

# TOSHIBA

## ***TECRA***

**Model**

**USER'S MANUAL**  
**8100 Series**



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Toshiba Tecra 8100 Portable Personal Computer User's Manual  
First edition December 1999

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The system has been tested by Toshiba using the YMark2000 test under NSTL's self testing program and meets the NSTL test standards for Year 2000 hardware compliance.

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# Toshiba DVD-ROM drive SD-C2302\*\* safety instruction

\*\* means any letters or numbers.

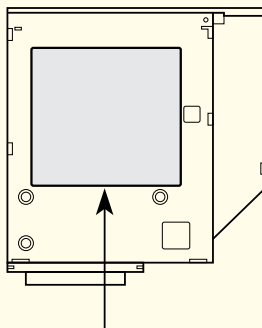


*The DVD-ROM drive employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*

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

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

## Location of the required label



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LASERSCHUTZKLASSE 1  
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TO EN60825

**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.*

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\*\* means any letters or numbers.

# TEAC CD-ROM drive CD-224E safety instruction

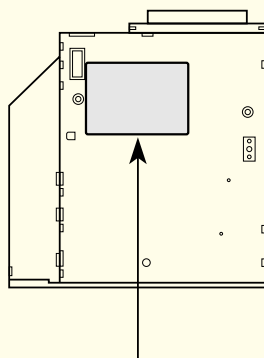


*The CD-ROM drive employs a laser system. To ensure proper use of this product, please read this instruction manual carefully and retain for future reference. Should the unit ever require maintenance, contact an authorized service location.*

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

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

## Location of the required label



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\*\* means any letters or numbers.

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## General Precautions

Toshiba computers are designed to optimise safety, minimise 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](#), includes information on work space design, posture and lighting that can help reduce physical stress.

### Heat Warning

The base of the PC can become very warm; while the temperature will not be too hot to the touch, prolonged physical contact may result in a temporary heat imprint on the skin. It is recommended that prolonged physical contact is avoided.

Also, 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.

### Mobile phones

Use of mobile phones can interfere with the PC sound system. The PC operation is not impaired but it is recommended that a distance of 30cm is maintained between the PC & the mobile phone.

### 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. If two cards are installed, both can become hot even if only one is used extensively. 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.

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## CE compliance

This product and the original options are designed to observe the related EMC (Electromagnetic compatibility) and safety standards. However, Toshiba should not guarantee that this product still observes these EMC standards if options or cables not produced by Toshiba are connected or implemented. In this case the persons who have connected / implemented those options / cables have to assure that the system (PC plus options / cables) still fulfils the required standards. To avoid in general EMC problems following advice should be observed:

- Only CE marked options should be connected / implemented
- Only best shielded cables should be connected

## Working environment

This product was designed to fulfil the EMC (electromagnetic compatibility) requirements to be observed for so-called "Residential, commercial and light industry environments".

Toshiba do not approve the use of this product in working environments other than the above mentioned "Residential, commercial and light industry environments".

For example, the following environments are not approved:

- Industrial Environments (environments with a mains voltage >230V~)
- Medical Environments
- Automotive Environments
- Aircraft Environments



*If this product is supplied with a network port, please refer to the paragraph "Network connection".*

Any consequences resulting from the use of this product in working environments that are not approved are not the responsibility of Toshiba Europe GmbH.

The consequences of the use of this product in non-approved working environments may be:

- Interference with other devices or machines in the near surrounding area
- Malfunction of, or data loss from, this product caused by disturbances generated by other devices or machines in the near surrounding area

Therefore Toshiba strongly recommend that the electromagnetic compatibility of this product should be suitably tested in all non-approved working environments before use. In the case of automobiles or aircraft, the manufacturer or airline respectively should be asked for permission before use of this product.

Furthermore, for general safety reasons, the use of this product in environments with explosive atmospheres is not permitted.

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## Network connection (class A warning)

If this product has networking capabilities and will be connected to a network, Class A radiation limits will be observed (in accordance with technical conventions). This means that if the product will be used in a domestic environment, other devices in the near surrounding may suffer interference. Consequently, please do not use this product in such environments (for example a living room), otherwise you could be held responsible for any ensuing interference.

## 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 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 contained in EG 201 121.

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

Specific switch settings or software setup are required for each network, please refer to the relevant sections of the Internal Modem User's Guide for more details.

The hookflash (timed break register recall) function is subject to separate national type approval. 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.



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# Table of Contents

## Preface

<b>Manual contents .....</b>	<b>xvii</b>
<b>Conventions .....</b>	<b>xviii</b>
Abbreviations .....	xviii
Icons .....	xviii
Keys .....	xviii
Key operation .....	xix
Display .....	xix
Messages .....	xix

## Chapter 1 Introduction

<b>Equipment checklist.....</b>	<b>1-1</b>
<b>Features .....</b>	<b>1-4</b>
<b>Special features .....</b>	<b>1-9</b>
<b>Utilities .....</b>	<b>1-12</b>
<b>Options .....</b>	<b>1-13</b>
SelectBay options .....	1-14

## Chapter 2 The Grand Tour

<b>Front with the display closed .....</b>	<b>2-1</b>
<b>Left side.....</b>	<b>2-3</b>
<b>Right side .....</b>	<b>2-4</b>
<b>Back side.....</b>	<b>2-5</b>
<b>Underside .....</b>	<b>2-6</b>
<b>Front with the display open .....</b>	<b>2-7</b>
<b>Indicator panels .....</b>	<b>2-9</b>
<b>AC adaptor .....</b>	<b>2-11</b>
<b>SelectBay modules.....</b>	<b>2-12</b>
3 ½" diskette drive .....	2-12
DVD-ROM drive .....	2-13
CD-ROM drive .....	2-14
Secondary battery pack .....	2-15
SelectBay HDD Adaptor II .....	2-16
Weight saver.....	2-16

---

## Chapter 3 Getting Started

<b>Setting up</b> .....	<b>3-1</b>
General conditions .....	3-2
Placement of computer .....	3-2
Seating and posture .....	3-3
Lighting.....	3-4
Work habits .....	3-4
<b>Connecting the AC adaptor</b> .....	<b>3-5</b>
<b>Opening the display</b> .....	<b>3-6</b>
<b>Turning on the power</b> .....	<b>3-7</b>
<b>Turning off the power</b> .....	<b>3-8</b>
<b>Restarting the computer</b> .....	<b>3-8</b>
<b>Restoring the preinstalled software</b> .....	<b>3-9</b>
Restoring the complete system .....	3-9
Restoring Toshiba utilities and drivers .....	3-9

## Chapter 4 Operating Basics

<b>Using AccuPoint II</b> .....	<b>4-1</b>
AccuPoint II precautions.....	4-2
Replacing the cap.....	4-2
<b>Changing SelectBay modules</b> .....	<b>4-3</b>
Removing a module .....	4-3
Installing a module .....	4-5
<b>Using CD-ROM/DVD-ROM drives</b> .....	<b>4-6</b>
Loading CDs.....	4-6
Removing CDs .....	4-9
CD care .....	4-10
<b>Using the diskette drive attachment</b> .....	<b>4-10</b>
Preparing the attachment.....	4-10
Connecting/disconnecting external diskette drive .....	4-12
Diskette care .....	4-13
<b>Using the microphone</b> .....	<b>4-14</b>
<b>Connecting the modem</b> .....	<b>4-14</b>
Connecting the internal modem .....	4-14
Disconnecting the internal modem .....	4-15
<b>Cleaning the computer</b> .....	<b>4-15</b>
<b>Moving the computer</b> .....	<b>4-16</b>
<b>Heat dispersal</b> .....	<b>4-16</b>

---

## Chapter 5 The Keyboard

<b>Light grey keys .....</b>	<b>5-1</b>
<b>F1...F12 function keys.....</b>	<b>5-2</b>
<b>Soft Keys: Alt Gr Key Combinations.....</b>	<b>5-2</b>
The euro symbol .....	5-2
<b>Soft keys: Fn key combinations .....</b>	<b>5-3</b>
Emulating keys on enhanced keyboard.....	5-3
Hot keys.....	5-4
Windows 95/98 special keys .....	5-6
Emulating Fn key on external keyboard.....	5-6
<b>Keypad overlay .....</b>	<b>5-6</b>
Turning on the overlays .....	5-6
Temporarily using normal keyboard .....	5-7
Temporarily using overlay .....	5-8
Temporarily changing modes.....	5-8
<b>Generating ASCII characters .....</b>	<b>5-8</b>

## Chapter 6 Power and Power-Up Modes

<b>Power conditions .....</b>	<b>6-1</b>
<b>Power indicators .....</b>	<b>6-3</b>
Battery indicators .....	6-3
DC IN indicator .....	6-3
Power indicator .....	6-4
<b>Battery types .....</b>	<b>6-4</b>
Main battery .....	6-4
Secondary battery (option).....	6-5
Real Time Clock battery.....	6-5
<b>Care and use of the battery pack .....</b>	<b>6-6</b>
Safety precautions .....	6-6
Charging the batteries .....	6-7
Monitoring battery capacity.....	6-8
Maximising battery operating time .....	6-9
Retaining data with power off.....	6-10
Extending battery life .....	6-10
<b>Replacing the battery pack .....</b>	<b>6-10</b>
Removing the battery pack .....	6-11
Installing the battery pack .....	6-12
<b>Starting the computer by password .....</b>	<b>6-13</b>
<b>Power-up modes .....</b>	<b>6-14</b>
Boot mode .....	6-14
Resume mode .....	6-15
Automatic enabling of Resume.....	6-16
Resume precautions.....	6-16
Resume error conditions.....	6-17

<b>Panel power on/off .....</b>	<b>6-17</b>
<b>System auto off .....</b>	<b>6-17</b>
<b>Auto power on .....</b>	<b>6-18</b>
<b>Ring indicator power on .....</b>	<b>6-18</b>

## **Chapter 7 TSETUP and Passwords**

<b>TSETUP .....</b>	<b>7-1</b>
Executing TSETUP .....	7-2
Changing values in the TSETUP menu .....	7-3
Accepting changes and exiting SYSTEM SETUP .....	7-3
Default configuration .....	7-3
TSETUP options .....	7-4
<b>Passwords .....</b>	<b>7-13</b>
How to set the passwords .....	7-14
How to reset the passwords .....	7-16
Enabling Hardware Setup and TSETUP access in user password mode .....	7-18
Making a password service diskette .....	7-19

## **Chapter 8 Optional Devices**

<b>PC cards .....</b>	<b>8-2</b>
Installing a PC card .....	8-2
Removing a PC card .....	8-3
Using the PC card lock .....	8-4
<b>Hard disk drive pack .....</b>	<b>8-5</b>
Removing the HDD pack .....	8-5
Installing the HDD pack .....	8-6
<b>Memory expansion .....</b>	<b>8-7</b>
Installing the memory module .....	8-7
Removing the memory module .....	8-8
<b>Additional battery pack .....</b>	<b>8-9</b>
<b>Secondary battery pack .....</b>	<b>8-9</b>
<b>Additional AC adaptor .....</b>	<b>8-10</b>
<b>Battery charger .....</b>	<b>8-10</b>
<b>SelectBay HDD Adaptor II .....</b>	<b>8-10</b>
<b>CD-ROM drive .....</b>	<b>8-12</b>
<b>DVD-ROM drive .....</b>	<b>8-12</b>
<b>NetDock Port Replicator .....</b>	<b>8-12</b>
<b>Expansion Station .....</b>	<b>8-13</b>
<b>CardDock .....</b>	<b>8-13</b>
<b>Parallel printer .....</b>	<b>8-14</b>
<b>External monitor .....</b>	<b>8-14</b>
<b>Television .....</b>	<b>8-15</b>

