <i>Basic Setup</i> tab in TOSHIBA Power Saver.
<b>System automatic Standby/Hibernation</b>	This feature automatically shuts down the system into 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 <i>System standby and System</i> item of the Basic Setup tab in TOSHIBA Power Saver
<b>Keypad overlay</b>	A ten-key pad is integrated into the keyboard. Refer to the <a href="#">Keypad overlay</a> section in Chapter 5, <i>The Keyboard</i> , for instructions on using the keypad overlay.
<b>Power on password</b>	Two levels of password security, supervisor and user, are available to prevent unauthorized access to your computer.
<b>Instant security</b>	A hot key function blanks the screen and disables the computer providing data security.
<b>Intelligent power supply</b>	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 the remaining battery capacity by using the <i>Battery remaining</i> item in TOSHIBA Power Saver
<b>Battery save mode</b>	This feature lets you save battery power. You can specify the Power Save Mode in the <i>Profile</i> item in TOSHIBA Power Saver.
<b>Panel power on/off</b>	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 <i>When I close the lid</i> item of the <i>Setup Action</i> tab in TOSHIBA Power Saver.

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<b>System automatic Standby/Hibernation</b>	This feature automatically shuts down the system into 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 <i>System standby and System</i> item of the Basic Setup tab in TOSHIBA Power Saver
<b>Keypad overlay</b>	A ten-key pad is integrated into the keyboard. Refer to the <a href="#">Keypad overlay</a> section in Chapter 5, <i>The Keyboard</i> , for instructions on using the keypad overlay.
<b>Power on password</b>	Two levels of password security, supervisor and user, are available to prevent unauthorized access to your computer.
<b>Instant security</b>	A hot key function blanks the screen and disables the computer providing data security.
<b>Intelligent power supply</b>	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 the remaining battery capacity by using the <i>Battery remaining</i> item in TOSHIBA Power Saver
<b>Battery save mode</b>	This feature lets you save battery power. You can specify the Power Save Mode in the <i>Profile</i> item in TOSHIBA Power Saver.
<b>Panel power on/off</b>	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 <i>When I close the lid</i> item of the <i>Setup Action</i> tab in TOSHIBA Power Saver.

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**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.

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**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.

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**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.

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**TOSHIBA RAID**

RAID (Redundant Array of Independent Disks) realizes high performance (striping = RAID0) or fault tolerance (mirroring = RAID1), which is configured by arraying multiple independent hard disk drives.

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## 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.

<b>TOSHIBA Power Saver</b>	To access this power savings management program, click <b>start</b> , click the <b>Control Panel</b> , click <b>Performance and Maintenance</b> and select the <b>TOSHIBA Power Saver</b> icon.
<b>HW Setup</b>	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 <b>start</b> and click <b>Control Panel</b> . In the Control Panel, select the <b>TOSHIBA HWSetup</b> icon.
<b>TOSHIBA Controls</b>	<p>This utility has three sections to let you do the following:</p> <ul style="list-style-type: none"> <li>■ <b>Buttons:</b> Assign applications to the REC, Brightness, Monitor-in, TV-out buttons.</li> <li>■ <b>Media Apps:</b> Set the mode for the audio/video control buttons. Select the application for audio and video playback. (This option is displayed only for Windows XP Home Edition.)</li> <li>■ <b>TOSHIBA Remote Control:</b> Enable/disable the TOSHIBA Remote Control function. (This option is only displayed with models equipped with a TV tuner and that have Windows XP Home Edition installed.)</li> </ul>
<b>DVD Video Player</b>	The DVD Video Player is used to play DVD-Video. It has an on-screen interface and functions. Click <b>start</b> , point to <b>All Programs</b> , point to <b>InterVideo WinDVD</b> , then click <b>InterVideo WinDVD</b> .
<b>TOSHIBA Picture Enhancement Utility</b>	This utility lets you change image quality according to your viewing environment and also lets you select external input settings for Video Camera, gaming consoles etc.

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<b>TOSHIBA ConfigFree</b>	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 <b>start</b> , point to <b>All Programs</b> , point to <b>TOSHIBA</b> , point to <b>Networking</b> and click <b>ConfigFree</b> .
<b>TOSHIBA Assist</b>	TOSHIBA Assist is a graphical user interface that provides easy access to help and services. It is the default function launched by the TOSHIBA Assist button.
<b>TOSHIBA Zooming Utility</b>	This utility allows you to enlarge or reduce the icon size on the desktop or the application window.
<b>RecordNow! Basic for TOSHIBA</b>	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.
<b>DLA for TOSHIBA</b>	DLA (Drive Letter Access) is the packet writing software which provides the function which writes files and/or folders to DVD-RW, CD-RW and DVD+RW discs via a drive letter (like a floppy disk or other removable disks).
<b>TOSHIBA PC Diagnostic Tool</b>	TOSHIBA PC Diagnostic Tool displays basic configuration information on the computer, and allows specific tests to be conducted on the built-in hardware devices. To start TOSHIBA PC Diagnostic Tool, click <b>start</b> , point to <b>All Programs</b> , point to <b>TOSHIBA</b> , point to <b>Utility</b> and click <b>PC Diagnostic Tool</b> .
<b>Bluetooth TOSHIBA Stack</b>	This software enables communication between the computer and remote Bluetooth devices.

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



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<b>TOSHIBA Touch and Launch</b>	<p>TOSHIBA Touch and Launch is a tool that allows you to perform various tasks easily using the Touch Pad. TOSHIBA Touch and Launch is useful in the following conditions.</p> <ul style="list-style-type: none"><li>■ To open a file located on the desktop whose icon is obscured by a window.</li><li>■ To open a page contained in the Internet Explorer Favorites menu.</li><li>■ To display the list of currently open windows and change the active window.</li></ul> <p>Also TOSHIBA Touch and Launch provides the following functions by customizing the settings.</p> <ul style="list-style-type: none"><li>■ To open a file stored in a predefined folder.</li><li>■ To quickly launch your frequently used applications which have been registered.</li></ul>
<b>TOSHIBA TouchPad On/Off Utility</b>	<p>This utility has the following function. To disable/enable the Touch Pad with <b>Fn + F9</b> key.</p>
<b>TOSHIBA RAID Console</b>	<p>Use the TOSHIBA RAID Console to create or manage a RAID array.</p> <p>To start the utility, click <b>start</b>, point to <b>All Programs</b>, point to <b>TOSHIBA</b>, point to <b>RAID</b> and click <b>RAID Console</b>.</p> <p>It is possible to change to RAID1 (mirroring) from a non-RAID configuration.</p> <p>To change to RAID0 (striping), restore your pre-installed software using the Product Recovery DVD-ROM. Please refer to Restoring the Preinstalled Software section in Chapter 3, Getting Started, for details.</p> <p><b>Caution:</b> When RAID0 or RAID1 is set, you cannot change your setting unless you completely restore your preinstalled software.</p> <p>It is strongly recommended to read the TOSHIBA RAID Help before you change any of the settings.</p>
<b>TOSHIBA Password Utility</b>	<p>This utility lets you set a password that restricts access to the computer.</p>

---

## Options

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

---

<b>Memory expansion</b>	A 256, 512 or 1,024 MB memory module (DDR2 533) can easily be installed in the computer.
<b>Battery pack</b>	An additional battery pack can be purchased from your TOSHIBA dealer. Use it as a spare or replacement.
<b>AC adaptor</b>	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.
<b>USB floppy disk kit</b>	The USB floppy disk drive accommodates 1.44-megabyte or 720-kilobyte floppy disks through connection to a USB port. Please note that you cannot format 720-kilobyte floppy disks under Windows XP, but you are able to use disks that have been previously formatted
<b>Battery charger</b>	The battery charger lets you charge extra batteries outside the computer.

---

## The Grand Tour

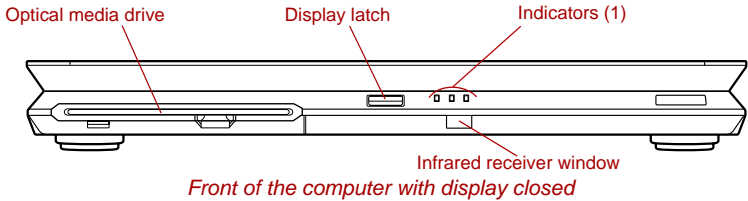
This chapter identifies the various components of your computer. Become familiar with each component before you operate the computer.



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

### Front with the display closed

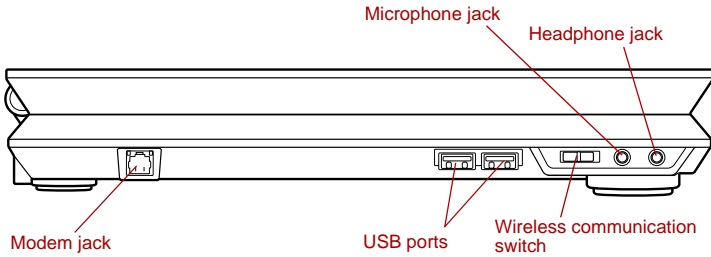
The following figure shows the computer's front with its display panel in the closed position.



<b>Optical media drive</b>	The computer is configured with a DVD Super Multi drive.
<b>Display latch</b>	This latch secures the LCD panel in its closed position. Push the latch to open the display.
<b>Indicators (1)</b>	Three LEDs let you monitor the DC IN, power and battery status. Details are in the <a href="#">Indicators</a> section.
<b>Infrared receiver window</b>	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. It is not supported by Windows XP Media Center Edition.

## Left side

The following figure shows the computer's left side.



*The left side of the computer*



### Modem jack

The modem jack 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.*



### Universal Serial Bus (USB 2.0) ports

Two Universal Serial Bus ports are on the left side. The ports 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.*



On Off

### Wireless communication switch

This switch turns the Wireless LAN and Bluetooth functions on and off. Some models are configured with Bluetooth.



*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.*



### Microphone jack

A 3.5 mm mini microphone jack enables connection of a three-conductor mini jack for monaural microphone input.



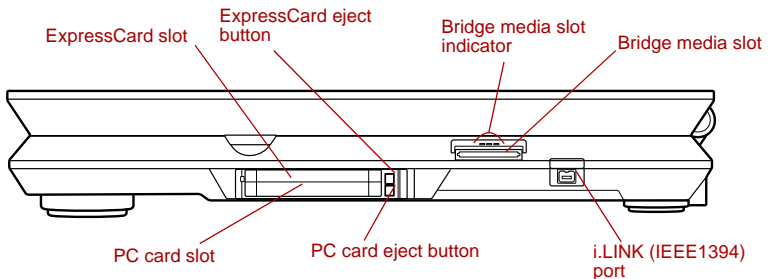
### Headphone (S/PDIF) jack

This jack lets you connect digital speakers or stereo headphones (16 ohm minimum). When you connect a digital speaker or headphones, the internal speakers are automatically disabled. This jack can be used also as S/PDIF jack and enables connection of optical digital correspondence apparatus.



## Right side

The following figure shows the computer's right side.



*The right side of the computer*



### Bridge media slot

This slot lets you insert an 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 blue when the computer is accessing the Bridge media slot.



### ExpressCard slot

The ExpressCard slot can accommodate an ExpressCard.

### ExpressCard eject button

Use this button to remove an ExpressCard from the ExpressCard slot.



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



**PC card slot** This slot accommodates a 5 mm Type II card. The slot supports 16-bit PC cards and CardBus PC cards.

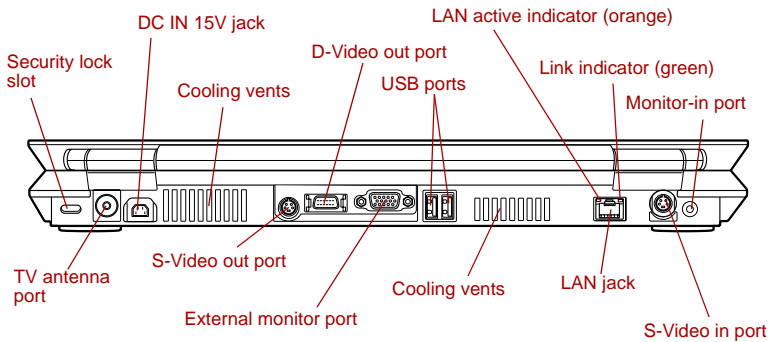
**PC card eject button** Use this button to remove a PC card from the PC card slot.



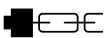
**i.LINK (IEEE1394) port** Connect an external device, such as a digital video camera to this port for high-speed data transfer.

## Back side

The following figure shows the computer's back side.



*The back 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.



**TV antenna port** The TV antenna port is available on TV Tuner models only. Connect the antenna adaptor to this port to watch TV programs on your computer or record them.










**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.

**Cooling vents** Cooling vents help the CPU keep from overheating.



*Do not block the cooling vents. Keep foreign objects out of them. A pin or similar object can damage the computer's circuitry.*

	<b>S-Video out port</b>	This S-Video out port lets you transfer NTSC or PAL data to external devices. Refer to the <a href="#">TV</a> section in Chapter 9, <i>Optional Devices</i> .
	<b>D-Video out port</b>	This D-Video out port lets you transfer 525i (480i), 525p (480p), 1125i (1080i) or 750p (720p) data to external devices. Refer to the <a href="#">TV</a> section in Chapter 9, <i>Optional Devices</i> .
	<b>External monitor port</b>	This external monitor port lets you connect an external video display.
	<b>Universal Serial Bus (USB 2.0) ports</b>	Two Universal Serial Bus ports are on the backside. Refer to <a href="#">Left side</a> section, for details.
	<i>These ports are 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 or put it at a remote location via an extension cable.</i>	
	<b>LAN jack</b>	Ethernet LAN (10 megabits per second, 10BASE-T) and Fast Ethernet LAN
	<ul style="list-style-type: none"> <li>■ <i>Do not connect any cable other than a LAN cable to the LAN jack. It could cause damage or malfunction.</i></li> <li>■ <i>Do not connect the LAN cable to a power supply. It could cause damage or malfunction.</i></li> </ul>	
	<b>Link indicator (green)</b>	This indicator glows green when the computer is connected to a LAN and the LAN is functioning properly.
	<b>LAN active indicator (orange)</b>	This indicator glows orange when data is being exchanged between the computer and the LAN.



**S-Video in port**

A camcorder or other recording device can be connected to your computer via an optional S-Video in cable for importing video data. Refer to the [S-Video-in](#) section in Chapter 9, *Optional Devices*.

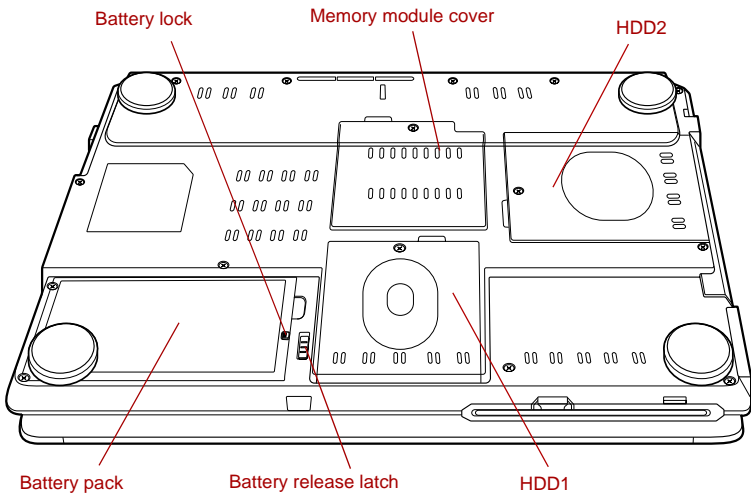


**Monitor-in port**

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*.

## Underside

The following figure shows the underside of the computer. Make sure the display is closed before turning over your computer.



*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 lock**

Slide the battery 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](#).

**Hard Disk Drive 1**

This cover protects a hard disk drive pack, which can be removed and reinstalled. For more information on how to remove or reinstall the [Hard disk drive pack](#), refer to Chapter 9, [Optional Devices](#).

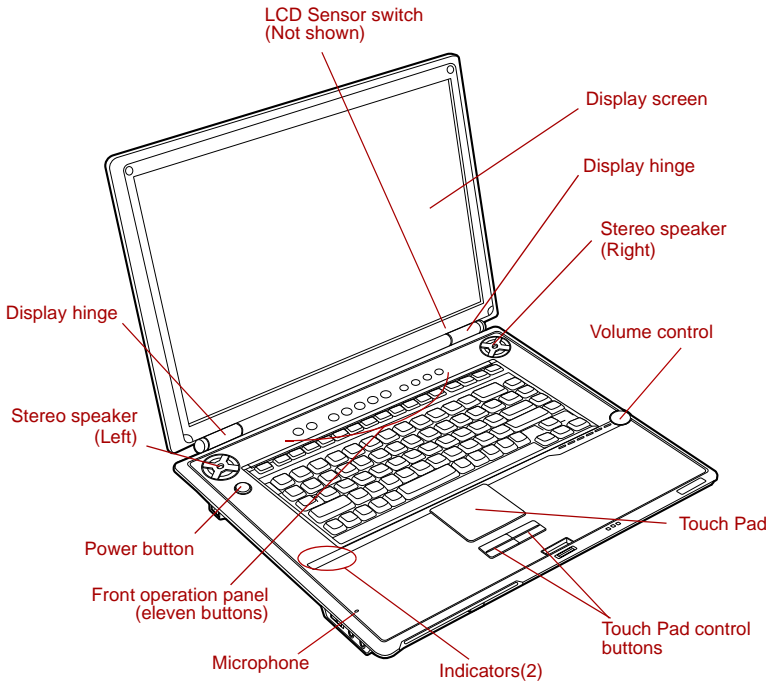
**Hard Disk Drive 2**

If your model has two hard disk drives, this cover protects the secondary Hard disk drive pack. The secondary pack can be removed and reinstalled. For more information on how to remove or reinstall the Hard disk drive pack, refer to the section on the [Hard disk drive pack](#) in Chapter 9, [Optional Devices](#).

---

## 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, push the display latch on the front of the display and lift up. Position the display at a comfortable viewing angle.



*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 Appendix B, [Display Controller and Modes](#). 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.

---

### Microphone

The built-in microphone lets you record sounds into your applications. Refer to the [Sound System](#) section in Chapter 4, Operating Basics.

---

harman / kardon

**Stereo speakers**

The speakers emit sound generated by your software as well as audio alarms generated by the system.



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

**Indicators(2)**

These LEDs let you monitor the hard disk drive activity, optical media drive activity, SD/SM and wireless communication status. Details are in the [Indicators](#) section.

**Front operation panel (eleven buttons)**

Eleven buttons are available for use:

TV Tuner models:

TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness up, Brightness down, Monitor-in, TV-out.

Models without TV Tuner:

Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness up, Brightness down, Zoom out (-), Zoom in (+).

These buttons allow you to navigate audio/video operations, run applications and access utilities.

Refer to the [Front operation panel function](#) section in Chapter 8, *Using the Remote Controller, Front operation panel and QosmioPlayer*, for details.

**Power button**

Press the power button to turn the computer's power on and off.

If the Mute function is switched on, the button will light orange.

**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.

---

**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.*

---



**Volume control**

Use this dial to adjust the volume of the stereo speakers or the stereo headphones.