---

PS/2 mouse .....	8-16
PS/2 keyboard .....	8-16
Security lock .....	8-17

## Chapter 9 Troubleshooting

<b>Problem solving process .....</b>	<b>9-1</b>
Preliminary checklist .....	9-2
Analysing the problem .....	9-2
<b>Hardware and system checklist .....</b>	<b>9-3</b>
System start-up .....	9-3
Self test .....	9-4
Power .....	9-4
Password .....	9-7
Hot keys .....	9-7
Keyboard .....	9-7
LCD panel .....	9-8
Hard disk drive .....	9-8
CD-ROM drive .....	9-9
DVD-ROM drive .....	9-10
Diskette drive .....	9-11
Infrared port .....	9-11
Printer .....	9-12
Pointing device .....	9-12
PC card .....	9-13
Monitor .....	9-14
Sound system .....	9-14
TV output signal .....	9-15
USB .....	9-15
Hibernation .....	9-16
Memory expansion .....	9-16
<b>Diagnostic test .....</b>	<b>9-17</b>
Executing the diagnostic test program .....	9-17
Choosing test options .....	9-18
Test sequence .....	9-19
Subtests .....	9-19
<b>If you need further assistance .....</b>	<b>9-25</b>
Before you call .....	9-25
Where to write .....	9-25

---

<b>Appendix A Specifications .....</b>	<b>A-1</b>
<b>Appendix B AC Power Cord and Connectors.....</b>	<b>B-1</b>
<b>Appendix C The Toshiba International Warranty .....</b>	<b>C-1</b>
<b>Appendix D Keyboard Layouts .....</b>	<b>D-1</b>
<b>Appendix E Display Controller and Modes.....</b>	<b>E-1</b>
<b>Appendix F If your computer is stolen.....</b>	<b>F-1</b>
<b>Appendix G ASCII Character Codes .....</b>	<b>G-1</b>
<b>Appendix H K56flex.....</b>	<b>H-1</b>
<b>Appendix I Internal Modem Guide .....</b>	<b>I-1</b>
<b>Glossary</b>	
<b>Index</b>	

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# Preface

Congratulations on your purchase of the Toshiba Tecra 8100 Portable Personal 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 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 and backing up your preinstalled software.

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 computer and carefully read *TSETUP and Passwords*. Also read *Getting Started* for procedures on backing up your preinstalled software.

## Manual contents

This manual is composed of nine chapters, nine appendices, a glossary, and an index.

Chapter 1, *Introduction*, is an overview of the computer's features, capabilities, utilities 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 tips on care of the computer, diskettes and DVD-ROMs and on using the following devices: MousePoint, DVD-ROM drive and microphone.

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

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

Chapter 7, **TSETUP and Passwords**, explains how to configure the computer using the TSETUP program in MS-DOS. It also tells how to set passwords.

Chapter 8, **Optional Devices**, describes the optional hardware available.

Chapter 9, **Troubleshooting**, provides 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.

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## 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.



**DISKCOPY A: B:**

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.

Text you are to type in is usually preceded by the keyboard icon.

## Display



**ABC**

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

Text generated by the computer is usually preceded by the screen icon.

## 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.



# Introduction

This chapter provides an equipment checklist and it identifies the computer's features, utilities, 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. Make sure you have the following items:

- Tecra 8100 Portable Personal Computer
- Universal AC adaptor and power cable
- 3 ½" diskette drive module
- Modular cable (Provided only with models with the Toshiba internal modem preinstalled.)
- External diskette drive attachment for 3 ½" diskette drive
- Six spare AccuPoint II (pointing device) caps
- Two SelectBay covers: one for use with all modules, and a weight saver if no module is installed
- PC card lock (secures with a screw)
- Composite VIDEO Cable
- PC card lock (secures with a screw)

The computer is configured with one of two sets of preinstalled software, manual packages and auxiliary media depending on your choice of operating system.

---

## Windows 95 or 98 install



*You can select either Windows® 95 or Windows 98. When you choose your operating system, the other one will be deleted from the computer. Refer to the section Selecting an operating system in Chapter 3, [Getting Started](#).*

- The following software is preinstalled:

If you select Windows 95, the following software will be retained on your hard disk:

- Microsoft® Windows 95
- Toshiba Utilities
- Modem driver (Provided if the Toshiba internal modem is preinstalled.)
- Display Drivers for Windows
- Toshiba Service
- Sound Driver
- RingCentral®
- DVD Decoder (Provided if DVD-ROM drive is preinstalled.)
- DVD Video Player (Provided if DVD-ROM drive is preinstalled.)
- LAN Driver
- Hypertext online help

If you select Windows 98, the following software will be retained on your hard disk:

- Microsoft® Windows 98
- The same utilities and drivers that are installed with Windows 95.

- Documentation:

- *Tecra 8100 Portable Personal Computer User's Manual*
- *QuickStart guide for easy setup.*
- *Microsoft Windows 95/98 manual package*
- *International Limited Warranty (ILW) Instruction*  
(This instruction is included only with computers sold in ILW supported areas.)

- Product Recovery CD-ROM
- Tools & Utilities CD-ROM

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## **Windows NT**

- The following software is preinstalled:
  - Microsoft Windows NT
  - Toshiba Windows Utilities
  - Toshiba Power Management System
  - Card Wizard™
  - IntelliSync™ 97, infrared device driver and file transfer application
  - Display Drivers for Windows
  - Logitech AccuPoint II Mouse driver
  - Sound Driver and audio applications
  - Modem driver (Provided if the Toshiba internal modem is preinstalled.)
  - IDE Driver for Expansion Station
  - LAN Driver for NetDock Port Replicator
  - Toshiba Docking Service
  - Toshiba SelectBay Service
- Your computer's documentation:
  - Windows NT manual package
  - QuickStart guide for easy setup.
  - The same documentation that is supplied with Windows 95/98.
- CD-ROMs and diskettes
  - Product Recovery CD-ROM
  - Tools & Utilities CD-ROM

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

---

# Features

The computer uses 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:

<b>Microprocessor</b>	<p>The computer is equipped with a Intel® Mobile Pentium® III processor, which incorporates a math co-processor and a 32 KB cache memory.</p> <p>The following processors are available:</p> <p>Intel® Mobile Pentium® III: 500 Mhz</p> <p>Other processor speeds may be introduced as they become available</p>
<b>Level 2 cache</b>	<p>The processors have the following level 2 caches to maximize performance:</p> <p>Intel® Mobile Pentium® III 500 MHz: 256 KB</p>
<b>Memory</b>	<p>There are two slots for memory modules, which come in two capacities: 64 and 128 megabytes of SD Random Access Memory (SD-RAM). The modules are 144-pin, SO Dual In-line Memory Modules (SO-DIMM)</p>
<b>Video RAM</b>	<p>The computer provides 8 MB of RAM, 64-bit data path, for video display.</p>
<b>Battery pack</b>	<p>The computer is powered by one rechargeable lithium-ion battery pack.</p>
<b>Backup batteries</b>	<p>The computer has two internal batteries: One backs up the computer's special memory features and the other backs up the internal Real Time Clock (RTC) and calendar.</p>
<b>Keyboard</b>	<p>An easy-to-use 85-key (United States) or 86-key (Europe) keyboard provides a numeric keypad overlay for fast numeric data entry or for cursor and page control. The computer's keyboard supports software that uses a 101- or 102-key enhanced keyboard.</p>

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<b>AC adaptor</b>	The universal AC adaptor provides power to the system and recharges the batteries when they are low. It comes with a detachable power cord. Because it is universal, it can receive a range of AC voltage between 100 and 240 volts.
<b>Hard disk drive</b>	<p>The computer has an integrated, 2 ½" hard disk drive for nonvolatile storage of data and software.</p> <p>The hard disk drive is available in three sizes:</p> <p>6.0 billion bytes (5.6 GB)</p> <p>12.07 billion bytes (11.24 GB)</p> <p>18.15 billion bytes (16.90 GB)</p> <p>Other hard disk drive sizes may be available in the future</p>
<b>SelectBay</b>	SelectBay is a single-drive bay that accommodates a diskette drive, DVD-ROM drive, CD-ROM drive, secondary hard disk drive or secondary battery. The SelectBay utility enables hot docking of modules when you are using a plug and play operating system.
<b>SelectBay cover</b>	To reduce weight, the SelectBay module can be removed and a cover installed.
<b>Internal modem</b>	A high-speed internal modem enables data communication, facsimiles and telephony functions. It operates at 56,000 bps for data transfer and at 14,400 for facsimiles and telephony. DSVD and VRM are also supported in Windows 95/98. An RJ11 modem jack lets you connect the computer's internal modem directly to a telephone line. Refer to your online documentation of <i>Toshiba Internal Modem User's Guide</i> for details. The internal modem is not supported in some marketing regions.

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**CD-ROM drive**

A full-size, maximum 24-speed CD-ROM drive module lets you run either 12 cm (4.72") or 8 cm (3.15") compact disks without using an adaptor. Option if DVD-ROM drive is preinstalled.

This drive supports the following formats:

- Audio CD
- Photo CD
- ISO 9660
- CD-EXTRA
- CD-R
- CD-Rewritable (read only)

---

**DVD-ROM drive**

A full-size, DVD-ROM drive module lets you run either 12 cm (4.72") or 8 cm (3.15") digital video disk/compact disks without using an adaptor. It runs DVD-ROMs at maximum 6 speed and CD-ROMs at maximum 24 speed.

DVD-Video software is integrated into the computer for playback of movies recorded on DVDs.

This drive supports the same formats as the CD-ROM drive plus the following:

- DVD-ROM
- DVD-Video



*This feature is not available for computers configured with Windows NT.*

---

**Display**

The computer supports high-resolution video graphics and employs a AGP (Accelerated Graphics Port) bus for superior video and 3-D performance. The screen can be set at a wide range of viewing angles for maximum comfort and readability. The display is available in these models:

13.3" XGA-TFT, 1024 horizontal x 768 vertical pixels

14.1" XGA-TFT, 1024 horizontal x 768 vertical pixels

---

**Sound system**

It incorporates a 64-channel Wave Table Synthesizer and hardware acceleration for advanced sound applications including 3D games, DVD movie playback and Internet communications. The sound system is equipped with stereo speakers, a volume control knob and jacks for line-in, microphone and headphone.

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<b>Parallel port</b>	A Centronics®-compatible parallel interface port lets you connect a parallel printer or other parallel device. This port supports the Extended Capabilities Port (ECP) standard.
<b>Universal Serial Bus port</b>	<p>A Universal Serial Bus (USB) port enables chain connection of a number of USB-equipped devices to one port on your computer. For example, you might connect a USB-HUB to the computer, then connect a keyboard to the USB-HUB and a mouse to the keyboard.</p> <p>Use the USB drivers that come with external USB devices. If your operating system does not support USB, you can still use a USB mouse and keyboard by setting the USB Legacy item in TSETUP to Enabled. Refer to Chapter 7, <a href="#">TSETUP and Passwords</a> for details.</p>
<b>Serial port</b>	A standard, 9-pin, serial port lets you connect such serial devices as a serial printer, mouse, bar code reader, or Optical Character Reader (OCR). This port supports 16550 Universal Asynchronous Receiver/Transmitter (UART) compliant high-speed data transfer.
<b>External diskette drive port</b>	Use this port to connect an optional external diskette drive.
<b>External monitor port</b>	The female, 15-pin, D-shell connector lets you connect to an external video display, which is recognized automatically. It supports Video Electronic Standards Association (VESA) Display Data Channel (DDC) 2B compatible functions.
<b>PS/2™ mouse/keyboard port</b>	This port lets you connect a PS/2 mouse or PS/2 keyboard to the computer.
<b>Docking interface port</b>	This port enables connection of an optional NetDock Port Replicator described in the <i>Options</i> section.

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<b>PC card slots</b>	A PC card slot (PCMCIA) accommodates two 5 mm cards (Type II) or one 10.5 mm (Type III) card. These slots support 16-bit PC cards and CardBus PC cards (32 bit).
<b>PC card lock</b>	A PC card lock can be secured by an optional security lock to prevent access to the PC card slot.
<b>Infrared port</b>	This infrared port is compatible with Infrared Data Association (IrDA 1.1) standards. It enables cableless 4 Mbps, 1.152 Mbps, 115.2 kbps, 57.6 kbps, 38.4 kbps, 19.2 kbps or 9.6 kbps data transfer with IrDA 1.1 compatible external devices.
<b>Video-out jack</b>	This RCA video jack lets you transfer NTSC or PAL data to external devices.
<b>Microphone/ stereo speakers</b>	A built-in microphone and stereo speakers let you record sound into your applications and play it back.
<b>AccuPoint II</b>	This pointer control stick, located in the centre of the keyboard, provides convenient control of the cursor without requiring desk space for a mouse.
<b>Plug and Play</b>	When you connect an external device to the computer, NetDock Port Replicator or Expansion Station or when you install a board in the Expansion Station, Plug and Play capability enables the system to recognize the connection and make the necessary configurations automatically.

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## Special features

The following features are either unique to Toshiba computers or are advanced features, that make the computer more convenient to use. Availability or use of specific features may vary according to the operating system.

<b>Hotkeys</b>	Key combinations let you quickly modify the system configuration directly from the keyboard without running a system configuration program.
<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 in the TSETUP program. Power is restored when any key is pressed. If you use Windows 95, you can also specify the time in the Display Auto Off window of Power Save Modes in Power Saver. If you use Windows 98, you can specify the time in the Turn off monitor item of the Power Save Mode window of Power Save Modes in Power Saver.
<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 in the TSETUP program. Power is restored when the hard disk is accessed. If you use Windows 95, you can also specify the time in the HDD Auto Off window of Power Save Modes in Power Saver. If you use Windows 98, you can specify the time in the Turn off hard disks item of the Power Save Mode window of Power Save Modes in Power Saver.
<b>System automatic power off</b>	This feature automatically turns off power to the system when a period of time specified in the TSETUP program has elapsed. If you use Windows 95, you can also specify the time in the System Window of Power Save Modes in Power Saver. If you use Windows 98, you can specify the time in the System standby item of the Power Save Mode window of Power Save Modes in Power Saver. The feature works only in Resume mode.
<b>Keypad overlay</b>	Dark grey keys with light grey lettering make up the keypad overlay, which lets you use the keyboard for ten-key operations or cursor control.

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<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.
<b>Battery save mode</b>	This feature lets you save battery power. You can set this mode by using hotkeys or the TSETUP program. If you use Windows 95, you can also specify the Power Save Mode in the Power Save Modes window in Power Saver. If you use Windows 98, you can specify the Power Save Mode in the Running on batteries item of the Power Save Modes window in Power Saver.
<b>Power on password</b>	Two levels of password security are available: supervisor and user. This feature prevents unauthorized access to your computer.
<b>Instant security</b>	A hotkey function blanks the screen and disables the computer providing quick and easy data security.
<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. This convenient feature can be enabled through the TSETUP program. If you use Windows 95, you can also specify the setting in the System window of Power Save Modes in Power Saver. If you use Windows 98, you can specify the setting in the When I close the lid item of the System Power Mode window of the Power Save Modes in Power Saver. It works only in Resume mode.
<b>Auto power on</b>	This feature lets you set a time and date for the computer to turn on automatically. The feature is useful for receiving remote communications while you are asleep or away. If you use Windows 95, you can specify the time in the Auto Power On section of TSETUP. If you use Windows 98, you can specify the time in Scheduled task.

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<b>Ring indicator power on</b>	This feature lets the computer's power be turned on automatically when a call comes in from a remote modem. When an internal modem (preinstalled in some models) receives a call from a remote modem, it sends a ring indicator power on signal to the computer. This feature works only in Resume mode.
<b>Resume</b>	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.
<b>Hibernation</b>	This feature lets you turn off the power without exiting from your software. The contents of main memory is saved to the hard disk, when you turn on the power again, you can continue working right where you left off.
<b>Low battery automatic Hibernation</b>	When battery power is exhausted to the point that computer operation cannot be continued, the system automatically enters Hibernation mode and shuts down.
<b>Heat dispersal</b>	<p>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 use the System window of Power Save Modes in Power Saver (Windows 95 only) or the TSETUP program to select one of three temperature controls.</p> <ul style="list-style-type: none"><li>• <b>Maximum performance</b> Turns on fan first, then if necessary lowers CPU processing speed.</li><li>• <b>Performance</b> Uses a combination of fan and lowering the CPU processing speed.</li><li>• <b>Battery optimized</b> Lowers the CPU processing speed first, then if necessary turns on the fan.</li></ul>

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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 read.me files.

<b>Power Saver Utility</b>	To access this power savings management program, open the Control Panel and double-click the Power Saver icon.
<b>Hardware setup</b>	This program lets you customize your hardware settings according to the way you work with your computer and the peripherals you use. Open the Control Panel and double-click the Toshiba Hardware Setup icon.
<b>DVD Video Player</b>	The DVD Video Player is used to play DVD Movies. It has an on-screen interface and functions similar to those of a standard DVD player. Click Start, point to Programs, point to Mediamatics DVD Express, then click Mediamatics DVD Player.
<b>Display Driver for Windows</b>	The display driver enables simultaneous display on the internal LCD, an on an external computer monitor or television set. Use the Settings tab on the Display Properties screen to make appropriate settings.
<b>Sound drivers</b>	<p>A the broad range of audio controls are possible through the DS-XG sound driver, including: Software Synthesize (Windows 95/98 only); Mic volume, tone control and 3D enhancement; and Power management (Windows 95/98 only). Click Start, point to Settings, click Control Panel and double click the DS-XG Configuration icon.</p> <p>For other sound settings, use the Windows Device Manager, Multimedia panel or volume control dial.</p>
<b>LAN driver</b>	<p>This preinstalled driver makes the computer LAN-ready for a computer running Windows 95/98 when it is connected to an optional NetDock Port Replicator. To make LAN settings, click Start, point to Settings, click Control Panel and double-click the Network icon.</p> <p>If you are using Windows NT, install the network driver from the Network Driver Disk, provided with the optional NetDock Port Replicator. For installation procedures, refer to the Readme.txt file.</p>

---

<b>SelectBay utility</b>	This utility enables hot docking of SelectBay modules, that is, you can remove (install) SelectBay modules while the computer is on. There are two ways to activate this utility: Click the Tray icon on the task bar or double-click the Toshiba SelectBay icon in the Control Panel.
<b>IntelliSync</b>	IntelliSync lets you copy, move and delete files or create and delete directories on a remote computer through either serial or parallel cables or through infrared connection. Click Start, point to Programs and click IntelliSync.
<b>TSETUP</b>	An easy-to-use menu lets you customize the configuration of your computer in a DOS environment according to the way you work with your computer and the peripherals you use.

---

## 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>	Two memory expansion slots are available for installing 64 or 128 MB memory modules. The modules are SD Random Access Memory (SD-RAM), 144-pin, SO Dual In-line (SO-DIMM).
<b>Main battery pack</b>	An additional main battery pack can be purchased from your Toshiba dealer.
<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>NetDock Port Replicator</b>	The NetDock Port Replicator provides the ports available on the computer, in addition to a LAN jack, separate PS/2 mouse and PS/2 keyboard ports, a line-out jack and two USB ports.
<b>Expansion Station</b>	You can connect the NetDock Port Replicator to an Expansion Station, which provides two PCI card slots ( $\frac{1}{2}$ and $\frac{3}{4}$ size), a 5" SelectBay and a 3.5" HDD slot. The Expansion Base's SelectBay accommodates the same IDE modules as the computer. It does not accommodate a diskette drive module. An adaptor is required to install a 2.5" HDD module in the 3.5" HDD slot.

---

<b>Card Dock</b>	In addition to the ports available on the computer, a Card Dock provides audio line-in and line-out jacks and separate ports for PS/2™ mouse and PS/2 keyboard. The CardDock connects directly to the docking interface port on the back of the computer so no cabling is necessary.
<b>Battery charger</b>	The battery charger lets you charge main batteries or secondary batteries outside the computer.
<b>Hard disk drive</b>	You can increase your computer's data storage capacity with a 6.0 billion bytes (5.6 GB), 12.07 billion bytes (11.24 GB) or 18.15 billion bytes (16.90 GB), integrated 2 ½" HDD module.
<b>Diskette drive attachment</b>	The diskette drive installs in an attachment case for connecting to the diskette drive port.
<b>Monitor stand</b>	This stand supports a monitor up to 35 kilograms in weight and has room under it for the computer to conserve desk space. You can also place the stand on top of an optional Expansion Station.
<b>Security lock</b>	A slot is available to attach a security cable to the computer to deter theft.

## SelectBay options

The following modules can be installed in the SelectBay. The user can select either a CD-ROM drive or a DVD-ROM drive to be preinstalled as a standard device. All other modules are options.

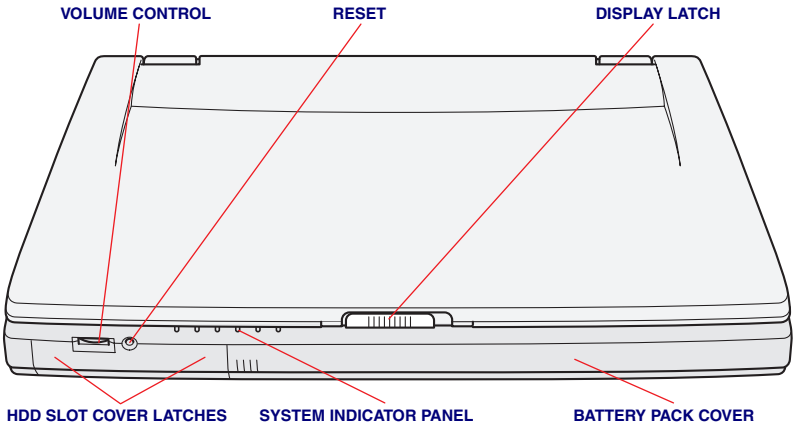
<b>CD-ROM</b>	Refer to the features section for details.
<b>DVD-ROM</b>	Refer to the features section for details.
<b>Secondary HDD adaptor</b>	An adaptor lets you install an optional HDD (described above) in the SelectBay.
<b>Internal/external diskette drive</b>	A 3 ½" diskette drive module accommodates both 1.44 MB double-sided, high-density, double-track (2HD) and 720 KB double-sided, double-density, double-track (2DD) disks. The module installs either in the SelectBay or in an optional external diskette drive attachment for connection to the computer's diskette drive port.
<b>Secondary battery pack</b>	The secondary battery increases your computer's battery power and operating time when a main battery is also installed.

# The Grand Tour

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

## Front with the display closed

The Figure below shows the computer's front with its display panel in the closed position.



*Front of the computer with display closed*



**Battery pack cover**

Slide the cover to the right to remove the battery pack.



*To prevent the battery pack from accidentally falling out, be sure the battery pack cover is secured and the battery pack lock is set to the lock position except when you are removing or installing the battery pack.*

**Display latch**

This latch secures the LCD panel in its closed position.



---

**Volume control**

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

---

**HDD slot cover latches**

Dotted ridges mark two latches securing the HDD slot cover. The latch nearer the front of the computer is also marked by a triangle.

---

**Reset**

Press the reset button to reset the computer when it does not respond to keyboard commands. Use a narrow object such as the tip of a covered ball-point pen. The system restarts, clearing all data in memory and overriding the Resume feature. See Chapter 6, [Power and Power-Up Modes](#), for more information on the switch and Resume.