When the dial is turned counterclockwise, the volume increases, when it is turned clockwise, the volume decreases.

The LEDs next to the volume control dial indicate the volume level. Please see the Indicators sections for details.

---



**Mute**

When the Mute function is switched on, the icon will glow orange.

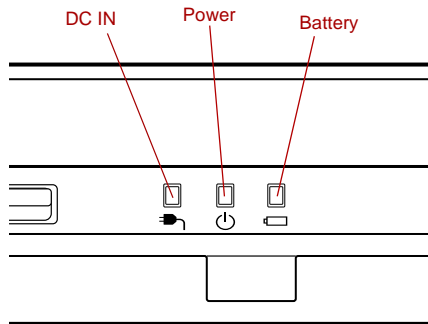
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## Indicators

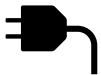
This section describes the indicators.

### System indicators

The following indicators on the front of the computer can be monitored even when the display panel is closed.



*System indicators (1)*



#### DC IN

The **DC IN** indicator glows blue 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.



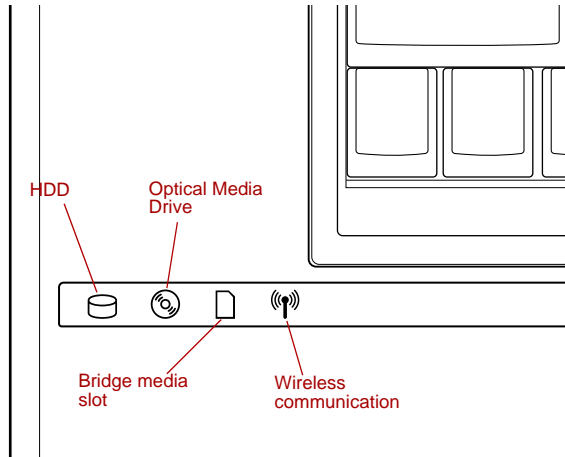
#### Power

The **Power** indicator glows blue 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: Blue indicates full charge, orange indicates battery charging and flashing orange indicates a low battery charge. Refer to Chapter 6, [Power](#).



*System indicators (2)*



---

**HDD**

The **Hard Disk Drive** indicator glows blue when the computer is accessing the built-in hard disk

---



---

**Optical media drive**

The **Optical media drive** indicator glows blue when the computer is accessing a disk in the DVD Super Multi drive.

---



---

**Bridge media slot**

The **Bridge media slot** indicator glows blue when the computer is accessing the Bridge media slot.

---



---

**Wireless communication**

The **Wireless communication** indicator glows when the Bluetooth and Wireless LAN functions are turned on using the Wireless communication switch.

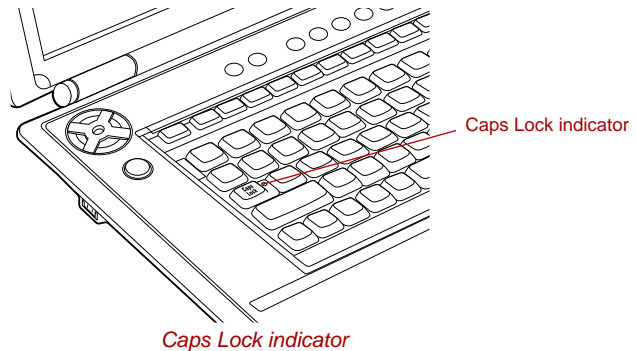
Some models are equipped with Bluetooth.

---

## 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).



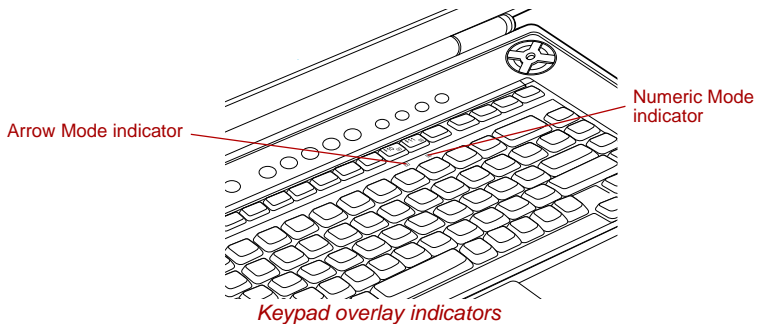

---

### Caps Lock

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

---

The following indicators show the status of the keypad overlay.



### 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](#).



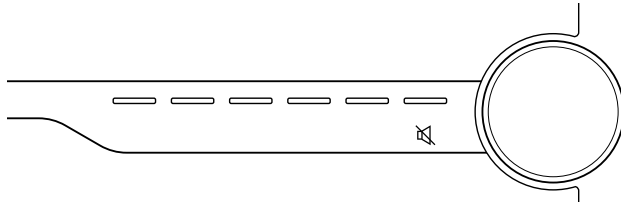
### Numeric mode

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](#).

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## Volume indicator

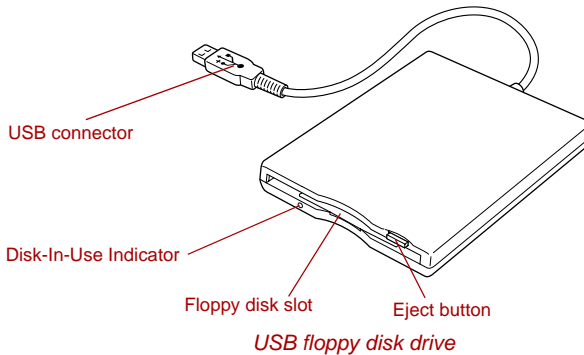
This indicator employs a 6 stage lighting method to indicate the level of volume. By turning the volume dial you can turn the indicator lights on and off. If you want to increase the volume, move the dial from right to left (counterclockwise) and the 6 stages will flash in order. If you want decrease the volume, move the dial from left to right (clockwise) and the indicator lights will go out.



*Volume indicator*

## USB floppy disk drive (optional)

The optional USB floppy disk drive accommodates 1.44-megabyte or 720-kilobyte floppy disks. It connects to any of the USB ports.



*USB floppy disk drive*

<b>USB connector</b>	Insert this connector into one of the USB ports of your computer.
<b>Disk-In-Use Indicator</b>	This indicator lights when the floppy disk is being accessed.
<b>Floppy disk slot</b>	Insert a floppy disk in this slot.
<b>Eject button</b>	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 20° while it is operating.
- Do not set anything on top of the floppy disk drive.

## Optical media drive

A DVD Super Multi drive is installed in your computer. 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.

### Region codes for DVD drives and media

DVD Super Multi drives and media are manufactured according to the specifications of six marketing regions. When you purchase DVD-Video media, 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, including multi speed CD-RW discs, high-speed CD-RW discs and ultra-speed CD-RW discs can be recorded more than once.

## 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 Super Multi drive Double Layer (UJ845)

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



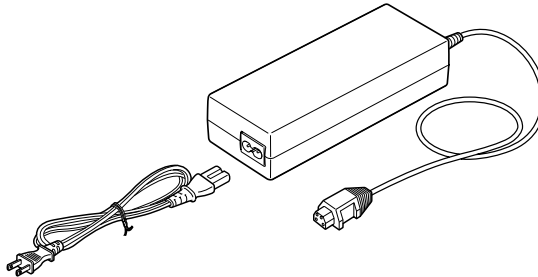
*The read speed is slower at the center of a disc and faster at the outer edge.*

<b>DVD read</b>	8 speed (maximum)
<b>DVD-R write</b>	8 speed (maximum)
<b>DVD-RW write</b>	4 speed (maximum)
<b>DVD+R write</b>	8 speed (maximum)
<b>DVD+RW write</b>	4 speed (maximum)
<b>DVD-RAM write</b>	5 speed (maximum)
<b>CD read</b>	24 speed (maximum)
<b>CD-R write</b>	24 speed (maximum)
<b>CD-RW write</b>	10 speed (maximum, Ultra-speed media)
<b>DVD+R DL</b>	2.4 speed (maximum)

## AC adaptor

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

To recharge the battery, simply connect the AC adaptor to a power source and the computer. Refer to Chapter 6, [Power](#), for details.



*The AC adaptor*



- *The Universal AC Adaptor and power cord bundled with this product may differ depending on the product model. Depending on the model, a 2-pin plug set of the above may be bundled.*
- *The supplied power cord conforms to safety rules and regulations in the region the product is bought and should not be used outside this region. For use in other regions, please buy power cords that conform to safety rules and regulations in the particular region.*



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



*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.*



## 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 the Safety Instruction Manual. 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

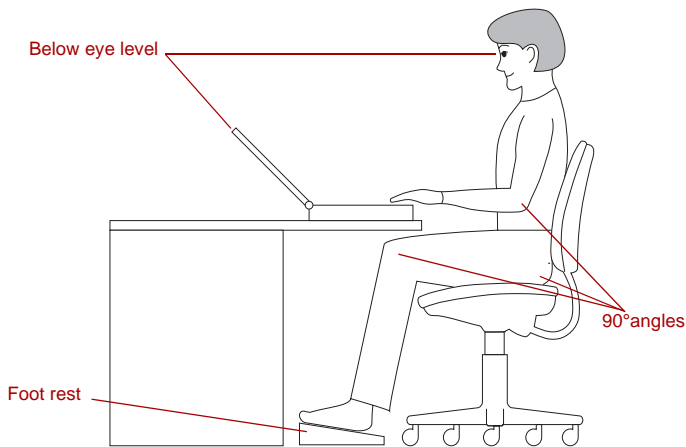
## General conditions

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.
- Avoidur ation.

## 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.



*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 *Safety Instruction Manual*.

## 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](#).



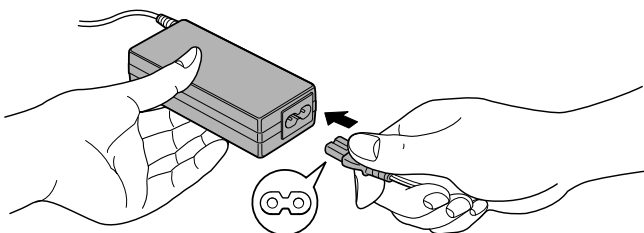
*Use only the AC adaptor supplied as an accessory. Other AC adaptors have different voltage and terminal polarities and use of them may produce heat and smoke or even result in fire or rupture.*





- 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.
- The supplied power cord conforms to safety rules and regulations in the region the product is bought and should not be used outside this region. For use in other regions, please buy power cords that conform to safety rules and regulations in the particular region.
- When you connect the AC adaptor to the computer, always follow the steps in the exact order as described in the User's Manual. Connecting the power cable to a live electrical outlet should be the last step otherwise the adaptor DC output plug could hold an electrical charge and cause an electrical shock or minor bodily injury when touched. As a general safety precaution, avoid touching any metal parts.

1. Connect the power cord to the AC adaptor.

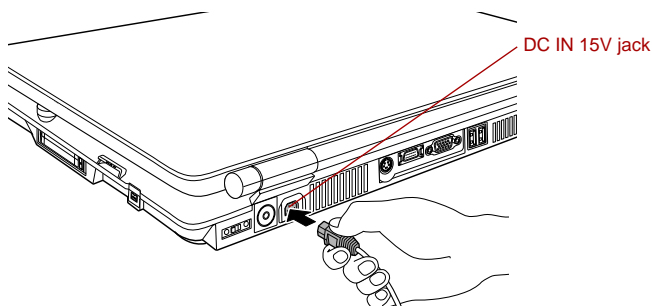


*Connecting the power cord to the AC adaptor*



*The Universal AC Adaptor and power cord bundled with this product may differ depending on the product model.*

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



*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.

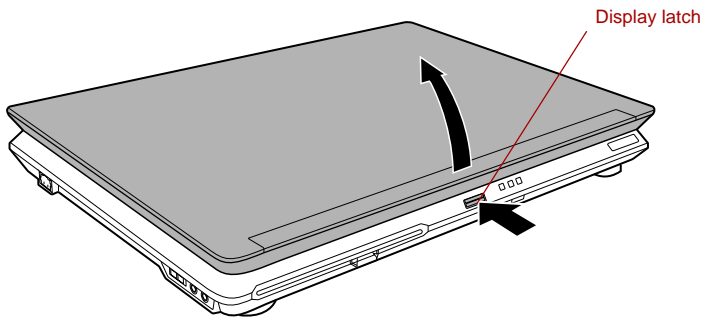
## Opening the display

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

1. Push the display latch on the front of the computer to unlatch the display panel.
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.*



*Opening the display*

## Turning on the power

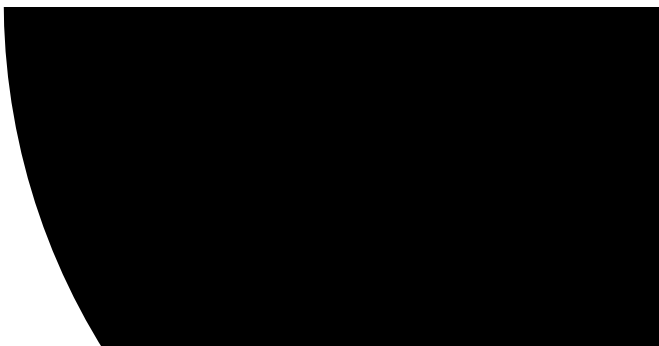
This section describes how to turn on the power.



- *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](#).*
- *If the USB floppy disk drive is connected, make sure it is empty. If a floppy disk is in the drive, press the eject button and remove the floppy disk.*

1. Open the computer's LCD display panel.

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



*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.



## 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.



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.



## Hibernation mode

The Hibernation Mode 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 Mode feature does not save the status of any peripheral devices.

## 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 **Hard Disk Drive** 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.



## 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.





- *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.

### Restoring the Windows operating system



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

1. Load the Product Recovery DVD-ROM in the 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 **optical media 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.
5. If your computer came with additional software installed, this software can not be recovered from the Product Recovery DVD-ROM. Re-install these applications (e.g. Works Suite, DVD Player, Games, etc.) separately from other media.

## **Restoring QosmioPlayer**

To restore QosmioPlayer, follow the steps below.

1. Load the QosmioPlayer Recovery CD in the 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 **optical media 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.



*Your computer may be configured with either one or two hard disk drives. When you have two hard disks installed, data will be recovered onto built-in HDD1 regardless of the HDD Priority setting.*

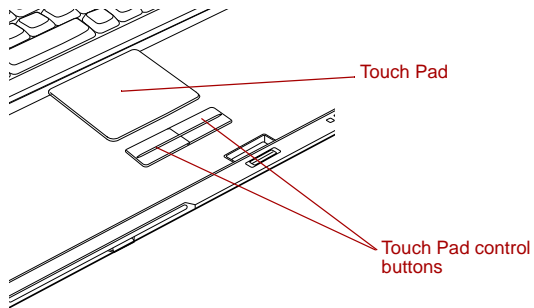


## Operating Basics

This chapter gives information on basic operations including using the Touch Pad, the USB floppy disk drive (optional), TV Tuner (optional), Sound System, Modem, Wireless communication features and 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.



*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.



*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 (optional)

An optional 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 one of the computer's USB ports.



## TV Tuner (optional)

Some models in this series are equipped with a built-in TV Tuner that allows you to watch TV programs on the built-in LCD and to record them. If you have Windows XP Home Edition installed, use the WinDVR program to display TV programs on the built-in LCD and record them. It is also possible to edit recorded programs and save them on a DVD. If you have Windows XP Media Center Edition installed, use the My TV feature contained in Media Center.



*According to government regulations, it is not permitted to bring PAL/SECAM TV tuners 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**



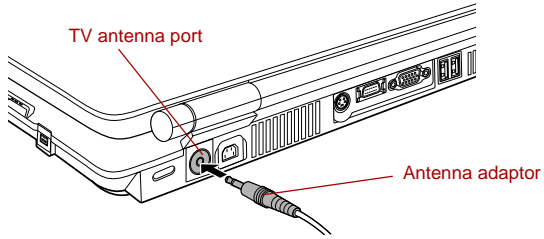
*When lightning occurs, do not touch the antenna line. This may cause an electric shock.*



*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.*

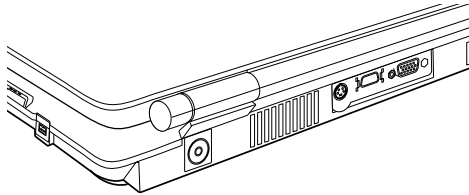
1. Save data, shutdown Windows and turn off the power.

2. Connect the antenna adaptor to the TV antenna port of your computer.



*Connecting the antenna adaptor*

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



*Connecting 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 applications 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 2 minutes 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 2 minutes earlier, that is, at about 1:58pm).*
- *When you have set a password for the user account, scheduled recording cannot be performed if 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 speakers, “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 **Microphone Enhancements** help you 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 a more effective power management configuration, you can select another mode, such as **High Power Savings** which can save more power than Normal Power Savings. To select this option, follow the steps below.

1. Click the **Power Management** tab.
2. Select **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.*

## Virtual Sound

TOSHIBA Virtual Sound works as an audio filter using SRS WOW XT and SRS TruSurround XT functions provided by SRS Labs, Inc. in the United States. The audio filter enables you to enjoy better quality sound and music on your computer. For more information on using the TOSHIBA Virtual Sound, refer to its help file.

## Writing CDs/DVDs on DVD Super Multi drive

The following applications for writing are provided : RecordNow!, and DLA licensed by Sonic Solutions, and InterVideo's WinDVD Creator Platinum.

### Important message

Before you write or rewrite to CD-R/RW or DVD-R/-RW/+R/+RW/-RAM discs, 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 discs 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.

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#### **CD-R:**

TAIYO YUDEN CO., LTD.  
MITSUBISHI CHEMICAL CORPORATION  
RICOH Co., Ltd.  
Hitachi Maxell Ltd.

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

MITSUBISHI CHEMICAL CORPORATION  
RICOH Co., Ltd.

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#### **CD-RW: (Ultra-Speed)**

MITSUBISHI CHEMICAL CORPORATION

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**DVD-R:**

**DVD Specifications for Recordable Disc for General Version 2.0**  
TAIYO YUDEN CO., LTD.  
Matsushita Electric Industrial Co., Ltd

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**DVD+R:**

MITSUBISHI CHEMICAL CORPORATION  
RICOH Co., Ltd.

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**DVD+R DL: (Double Layer Recordable drive only)**

MITSUBISHI CHEMICAL CORPORATION

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**DVD-RW:**

**DVD Specifications for Recordable Disc for Version 1.1 or version 1.2**  
VICTOR COMPANY OF JAPAN.LIMITED  
MITSUBISHI CHEMICAL CORPORATION

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**DVD+RW:**

MITSUBISHI CHEMICAL CORPORATION  
RICOH Co., Ltd.

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**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.

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*This drive cannot use discs that allow writing faster than 8 speed (DVD-R, DVD+R), 4 speed (DVD-RW, DVD+RW), 5 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.
- 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 hard disk drive 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.
- Write from the computer's hard disk drive 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, SD card, ExpressCard, Memory Stick/Memory Stick Pro, xD picture card, MultiMediaCard, USB devices, external monitor, i.LINK devices, optical digital devices.
  - Use the Audio/Video control button to reproduce music or voice.
  - Open the optical media 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 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 hard disk drive to the optical media. 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 DVD-R/-RW or DVD+R/+RW discs.
- 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, 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 another 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, this function is performed by DVD-RAM Driver Software. You may find that the DLA Format menu appears when inserting a DVD-RAM disc, although you should use the 'DVDForm' utility to format this disc. You can run 'DVDForm' by clicking the Start button 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 -and-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 SETUP files for an application to a disc formatted by DLA, and then attempting to start SETUP from this disc, an error may occur. In this case, please copy the SETUP files to the hard disk and then run them from there.

## When using WinDVD Creator Platinum

You can record video back to your digital camcorder via i.LINK (IEEE1394) using WinDVD Creator Platinum. However, there is a case where you may find that playback sound is choppy - if this is the case follow the below instructions:

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 a 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 disk/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 discs, please use only media recommended by TOSHIBA.
- 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 optical media drive.
  - Install, remove or connect external devices, including the following: PC card, SD card, ExpressCard, Memory Stick/Memory Stick Pro, xD picture card, MultiMediaCard, USB devices, external monitor, 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 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.



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## 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.

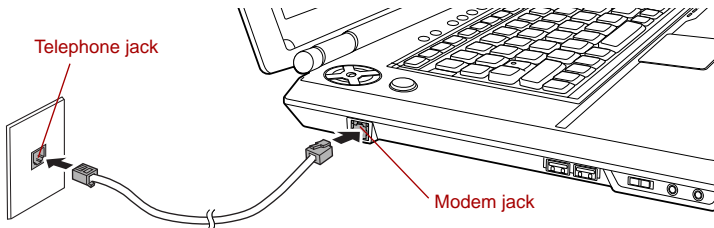


*The modular cable that comes with the computer must be used to connect a modem. Connect the end of the modular cable with the core to the computer.*



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

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.



*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 hard disk drive 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).
- Wi-Fi Protected Access (WPA).



- *The numerical values for display are the theoretical maximums for Wireless LAN standards. The actual values may differ.*
- *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 (at X 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™ 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

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

## Bluetooth™ Stack for Windows® by TOSHIBA

Please note that this software is specifically designed for the following operating systems:

- Microsoft® Windows® 2000 Professional
- Microsoft® Windows® XP

Detailed information regarding the use with these operating systems is listed below. Please refer also to the electronic information which is included with each software.



*This Bluetooth™ Stack is based on the Bluetooth™ Version 1.1/1.2 specification. TOSHIBA cannot confirm compatibility between any PC products and/or other electronic devices that use Bluetooth™*

## Release Notes related to the Bluetooth™ Stack for Windows® by TOSHIBA

1. Install:  
On Windows 2000 or Windows XP, Bluetooth™ Stack for Windows® by TOSHIBA is not digitally signed, although it should be noted that this does not affect its usage or operation in any way.
2. Fax application software:  
You may find that you cannot use the Bluetooth™ Stack software in conjunction with some facsimile communications applications.
3. Multi User:  
If you use Bluetooth™ under Windows XP with multiple users, you may find that you cannot communicate with other devices if you login or switch to another user's account.

### Product Support:

The latest information regarding Operating System support, Language Support or available upgrades can be found on our web site <http://www.toshiba-europe.com/computers/tnt/bluetooth.htm> in Europe or [www.pcsupport.toshiba.com](http://www.pcsupport.toshiba.com) in the United States.

## 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 (toward the front of the computer) to turn it off and to the left (toward the back of the computer) to turn it on.



- *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 can be used by an application.

If you used the Task Bar to disable the Wireless LAN you will need to restart the computer or follow the procedures below to enable the system to once again recognize and use wireless communications. Open or click the following: **start, Control Panel, System, Hardware Device Manager, Network adapters, Intel® PRO/Wireless 2200BG/2915ABG Network Connection or Atheros AR5004X/AR5004G Wireless Network Adapter and then select enable.**

## 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). 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.

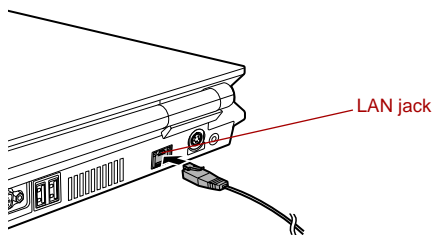
### Connecting LAN cable

To connect the LAN cable, follow the steps below.



- *Connect the AC adaptor before connecting the LAN cable. The AC adaptor must remain connected during LAN use. If you disconnect the AC Adaptor while the computer is accessing a LAN, the system may hang up.*
- *Do not connect any other cable to the LAN jack except the LAN cable. Otherwise, malfunctions or damage may occur.*
- *Do not connect any power supplying device to the LAN cable that is connected to the LAN jack. Otherwise, malfunctions or damage may occur.*

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.



*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.



*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 **HDD** indicator on the computer.
- If a CD/DVD is in the drive, 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.
- 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.

<b>Maximum Performance</b>	Turns on the fan first, then if necessary, lowers the CPU processing speed.
<b>Performance</b>	Uses a combination of the fan and lowering the CPU processing speed.
<b>Battery optimized</b>	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.*

## 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.

## Function keys: F1 ... F12

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.

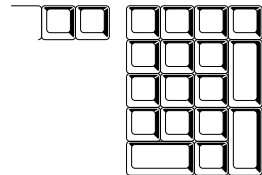
## Soft keys: Fn key combinations

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.*

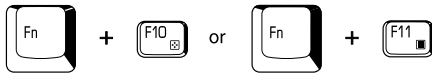
## Emulating keys on enhanced keyboard



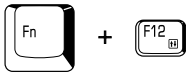
*A 101-key enhanced keyboard layout*

The keyboard is designed to provide all the features of the 101-key enhanced keyboard. 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 keys (**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 computer.



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



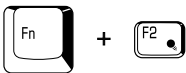
**Sound mute:** Pressing **Fn + Esc** in a Windows environment turns sound on or off. When you press these hot keys, the current setting will change and be displayed as an icon.



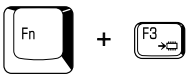
**Instant security:** Press **Fn + F1** to blank the screen to prevent others from accessing your data. To restore the screen and original settings, press any key or press the Touch Pad. If a screensaver password is registered, a dialog box will appear. Enter the screensaver password and click **OK**.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



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



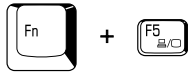
**Power save mode:** Pressing **Fn + F2** changes the power save mode. If you press **Fn + F2** in a Windows environment, the Power Save Mode is displayed in a dialog box. Continue holding down **Fn** and press **F2** again to change the setting. You can also change this setting through the *profile* item in TOSHIBA Power Saver.



**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.



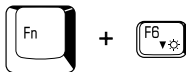
**Hibernation:** When you press **Fn + F4**, the computer enters Hibernation. To avoid entering Hibernation unexpectedly, a dialog box appears for verification. However, if you select the check box, it will not appear in the future.



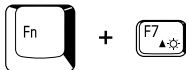
**Display selection:** Press **Fn + F5** to change the active display device. When you press these hot keys, a dialog box appears. Only selectable devices will be displayed. Hold down **Fn** and press **F5** again to change the device. When you release **Fn** and **F5**, the selected device will change.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



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



**Internal LCD screen 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.



**Internal LCD screen 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 return to the level set within the TOSHIBA Power Saver utility or you can change it manually.*
- *Display clarity increases with the brightness level.*



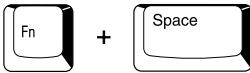
**Wireless setting:** If your computer has both Bluetooth and Wireless LAN functions, you can press **Fn + F8** to select which type of wireless communication you want to use. When you press these hot keys, a dialog box will appear. Continue holding down **Fn** and press **F8** to change the setting.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



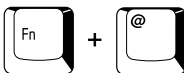
**Touch Pad:** Pressing **Fn + F9** in a Windows environment enables or disables the Touch Pad function. When you press these hot keys, the current setting will change and be displayed as an icon.



**LCD screen 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 x 768, from 1024 x 768 to 800 x 600, from 800 x 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.

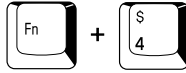


**TOSHIBA Zooming Utility (enlarge):** To enlarge the icon size on the desktop or the application window, press the **2** key while holding down the **Fn** key.





**QosmioEngine modes:** Press **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, Front operation panel and QosmioPlayer*.



**Monitor-in:** Pressing **Fn + 4** will toggle mode between Windows and AV Input. In Monitor-in mode, both CD/DVD and Digital Audio indicators are on and the Audio button is disabled. Pressing these hot keys 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.

## Turning on the overlays

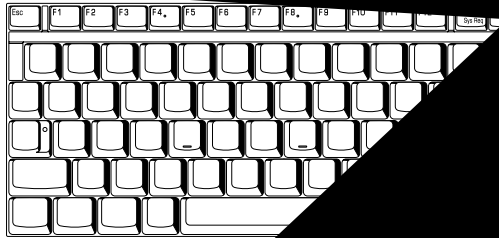
The numeric keypad overlay can be used for numeric data input or cursor and page control.

### **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 the figure below. 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 shown in the figure below. Press **Fn + F11** again to turn off the overlay.



The numeric keypad overlay

## Temporarily using normal input

While using the overlay, you can temporarily use normal input without turning off the overlay.

1. Hold **Fn** and press the key you want to use. The indicator lights were off.
2. Type upper and lower case characters.
3. Release the key.

## 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.



## 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*

		<b>Power on</b>	<b>Power off (no operation)</b>
<b>AC adaptor connected</b>	Battery fully charged	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>Battery</b> blue <b>DC IN</b> blue</li> </ul>	<ul style="list-style-type: none"> <li>LED: <b>Battery</b> blue <b>DC IN</b> blue</li> </ul>
	Battery partially charged or no charge	<ul style="list-style-type: none"> <li>Operates</li> <li>Quick Charge</li> <li>LED: <b>Battery</b> orange <b>DC IN</b> blue</li> </ul>	<ul style="list-style-type: none"> <li>Quick charge</li> <li>LED: <b>Battery</b> orange <b>DC IN</b> blue</li> </ul>
	No battery installed	<ul style="list-style-type: none"> <li>Operates</li> <li>No charge</li> <li>LED: <b>Battery</b> off <b>DC IN</b> blue</li> </ul>	<ul style="list-style-type: none"> <li>No charge</li> <li>LED: <b>Battery</b> off <b>DC IN</b> blue</li> </ul>

Table 6-1 Power conditions continued

		Power on	Power off (no operation)
<b>AC adaptor not connected</b>	Battery charge is above low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>Battery</b> off <b>DC IN</b> off</li> </ul>	
	Battery charge is below low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>Battery</b> flashes orange <b>DC IN</b> off</li> </ul>	
	Battery charge is exhausted	Computer goes into Standby Mode and shuts down	
	No battery installed	<ul style="list-style-type: none"> <li>Cannot operate</li> <li>LED: <b>Battery</b> off <b>DC IN</b> off</li> </ul>	

## 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:

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



*If the battery 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:

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

## Power indicator

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

<b>Blue</b>	Indicates power is being supplied to the computer and the computer is turned on.
<b>Blinking orange</b>	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.
<b>No light</b>	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 supplies power to maintain data and programs in memory. If the battery pack is completely discharged, Standby Mode cannot function and the computer loses all information 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.
```

You can change the Real Time Clock settings by pressing the **F1** key. Refer to Chapter 10, [Troubleshooting](#), for details.



*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.*

## 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 Mode will not function and data in memory will be lost. Also, the computer might register an incorrect time and date. In both cases, 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 Standby Mode. Data will be lost.

### Note

1. 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.
2. 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.

<b>Battery pack (4400mAh)</b>	about 4 days (Standby mode) about 35 days (Boot mode)
<b>RTC battery</b>	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 blue, 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 blue.
- If you have extra battery packs, rotate their use.
- If you will not be using the system for an extended period, more than one month, remove the battery pack.
- Disconnect the AC 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

The battery pack is classed as a consumable item as its operating life will gradually decrease as it is continually charged and discharged. When the battery pack reaches the end of its operating life you will need to install a new one - this status is usually indicated if the **Battery** indicator flashes orange shortly after fully recharging the battery

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.

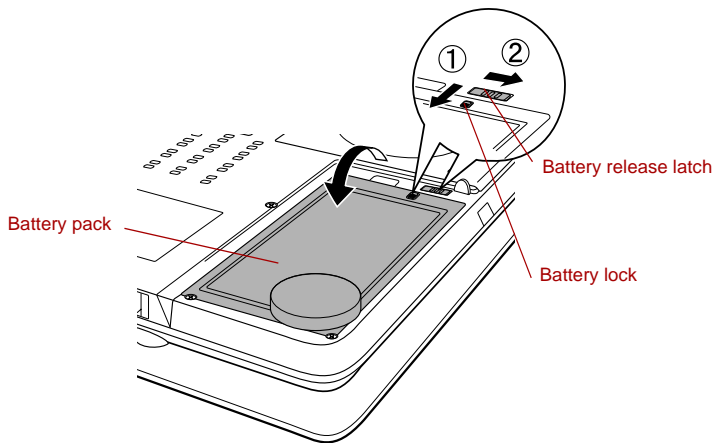
## Removing the battery pack

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 **Hard Disk Drive** indicator to go out.*
- *Do not touch the release latch while holding the computer - this may cause the battery pack to be unintentionally released which may result in injury or damage.*

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. Close the LCD display panel and turn the computer upside down.
5. Slide the battery lock towards the release (🔒) position to make the battery release latch movable.
6. Slide the battery release latch (①) towards the front of the computer to free the battery pack (②), and then lift it out.



*Releasing the battery pack*

7. Return your computer to the upright position.



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



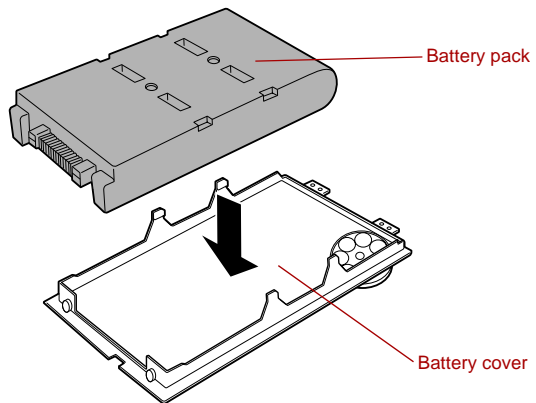
## Installing the battery pack

To install a battery, follow the steps below.



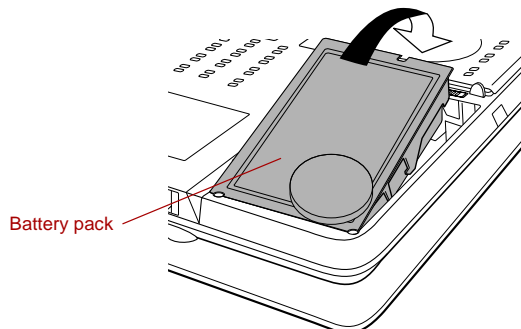
- *The battery pack is a lithium ion battery, which can explode if not properly replaced, used, handled or disposed of. Dispose of the battery as required by local ordinances or regulations. Use only batteries recommended by TOSHIBA as replacements.*
- *Do not touch the release latch while holding the computer - this may cause the battery pack to be unintentionally released which may result in injury or damage.*

1. Turn the computer's power off.
2. Disconnect all cables connected to the computer.
3. Close the LCD display panel and turn the computer upside down.
4. Fit the battery pack into the battery cover.



*Attach the battery pack in a battery cover*

5. Insert the battery pack together with the battery cover.



*Securing the battery pack*

6. Slide the battery safety lock to the Lock ( ) position.

*Lock the battery safety lock*

7. Return your computer to the upright position.

## TOSHIBA Password Utility

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





## 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 configure various settings associated with both Standby Mode and Hibernation Mode within 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 next open the panel, power will be turned on in both Standby Mode 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.

## HW Setup

This chapter explains how to use TOSHIBA HW Setup program to configure your computer, and provides information on setting up the Execute-Disable Bit Capability and the front panel operation.

### 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**.

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

#### **General**

This window displays the BIOS version and contains two buttons: **Default** and **About**.

<b>Default</b>	Returns all HW Setup values to the factory settings.
<b>About</b>	Displays 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 select the display to be used when the computer is booted - this setting is only available with standard VGA modes and cannot be configured through the Windows Desktop properties

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<b>Auto-Selected</b>	Selects an external monitor if one is connected. Otherwise, it selects the internal LCD (Default).
<b>LCD + Analog RGB</b>	Selects both the internal LCD and external monitor for simultaneous display.

---



*If the connected external monitor does not support the selected SVGA mode, selecting the LCD + Analog RGB mode will not display on that monitor.*

*When Windows starts up, the screen will be displayed on the external monitor if it was connected when the notebook was previously switched off and is still connected when the computer is switched on. Otherwise, the screen will be displayed on the internal LCD.*

### Boot Priority

Your computer may be equipped with either one or two hard disk drives. Displayed options may vary depending on the model.

#### Boot Priority Options

This option sets the priority for booting the computer. Within this section the term 'HDD' refers to the built-in hard disk drive that is defined in the HDD Priority Option settings as being the first to be recognized. For this option you can select from the following settings:

<b>HDD</b> → <b>FDD</b> → <b>CD-ROM</b> → <b>LAN</b>	The computer looks for bootable files in the following order: HDD, floppy disk drive, CD-ROM and LAN. (Default)
<b>FDD</b> → <b>HDD</b> → <b>CD-ROM</b> → <b>LAN</b>	The computer looks for bootable files in the following order: floppy disk drive, HDD, CD-ROM and LAN.
<b>HDD</b> → <b>CD-ROM</b> → <b>LAN</b> → <b>FDD</b>	The computer looks for bootable files in the following order: HDD, CD-ROM, LAN and floppy disk drive.
<b>FDD</b> → <b>CD-ROM</b> → <b>LAN</b> → <b>HDD</b>	The computer looks for bootable files in the following order: floppy disk drive, CD-ROM, LAN and HDD.
<b>CD-ROM</b> → <b>LAN</b> → <b>HDD</b> → <b>FDD</b>	The computer looks for bootable files in the following order: CD-ROM, LAN, HDD, floppy disk drive.
<b>CD-ROM</b> → <b>LAN</b> → <b>FDD</b> → <b>HDD</b>	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:

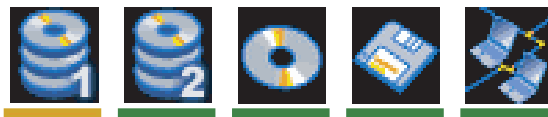
<b>U</b>	Selects the USB floppy disk drive.
<b>N</b>	Selects the network.
<b>1</b>	Selects the primary HDD1.
<b>2</b>	Selects the primary HDD2* <sup>1</sup> .
<b>C</b>	Selects the CD-ROM* <sup>2</sup> .

\*<sup>1</sup> Only on models with two hard disk drives installed.

\*<sup>2</sup> In this computer, CD-ROM refers to the optical media drive.

To change the boot device, 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.*

- Use the left/right cursor keys to highlight the boot device you want and press **Enter**.



- *If only a Supervisor Password has been set, the following should be noted:*
  - *The boot device menu will appear when you use the user password to start the computer and the 'Able to run HW Setup' option has been configured.*
  - *The boot device menu will not appear when you use the user password to start the computer and the 'Unable to run HW Setup' option has been configured.*
- *If both a Supervisor Password and a User Password are set, the following should be noted:*
  - *The boot device menu will appear when you use either the Supervisor Password or the User Password to start the computer, and the 'Able to run HW Setup' option has been configured.*
  - *The boot device menu will not appear when you use the User Password to start the computer and the 'Unable to run HW Setup' option has been configured.*
  - *The boot device menu will appear when you use the Supervisor Password to start the computer, even if the 'Unable to run HW Setup' option has been configured.*
- *The boot device selection methods described above will not change the boot priority settings that have been configured in HW Setup. In addition, if you press a key other than one of those listed, or if the selected*
- *device is not installed, the system will continue to boot according to the current and available settings in HW Setup.*

### *HDD Priority Options*

This option lets you set the priority for hard disk drive detection. If the first detected hard drive has a boot command on it, the system will continue to boot from that drive.

---

<b>Built-in HDD1</b>	<b>-&gt;</b>	The computer will detect and attempt to boot from the first built-in hard disk drive (Default).
<b>Built-in HDD2</b>		
<b>(Default)</b>		

---

<b>Built-in HDD2</b>	<b>-&gt;</b>	The computer will detect and attempt to boot from the second built-in hard disk drive.
<b>Built-in HDD1</b>		

---



- *If a boot command is not found on the first detected hard disk drive, the system will not attempt to boot from the other hard drive, instead it will search the next device in the boot priority for a boot command.*
- *On models with one hard disk drive, this 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.

<b>Enabled</b>	Enables the Wake-up on Keyboard function.
<b>Disabled</b>	Disables the Wake-up on Keyboard function (Default).

## CPU

This function lets you set the CPU operating mode.



*This option is only displayed on those models that use a Pentium-M® processor.*

### Dynamic CPU Frequency Mode

This option lets you choose from the following settings:

<b>Dynamically Switchable</b>	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).
<b>Always High</b>	CPU power consumption and clock speed automatic switching function is disabled. The CPU always runs at its fastest speed.
<b>Always Low</b>	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.

<b>Enabled</b>	Enables Built-in LAN functions (Default).
<b>Disabled</b>	Disables Built-in LAN functions.

## Device Config

### Device Configuration

This option lets you set the device configuration.

<b>All Devices</b>	BIOS sets all devices.
<b>Setup by OS</b>	Operating system sets devices that it can control (Default).

### PCI Express Link ASPM

This feature lets you set the PCI Express power-saving configuration.

<b>Enabled</b>	Enables power-saving when the PCI Express device is not being used.
<b>Disabled</b>	Disables power-saving for performance.
<b>Auto</b>	Power-saving is enabled when the computer is running from battery power and the PCI Express device is not being used (Default).

## USB

### USB KB/Mouse Legacy Emulation

Use this option to enable or disable USB keyboard/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**.

<b>Enabled</b>	Enables the USB KB/Mouse Legacy Emulation function (Default).
<b>Disabled</b>	Disables the USB KB/Mouse Legacy Emulation function.

### USB-FDD Legacy Emulation

Use this option to enable or disable USB floppy disk drive legacy emulation. If your operating system does not support USB, you can still use a USB floppy disk drive by setting the **USB-FDD Legacy Emulation** item to **Enabled**.

<b>Enabled</b>	Enables the USB floppy disk drive legacy emulation function (Default).
<b>Disabled</b>	Disables the USB floppy disk drive legacy emulation function.

## Button Setting

### Sound Logo

Use this option to enable or disable the startup sound when the computer is switched on.

<b>Enabled</b>	Enables startup sound (Default)
<b>Disabled</b>	Disables startup sound.

### Start Up logo

This option lets you select from the following two types of logo which can be displayed when the computer starts up.

<b>Animation</b>	The Logo appears as an animated image (Default).
<b>Picture</b>	The Logo appears as a static image.

## Configuring the Execute-Disable Bit Capability and Front Operation Panel

The Execute-Disable Bit Capability and operation of the front panel can both be configured in the BIOS setup program.



### Notes before using the BIOS Setup

- *In most cases, changes to the system's configuration should be made within Windows by using applications such as **TOSHIBA HW Setup**, **TOSHIBA Password Utility**, **TOSHIBA Power Saver**, **Device Manager** and so forth. If you make changes to the configuration through the BIOS setup program, please be aware that the configuration set through the Windows applications will take priority.*
- *Changes to the settings within the BIOS setup program will not be erased even if the power supply is switched off and the main battery removed. However, if the built-in Real Time Clock (RTC) battery runs out of power, most of the settings will revert back to their default values. However, please note that the following items will not be affected in this instance:*
  - Password
  - Hard Disk Drive Password

## Starting and Ending the BIOS Setup Program

### Starting the BIOS Setup Program

1. Switch on your computer while pressing the **Esc** key.  
If "**Password =**" is displayed, enter either the Supervisor Password, if one is set, or the User Password and press the **Enter** key.  
The "**Check system. Then press [F1] key.**" message is displayed.
2. Press the **F1** key.  
The BIOS setup program will start up.



Select the *Execute-Disable Bit Capability* or *Front Operation Panel* item to make changes. Please refer to the instructions displayed on the screen.

### Ending the BIOS Setup Program

Save the changes and end the program.

1. Press the **End** Key.  
The "**Are you sure? (Y/N) The changes you made will cause the system to reboot.**" message is displayed.
2. Press the **Y** key.  
The configured settings are saved and the BIOS setup program ends.  
The computer may reboot depending on the settings that were modified.

### Ending the BIOS Setup Program Halfway

The configuration settings can be terminated halfway without saving any of the changes made.

1. Press the **Esc** key.  
The "**Exit without saving? (Y/N)**" message is displayed.
2. Press the **Y** key.  
The BIOS setup program will end.

## Execute-Disable Bit Capability

This setting, which is displayed on the first page of the setup screen, configures the Execute-Disable Bit function of the CPU. This function is specific to Intel processors and, when activated, helps to reduce security threats to the computer by preventing certain classes of malicious 'buffer overflow' attacks when combined with a supporting operating system such as Windows XP.

<b>Available</b>	Makes the processor's Execute-Disable Bit Capability available for use.
<b>Not Available</b>	Disables the processor's Execute-Disable Bit Capability so that it is not available for use. (Default).



System configuration changes, other than changes to this setting, should be made within Windows by using applications such as **TOSHIBA HW Setup**, **TOSHIBA Password Utility**, **TOSHIBA Power Saver**, **Device Manager** and so forth.

## Front Operation Panel

The configuration of the computer's front panel is controlled through the following settings shown on the first page of the setup screen.

### **Front Operation Panel**

This setting activates and deactivates the Front Operation Panel.

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<b>Front Operation Panel</b>	Enabled.
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<b>Front Operation Panel</b>	Disabled (Default).
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### **Beep Volume**

With this setting, when the button is pushed, the beep volume changes.

---

<b>Beep Volume</b>	Off.
--------------------	------

---

<b>Beep Volume</b>	Low.
--------------------	------

---

<b>Beep Volume</b>	Medium (Default).
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---

<b>Beep Volume</b>	High.
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---

### **LED Mode**

With this setting, when the button is pushed, the indicator lighting method will change.

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<b>LED Mode</b>	Mode1 All Off Mode: Normally off, will light up at set intervals when the button is pushed.
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<b>LED Mode</b>	Mode2 (Default) All lit Mode: Normally on, will go off at set intervals when the button is pushed.
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## Using the Remote Controller, Front operation panel and QosmioPlayer

This chapter explains how to use the Remote Controller on TV Tuner models (both under Windows XP Media Center Edition and Windows XP Home Edition) 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 is referred to as QosmioPlayer mode.*

### Windows XP Media Center Edition and QosmioPlayer

#### Windows XP Media Center Edition (MCE)



*My TV has been preinstalled on MCE models. 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.

When the Media Center is going to be used, be sure that the computer is operated on AC power. When using the computer on battery power, you are in danger of experiencing recording failures, sound fades, or frames being dropped from videos due to battery depletion.

## 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.

To use the QosmioPlayer feature, some settings must be specified. For more information on how to configure, refer to the chapter on the QosmioPlayer Setting in the User's Manual.

## Remote Controller

Models with a built-in TV Tuner include a Remote Controller which enables you to perform some functions of your computer from a distant location.

### Part Names of Remote Controller

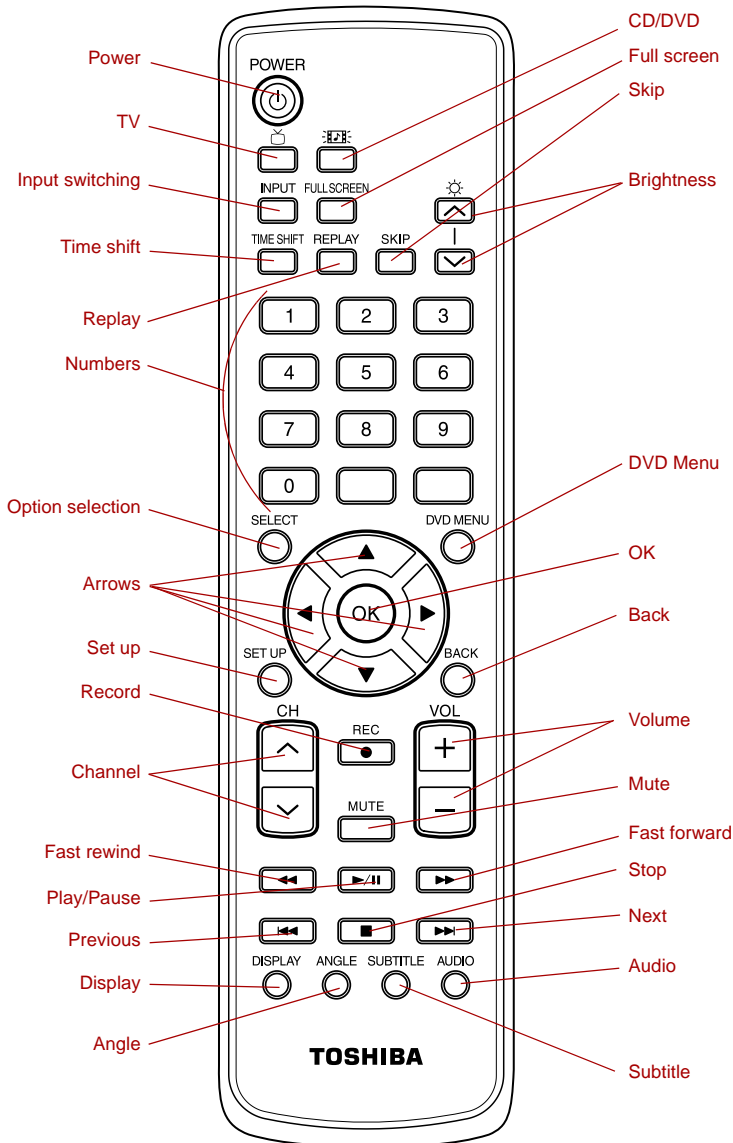
The following figure shows the buttons on the Remote Controller. Refer to the descriptions on the next page for the functions of each button.

#### ***Windows XP Home Edition***

This section describes the Remote Controller provided with Windows XP Home Edition models.

Refer to the [Using the Remote Controller](#) section in this chapter for information on how to use the Remote Controller as well as on how to install and remove its batteries.







Remote Controller

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<b>Power</b>	Starts or terminates the operating system, and terminates QosmioPlayer Play.
<b>TV</b>	Starts or terminates Software for TV. Starts QosmioPlayer (TV).
<b>CD/DVD</b>	Starts Qosmio interface, Windows Media Player, WinDVD, QosmioPlayer (CD), and/or QosmioPlayer (DVD).
<b>Input switching</b>	Toggles between the video input signals (TV antenna/S-Video/composite).
<b>Full screen</b>	Displays the TV/DVD screen in Normal size, zoom size, full size on QosmioPlayer (TV).
<b>Time shift</b>	Activates the time shift feature of Software for TV. When using the QosmioPlayer, the time shift feature will not operate.
<b>Replay</b>	Rewinds the video by several tens of seconds during DVD or QosmioPlayer (DVD) replay. WinDVD does not support this button, instead you should use the <b>Ctrl + B</b> key from a keyboard, or press the Fast rewind button to rewind and then press it again to start playing.