---



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*Do not use a pencil to push the reset button. Pencil lead can break off inside the computer and damage its circuitry.*

---

**Hard disk drive pack**

The hard disk pack can be easily removed to install an alternative HDD, available as an option. Refer to the *Hard disk drive pack* section in Chapter 8, [Optional Devices](#).

---

**System indicator panel**

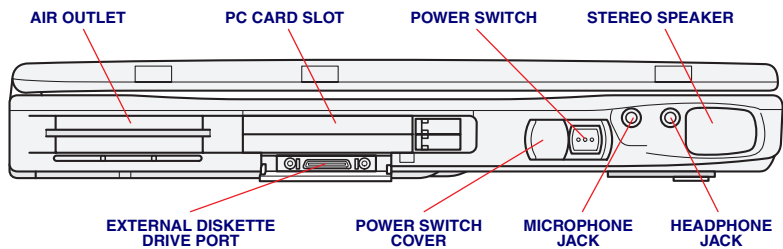
LEDs indicate the status of various system resources.

See the Indicator Panels section in this chapter for details.


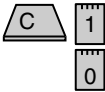



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# Left side

The Figure below shows the computer's left side.



*The left side of the computer*

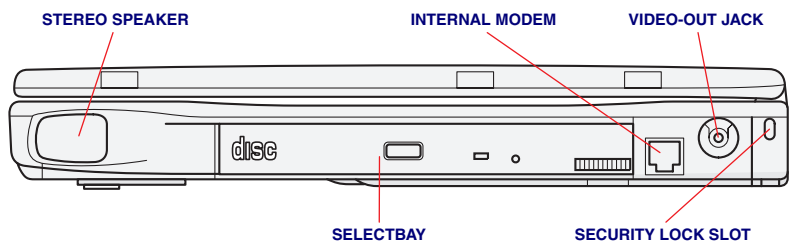
	<b>Power switch cover</b>	Slide the cover forward to expose the power button.
	<b>Power switch</b>	Press the button to turn the computer's power on or off.
	<b>PC card slot</b>	A PC card slot can accommodate two 5 mm PC cards (Type II) or one 10.5 mm PC card (Type III). The slot supports 16-bit PC cards and CardBus PC cards.
	<b>External diskette drive port</b>	This port, protected by a rubber cover, lets you connect an optional external 3 1/2" diskette drive for transferring data to or from diskettes.
	<b>Microphone jack</b>	A standard 3.5 mm mini microphone jack enables connection of a monaural microphone or other device for audio input. When you connect an external microphone, the internal microphone is automatically disabled.
	<b>Headphone jack</b>	A standard 3.5 mm mini headphone jack enables connection of a stereo headphone (16 ohm minimum) or other device for audio output. When you connect headphones, the internal speaker is automatically disabled.
	<b>Stereo speaker</b>	The speakers emit sound generated by your software as well as audio alarms, such as low battery condition, generated by the system.
	<b>Air Outlet</b>	An Air outlet keeps the CPU from overheating.






*Be careful not to block the fan vent. Also be careful to keep foreign objects out of it. A pin or similar object can damage the computer's circuitry.*

# Right side

The Figure below shows the computer's right side.

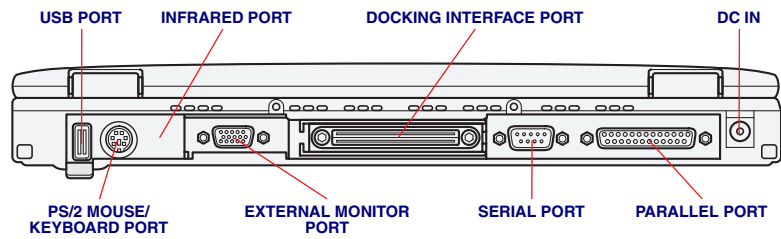


*The right side of the computer*

<b>SelectBay</b>	A 3 1/2" diskette drive, DVD-ROM drive, CD-ROM drive, secondary battery, SelectBay HDD Adaptor II can be installed in the SelectBay. A weight saver can be installed when there is no module in the SelectBay.
 <b>Internal modem</b>	A high-speed internal modem operates at 56,000 bps for data transfer and at 14,400 for facsimiles and telephony. An RJ11 modem jack lets you connect the computer's internal modem directly to a telephone line. The internal modem is not supported in some marketing regions.
 <b>Video-out jack</b>	Plug an RCA video connector into this jack. Refer to Chapter 7, <b>TSETUP and Passwords</b> .
 <b>Security lock slot</b>	A security cable attaches to this slot. The optional security cable anchors your computer to a desk or other large object to deter theft.
<b>Stereo speaker</b>	See the <i>Left side</i> section for details.

# Back side

The Figure below shows the computer's back panel.



*The back side of the computer*



## PS/2 mouse/keyboard port

Use this port to connect an external PS/2 compatible mouse or keyboard. The computer automatically recognizes which device you have connected when you turn on the power.



## External monitor port

This 15-pin port, protected by a plastic cover, lets you connect an external video display.



## Serial port

Use this 9-pin port to connect external serial devices such as an external modem, a serial mouse or printer.

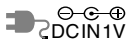


## Docking interface

This port enables connection of an optional NetDock Port Replicator described in the *Options* section of Chapter 1, [Introduction](#).



*Keep foreign objects out of the docking interface port. A pin or similar object can damage the computer's circuitry. A plastic shutter protects the connector. Be sure to attach it whenever a device is not connected.*



## DC IN

Attach the AC adaptor to the **DC IN** socket and plug the adaptor's power cord into any wall outlet.



## Parallel port

This Centronics-compatible, 25-pin parallel port is used to connect a parallel printer or other parallel device. This port supports Extended Capabilities Port (ECP) standard.



### Universal Serial Bus port

A plastic cover protects one Universal Serial Bus (USB) port, which enables chain connection of a number of USB-equipped devices to one port on your computer. For example, you might connect a USB-HUB to the computer, then connect a keyboard to the USB-HUB and a mouse to the keyboard.



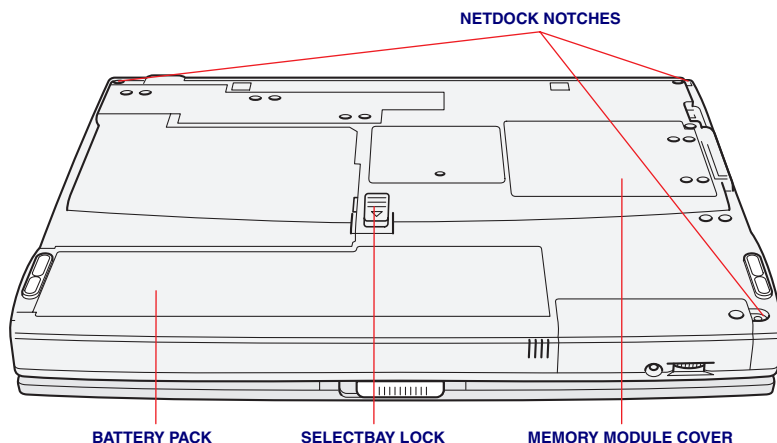
### Infrared port

This infrared port is compatible with Infrared Data Association (IrDA 1.1) standards. It enables cableless 4 Mbps, 1.15 Mbps, 115.2 kbps, 57.6 kbps, 38.4 kbps, 19.2 kbps or 9.6 kbps data transfer with IrDA 1.1 compatible external devices.

---

## Underside

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



*The underside of the computer*

---

### NetDock Port Replicator

Notches on the computer engage hooks on the NetDock Port Replicator to hold the connection securely.

---

### Battery pack

The battery powers the computer when the AC adaptor is not connected. An indicator on the battery pack shows the lock and unlock position. For detailed information on the battery pack, refer to Chapter 6, [Power and Power-Up Modes](#).

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### SelectBay lock

Slide the lock to release or secure the SelectBay ejector.

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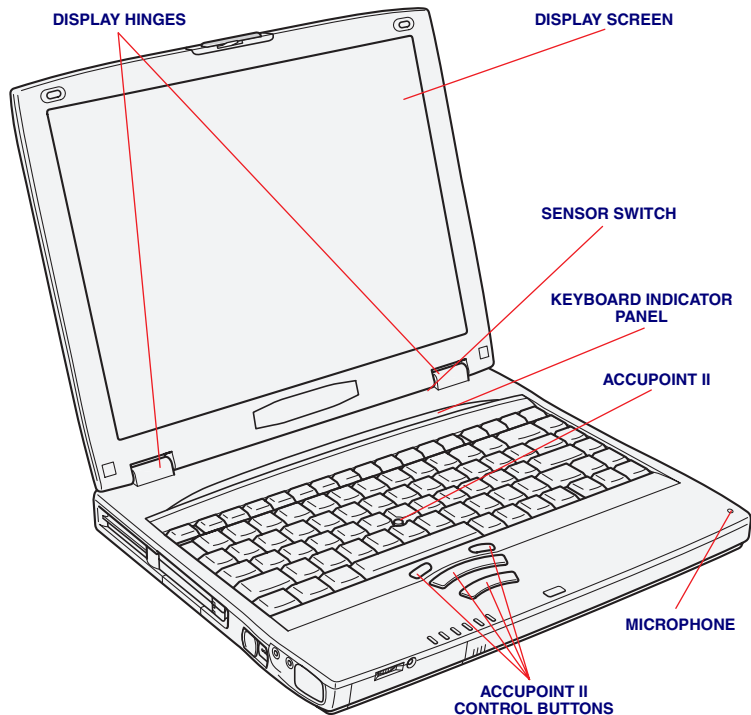
*Be sure to lock the SelectBay lock before you transport or carry the computer*

### **Memory module cover**

This cover protects two memory module sockets. One module is preinstalled.

## **Front with the display open**

The Figure below shows the front of the computer with the display open. To open the display, slide the latch on the front of the display and lift up. Position the display at a comfortable viewing angle.



*The front with the display open*

### **Display screen**

The LCD displays high-contrast text and graphics. Refer to [Appendix E](#).

When the computer operates on power through 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.



*If you start the computer with the AC adaptor plugged in and unplug the computer during operation, the brightness level will not decrease even though the computer is operating under battery power. In this case, battery operating time will be shortened.*

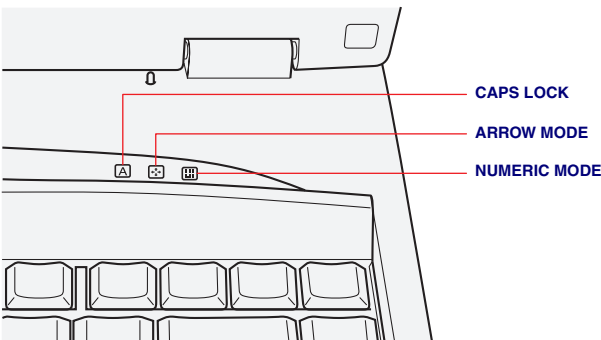
<b>System indicator panel</b>	The system indicator panel provides indicators for monitoring the status of DC IN, power, main battery, secondary battery, the computer's HDD and SelectBay modules. Details are given later in this chapter.
<b>Keyboard indicator panel</b>	The keyboard indicator panel provides indicators to let you monitor the caps lock, arrow mode and numeric mode functions. Details are given later in this chapter.
<b>Display hinges</b>	The display hinges hold the display screen at easy-to-view angles.
<b>Microphone</b>	A built-in microphone lets you record sounds into your applications. See <i>Using the microphone</i> in Chapter 4, <a href="#">Operating Basics</a> .
<b>AccuPoint II</b>	A pointer control device located in the centre of the keyboard is used to control the on-screen pointer. Refer to the <i>Using AccuPoint II</i> section in Chapter 4, <a href="#">Operating Basics</a> .
<b>AccuPoint II control buttons</b>	Control buttons below the keyboard let you select menu items or manipulate text and graphics designated by the on-screen pointer.
<b>Sensor switch</b>	This switch shuts down the computer when you close the cover and the panel power on/off feature is enabled.