<b>Brightness</b> ^	Increases the brightness of the internal LCD display.
<b>Brightness</b> v	Decreases the brightness of the internal LCD display.
<b>Skip</b>	Skips the video forward by several tens of seconds during DVD or QosmioPlayer (DVD) replay. WinDVD does not support this button, instead you should use the <b>Ctrl + Q</b> key from a keyboard, or press the Fast Forward button to move through the video and then press it again to start playing.
<b>Option selection</b>	Allows you to select an option from the menus for Software for TV, WinDVD or Windows Media Player that is highlighted by the cursor When using QosmioPlayer, the Option selection feature will not function.

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---


<b>Numbers</b>	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.
<b>DVD Menu</b>	Displays the top menu in DVD replay.
<b>Arrows</b>	Moves the cursor between options.
<b>OK</b>	Executes the selected option (works the same as the <b>ENTER</b> key).
<b>Set up</b>	Displays or hides the Settings Menu while watching TV or replaying DVD's.
<b>Back</b>	Allows you to cancel the last action you performed while watching TV or replaying DVD's (this button works the same as the <b>ESC</b> key). When replaying DVD's, this button returns to the screen that has been specified within the DVD movie. For more information on this feature, refer to the information provided with the DVD that you are playing.
<b>Channel</b> 	Switches to the next channel while watching TV.
<b>Channel</b> 	Switches to the previous channel while watching TV.
<b>Record</b>	Starts recording in Software for TV. The <b>Ctrl + R</b> key combination can also be used from the keyboard.
<b>Volume +</b>	Increases the volume while watching TV, viewing DVD's or replaying CD's.
<b>Volume -</b>	Decreases the volume while watching TV, viewing DVD's or replaying CD's.
<b>Mute</b>	Mutes the volume while watching TV, viewing DVD's or replaying CD's.
<b>Play/Pause</b>	Plays or pauses the current DVD video or audio CD.




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<b>Fast rewind</b>	Rewinds the video quickly when replaying DVD's or rewinds the audio by about 10 seconds when using QosmioPlayer (CD).
<b>Fast forward</b>	Forwards the video quickly when replaying DVD's or skips the audio backwards by about 10 seconds when using QosmioPlayer (CD).
<b>Stop</b>	Stops playing music or video.
<b>Previous</b>	Plays the previous track (CD) or chapter (DVD).
<b>Next</b>	Plays the next track (CD) or chapter (DVD).
<b>Display</b>	Changes the screen display in QosmioPlayer Play.
<b>Angle</b>	Changes the angle of the screen in DVD replay.
<b>Subtitle</b>	Displays or hides the caption or changes the language in DVD replay.
<b>Audio</b>	Changes the sound quality or language while watching TV or using the QosmioPlayer (DVD). WinDVD does not support this button, instead you can use the <b>A</b> key from the 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 v (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 quickly
	>	-	Skip by about 10 seconds	Forwards 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 disk tray	Open the disk tray
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.

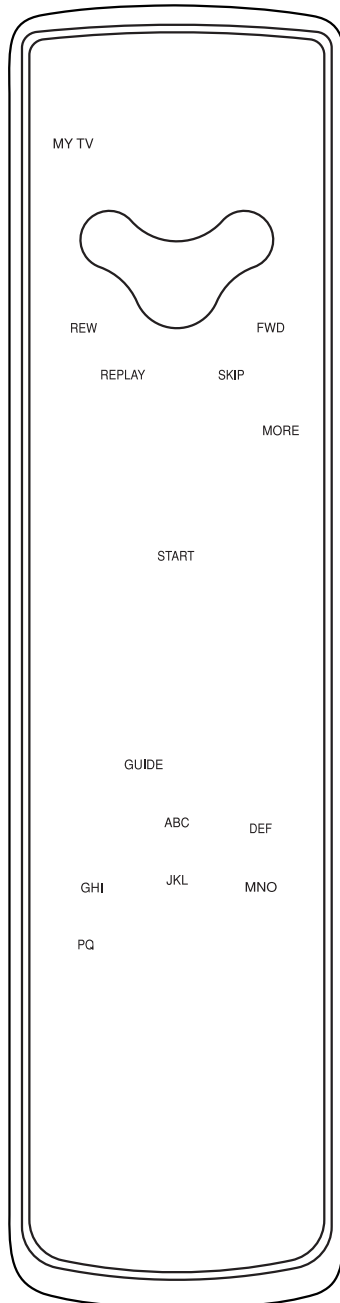
Using the remote control, you can:

- 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 first connect the remote control receiver that is also provided with the computer. Refer to the [Using the Remote Controller](#) section in this chapter for detailed information and notes on how to connect the remote control receiver.

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.





*Remote Controller*

<b>Power</b>	<p>Starts or terminates the operating system.</p> <p>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, click <b>start</b>, select <b>Control panel -&gt; Performance and Maintenance -&gt;TOSHIBA Power Saver -&gt; Setup Action -&gt; Manual Setup</b>. The following five options are available: No action, Ask me what to do, Standby, Hibernate and Shut down.</p>
<b>Access indicator</b>	<p>This indicator will glow while the remote control is sending signals to the computer. Please note that this indicator will not light after the battery has been completely discharged.</p>
<b>My TV</b>	<p>The My TV menu screen is displayed. When the Media Center is not activated, start it up and the menu screen will be displayed.</p>
<b>My music</b>	<p>The My music menu screen is displayed. When the Media Center is not activated, start it up and the menu screen will be displayed.</p>
<b>My pictures</b>	<p>The My pictures menu screen is displayed. When the Media Center is not activated, start it up and the menu screen will be displayed.</p>
<b>My videos</b>	<p>The My videos menu screen is displayed. When the Media Center is not activated, start it up and the menu screen will be displayed.</p>
<b>Record</b>	<p>Records the selected television program and stores it on your hard disk.</p>
<b>Stop</b>	<p>Stops the media currently playing.</p>
<b>Pause</b>	<p>Pauses an audio or video track, and live or recorded TV programs.</p>
<b>Play</b>	<p>Plays the selected media.</p>
<b>REW (Rewind)</b>	<p>Moves the media (video, DVD, music, and so on) backwards.</p>
<b>FWD (Fast forward)</b>	<p>Moves the media (video, DVD, music, and so on) forwards</p>

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<b>Replay</b>	Moves media backward (seven seconds for videos and live TV, one music track or one DVD chapter at a time).
<b>Skip</b>	Moves media forward (30 seconds for videos and live TV, one music track or one DVD chapter).
<b>Back</b>	Displays the previous window.
<b>Arrows</b>	Moves the cursor to navigate within Media Center windows.
<b>OK</b>	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.
<b>More Info</b>	The button provides more details on a TV program than is listed in the Guide.
<b>Volume +</b>	Increases the volume while watching TV, viewing DVD's or replaying CD's.
<b>Volume -</b>	Decreases the volume while watching TV, viewing DVD's or replaying CD's.
<b>Start</b>	Opens Media Center to the main window.
<b>Channel/Page up(+) and down(-)</b>	Changes the TV channel or moves a page up and down, depending on the available options.
<b>Mute</b>	Turns your computer sound off.
<b>Recorded TV</b>	Allows you to start recording of TV programs. The Recorded TV feature of Media Center Edition will be activated.
<b>Guide</b>	Opens the Television Program Guide to display available TV channels and programs to watch and record.
<b>Live TV</b>	A shortcut to the full screen view. It also takes you to the current point in a live TV program after pausing live TV.
<b>DVD Menu</b>	Opens the main menu on a DVD movie, if available.

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<b>Numbers</b>	Allows you to select a channel or chapter number while watching TV, or CD/DVD replay. Numbers can be entered. 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.
<b>Clear</b>	Deletes entered numbers.
<b>Enter</b>	The OK button on the Remote Controller has the same functions.

## Front operation panel function

This section describes the functions of the front operation panel for both Windows mode and QosmioPlayer mode.

You have two options for the Indicator lighting method, “Always On” and “Always Off.”

In the always on mode, the indicator will ordinarily be lit, however, when the panel is touched, the indicator will go out. In the always off mode, the indicator will ordinarily be out, however, when the panel is touched, the indicator will go on. When the button is pushed, a short beep will be emitted. For details on changing the indicator lighting settings, please refer to Chapter 7, *HW Setup*.



- *If you operate the panel section while wearing magnetized bracelets, and the like, there is the possibility of experiencing operational errors.*
- *Please do not press the panel section too strenuously.*

### Windows mode

Eleven buttons are available for use:

TV Tuner model: TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness up, Brightness down, Monitor-in, TV-out.

Non TV Tuner model: Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness up, Brightness down, Zoom out (-), Zoom in (+).

These buttons allow you to navigate audio/video operations, run applications and access utilities.



*Front operation panel (TV Tuner model)*



*Front operation panel (Non TV Tuner model)*

	<b>TV button</b>	Starts or terminates Software for TV.
	<b>CD/DVD button</b>	<p>Pressing this button will launch an application program that allows you to watch a DVD or listen to a CD. If you press this button while the computer is switched off, it will launch either QosmioPlayer (DVD) or QosmioPlayer (CD). Once QosmioPlayer (DVD) or QosmioPlayer (CD) is launched, the DVD/CD LED will turn on, the audio button will become enabled, and further presses of this button will have no function.</p> <p>Pressing this button while the computer is switched on or in Standby Mode will launch either the Qosmio interface or Windows Media Player/ WinDVD.</p>
	<b>Play/Pause button</b>	Press this button to begin or pause play or to automatically run Windows Media Player/ WinDVD.
	<b>STOP button</b>	Press this button to stop play.
	<b>Previous button</b>	Press this button to skip back to the previous track, chapter or data
	<b>Next button</b>	Press this button to advance to the next track, chapter or data.
	<b>Record button</b>	<p>The record button is provided with TV Tuner models only.</p> <p>Press this button when using Windows to start recording a TV program. When used within QosmioPlayer, the audio/video recording feature will not function.</p>
	<b>Brightness down button</b>	Use this button to reduce the brightness of the built-in LCD.



---

**Brightness up button**

Use this button to increase the brightness of the built-in LCD.

---



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**Monitor-in button**

The Monitor-in button is provided with some models.

Pressing this button will toggle the computer between displaying the Windows operating system and the AV input. In this mode, both the DVD/CD and Digital Audio indicators are on and the Audio button is disabled. Pressing this button when the computer is switched off will have no function.

---



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**TV-out button**

Pressing this button while Windows is running will switch the display output to a TV.

---



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**Internet button**

The Internet button is provided with non TV Tuner models only.

Press this button to launch the configured Internet browser. If the computer is switched off, you can press this button to turn on the computer's power and launch the browser automatically in one step.

---



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**Zoom out (-) button**

The Zoom out (-) button is provided with non TV Tuner models only.

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](#).

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**Zoom in (+) button**

The Zoom in (+) button is provided with non TV Tuner models only.

Press this button to increase 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	Front operation panel	Windows mode		
		Software for TV (TV)	WinDVD (DVD)	Windows Media Player 10 (CD)
	TV	Activate Software for TV	-	-
	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; 8->7->...2->1		
	Brightness	Changes the brightness level of LCD; 1->2->...7->8		
	Monitor-in mode	Switch LCD display to TV/TV input (configurable with utility)		
	Zoom out(-)	Reduce the icon/screen size.		
	Zoom in(+)	Increase the icon/screen size.		

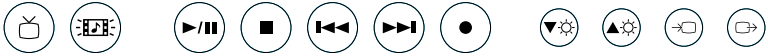
## QosmioPlayer mode

Eleven buttons are available for use:

TV Tuner model: TV, CD/DVD, Play/Pause, Stop, Previous, Next, Record, Brightness up, Brightness down, Monitor-in, TV-out.

Non TV Tuner model: Internet, CD/DVD, Play/Pause, Stop, Previous, Next, TV-out, Brightness up, Brightness down, Zoom out (-), Zoom in (+).

These buttons allow you to manage Audio/Video functions, run applications and access utilities.



*TV Tuner model*















*Non TV Tuner model*

Refer to the Front operation panel in the [Windows mode](#) section of this Chapter.



**Function comparison list for TV/DVD/CD software**

Icon	Front operation panel	QosmioPlayer mode	
		View QosmioPlayer (TV)	Play QosmioPlayer (CD/DVD)
	TV	Activate TV application	Terminate (CD/DVD) Start (TV)
	CD/DVD	Terminate (TV) Start (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; 8->7->...2->1	
	Brightness	Changes the brightness level of LCD; 1->2->...7->8	
	Monitor-in mode	TV input	
	Zoom out(-)	-	-
	Zoom in(+)	-	-

## Using the Remote Controller

Remote Controller is provided with TV Tuner models only.

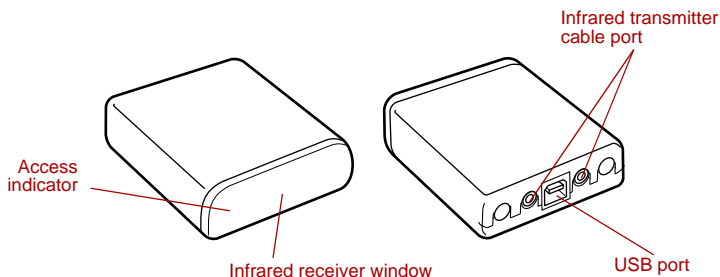
This computer includes a remote control unit, which allows you to control some of your computer's functions from a distant location.



- *The Remote Controller is designed specifically for this computer.*
- *Some application programs may not support remote control functions.*

### Connecting the MCE Remote control receiver

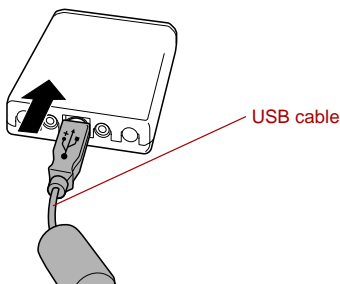
An infrared receiver, which connects to one of the computer's USB ports, allows you to control Microsoft® Windows® XP Media Center Edition from a distant location.



*The MCE Remote control receiver*

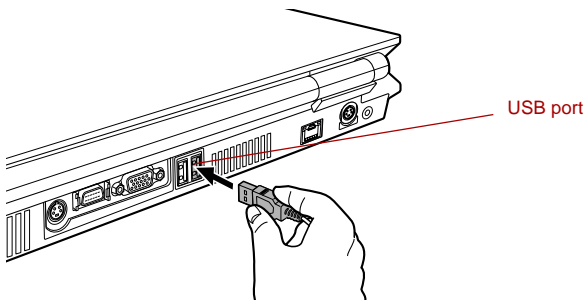
The Access indicator turns on when signals are received from the controller.

1. Connect a provided USB cable to the USB port of the Remote control receiver.



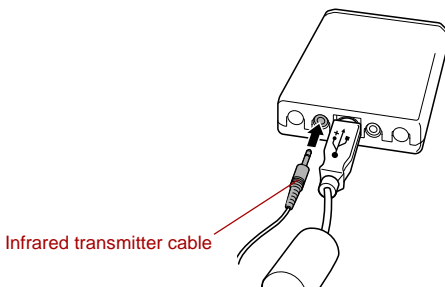
*Connecting the USB cable to the MCE Remote control receiver*

2. Connect the external infrared Remote control receiver to one of the computer's USB ports.  
Proceed to Step 3 if you are a subscriber of satellite or CATV.



*Connecting the USB cable to the computer's USB port*

3. Connect the infrared transmitter cable to the external infrared Remote control receiver. Please note that the infrared remote control for your set-top box must be compatible in order to function.



*Connecting the infrared transmitter cable*



*This USB remote control receiver only works with Microsoft® Windows® XP Media Center Edition and therefore cannot be used with QosmioPlayer.*

## Operational range of the remote control

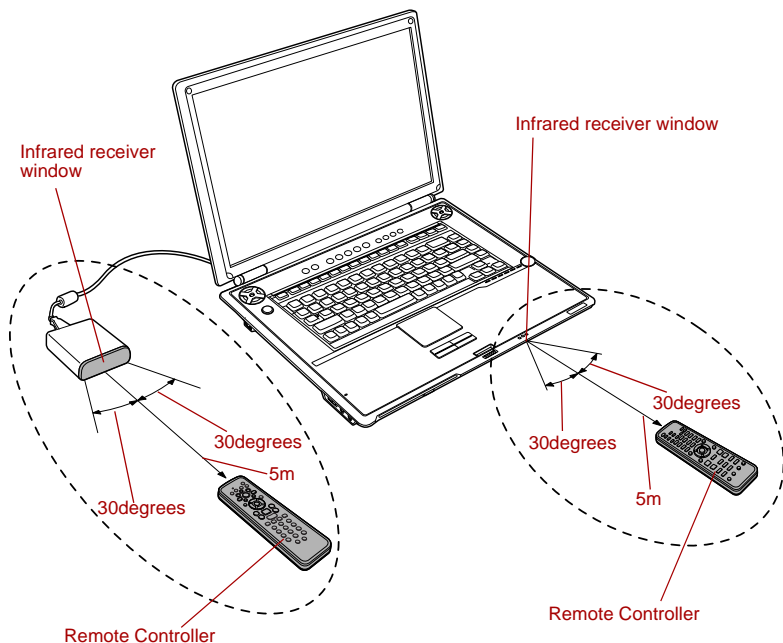
Remote Controller is provided with TV Tuner models.

Point the remote control at your computer and press a button. The operational angle and distance are described below.

---

<b>Distance</b>	Within 5 m from the infrared receiver window.
<b>Angle</b>	Within about 30 degrees horizontally and about 15 degrees vertically of perpendicular to the infrared receiver window.

---



*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 non TV Tuner models. The Remote control receiver is only provided with Windows XP Media Center Edition models.

## 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 become 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 which use an infrared remote controller are used near to your computer.*
- *When a low battery condition is present*

## Installing/Removing batteries

Be sure to install the dry batteries provided with this product before using the Remote Controller.

The procedures for installing and removing the batteries vary depending on the type of the Remote Controller. Check the type and then install or remove the batteries 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 those specified.*
- *Ensure that you insert the batteries with their polarities correctly aligned (+ or -).*
- *Do not recharge, heat, disassemble or short the battery, or put it into a fire or flame.*
- *Do not use a battery whose 'recommended expiration date' has been reached, or 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 disposing of used batteries, make sure to put some insulation tape on their terminals (+ and -) to avoid short-circuits.*

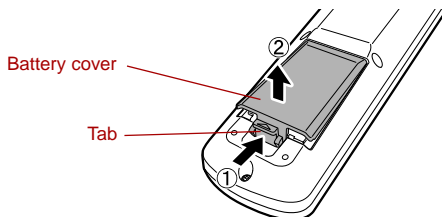
*If these precautions are not followed, heating, fluid leakage or explosion may occur. This may cause burns or personal injury. If battery fluid gets on your skin or clothes, wash immediately with clean water. If battery fluid gets in your eyes, rinse your eyes with clean water immediately and see a doctor. Do not touch the battery fluid on instruments or devices with bare hands. Wipe off with a cloth or paper towel.*

### Type of battery that can be used for the Remote Controller

When the batteries shipped with the Remote Controller are discharged, replace them with commercially available AA manganese batteries or AA alkaline batteries. Other types of battery should not be used.

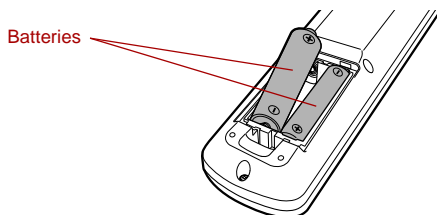
## Installing the batteries

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).



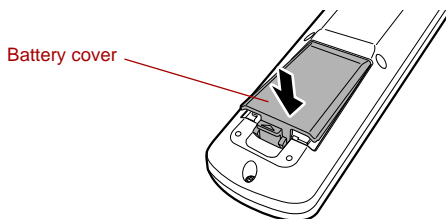
*Opening the battery cover*

2. Insert the batteries in place. Be sure to place the batteries with their polarities (+ and -) in the correct position.



*Inserting the batteries*

3. Close the battery cover. Close the cover securely until it clicks.

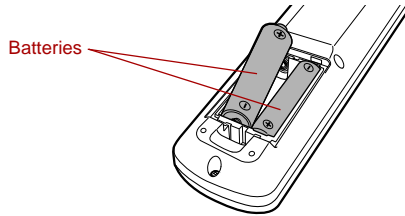


*Closing the battery cover*

## Replacing the batteries

When the batteries in the Remote Controller reach the end of their life, the Remote Controller may not operate correctly or work only within a short distance from your computer. In this instance, you should purchase new batteries and replace the discharged 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.



### *Removing the batteries*

3. Close the battery cover.  
Close the cover securely until it clicks.



## Switching video Input

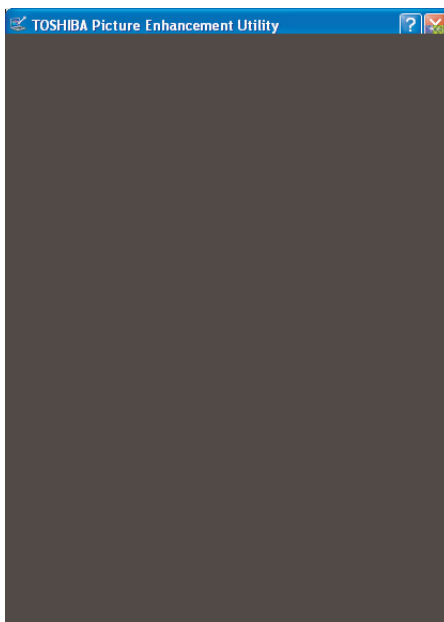
Follow the steps below to define the Monitor Input feature that allows video from a device such as an analog camera or game machine to be displayed on the LCD of your computer.



*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.



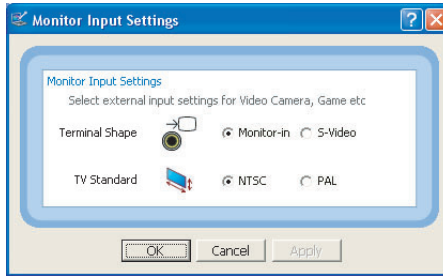
*TOSHIBA Picture Enhancement Utility window*



- *The default setting for the AI Scene Control option is ON. This function means that the image brightness is automatically controlled by your computer.*
- *The default setting for the Non-linear Scaling option is OFF. When viewing DVD videos with WinDVD, or TV programmes with WinDVR, some screen images may be displayed in Normal Mode, that is, with an aspect ratio of 4:3. You should change the setting from OFF to ON to watch DVD videos or TV programmes in their full display mode, with an aspect ratio of 16:9. Please note that this feature is not supported within Media Center.*

2. Click the **Monitor Input Settings** button in the **TOSHIBA Picture Enhancement Utility** window.

The **Monitor Input Settings** window appears.



*Figure 8-15 Monitor Input Settings window*

3. Select the item for the **Terminal Shape**.
  - Select **S-Video** for the **Terminal Shape** if the device is connected to the S-Video in port.
  - Select **Monitor-in** for the **Terminal Shape** if the device is connected to the Monitor-in port.
4. Select the **NTSC** or **PAL** item for the **TV Standard**.
5. Click the **OK** button.

## QosmioPlayer

The section describes the QosmioPlayer.

### **QosmioEngine**

You are able to 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 and High, with the image sharpness being emphasized if a higher level is chosen.