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# Indicator panels

The Figures Below show the indicator panel lights, which light when various computer operations are in progress.

## Keyboard indicator panel

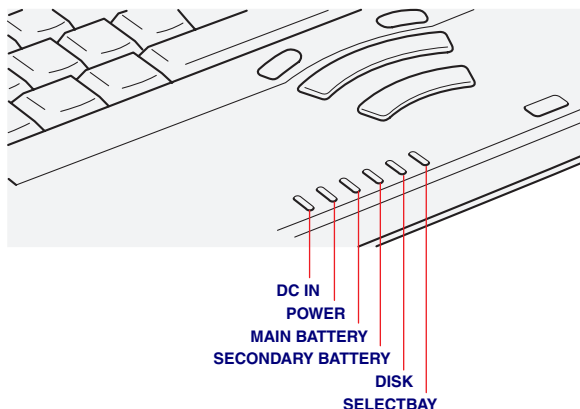


*The keyboard indicator panel*

	<b>Caps Lock</b>	This indicator glows green when the alphabet keys are locked in uppercase.
	<b>Arrow mode</b>	When the <b>Arrow mode</b> indicator lights green, you can use the keypad overlay (white labelled keys) as cursor keys. Refer to the <i>Keypad overlay</i> section in Chapter 5, <i>The Keyboard</i> .
	<b>Numeric mode</b>	You can use the keypad overlay (white labelled keys) for numeric input when the <b>Numeric mode</b> indicator lights green. Refer to the <i>Keypad overlay</i> section in Chapter 5, <i>The Keyboard</i> .

---

## System indicator panel



*The system indicator panel*



---

### DC IN

The **DC IN** indicator glows green when DC power is supplied from the AC adaptor. If the adaptor's output voltage is abnormal or if the power supply malfunctions, this indicator flashes orange.



---

### Power

The **Power** indicator glows green when the computer is on. If you turn off the computer in Resume mode, this indicator flashes orange (one second on, two seconds off) while the computer shuts down.



---

### Main Battery

The **Main Battery** indicator shows the condition of the battery's charge: Green indicates full charge, orange indicates battery charging and flashing orange indicates a low battery charge. Refer to Chapter 6, [Power and Power-Up Modes](#).



---

### Secondary Battery

This indicator shows the charge condition of a battery installed in the SelectBay. Green means fully charged and orange means being charged. Refer to Chapter 6, [Power and Power-Up Modes](#).



---

### Disk

This indicator glows green when the computer is accessing the internal hard disk.



---

### SelectBay

This indicator glows green when the computer is accessing a DVD-ROM/CD-ROM, secondary HDD or diskette in the SelectBay or a diskette in an external drive.

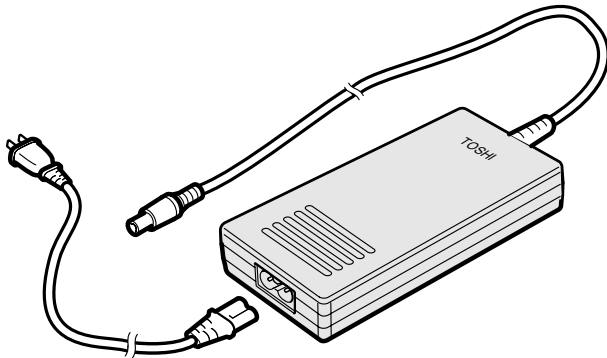
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---

## AC adaptor

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

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



*The AC adaptor*



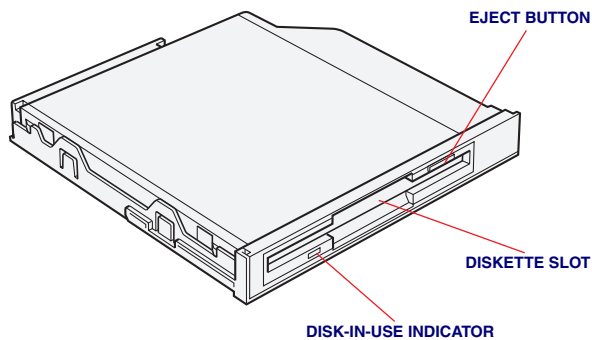
*Use of the wrong adaptor could damage the computer. Toshiba assumes no liability for any damage in such case. The current rating for the computer is 4.0 amperes.*

# SelectBay modules

The SelectBay can accommodate the following modules: 3 ½" diskette drive, DVD-ROM drive, CD-ROM drive, optional secondary battery pack and optional SelectBay HDD Adaptor II.

## 3 ½" diskette drive

The 3 ½" external diskette drive module can be used in the SelectBay or connected to the external diskette drive port. The drive comes with an attachment case that connects to the computer's dedicated 3 ½" drive connector. See Chapter 4, [Operating Basics](#), for details on connecting and using the diskette drive.



The 3 ½" diskette drive

Eject button	When a diskette is fully seated in the drive, the eject button pops out. To remove a diskette, push in the eject button and the diskette pops out partially for easy removal.
Diskette slot	Insert diskettes in this slot.
Disk-In-Use Indicator	This indicator lights when the diskette is being accessed.



Check the **SelectBay** indicator when you use the diskette drive. Do not press the eject button, disconnect a drive cable or turn off the computer while the light is glowing. Doing so could destroy data and damage the diskette or the drive.

Diskette drive connector	An FDD attachment case connects this port to the computer.
--------------------------	--

# DVD-ROM drive

A full-size DVD-ROM drive module lets you run either 12 cm (4.72") or 8 cm (3.15") digital video disk/compact disk without using an adaptor. It may be selected as a standard component or as an option.

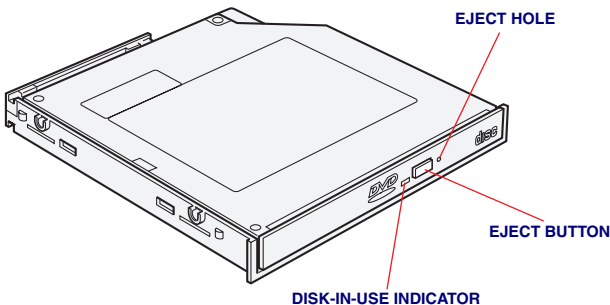


*The read speed is slower at the centre of a disk and faster at the outer edge. The minimum (centre) and maximum (outer edge) for DVDs and CDs are:*

<b>DVD</b>	1.7-speed (centre)	6-speed (outer edge)
<b>CD</b>	10.3-speed (centre)	24-speed (outer edge)

This drive supports the following formats:

- DVD-ROM
- Audio CD
- Photo CD
- ISO 9660
- DVD-Video
- CD-EXTRA
- CD-R (read only)
- CD-Rewritable (read only)



*The DVD-ROM drive*

<b>Eject button</b>	Press the eject button to open the drawer partially.
<b>Eject hole</b>	Insert a slender object to open the drawer when the power to the computer is off.
<b>Disk-In-Use Indicator</b>	This indicator lights when the diskette is being accessed.



*Check the **SelectBay** indicator when you use the DVD-ROM drive. Do not press the eject button, disconnect a drive or turn off the computer while the light is glowing. Doing so could damage the DVD/CD or the drive.*

---

## Region Codes

DVD drives and media are manufactured according to the specifications of six marketing regions. When you purchase DVD media, make sure it matches your drive, otherwise it will not play properly.

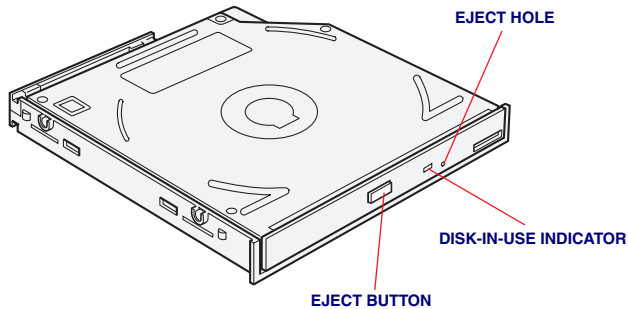
Code	Region
1	Canada, United States
2	Japan, Europe, South Africa, Middle East
3	Southeast Asia, East Asia
4	Australia, New Zealand, Pacific Islands, Central America, South America, Caribbean
5	Russia, Indian Subcontinent, Africa, North Korea, Mongolia
6	China

## CD-ROM drive

A full-size, maximum 24-speed CD-ROM drive module lets you run either 12 cm (4.72") or 8 cm (3.15") compact disks without using an adaptor. It may be selected as a standard component or as an option.

This drive supports the following formats:

- Video CD
- Photo CD
- CD-ROM
- CD-ROM x A
- CD-I FMV
- CD-EXTRA
- CD-R (read only)
- CD-Rewritable (read only)
- CD-DA
- CD-G



*The CD-ROM drive*

---

<b>Eject button</b>	Press the eject button to open the drawer partially.
<b>Eject hole</b>	Insert a slender object to open the drawer when the power to the computer is off.
<b>Disk-In-Use Indicator</b>	This indicator lights when the diskette is being accessed.

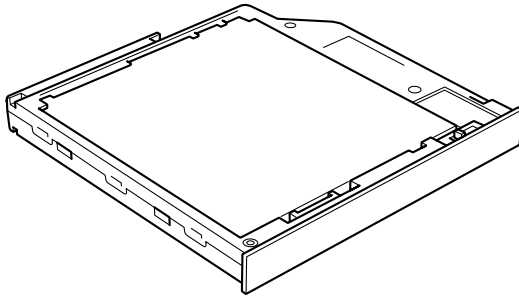
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*Check the **SelectBay** indicator when you use the CD-ROM drive. Do not press the eject button, disconnect a drive or turn off the computer while the light is glowing. Doing so could damage the CD or the drive.*

## Secondary battery pack

An optional battery pack can be installed in the SelectBay to double the computer's battery power and operating time.



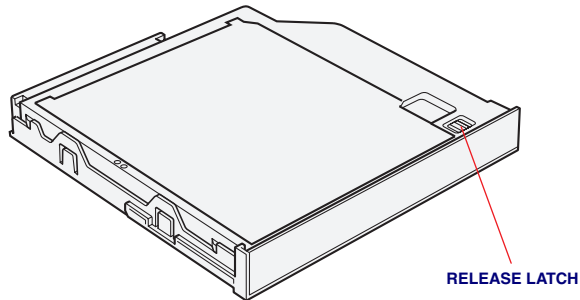
*The optional secondary battery pack*

---

## SelectBay HDD Adaptor II

You can increase your computer's data storage capacity by installing an optional 6.0 billion bytes (5.6 GB), 12.07 billion bytes (11.24 GB) or 18.15 billion bytes (16.90 GB), integrated, 2 ½" HDD in the SelectBay. To install an HDD, follow the steps below:

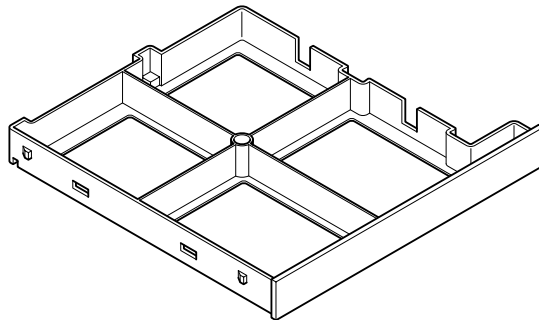
1. Slide the release latch and lift up the cover.
2. Lay the HDD into the SelectBay HDD Adaptor II and push it forward to secure the connectors.
3. Close the cover.



*The SelectBay HDD Adaptor II*

## Weight saver

Installing a weight saver module in the SelectBay lets you reduce the carrying weight of the computer.