### **Automatic brightness adjustment function**

This mode changes the quality of video playback automatically according to the type of images that are being displayed.

## Restrictions of the QosmioEngine

The current mode will be maintained, and should be restored the next time the computer is switched on, and after the notebook returns from Standby Mode or Hibernation Mode.



*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 on the video being played, noise may be present.*
- *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) may not be supported.*
- *Text will be displayed in low quality while video is being played through WinDVD or Software for TV. The QosmioEngine allows the computer to clearly display video images, while trading this off against the rendering of lower quality static data, such as captions.*
- *Noise contained in original video images may increase when playing them with QosmioPlayer. This is because the QosmioEngine not only displays video images in high quality but will also do the same for any noise they may contain.*

## Restrictions of the Monitor-in mode under Windows XP

- Disable the Windows Monitor Auto Off feature as this will override the Monitor-in mode. If you do not do this, the computer's LCD will remain blank even when you click the Monitor-in button to switch modes.
- During the Monitor-in mode, any Windows messages will not be displayed - you will need to disable the Monitor-in mode to see these.
- When you switch to Monitor-in mode, the aspect ratio (the ratio of length to width of the screen) is set to 4:3. You can 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** hot keys are not available.
- *In Monitor-in mode, the screens of other applications will be invisible. This 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 after returning from Standby or Hibernation mode.*
- *Do not turn off the power while the Monitor-in mode is active. Be sure to turn off the power only after switching back to either Windows or QosmioPlayer.*
- *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 a line-in port. Should this occur, right-click the **Volume** icon on the Task Bar and select the **Open Volume Control** option from the menu that appears. Turn on the **Mute** checkbox in the **Line In** section of the **Volume Control** window.*

## 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
- ExpressCard
- 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***

- Hard disk drive pack
- USB floppy disk drive
- External monitor
- TV
- Monitor-in
- S-Video-in
- i.LINK (IEEE1394)

### ***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 right side of the computer.

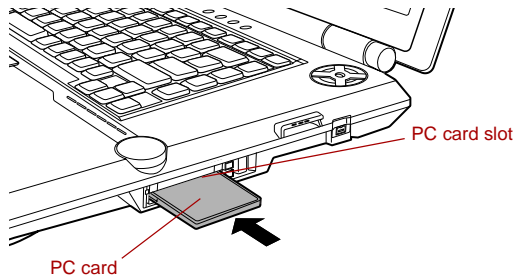
The Windows hot-install feature lets you insert PC cards while the computer's power is on.



*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 a PC card in the PC card slot.
2. Press gently to ensure a firm connection.



*Inserting a 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

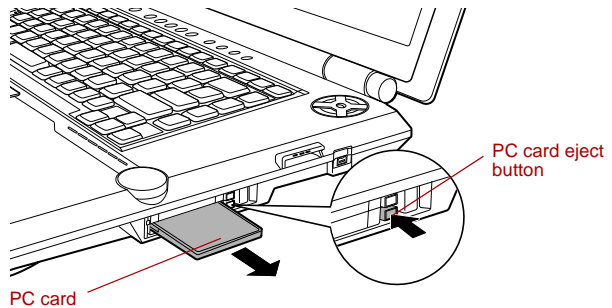
To remove the PC card, follow the steps below.

1. Open the **Safely Remove Hardware** icon on the Task Bar.
2. Point to **PC card** and click.
3. Press the PC card eject button to extend it.



*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.



*Removing the PC card*

## ExpressCard

The computer is equipped with an ExpressCard slot. Any ExpressCard that meets industry standards (manufactured by TOSHIBA or other vendor) can be installed. The slot supports hot plug connection and utilizes the PCI-Express interface that supports the reading and writing of data at a theoretical maximum rate of 2.5Gbps.

### Inserting an ExpressCard

The ExpressCard slot is located on the right side of the computer.

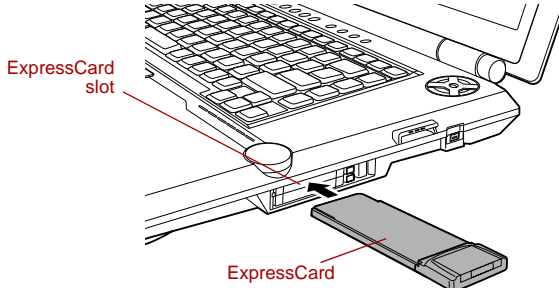
Windows' hot-install feature lets you insert an ExpressCard while the computer's power is on.



■ *Do not insert a ExpressCard while*

To insert an ExpressCard, follow the steps below:

1. Insert an ExpressCard in the ExpressCard card slot.
2. Press gently to ensure a firm connection.



*Inserting the ExpressCard*

3. After inserting the ExpressCard, refer to the ExpressCard's documentation and check the configuration in Windows to make sure it is appropriate for your ExpressCard.

## Removing an ExpressCard

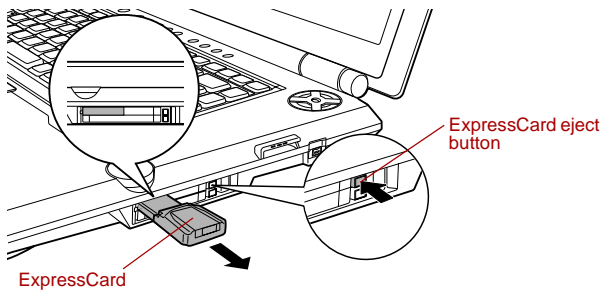
To remove the ExpressCard, follow the steps below.

1. Open the **Safely Remove Hardware** icon on the Task Bar.
2. Point to **ExpressCard** and click.
3. Press the ExpressCard eject button to extend it.



*If the ExpressCard is not inserted all the way, the eject button may not pop out. Be sure to push the ExpressCard firmly and press the eject button again.*

4. Press the extended eject button to pop the card out slightly.
5. Grasp the ExpressCard and draw it out.



*Removing the ExpressCard*



## Bridge media slot

This slot lets you insert SD card, Memory Stick (Pro), xD picture card and MultiMediaCard.



### SD card

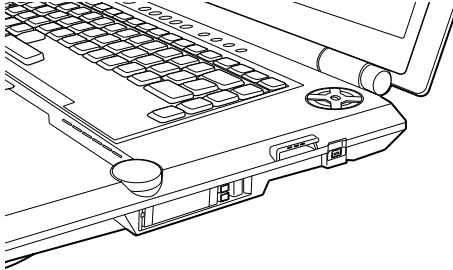
The computer is equipped with a Bridge media slot that can accommodate Secure Digital flash memory cards with various memory capacities. SD cards let you easily transfer data from devices, such as digital cameras and Personal Digital Assistants, that use SD card flash-memory. The cards have a high level of security and copy protection features.



### ***Inserting an SD card***

To insert an SD card, follow the steps below.

1. Insert an SD card in the Bridge media slot.
2. Press gently to ensure a firm connection.



*Inserting an SD card*



### ***Removing an SD card***

To remove an SD card, follow the steps below.

1. Open the **Safely Remove Hardware** icon on the Task Bar.
2. Point to **SD card** and click.
3. Push in the card and release it to pop the card out slightly.
4. Grasp the card and remove it.

*Removing an SD card*



- *Make sure the **SD card** 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 a Bridge media slot that can accommodate Memory Stick/Memory Stick Pro 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 technology.



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



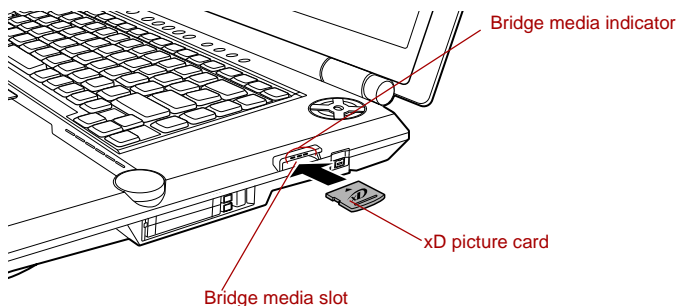
- *The slot does not support Magic Gate functions.*
- *Memory Stick Duo/PRO Duo and the Memory Stick adaptor are not compatible with the Bridge media slot. Do not insert Memory Stick Duo/PRO Duo into the slot. Data may be lost or damaged if you use any card other than those supported.*

### **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.



2. Press gently to ensure a firm connection.



*Inserting an xD picture card*

### **Removing an xD picture card**

To remove an xD picture card, follow the steps below.

1. Open the **Safely 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 MultiMediaCard flash memory technology 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.*

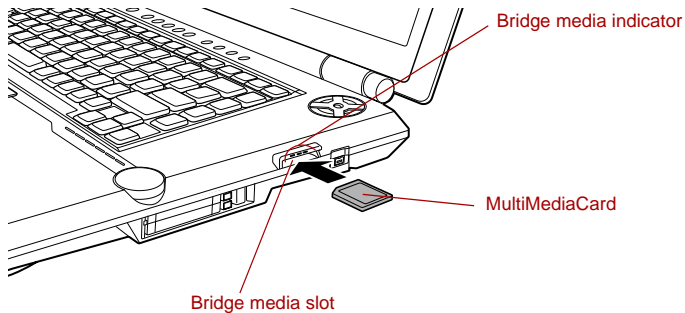


*MultiMediaCards comply with SDMI (Secure Digital Music Initiative), which is a technology adopted to prevent unlawful copy or playback of digital music. For this reason, you cannot copy or playback protected material on another computer or other device. You may not use the reproduction of any copyrighted material except for your personal enjoyment.*

### **Inserting a MultiMediaCard**

To insert a MultiMediaCard, follow the steps below.

1. Insert the MultiMediaCard into the Bridge media slot.
2. Press gently to ensure a firm connection.



*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 **Safely Remove Hardware** icon on the Task Bar.
2. Point to **MultiMediaCard** and click.
3. Push in the card and release it to pop the card out slightly.

4. Grasp the card and remove it.

*Removing a MultiMediaCard*



## 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.



- *Place a mat beneath the computer to ensure that you do not scratch lid when replacing the memory module - you must ensure that this mat does not generate or hold a static electric charge.*
- *When you install or remove a memory module, ensure that you do not touch any other internal areas of the computer.*



- *Use only memory modules approved by TOSHIBA.*
- *Do not try to install or remove a memory module under the following conditions as you can damage the computer and/or the module, and you risk losing data:*
  - a. The computer is turned on.
  - b. The computer was shut down using either Standby Mode or Hibernation Mode.
- *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.*
- *Expansion memory is a precision electronic component that may be fatally damaged by static electricity. Since the human body can store a static electric charge, you must ensure that you take steps to remove this charge before you install an expansion memory module. To discharge your body's static electric charge, you can simply touch any earthed object close to you with bare hands, or, more preferably, use a grounded ESD wrist-band.*

If you install a memory module that is not compatible with the computer, a beep will sound when you turn on the power. If the incompatible module is installed in slot A, there will be a long beep (1 second) followed by one short beep (0.5 seconds), while if the incompatible module is in slot B, there will be a long beep followed by two short beeps. In the event both modules are incompatible, there will be a long beep followed by one short beep, a pause, and then a long beep followed by two short beeps. In all instances you should shut down the computer and remove the incompatible module(s).



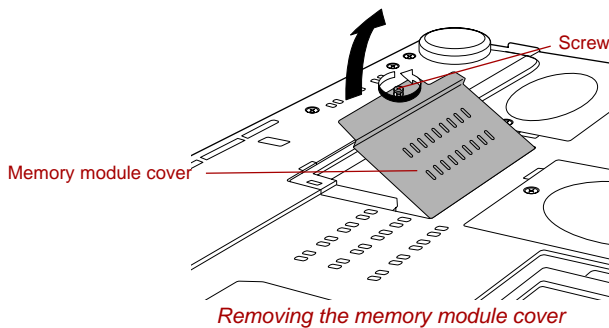
- *Use a point size 0 Phillips screwdriver to remove and fasten the screws. Use of an incorrect screwdriver can damage the screw heads.*



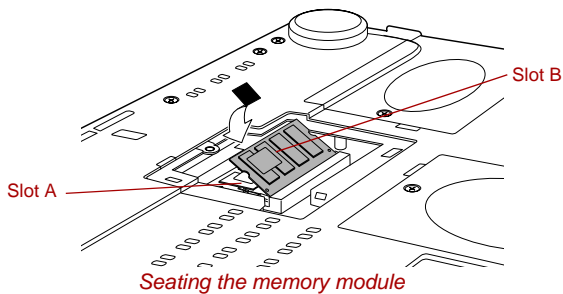
## Installing memory module

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. Refer to the [Turning off the power](#) section in Chapter 3, Getting Started.
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. Loosen the 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. Align the notch of the memory module with that of the memory slot and gently insert the module into the slot at about a 45 degree angle before pressing it down until the 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.





*Align the grooves along the edges of the of the memory module with the locking tabs on the connector and insert the module into the connector firmly. If you find it difficult to install the memory module, gently prise the locking tabs outwards using the tip of your finger. Ensure that you hold the memory module along its left and right hand edges - the edges with the grooves in.*



- *Be careful not to drop anything 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.



*Be sure that the cover is closed firmly.*

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 power on and make sure the added memory is recognized. Click **start**, click **Control Panel**, click **Performance and Maintenance** and select the **System** icon. Open **System Properties** window and click **General** tab.

## Removing memory module

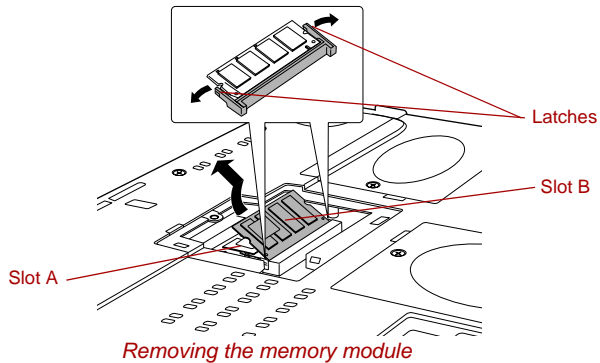
To remove the memory module, make sure the computer is in boot mode then:

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. Loosen the 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.*



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.

## Hard disk drive pack

An extra hard disk drive expands the flexibility of your system and lets you carry your data without carrying the computer.

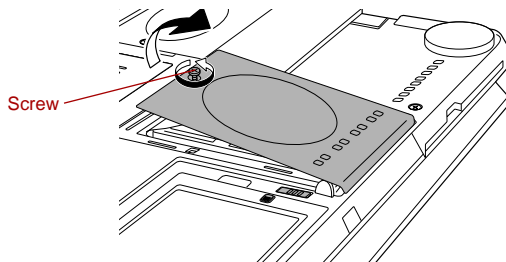


*Use a point size 0 Phillips screwdriver.*

### Removing the Hard Disk Drive Pack

To remove the hard disk drive pack, follow the steps below.

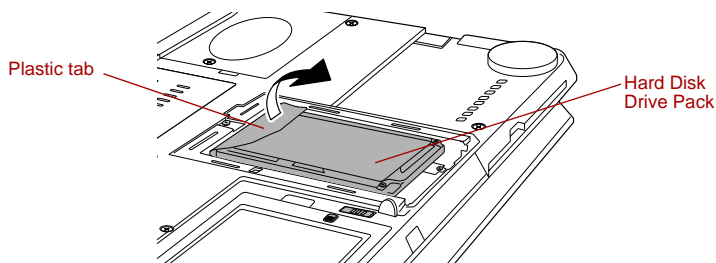
1. Set the computer to boot mode and turn off the power.
2. Disconnect the AC adaptor and all external cables connected to the computer.
3. Turn the computer upside down and remove the battery pack. Refer to [Replacing the battery pack](#) section in Chapter 6, Power and Power-Up Modes, for details.
4. Turn the computer upside down and loosen one screw securing the hard disk drive cover.
5. A small row of ridges mark latches securing the cover. Press on these ridges until you hear a click.
6. Press on the arrows and lift the cover up and out to remove it.



*Removing the hard disk drive pack cover*

7. Reposition the hard disk drive until it is vertical.

- With the hard disk drive in a vertical position, lift it straight up and away from the connector.



*Removing the hard disk drive pack*

## Installing the Hard Disk Drive Pack

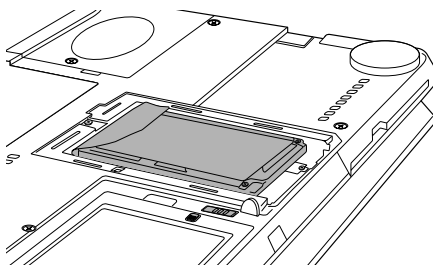
To install the hard disk drive pack, follow the steps below.

- Move the connector until it is vertical.
- Hold the hard disk drive vertically with its label on the left.
- Connect the hard disk drive to the connector.



*Ensure that the hard disk drive is connected to the connector in a vertical position. If the drive is slanted and connected to the connector, it might damage the connector.*

- With the connector connected, lower the hard disk drive down to the storage position.



*Installing the hard disk drive pack*

- Seat the cover and press down until the latches click into place.
- Secure the cover with a screw.
- Return your computer to the upright position.

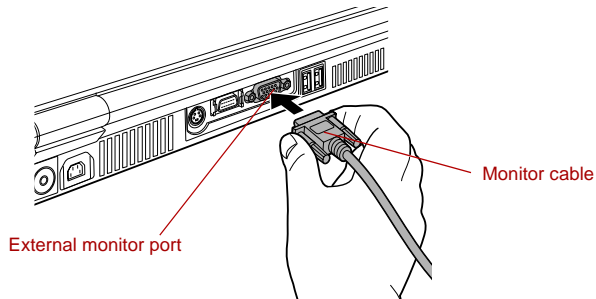
## USB floppy disk drive

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.



*Connecting 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

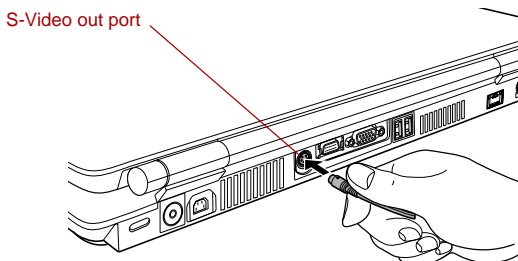
The S-Video or D-Video data on your computer can be viewed on a TV set. To do so, connect your computer's S-Video out port to the TV using the S-Video out cable, or your computer's D-Video out port to the TV using the D-Video out cable.

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.

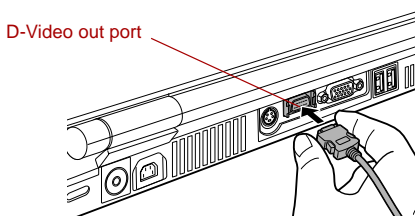


#### *Connecting the S-Video out port*

2. Insert the other end of the S-Video out cable into the S1-/S2 video input of the TV set. You can then either use the computer's speakers or a set of headphones connected to the headphone jack to get sound.

### **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.



#### *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. You can then either use the computer's speakers or a set of headphones connected to the headphone jack to get sound.

## Settings for display video on TV

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



- *Be sure to use the Fn +F5 HotKey to select the display device before starting to play video. Do not change the display device while playing video.*
- *Do not change the display device under the following conditions.*
  - *While data is being read or written*
  - *While communication is being carried out*
- *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 **Ge Force Go 6600** 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 × 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 you connect a device using the Monitor-in port. Refer to the section [Switching video Input](#) in Chapter 8, *Using the Remote Controller, Front operation panel and QosmioPlayer* for details.

### Models with TV Tuner

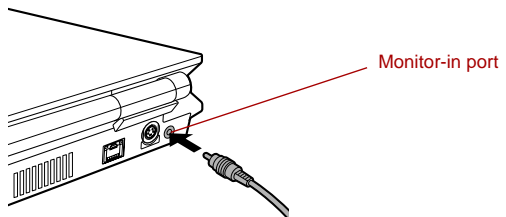
The Monitor-in facility allows you to connect the following devices to display their video output on the built-in LCD.

- Analog video camera
- Analog video deck/recorder
- Home TV game machine
- Mobile phone with TV output

### Switching between devices

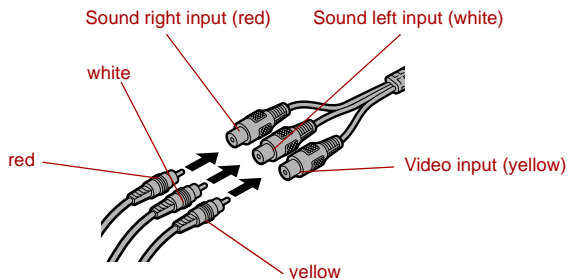
Make sure to power off your computer before performing the following steps.

1. Insert the plug of the Monitor-in cable into the Monitor-in port of your computer.



*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.



*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 Front operation panel and QosmioPlayer* about the restriction of the Monitor-in feature.

## 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.

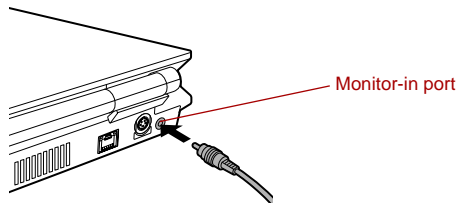
## Audio device

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.

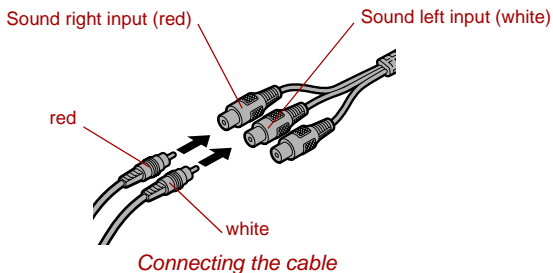
1. Insert the plug of the Monitor-in cable into the Monitor-in port of your computer.



*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.



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.

### Models without TV Tuner

Models without TV Tuner only support the video 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, Front operation panel and QosmioPlayer* for information on how to configure the feature.

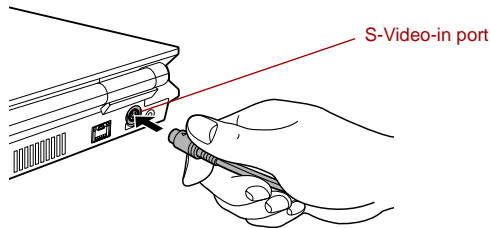
## S-Video-in



*Set up Terminal Shape before you connect a device using the S-Video-in port. Refer to the section [Switching video Input](#) in Chapter 8, *Using the Remote Controller, Front operation panel 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.



*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 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, Front operation panel and QosmioPlayer* for information on 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



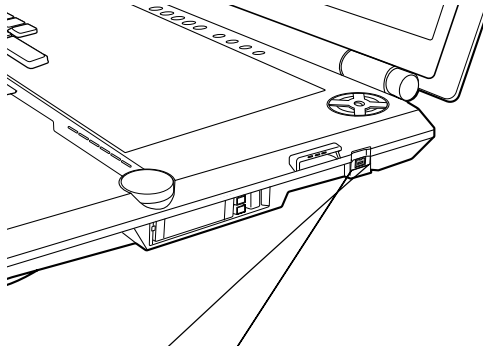
*i.LINK uses a four-pin connector, which does not carry any electric current. External devices will need their own power supply to operate.*

### 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.



*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.
- 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 **Safely 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.

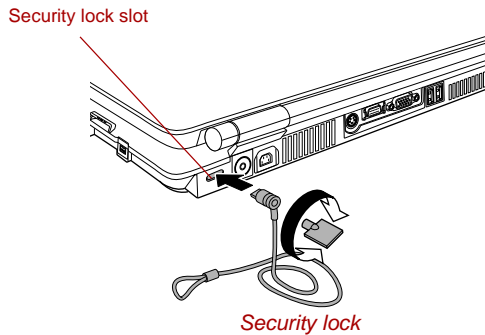


## Security lock

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 back side of the computer.

1. Turn the computer so the back side faces you.
2. Align the holes for the security lock and attach the lock.







## 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.

---

<b>Software</b>	<p>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.</p> <p>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.</p> <p>Next, check any error messages in the operating system documentation.</p>
<b>Hardware</b>	<p>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.</p>

---

## 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               | ■ xD picture card          |
| ■ Self test                     | ■ MultiMediaCard           |
| ■ Power                         | ■ Infrared receiver window |
| ■ Password                      | ■ Pointing device          |
| ■ Keyboard                      | ■ USB                      |
| ■ Internal LCD display panel    | ■ Memory expansion         |
| ■ Hard disk drive               | ■ Sound system             |
| ■ DVD Super Multi drive         | ■ External monitor         |
| ■ USB floppy disk drive         | ■ Modem                    |
| ■ PC card                       | ■ LAN                      |
| ■ ExpressCard                   | ■ Wireless LAN             |
| ■ SD card                       | ■ Bluetooth                |
| ■ Memory Stick/Memory Stick Pro | ■ 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:

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 an intelligent power supply and a 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.



## 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 ( <b>DC IN</b> indicator does not glow green)	<p>Check the connections. Make sure the cord is firmly connected to the computer and a power outlet.</p> <hr/> <p>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.</p> <hr/> <p>If the AC adaptor still does not power the computer, contact your dealer.</p>

## 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 ( <b>Battery</b> indicator does not glow orange)	<p>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.</p> <hr/> <p>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.</p>

Problem	Procedure
	<p>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.</p> <p>Check the <b>Battery</b> indicator. If it does not glow, let the computer charge the battery for at least 20 minutes. If the <b>Battery</b> indicator glows after 20 minutes, let the battery continue to charge at least another 20 minutes before turning on the computer.</p> <p>If the indicator still does not glow, the battery may be at the end of its operating life. Replace it.</p> <p>If you do not think the battery is at the end of its operating life, see your dealer.</p>
<p>Battery doesn't power the computer as long as expected</p>	<p>If you frequently recharge a partially charged battery, the battery might not charge to its full potential. Fully discharge the battery, then try to charge it again.</p>
	<p>Check the power consumption settings in TOSHIBA Power Saver utility. Consider using a power saving mode.</p>

### Real Time Clock

Problem	Procedure
<p>The following message is Displayed on the LCD screen:</p> <pre>RTC battery is low or CMOS checksum is inconsistent. Press [F1] key to set Date/Time.</pre>	<p>The RTC battery charge has expired. Set the date and time in BIOS setup with the following steps:</p> <ol style="list-style-type: none"> <li>1. Press <b>F1</b> key. BIOS setup will boot up.</li> <li>2. Set the date in <b>System Date</b>.</li> <li>3. Set the time in <b>System Time</b>.</li> <li>4. Press <b>End</b> key. Confirmation message will appear.</li> <li>5. Press <b>Y</b> key. BIOS setup will terminate and the computer will be rebooted.</li> </ol>

### Password

Problem	Procedure
<p>Cannot enter password</p>	<p>Refer to the <a href="#">TOSHIBA Password Utility</a> section in Chapter 6, <a href="#">Power</a>.</p>

## 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 <b>Fn + F10</b> 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.

## Internal LCD display 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 <b>Fn + F5</b> to change the display priority, to make sure it is not set for an external monitor.
Markings appear on the LCD screen.	The marks may have come from contact with the keyboard or Touch Pad. Try wiping the LCD screen gently with a clean dry cloth. If the markings remain, use a good quality LCD screen cleaner, taking care to ensure you let the LCD screen 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
<p>Computer does not boot from hard disk drive</p>	<p>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 the Boot priority. Refer to the <i>Boot Priority</i> section in Chapter 7, <i>HW Setup</i>.</p> <hr/> <p>There may be a problem with your operating system files. Refer to your operating system documentation.</p>
<p>Slow performance</p>	<p>Your files may be fragmented. Run Disk Defragmenter to check the condition of your files and disk. Refer to your operating system's documentation or online help for information on running the Disk Defragmenter.</p> <hr/> <p>As a last resort, reformat the hard disk. Then, reload the operating system and other files.</p> <p>If problems persist, contact your dealer.</p>

## DVD Super Multi drive

For more information, refer to Chapter 4, *Operating Basics*.

Problem	Procedure
<p>You cannot access a CD/DVD in the drive</p>	<p>Make sure the drive's drawer is securely closed. Press gently until it clicks into place.</p> <hr/> <p>Open the drawer and make sure the CD/DVD is properly seated. It should lie flat with the label facing up.</p> <hr/> <p>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.</p> <hr/> <p>Check whether the CD/DVD is dirty. If it is, wipe it with a clean cloth dipped in water or a neutral cleaner.</p>



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 drive](#) 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.

## ExpressCard

Refer also to Chapter 9, [Optional Devices](#).

Problem	Procedure
ExpressCard error occurs	<p>Reseat the ExpressCard to make sure it is firmly connected.</p> <p>Make sure the connection between the external device and the card is firm.</p>
Cannot insert ExpressCard	<p>Please insert the card in the correct location. Refer to Chapter 9, <a href="#">Optional Devices</a> for details.</p> <p>Check the card's documentation.</p> <p>If problems persist, contact your dealer.</p>

## SD card

Refer also to Chapter 9, [Optional Devices](#).

Problem	Procedure
SD card error occurs	<p>Reseat the SD card to make sure it is firmly connected.</p> <p>Check the SD card's documentation.</p>
You cannot write to an SD card	<p>Make sure the SD card is not write protected.</p>
You cannot read a file	<p>Make sure the target file is on the SD card inserted in the slot.</p> <p>If problems persist, contact your dealer.</p>

## Memory Stick/Memory Stick Pro

Refer also to Chapter 9, [Optional Devices](#).

Problem	Procedure
Memory Stick/Memory Stick Pro error occurs	<p>Reseat the Memory Stick/Memory Stick Pro to make sure it is firmly connected.</p> <p>Check the card's documentation.</p>
You cannot write to an Memory Stick/Memory Stick Pro	<p>Make sure the Memory Stick/Memory Stick Pro is not write protected.</p>
You cannot read a file	<p>Make sure the target file is on the Memory Stick/Memory Stick Pro inserted in the slot.</p> <p>If problems persist, contact your dealer.</p>

## 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 infrared 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**

<b>Problem</b>	<b>Procedure</b>
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 return to its normal shape and try again to move it.
Double-tapping does not work	<p>Try changing the double-click speed setting in the mouse control utility.</p> <ol style="list-style-type: none"> <li>1. Click <b>start</b>, click <b>Control Panel</b>, click <b>Printers and Other Hardware</b> and select <b>Mouse</b> icon.</li> <li>2. Click the <b>Buttons</b> tab.</li> <li>3. Set the double-click speed as required and click <b>OK</b>.</li> </ol>
The mouse pointer moves too fast or too slow	<p>Try changing the speed setting in the mouse control utility.</p> <ol style="list-style-type: none"> <li>1. Click <b>start</b>, click <b>Control Panel</b>, click <b>Printers and Other Hardware</b> and select <b>Mouse</b> icon.</li> <li>2. Click the <b>Pointer Options</b> tab.</li> <li>3. Set the speed as required and click <b>OK</b>.</li> </ol> <p>If problems persist, contact your dealer.</p>
The reaction of Touch pad is either too sensitive or not sensitive enough.	<p>Adjust the touch Sensitivity.</p> <ol style="list-style-type: none"> <li>1. Click <b>start</b> and open the <b>Control Panel</b>.</li> <li>2. Click the <b>Printers and Other Hardware</b> icon.</li> <li>3. Click the <b>Mouse</b> icon.</li> <li>4. Click the <b>Device Setting</b> tab.</li> <li>5. Click the <b>Setting</b> button.</li> <li>6. The Properties for Synaptics Touch pad on PS/2 port screen appears. Double-click Sensitivity in the Select an item section on the left side of the screen.</li> <li>7. PalmCheck and Touch Sensitivity are displayed. Click Touch <b>Sensitivity</b>.</li> <li>8. Move the slide bar for Touch Sensitivity to make an adjustment. Click the <b>OK</b> button.</li> <li>9. Click the <b>OK</b> button on the Device Setting tab.</li> </ol>

## USB mouse

Problem	Procedure
On-screen pointer does not respond to mouse operation	<p>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.</p> <p>Make sure the mouse is properly connected to the USB port.</p>
Double-clicking does not work	<p>Try changing the double-click speed setting in the mouse control utility.</p> <ol style="list-style-type: none"> <li>1. Click <b>start</b>, click <b>Control Panel</b>, click <b>Printers and Other Hardware</b> and select <b>Mouse</b> icon.</li> <li>2. Click the <b>Buttons</b> tab.</li> <li>3. Set the double-click speed as required and click <b>OK</b>.</li> </ol>
The mouse pointer moves too fast or too slow	<p>Try changing the speed setting in the mouse control utility.</p> <ol style="list-style-type: none"> <li>1. Click <b>start</b>, click <b>Control Panel</b>, click <b>Printers and Other Hardware</b> and select <b>Mouse</b> icon.</li> <li>2. Click the <b>Pointer Options</b> tab.</li> <li>3. Set the speed as required and click <b>OK</b>.</li> </ol>
The mouse pointer moves erratically	<p>The mouse might be dirty. Refer to your mouse documentation for instructions on cleaning.</p> <p>If problems persist, contact your dealer.</p>

## USB

Refer also to your USB device's documentation.

Problem	Procedure
USB device does not work	<p>Check for a firm cable connection between the USB ports on the computer and the USB device.</p> <p>Make sure the USB device drivers are properly installed. Refer to your Windows XP documentation for information on checking the drivers.</p> <p>If you are using an operating system that does not support USB, you can still use a USB mouse and/or USB keyboard. If these devices do not work, make sure the USB KB/Mouse Legacy Emulation item in HW Setup is set to <b>Enabled</b>.</p> <p>If problems persist, contact your dealer.</p>

## 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.	<p>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.</p> <ol style="list-style-type: none"> <li>1. Turn off the power.</li> <li>2. Disconnect the AC adaptor and all peripheral devices.</li> <li>3. Remove the battery pack.</li> <li>4. Remove the memory module.</li> <li>5. Install the battery pack and/or connect the AC adaptor.</li> <li>6. Turn on the power.</li> </ol> <p>If problems persist, contact your dealer.</p>

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## Sound system

Refer also to documentation for your audio devices.

Problem	Procedure
No sound is heard	<p>Adjust the volume control dial.</p> <hr/> <p>Check the software volume settings.</p> <hr/> <p>Please check to see if the Volume indicator is lit up.</p> <hr/> <p>Please check to see if Mute is switched to Off.</p> <hr/> <p>Make sure the headphone connection is secure.</p>

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## External 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 <b>Fn + F5</b> 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

Problem	Procedure
Communication software can't initialize modem	Make sure the computer's internal modem settings are correct. Refer to <i>Phone and Modem Properties</i> 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.
You place a call, but a connection can't be made	Make sure the settings are correct in your communications application.
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.
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 <b>CONNECT</b> display is quickly replaced by <b>NO CARRIER</b>	Check the error control setting in your communications application.  You can also use the AT\N command.

Problem	Procedure
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 ATSO command. 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.

## 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.

## Bluetooth

For more information on wireless communication, refer to Chapter 4, [Operating Basics](#).

Problem	Procedure
Cannot access Bluetooth device	Make sure the computer's wireless communication switch is set to on.  Make sure the Bluetooth Manager is running and the power to the Bluetooth device is turned on.



## 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	<p>Try adjusting the contrast and brightness controls on the external monitor.</p> <p>Press hotkeys <b>Fn + F5</b> to change the display. Refer to Chapter 5, <a href="#">The Keyboard</a>.</p> <p>If problems persist, contact your dealer.</p>



*If you turn the computer off into 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 the next time it is switched on.*

## i.LINK (IEEE1394)

Problem	Procedure
i.LINK device does not function	<p>Make sure the cable is securely connected to the computer and to the device.</p> <p>Make sure the device's power is turned on.</p> <p>Click <b>start</b>, click <b>Control Panel</b> and double-click the <b>Add Hardware</b> icon. Follow the on-screen directions.</p> <p>Restart Windows.</p> <p>If problems persist, contact your dealer.</p>

## 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 location listed in the accompanying warranty booklet or visit [www.toshiba-europe.com](http://www.toshiba-europe.com) on the Internet.

# Appendix A

## Specifications

This appendix summarizes the computer's technical specifications.

### Physical Dimensions

<b>Weight (typical)</b>	4.45 kilograms, configured with: Pentium-M processor, 17" WXGA+, 1024MB+1024MB RAM, 100GB+100GB HDD, DVD Super Multi drive, TV Tuner, Wireless LAN (Intel b/g), Bluetooth.
<b>Size</b>	406 (w) × 285 (d) × 43.1/48.9 (h) millimeters (not including parts that extend beyond the main body)

### Environmental Requirements

<b>Conditions</b>	<b>Ambient temperature</b>	<b>Relative humidity</b>
<b>Operating</b>	5°C (41°F) to 35°C (95°F)	20% to 80%
<b>Non-operating</b>	-20°C (-4°F) to 65°C (149°F)	10% to 90%
<b>Thermal Gradient</b>	20°C per hour maximum	
<b>Wet-bulb temperature</b>	26°C maximum	
<b>Conditions</b>	<b>Altitude (from sea level)</b>	
<b>Operating</b>	-60 to 3,000 meters	
<b>Non-operating</b>	-60 to 10,000 meters maximum	

### Power Requirements

<b>AC adaptor</b>	100-240 volts AC 50 or 60 hertz (cycles per second)
<b>Computer</b>	15 VDC 8.0 amperes

## Built-in Modem

<b>Network control unit (NCU)</b>	
<b>Type of NCU</b>	AA
<b>Type of line</b>	Telephone line (analog only)
<b>Type of dialing</b>	Pulse Tone
<b>Control command</b>	AT commands EIA-578 commands
<b>Monitor function</b>	Computer's speaker
<b>Communication specifications</b>	
<b>Communication system</b>	Data: Full duplex Fax: Half duplex
<b>Communication protocol</b>	Data ITU-T-Rec V.21/V.22/V.22bis/V.32/ (Former CCITT) V.32bis/V.34/V.90 Bell 103/212A Fax ITU-T-Rec V.17/V.29/V.27ter/V.21 ch2 (Former CCITT)
<b>Communication speed</b>	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
<b>Transmitting level</b>	-10 dBm
<b>Receiving level</b>	-10 to -40 dBm
<b>Input/output impedance</b>	600 ohms $\pm$ 30%
<b>Error correcting</b>	MNP class 4 and ITU-T V.42
<b>Data compression</b>	MNP class 5 and ITU-T V.42bis
<b>Power supply</b>	+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 parts of the screen on or off.

The display controller supports VGA, SVGA and XGA modes on the internal LCD display panel.

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)**

<b>Video mode</b>	<b>Type</b>	<b>Resolution</b>	<b>Character matrix (pels)</b>	<b>Colors</b>	<b>Scanning frequency Vertical (Hz)</b>
0, 1	VGA Text	40 × 25 Characters	8 × 8	16 of 256K	70
2, 3	VGA Text	80 × 25 Characters	8 × 8	16 of 256K	70
0*, 1*	VGA Text	40 × 25 Characters	8 × 14	16 of 256K	70
2*, 3*	VGA Text	80 × 25 Characters	8 × 14	16 of 256K	70
0+, 1+	VGA Text	40 × 25 Characters	9 × 16	16 of 256K	70
2+, 3+	VGA Text	80 × 25 Characters	9 × 16	16 of 256K	70
4, 5	VGA Grph	320 × 200 Pels	8 × 8	4 of 256K	70
6	VGA Grph	640 × 200 Pels	8 × 8	2 of 256K	70
7	VGA Text	80 × 25 Characters	9 × 14	Mono	70
7+	VGA Text	80 × 25 Characters	9 × 16	Mono	70

**Table1 Video modes (VGA) continued**

<b>Video mode</b>	<b>Type</b>	<b>Resolution</b>	<b>Character matrix (pels)</b>	<b>Colors</b>	<b>Scanning frequency Vertical (Hz)</b>
D	VGA Grph	320 × 200 Pels	8 × 8	16 of 256K	70
E	VGA Grph	640 × 200 Pels	8 × 8	16 of 256K	70
F	VGA Grph	640 × 350 Pels	8 × 14	Mono	70
10	VGA Grph	640 × 350 Pels	8 × 14	16 of 256K	70
11	VGA Grph	640 × 480 Pels	8 × 16	2 of 256K	60
12	VGA Grph	640 × 480 Pels	8 × 16	16 of 256K	60
13	VGA Grph	320 × 200 Pels	8 × 8	256 of 256K	70

**Table 2 Video modes (SVGA)**

*Vertical Frequency can be set up when outputting to External Monitor.*

<b>Resolution</b>	<b>LCD colors</b>	<b>CRT colors</b>	<b>Vertical frequency (Hz)</b>
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**

<b>Resolution</b>	<b>LCD colors</b>	<b>CRT colors</b>	<b>Vertical frequency (Hz)</b>
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**

<b>Resolution</b>	<b>LCD colors</b>	<b>CRT colors</b>	<b>Vertical frequency (Hz)</b>
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 85
2048 × 1536 (Virtual)*	16M/16M	16M/16M	60 75

\* Only when displayed on the internal LCD.



Some video modes do not support multimonitor display.

## PowerMizer

PowerMizer is a graphics processor installed on this computer. The performance of PowerMizer can be configured in three ways. To define the performance, select the menu options shown below:

**Display Properties -> Settings -> Advanced -> GeForce Go 6600 -> GeForce Go 6600 -> nView Display Settings -> PowerMizer**

The graphics processor offers three options, Maximum Power Savings, Balanced and Maximum Performance, in each of the AC power mode and battery power mode.



*(Multiple Monitors) and NVIDIA GeForce Go 6600 P...*



*The setting for Maximum Performance vary depending on whether you are configuring the system for AC power mode or battery power mode.*



# Appendix C

## Wireless LAN

This appendix is intended to help you get your Wireless LAN network up and running, with a minimum of parameters.

### Card Specifications

<b>Form Factor</b>	Mini PCI Type III
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>■ IEEE 802.11 Standard for Wireless LANs</li> <li>■ Wi-Fi (Wireless Fidelity) certified by the Wi-Fi Alliance. The 'Wi-Fi CERTIFIED' logo is a certification mark of the Wi-Fi Alliance.</li> </ul>
<b>Network Operating System</b>	<ul style="list-style-type: none"> <li>■ Microsoft Windows® Networking</li> </ul>
<b>Media Access Protocol Data Rate</b>	<ul style="list-style-type: none"> <li>■ CSMA/CA (Collision Avoidance) with Acknowledgment (ACK)</li> <li>■ Theoretical maximum speed: 54Mbps (IEEE802.11a, 802.11g)</li> <li>■ Theoretical maximum speed: 11Mbps (IEEE802.11b)</li> <li>■ Theoretical maximum speed: 108Mbps (Turbo Mode; Atheros module type)</li> </ul>

\* The Transmit Rate (at X 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.

---

<b>R-F Frequency</b>	<ul style="list-style-type: none"><li>■ Band 5GHz (5150-5850 MHz) (Revision A, Turbo Mode)</li><li>■ Band 2.4GHz (2400-2483.5 MHz) (Revision B, G, Turbo Mode)</li></ul>
<b>Modulation Technique</b>	<ul style="list-style-type: none"><li>■ DSSS-CCK, DSSS-DQPSK, DSSS-DBPSK (Revision B)</li><li>■ OFDM-BPSK, OFDM-QPSK, OFDM-16QAM, OFDM-64QAM (Revision A, G, Turbo Mode)</li></ul>

---

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 Wireless LAN administrator or your TOSHIBA Authorized dealer for information about the radio regulations that apply in the countries/regions.

## Wireless IEEE 802.11 Channels Sets (Turbo Mode\*3)

Frequency Range <b>Channel ID</b> *2	2400-2483.5 MHz	<b>Note</b>
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 <b>Channel ID</b> *2	5150-5850 MHz	<b>Note</b>
36	5180	
40	5200	
44	5220	
48	5240	
52	5260	
56	5280	
60	5300	
64	5320	
100	5500	
104	5520	
108	5540	
112	5560	
116	5580	
120	5600	
124	5620	



128	5640
132	5660
136	5680
140	5700
149	5745
153	5765
157	5785
161	5805
165	5825

### Wireless Channels Sets (Turbo Mode\*5)

Frequency Range Channel ID	5150-5850 MHz	Note
42	5210	US only *4
50	5250	US only *4
58	5290	US only *4
152	5760	US only *4
160	5800	US only *4

\*1 Factory-set default channels

\*2 Consult your Wireless LAN administrator or your TOSHIBA Authorized dealer for the countries/regions in which these channels can be used.