*The weight saver*

# 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



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*Be sure also to read the Cautions section at the front of the manual.*

---

- Connecting the AC adaptor
- Opening the display
- Turning on the power
- Turning off the power
- Restarting the computer
- Restoring the system

If you are a new user, follow the steps in each section of this chapter as you prepare to operate your computer.

If you are an experienced user, read the sections in this chapter that describe setting up the operating system. Also, glance over the chapter for any material that might be new to you.

## Setting up

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 and peripheral devices
- 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 adaptor's power cord connects to an outlet that is close to the computer and easily accessible.
- The temperature should be 5 to 35 degrees Centigrade (41 to 95 degrees Fahrenheit) and the relative humidity should be 20 to 80 percent.
- Avoid areas where rapid or extreme changes in temperature or humidity may occur.
- Keep the computer free of dust, moisture, and exposure to direct sunlight.
- Keep the computer away from heat sources, such as electric heaters.
- Do not use the computer near liquids or corrosive chemicals.
- Do not place the computer near objects that create strong magnetic fields (e.g., stereo speakers).
- Do not operate the computer in close proximity to a mobile phone.

## Placement of computer

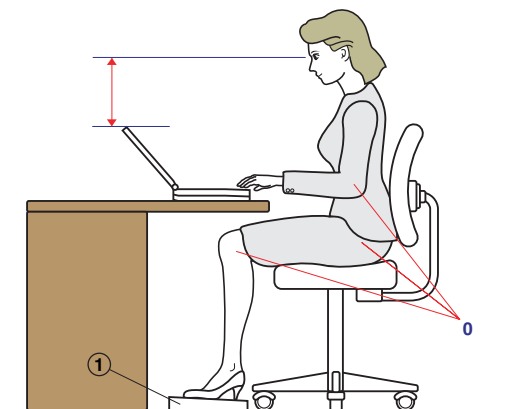
Position the computer and peripheral devices to provide comfort and safety.

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

---

## Seating and posture

The height of your chair in relation to the computer and keyboard as well as the support it gives your body are primary factors in reducing work strain. Refer to the following tips and illustration.



*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 (see "1" in the above illustration) 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 eye strain.

- 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 work day. 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*.

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## Connecting the AC adaptor

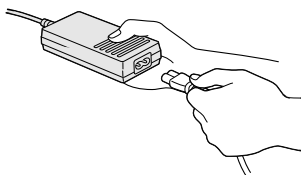
Attach the AC adaptor when you need to charge the battery or you want to operate from AC power. It is also the fastest way to get started, because the battery pack will need to be charged before you can operate from battery power.

The AC adaptor can be connected to any power source supplying 100 to 240 volts and 50 to 60 hertz. For details on using the AC adaptor to charge the battery pack, refer to Chapter 6, [Power and Power-Up Modes](#).



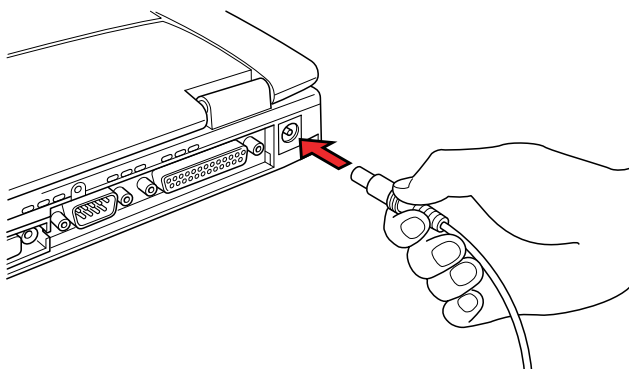
*Use of the wrong adaptor could damage the computer. Toshiba assumes no liability for any damage in such case. The current rating for the computer is 4.0 amperes.*

1. Connect the power cord to the AC adaptor.



*Connecting the power cord to the AC adaptor*

2. Connect the AC adaptor's DC output plug to the **DC IN** input port on the back of the computer.



*Connecting the adaptor to the computer*

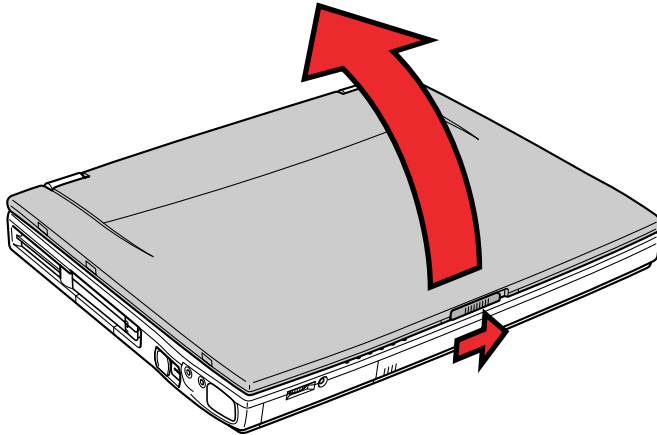
3. Plug the power cord into a live wall outlet. The **Battery** and **DC IN** indicators on the front of the computer should glow.

---

## Opening the display

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

1. Face the front of the computer and slide the display latch.



*Opening the display*

2. Lift the panel up and adjust it to the best viewing angle for you.



*Use reasonable care when opening and closing the display panel.*

*Opening it vigorously or slamming it shut could damage the screen and computer.*

*Hold the centre of the display when opening or closing it.*

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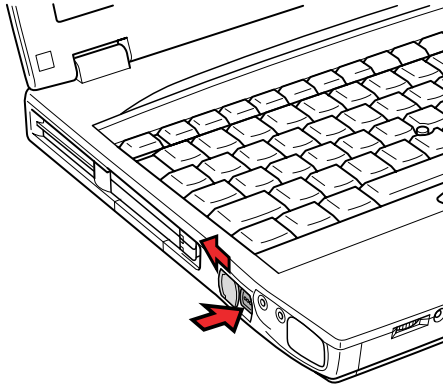
## Turning on the power

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 completed procedures for selecting an operating system (OS) and your selected OS has started up.*

1. Make sure the internal diskette drive is empty. If a diskette is in the drive, press the eject button and remove the diskette.
2. Slide back the power switch cover to expose the power switch.
3. Press and hold the computer's power button for two or three seconds.



*Turning on the power*

4. Slide the power switch cover back over the switch.

---

## Turning off the power

When you have finished work, follow the steps below to turn off the power to your computer.

1. If you have entered data, save it to the hard disk or to a diskette.
2. Make sure all disk activity has stopped, then remove any DVD-ROM, CD-ROM or diskette.



*Make sure the **Disk**, **SelectBay** and **DVD-ROM** or **CD-ROM** indicators are off. If you turn off the power while a disk is being accessed, you can lose data or damage the disk.*

3. If you are using Windows 95, click **Start**, then click **Shut Down** or **Suspend**. If you click **Shut Down** another dialog box will appear to let you confirm your choice.

If you are using Windows 98, click **Start** and click **Shut Down**. From the **Shut Down** menu select **Shut Down** or **Standby**.

If you are using Windows NT, point to **Start** and click **Shut Down** or **Suspend**.

**Shut Down** exits all applications; **Suspend** and **Standby** saves the screen as it is so you can continue where you left when you turn the power back on.



*It is better not to use the power switch to turn off the computer.*

4. Turn off the power to any peripheral devices.



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

## 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 four ways to reset the computer system:

1. Select **Restart** from the **Windows Shut Down** menu in the **Start** box.
2. Press **Ctrl + Alt + Del**.
3. If you're experiencing a problem with a software application and the computer does not accept keyboard input, press the reset button.
4. Turn the power off, wait 10 to 15 seconds, then turn the power on again by pressing the power button. (This method works only when the computer is in boot mode.)

---

## Restoring the preinstalled software

If preinstalled files are damaged, use the Product Recovery CD-ROM or the Toshiba Tools & Utilities CD-ROM to restore them.

### Restoring the complete system

To restore the operating system and all preinstalled software, follow the steps below.



*When you reinstall the Windows operating system, the hard disk will be reformatted and all data will be lost. Make sure you have a backup copy of your data, before you perform a complete system recovery.*

1. Load the Product Recovery CD-ROM in the drive and turn off the computer's power.
2. Hold down the **C** key and turn on the power. When **In Touch with Tomorrow TOSHIBA** appears, release the **C** key.
3. Follow the on-screen directions.
4. On some computers you will be prompted to replace the Product Recovery CD. Follow the on-screen directions.
5. After recovery is complete, remove the Product Recovery CD.
6. Press **Ctrl + Alt + Del** to restart the system. Refer to your Windows user's manual for Windows' setup instructions.

### Restoring Toshiba utilities and drivers

If Windows is working properly, individual drivers or applications can be separately restored. Use the Tools & Utilities CD-ROM according to instructions in the booklet contained in the CD box to reinstall Toshiba utilities and drivers.

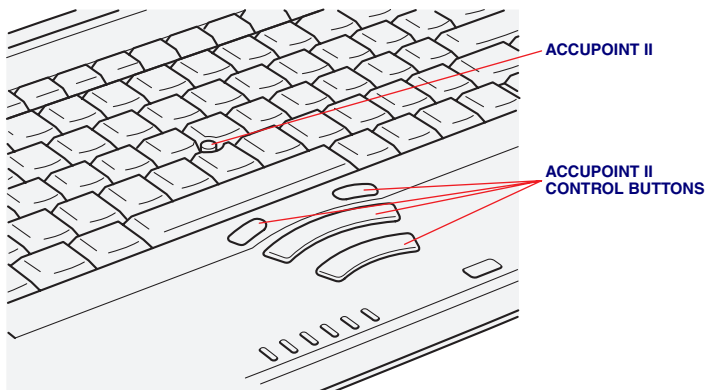


# Operating Basics

This chapter gives information on basic operations including using AccuPoint II, changing SelectBay modules, using CD-ROM/DVD-ROM drives, using the diskette drive attachment, using the microphone, Connecting the modem, tips on caring for your computer and heat dispersal.

## Using AccuPoint II

To use the AccuPoint II, simply push it with your finger tip in the direction you want to move the on-screen pointer.



*AccuPoint II and control buttons*

Two large buttons below the keyboard are used like the buttons on a mouse pointer. Press a button to select a menu item or to manipulate text or graphics designated by the pointer. The smaller buttons can be used to scroll windows.

---

## AccuPoint II precautions

Under certain conditions the on-screen pointer may travel contrary to AccuPoint II operation. For example, if

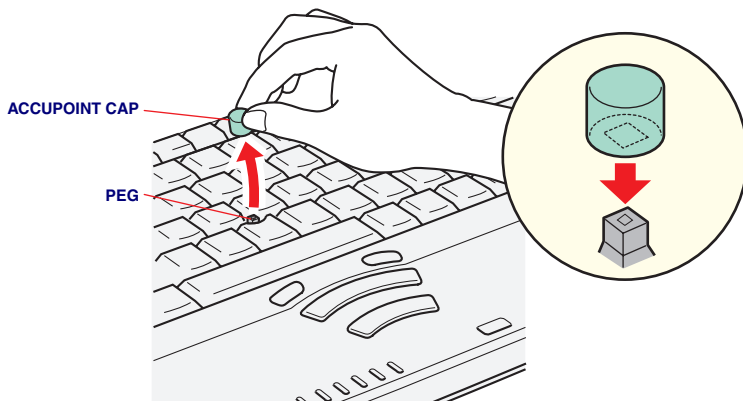
- You touch the AccuPoint II during power-up.
- You apply constant, soft pressure to the AccuPoint II.
- There is a sudden temperature change.
- Strong stress is applied to the AccuPoint II.

If such travelling occurs, it is not a malfunction. Wait a moment for the pointer to stop, then continue operation.

## Replacing the cap

The AccuPoint II cap is an expendable item that should be replaced after prolonged use. There are six spare AccuPoint II caps supplied with the computer.

1. To remove the AccuPoint II cap, firmly grasp the cap and pull it straight up.



*Removing the AccuPoint II cap*

2. Position a new cap on the peg and press it into place.



---

*The peg is square, so be careful to align the cap's square hole with the peg.*

---

---

## Changing SelectBay modules

This section explains how to change modules in the SelectBay. The illustrations show replacement of the CD-ROM drive with the diskette drive. Therefore, the text refers to those modules. However, the procedures are the same for any of the modules: diskette drive, DVD-ROM drive, CD-ROM drive, optional SelectBay HDD Adaptor II or optional secondary battery pack.



---

*To avoid injury, do not put your hand into the SelectBay slot.*

---



---

*The SelectBay Utility is preinstalled to support hot swapping under Windows 95 and Windows 98. Refer to Chapter 1, [Introduction](#), and to the utility's online help files for information on using this utility to change modules while the computer's power is on.*

---

### Removing a module

Remove the CD-ROM drive as described below.

1. Check all disk indicators to make sure no disks are operating.
2. Turn the computer upside down.



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*Wait for all disk indicators to go out before you turn over the computer and be careful to lay the computer down gently. Shock can damage the HDD or other components.*

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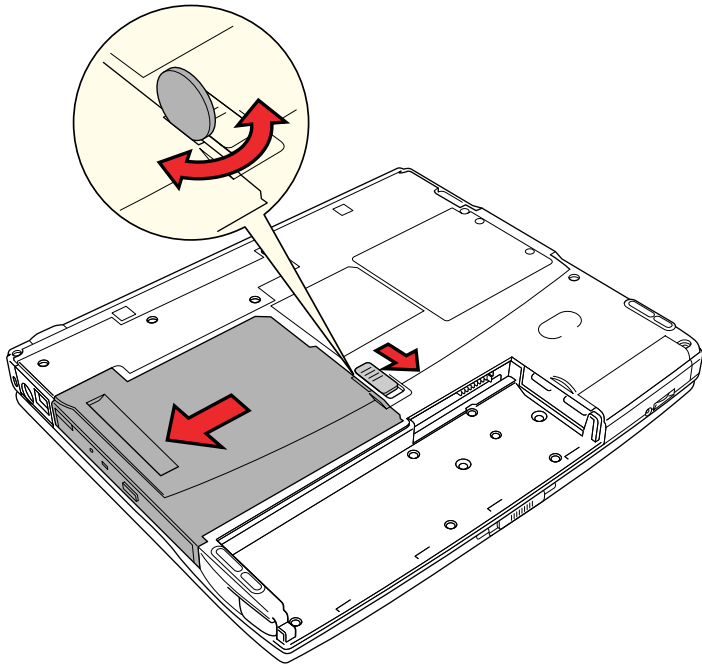
3. Slide back the SelectBay lock to the unlock position.
4. Fit a coin into the slot at the base of the SelectBay module and twist to eject the SelectBay partially.

- 
5. Grasp the CD-ROM drive and pull it out.



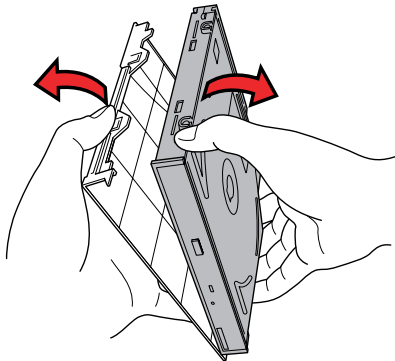
*The CD-ROM drive and other SelectBay modules can become hot with use. Be careful when removing the module.*

---



*Removing the CD-ROM drive*

6. Hold the cover and SelectBay module firmly and pull them apart to separate the module from the cover.



*Removing the SelectBay module from the cover*

- 
7. Seat the new module in the cover.



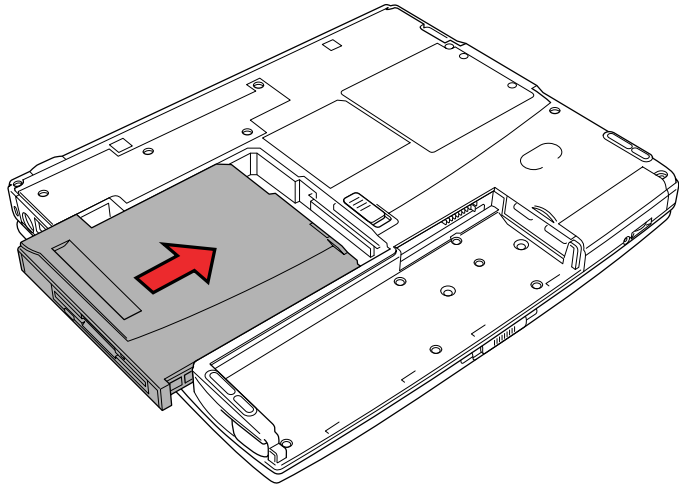
*Do not install the SelectBay cover if there is no module in the cover. The cover could be damaged.*

---

## Installing a module

Install the diskette drive as described below.

1. Seat the diskette drive in the SelectBay cover.
2. Insert the diskette drive in the computer as shown below and press until the ejector clicks.
3. Pull the SelectBay lock forward until the connection is secure.



*Installing the diskette drive*

4. Set the SelectBay lock to the lock position.

# Using CD-ROM/DVD-ROM drives



*The text and illustrations in this section refer primarily to the CD-ROM drive. However, operation is the same for the DVD-ROM drive.*

The full-size drive provides high-performance execution of CD-ROM-based programs. You can run either 12 cm (4.72") or 8 cm (3.15") compact discs/digital video discs without an adaptor. An ATAPI interface controller is used for CD-ROM operation. When the computer is accessing a CD-ROM, an LED on the drive glows. Refer to Chapter 1, [Introduction](#), and [Appendix A](#) for additional information.

## CD-ROM drive

CD	24-speed (outer edge)	
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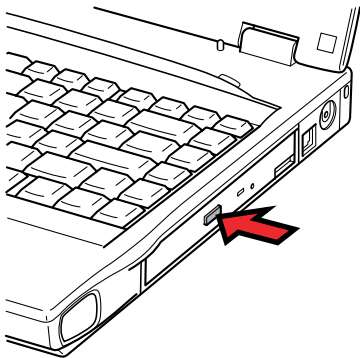
## DVD-ROM drive

CD	4-speed (centre)	24-speed (outer edge)
DVD	1.7-speed (centre)	6-speed (outer edge)

## Loading CDs

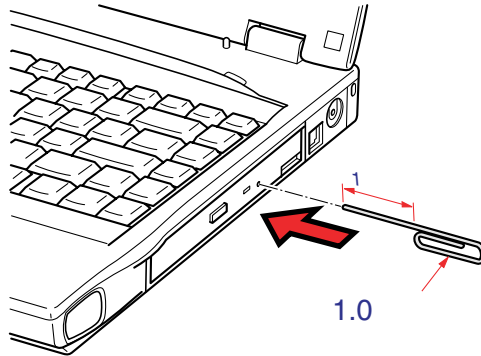
To load CDs, follow the steps below and refer to the following illustrations.

- 1. Turn on the power.
- 2. a. Press the CD-ROM eject button to open the drawer slightly.



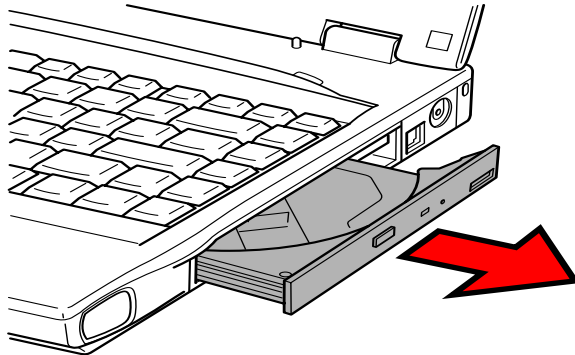
*Pressing the CD-ROM eject button*

b. Pressing the eject button will not open the drawer when the computer's power is off. If the power is off, you can open the drawer by inserting a slender object (about 1.5 cm) such as a straightened paper clip into the eject hole just to the right of the eject button.



*Manual release with the eject hole*

3. Grasp the drawer gently and pull until it is fully opened.



*Pulling the drawer open*

4. Lay the CD, label side up, in the drawer.



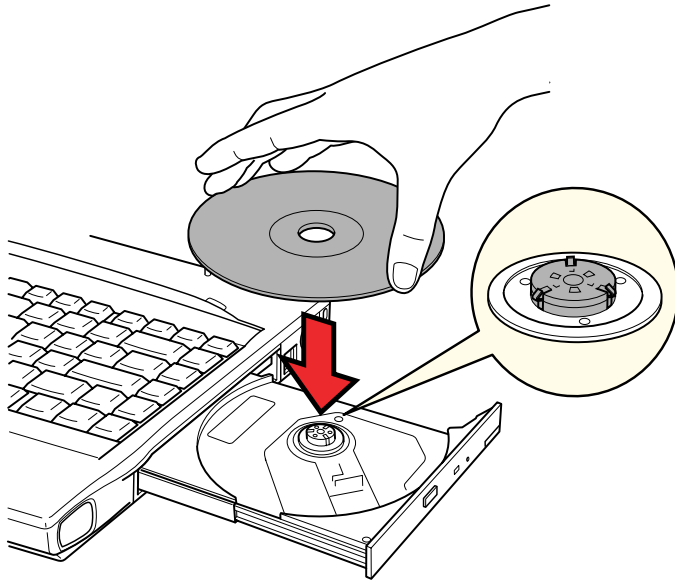
*When the drawer is fully opened, the edge of the computer will extend slightly over the CD tray. Therefore, you will need to turn the CD at an angle when you place it in the tray. After seating the CD, however, make sure it lies flat, as shown in the following illustration.*



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

*Be careful to keep foreign matter from entering the drive. Check the back edge of the tray to make sure it carries no debris before closing the drive.*

- 
5. Press gently at the centre of the CD until you feel it click into place. The CD should lie below the top of the spindle, flush with the spindle base.

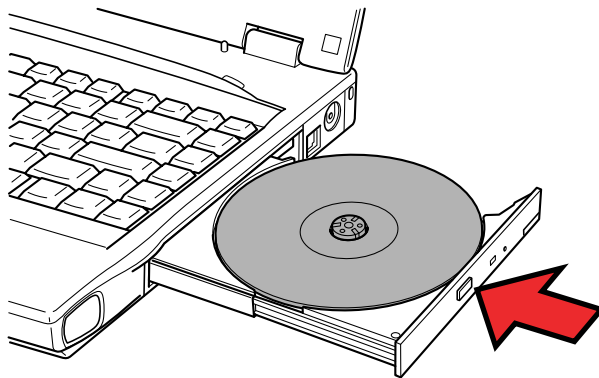


*Inserting a CD*

6. Push the centre of the drawer to close it. Press gently until it locks into place.



*If the CD is not seated properly when the drawer is closed, the CD might be damaged. Also, the drawer might not open fully when you press the eject button.*



*Closing the CD-ROM drawer*

---

## Removing CDs

To remove the CD, follow the steps below and refer to the following illustration.



*Do not press the eject button while the computer is accessing the CD-ROM drive. Wait for the eject button LED to go out before you open the drawer. Also, if the CD is spinning when you open the drawer, wait for it to stop before you remove it.*

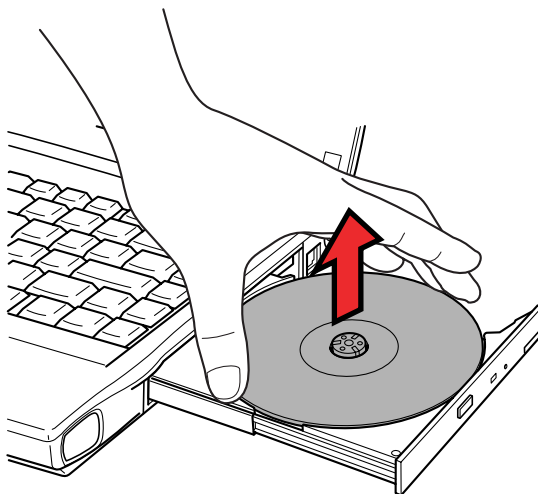
1. To pop the drawer partially open:
  - Press the eject button when the computer's power is on.
  - Insert a slender object such as a straightened paper clip into the eject hole when the power is off.