\*3 These channels are available for Atheros modules only.

\*4 Available Area: US (USA, CANADA) only.

\*5 These channels are available to A/B/G combo type only.



# Appendix D

## Bluetooth wireless technology Interoperability

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

- Bluetooth Specification Ver.1.2, as defined and approved by The Bluetooth Special Interest Group.
- Logo certification with Bluetooth wireless technology as defined by The Bluetooth Special interest Group.



- *Bluetooth wireless technology is a new innovative technology, and TOSHIBA has not confirmed compatibility of its Bluetooth™ products with all computers and/or equipment using Bluetooth wireless technology other than TOSHIBA portable computers. Always use Bluetooth™ Cards from TOSHIBA in order to enable wireless networks over two or more (up to a total of seven) TOSHIBA portable computers using these cards. Please contact TOSHIBA PC product support on Web site <http://www.toshiba-europe.com/computers/tnt/bluetooth.htm> in Europe or <http://www.pc.support.global.toshiba.com> in the United States for more information.*
- *When you use Bluetooth™ Cards from TOSHIBA close to 2.4 GHz Wireless LAN devices, Bluetooth transmissions might slow down or cause errors. If you detect certain interference while you use Bluetooth™ Cards from TOSHIBA, always change the frequency, move your computer to the area outside of the interference range of 2.4 GHz Wireless LAN devices (40 meters/43.74 yards or more) or stop transmitting from your computer. Please contact TOSHIBA PC product support on Web site <http://www.toshiba-europe.com/computers/tnt/bluetooth.htm> in Europe or <http://www.pc.support.global.toshiba.com> in the United States for more information.*
- *Bluetooth™ and Wireless LAN devices operate within the same radio frequency range and may interfere with one another. If you use Bluetooth™ and Wireless LAN devices simultaneously, you may occasionally experience a less than optimal network performance or even lose your network connection. If you should experience any such problem, immediately turn off either one of your Bluetooth™ or Wireless LAN. Please contact TOSHIBA PC product support on web site <http://www.toshiba-europe.com/computers/tnt/bluetooth.htm> in Europe or <http://www.pc.support.global.toshiba.com> in the United States for more information.*

## Bluetooth wireless technology and your Health

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

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

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

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

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

## Regulatory statements

### General

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

### European Union (EU) and EFTA

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

## Canada - Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.

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

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

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

IC: 248H-DPA3232B

## Caution: FCC Interference Statement

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

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

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

## Caution: Exposure to Radio Frequency Radiation

The radiated output power of the Bluetooth™ Card from TOSHIBA is far below the FCC radio frequency exposure limits.

Nevertheless, the Bluetooth™ Card from TOSHIBA shall be used in such a manner that the potential for human contact during normal operation is minimized. In order to comply with FCC radio frequency radiation exposure guidelines for an uncontrolled environment, the Bluetooth™ Card from TOSHIBA has to be operated while maintaining a minimum body to antenna which are located on top of LCD distance of 20 cm. Refer to the Regulatory Statements as identified in the documentation that comes with those products for additional information. The Bluetooth™ Card from TOSHIBA is far below the FCC radio frequency exposure limits. Nevertheless, it is advised to use the Bluetooth™ Card from TOSHIBA in such a manner that human contact during normal operation is minimized.

- (The model with embedded Wireless LAN module: PA3171U-1MPC)  
Relevant transmitters include FCC IDs: CJ6PA3171WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3272U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3272WLP,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3231U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3231WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module e: PA3233U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3233WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3234U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3234WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3297U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3297WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3299U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3299WLP,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3362U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3362WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3373U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3373WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3374U-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3374WL,  
CJ6UPA3232BT
- (The model with embedded Wireless LAN module: PA3375-1MPC)  
Relevant transmitters include FCC IDs: CJ6UPA3375WL,  
CJ6UPA3232BT



*Changes or modifications made to this equipment not expressly approved by TOSHIBA or parties authorized by TOSHIBA could void the user's authority to operate the equipment.*

## Taiwan

Article 14 Unless approved, for any model accredited low power radio frequency electric machinery, any company, trader or user shall not change the frequency, increase the power or change the features and functions of the original design.

Article 17 Any use of low power radio frequency electric machinery shall not affect the aviation safety and interfere with legal communications. In event that any interference is found, the use of such electric machinery shall be stopped immediately, and reusing of such products can be resumed until no interference occurs after improvement.

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

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

## Using Bluetooth™ Card from TOSHIBA equipment in Japan

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

### 1. Sticker

Please put the following sticker on computer incorporating this product.

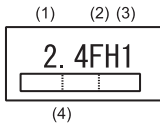
The frequency bandwidth of this equipment may operate within the same range as industrial devices, scientific devices, medical devices, microwave ovens, licensed radio stations and non-licensed specified low-power radio stations for mobile object identification systems (RFID) used in factory production lines (Other Radio Stations).


1. Before using this equipment, ensure that it does not interfere with any of the equipment listed above.
2. If this equipment causes RF interference to other radio stations, promptly change the frequency being used, change the location of use, or turn off the source of emissions.
3. Contact TOSHIBA Direct PC if you have problems with interference caused by this product to Other Radio Stations.



## 2. Indication

The indication shown below appears on this equipment.



- (1) 2.4 : This equipment uses a frequency of 2.4 GHz.  
 (2) FH : This equipment uses FH-SS modulation.  
 (3) 1: The interference range of this equipment is less than 10 m.  
 (4)  This equipment uses a frequency bandwidth from 2,400 MHz to 2,483.5 MHz.  
 It is impossible to avoid the band of mobile object identification systems.

## 3. TOSHIBA Direct PC

Monday - Friday : 10:00-17:00  
 Toll Free Tel : 0120-13-1100  
 Direct Dial : 03-3457-5916  
 FAX : 03-5444-9450

## Device Authorization

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

The Name of the radio equipment: EYXF2CS  
 TELECOM ENGINEERING CENTER

Approval Number: 001NYDA1507

JAPAN APPROVALS INSTITUTE FOR TELECOMMUNICATIONS  
 EQUIPMENT

Approval Number: D04-0411001

The following restrictions apply:

Do not disassemble or modify the device.

Do not install the embedded wireless module into other device.

## Approved Countries/Regions for use (Bluetooth™ wireless technology)

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



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

<b>Australia</b>	<b>Austria</b>	<b>Belgium</b>
<b>Canada</b>	<b>Denmark</b>	<b>Finland</b>
<b>Germany</b>	<b>Iceland</b>	<b>Ireland</b>
<b>Japan</b>	<b>Luxembourg</b>	<b>Netherlands</b>
<b>New Zealand</b>	<b>Norway</b>	<b>Sweden</b>
<b>Switzerland</b>	<b>UK</b>	<b>USA</b>
<b>Greece</b>	<b>Italy</b>	<b>France</b>
<b>Portugal</b>	<b>Spain</b>	<b>Liechtenstein</b>

*Countries/regions that have approved Bluetooth™ Card from TOSHIBA*

## TOSHIBA RAID

TOSHIBA RAID (Redundant Array of Independent Disks) realizes high performance or fault tolerance, which are configured by arraying multiple independent hard disk drives.

2 hard disk drives can be used to construct a RAID configuration (RAID-1: mirroring or RAID-0: Striping).

When using RAID-1 (mirroring), the data is stored twice (once on each of the HDDs) so that even if there are problems with one of the hard disk drives, the other hard disk drive can be used to recover the data.

Please refer to the TOSHIBA RAID help for details.



- *By changing the RAID setting you are reconfiguring your hard disk. Therefore, please make sure to make a backup copy of your data before changing the RAID setting.*
- *A power-on password can help restrict access to your data. It can also help restrict access to System Setup, where some of your computer's configuration settings are kept. If you do not have a power-on password set, someone with access to it could*
  - (i) set a power-on password, locking you out of your own computer, or
  - (ii) change your configuration settings, which could result in data loss. We recommend that you consider using a power-on password.

## Setting up Windows Manually

Use the following procedures to set up your Windows operating system manually.

### Before Setting Up Windows

Before setting up Windows, create a TOSHIBA RAID Driver Floppy Disk and configure the BIOS setup program.

### Creating the TOSHIBA RAID Driver Floppy Disk

1. Connect the USB floppy disk drive (optional) and insert a floppy disk.
2. Locate the TOSHIBA RAID Driver in the Tools & Drivers Depository on your hard disk drive ('C:\TOOLSCD\RAID driver' folder).

- **Boot menu**  
*When 2 hard disk drives are connected, it is possible to select which hard disk drive to boot from in the boot menu. However, if a RAID configuration is used, the 2 hard disk drives are recognized as 1 drive and there is no change in the boot configuration no matter which hard disk drive is selected.*
- *When using a RAID-1 (mirroring) configuration, the additional hard disk drive's capacity must be equal to or more than the capacity of the existing hard disk drive.*
- *The hard disk drives used in the RAID configuration should not be removed and used in other computers.*
- *When using the RAID-1 (mirroring) configuration, the operating system recognizes the lesser capacity of the 2 hard disk drives. For example, if a 60 GB and an 80 GB hard disk drive are used in the mirroring configuration, the OS will recognize the capacity as a 60 GB hard disk drive. The additional 20 GB capacity (over the 60 GB hard disk drive) of the 80 GB hard disk drive cannot be used.*
- *If a hard disk drive had been replaced, execute the rebuild command and rebuild the RAID-1 (mirroring) configuration.*
- **Implementing the media checking schedule**  
*Media checks should be carried out regularly to ensure even more stable operation of the RAID configuration and to make it easier for maintenance and repair measures to be carried out in case of hard disk drive failures. For RAID-1 with data redundancy, if one of the hard disk drives fails, the hard disk drive can be replaced and its data reconstructed from the other hard disk drive which did not fail. However, if the hard disk drive that did not fail has bad blocks, etc., it is possible that portions of data might not be recovered and a system failure might occur. Therefore, to ensure that such situations do not happen, perform RAID-1 media checks regularly. The TOSHIBA RAID Console is set by default to perform media checks once a month.*

# Starting, Modifying and Ending the BIOS Setup Program

## Starting the BIOS Setup Program

1. Switch on your computer while pressing the **Esc** key.  
If **Password =** is displayed, enter either the Supervisor Password, if one is set, or the User Password and press the Enter key.  
Please refer to Chapter 6, the *TOSHIBA Password Utility*, for details about the user password.  
The “**Check system. Then press [F1] key.**” message is displayed.
2. Press the **F1** key.  
The BIOS setup program will start up.

## Modifying the BIOS

1. Select the RAID ARRAY setting in the SYSTEM SETUP (3/3) screen.



*Please refer to the operating instructions displayed in the settings screen.*

2. The settings are explained as follows. Modify the settings as necessary.

<b>Current State</b>	Shows the current hard disk status.
<b>Create State</b>	Shows the hard disk configuration that is to be created. (Modifications can be made here).
<b>Built-in HDD1</b>	Status of the connected hard disk.
<b>Built-in HDD2</b>	Status of the secondary hard disk.

### **Configuration status and settings**

<b>JBOD</b>	No RAID settings. Windows cannot be installed in this disk except by using your Product Recovery DVD-ROM.
<b>1RAID-0</b>	Set to RAID ready. Windows can be installed on this disk.
<b>2RAID-0</b>	Set to RAID-0 for 2 hard disks.
<b>RAID-1</b>	Set to RAID-1 for 2 hard disks (Current State only).
<b>UNKNOWN</b>	A RAID status except for the above status and settings (Current State Only).
<b>No Drive</b>	No hard disks connected.

- 
3. The Execute Creation message is displayed once the configuration is modified. Move the cursor to the appropriate location and press the space bar to continue.



*Pressing the Home key will revert the modified Create State settings back to the Current State settings.*

4. The following message will be displayed. Follow the instructions and press the keys in the following order: 1, 2, 3, 4, **[Enter]**.



**Warning: If you change the RAID array, you will need to install the OS again. Are you sure? All data on the HDD(s) will be destroyed. Do you really want to do this? If "Yes", please type the key string which is written in the manual.**

## Ending the BIOS Setup Program

Save the changes and end the program.

1. Press the **End** key.  
The "Are you sure? (Y/N) The changes you made will cause the system to reboot." message is displayed.
2. Press the **Y** key.  
The configured settings are saved and the BIOS setup program ends. The computer may reboot depending on the settings that were modified.





# Appendix F

## AC Power Cord and Connectors

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

<b>Length:</b>	Minimum 2 meters
<b>Wire size:</b>	Minimum 0.75 mm <sup>2</sup>
<b>Current rating:</b>	Minimum 2.5 amperes
<b>Voltage rating:</b>	125 or 250 VAC (depending on country/region's power standards)

### Certification agencies

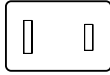
<b>U.S. and Canada:</b>	UL listed and CSA certified No. 18 AWG, Type SVT or SPT-2 two conductors		
<b>Australia:</b>	AS		
<b>Japan:</b>	DENANHO		
<b>Europe:</b>			
<b>Austria:</b>	OVE	<b>Italy:</b>	IMQ
<b>Belgium:</b>	CEBEC	<b>The Netherlands:</b>	KEMA
<b>Denmark:</b>	DEMKO	<b>Norway:</b>	NEMKO
<b>Finland: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

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

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

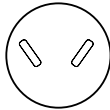
The following illustrations show the plug shapes for the U.S.A. and Canada, the United Kingdom, Australia and Europe.

**USA and Canada**



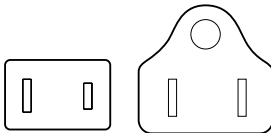
UL approved

**Australia**



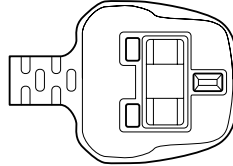
AS approved

**Canada**



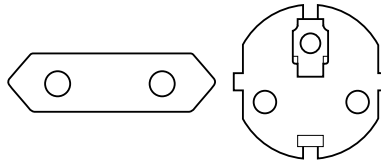
CSA approved

**United Kingdom**



BS approved

**Europe**



Approved by the appropriate agency

## 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.



## If your computer is stolen



*Always take care of your computer and try to prevent it from being stolen. You are the owner of a valuable technical device, which may be highly attractive to thieves, so please do not leave it unattended in a public place. To further help protect against theft, security cables can be bought for use with your notebook when it is being used at home or in the office.*

*Make a note of your computer's machine type, model number, and serial number, and put it in a safe place. You will find this information on the underside of your notebook. Please also keep the receipt of the computer you purchased.*

**Should your computer be stolen**, however, we'll help you try to find it. Before contacting TOSHIBA, please prepare the following information which is necessary to uniquely identify your computer:

- In which country was your computer stolen?
- What type of machine do you have?
- What was the model number (PA number)?
- What was the serial number (8 digits)?
- When was it stolen, i.e. date?
- What is your address, phone, and fax number?

***To register the theft on paper, please follow these procedures:***

- Fill in the TOSHIBA Theft Registration form (or a copy of it) below.
- Attach a copy of your receipt showing where your computer was purchased.
- Either fax or send the receipt and registration form to the address below.

***To register the theft online, please follow these procedures:***

- Visit [www.toshiba-europe.com](http://www.toshiba-europe.com) on the Internet. In the product area, choose **Computer Systems**.
- In the Computer Systems page, open the **Support & Downloads** menu and choose the **Stolen Units Database** option.

Your entries are used to track your computer at our service points.

### **TOSHIBA Theft Registration**

Send to: TOSHIBA Europe GmbH  
Technical Service and Support  
Leibnizstr. 2  
93055 Regensburg  
Germany

Fax number: +49 (0) 941 7807 921

Country stolen:									
Machine type: (e.g. Satellite A50)									
Model number: (e.g. PSA50 YXT)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>								
Serial number: (e.g. 12345678G)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>								
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#### **Owner's details**

Last name, first name:	
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Street:	
Postal Code/City:	
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Phone:	
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# 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 ReWritable

**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.
- DL D+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.

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## 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.



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## 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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