Gently pull the drawer out until it is fully opened.

2. There are indentations on the sides of the drawer to let you grasp the CD. Hold it gently and lift it out.



*When the drawer is fully opened, the edge of the computer will extend slightly over the CD tray. Therefore, you will need to turn the CD at an angle when you remove it.*



*Removing a CD*

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

---

## CD care

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

1. Store your CDs in the container they came in to protect them and keep them clean.
2. Do not bend the CD.
3. Do not write on, apply a sticker to, or otherwise mar the surface of the CD that contains data.
4. Hold the CD by its outside edge or the edge on the centre hole. Fingerprints on the surface may 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 CDs.
6. If your CDs become dusty or dirty, wipe them with a clean dry cloth. Wipe from the centre out, do not wipe in a circular direction around the CD. If necessary, use a cloth dampened in water or a neutral cleaner. Do not use benzine, thinner or similar cleaner.

## Using the diskette drive attachment

After you remove the diskette drive, install it in the attachment for connection to the computer's external diskette drive port.



*The external diskette 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 diskette drive.*

*The diskette drive attachment is designed only for the diskette drive. Do not try to install other SelectBay modules in the attachment.*

## Preparing the attachment

To load and unload the drive in the attachment, follow the steps below and refer to the following illustrations.



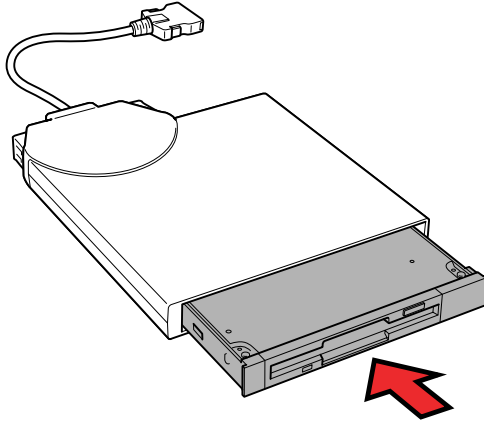
*Do not load or unload the drive while the attachment is connected to the computer.*

*Turn the computer off before you connect or disconnect the attachment.*

---

## ***Loading the drive***

1. Insert the diskette drive module into the external diskette drive attachment.

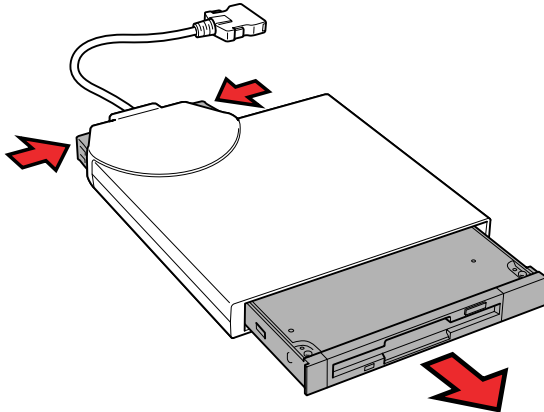


### ***Loading the diskette drive module into the attachment***

2. Press the drive module into the attachment to ensure a firm connection.

## ***Unloading the drive***

1. Push the two eject buttons on the attachment at the same time, and the diskette drive module will pop out partially.
2. Grasp the diskette drive module and pull it out of the attachment.



### ***Ejecting the diskette drive module from the attachment***

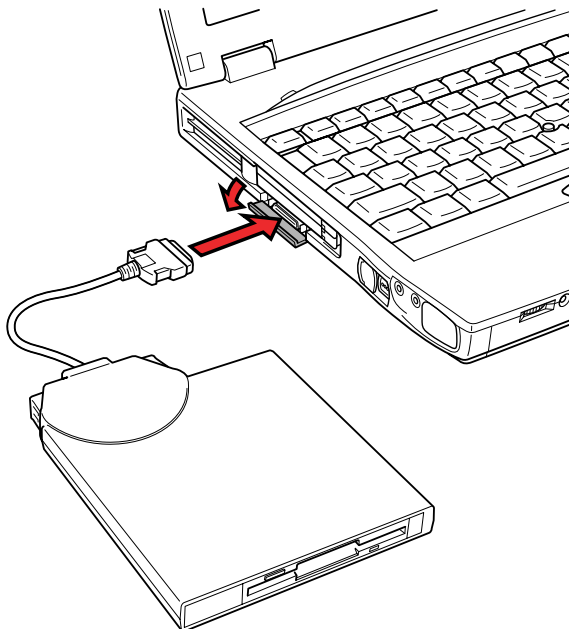
---

## Connecting/disconnecting external diskette drive

Turn the computer off before connecting the drive. Then, follow the steps below and refer to the following illustrations.

### Connecting the drive

1. Open the cover to the computer's external diskette drive port.
2. Press the latches on either side of the attachment's cable connector and plug it into the external diskette drive port.



*Connecting the cable to the computer*



*When you use the diskette drive, connect the drive before you turn on the computer.*

---

## Disconnecting the drive

1. Wait for the **Disk** indicator to go out to make sure all diskette activity has stopped.
2. Turn off the power.



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

3. Press the release latches on either side of the connector attached to the computer and pull out the connector.
4. Close the cover to the diskette drive port.

## Diskette care

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

1. Store your diskettes in the container they came in to protect them and keep them clean. If a diskette is dirty, do not use cleaning fluid. Clean it with a soft damp cloth.
2. Do not slide back the diskette's protective metal covering or touch the diskette's magnetic surface. Fingerprints may prevent the diskette drive from reading data from the diskette.
3. Data may be lost if the diskette is twisted; bent; or exposed to direct sunlight or extreme heat or cold.
4. Do not place heavy objects on your diskettes.
5. Do not eat, smoke, or use erasers near your diskettes. Foreign particles inside the diskette's jacket can damage the magnetic surface.
6. Magnetic energy can destroy the data on your diskettes. Keep your diskettes away from speakers, radios, television sets and other sources of magnetic fields.

---

## Using the microphone

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

Since your computer has a built-in microphone and speaker, “feedback” may be heard under certain conditions. Feedback 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 feedback 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 in Windows 95/NT, click the **Start** button, point to **Programs**, point to **Accessories**, point to **Multimedia** and click **Volume Control**.

In Windows 98, click the **Start** button, point to **Settings**, and click **Control Panel**. Next, double-click the **Multimedia** icon, then select the **Audio** tab and double-click the icon in the **Playback** group to open the **Volume Control** panel.

In the **Volume Control** panel, you can use the **Microphone Volume** slide bars to adjust the volume level or click **Mute** at the bottom of the panel.

## Connecting the modem

This section describes how to connect and disconnect the internal modem to a telephone jack. The modem is not supported in some marketing regions.



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

### Connecting the internal modem

A standard modular cable is supplied with the internal modem. Follow the steps below to connect the internal modem to a telephone jack.



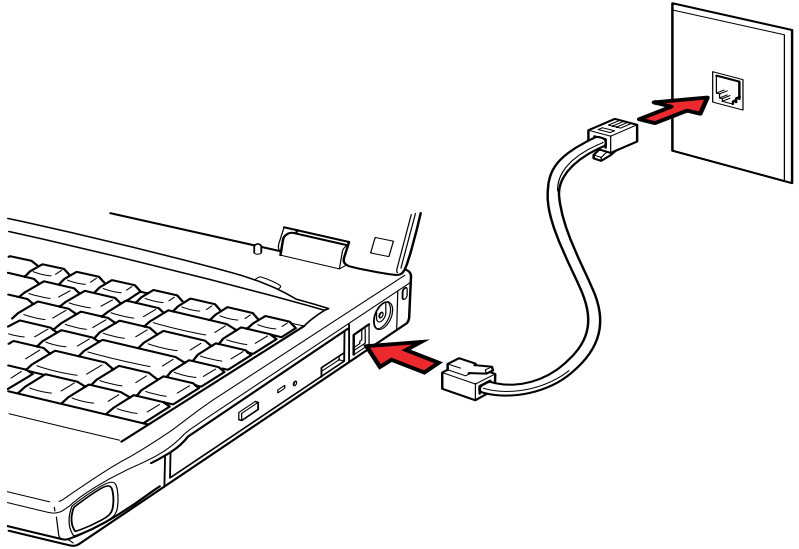
*Connect only to analog lines. Do not connect to a digital line. A digital connection will damage the modem.*

1. Turn the connector so that the small connecting lever faces up.
2. Squeeze the lever and plug the connector into the computer's RJ11 jack.

3. Plug the other end of the cable into an RJ11 jack.



*When you connect the RJ11 jack, insert the jack until you hear a click.*



*Connecting the modem cable*

## Disconnecting the internal modem

When you need to disconnect the internal modem's modular cable for transporting the computer or other reason, follow the steps below.

1. Pinch the connecting lever on the connector in the telephone jack and pull out the connector.
2. Disconnect the modular cable from the computer.

## Cleaning the computer

To help assure 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 assure trouble-free operation.

- Make sure all disk activity has ended before moving the computer. Check the **Disk** and **SelectBay** indicators on the computer, the LED on the CD-ROM drive eject button and the indicators on any external disk drives.
- If a diskette is in the diskette drive, remove it.
- If a CD is in the CD-ROM drive, remove it. Also make sure the CD-ROM drawer is securely closed.
- Disconnect the external diskette drive and all other peripherals before moving the computer.
- Turn off the power to the computer.
- Close the display. Do not pick up the computer by its display panel or back (where the connectors are located).
- Close all covers.
- Disconnect the AC adaptor if it is connected.
- Use the carrying case when transporting the computer.

# Heat dispersal

To protect from overheating, the CPU has an internal temperature sensor that triggers a cooling fan or lowers the CPU operating speed.

You can use the Power Saver Utility (Windows 95 only) or the TSETUP program to select one of three temperature controls.

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



*If the CPU temperature reaches an unacceptably high level with any setting, the system enters Resume mode and automatically shuts down.*

# 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's keyboard layout your computer is configured with. Keyboards for numerous languages are available. These optional international keyboard layouts are illustrated in Appendix D, [Keyboard Layouts](#).

There are five types of keyboard keys: light grey keys, function keys, dark grey keys, soft keys and overlay keys for keypad entry and cursor control.

## Light grey keys

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

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

- Letters and numbers produced in computer text vary in width. Spaces, which are created by a "space character," may also vary depending on line justification and other factors.
- The lowercase l (el) and the number 1 (one) are not interchangeable on computers as they are on a typewriter.
- The uppercase O (oh) and the 0 (zero) are not interchangeable.
- The **Caps Lock** function key locks only the alphabetic characters in uppercase while the shift lock on a typewriter places all keys in the shifted position.
- The **Shift** keys, the **Tab** key, and the **BkSp** (backspace) key perform the same function as their typewriter counterparts but also have special computer functions.

---

## F1...F12 function keys

The function keys, not to be confused with **Fn**, are the 12 keys at the top of your keyboard. These keys are dark grey, but function differently from the other dark grey 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. See 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: Alt Gr Key Combinations



The **Alt Gr** key, at the right of the space bar, is used in combination with other keys to create accented or special characters (#, @, |, etc.). Note that some of the keys at the top of the keyboard bear three symbols (not to be confused with the blue or white letters on the side of some other keys). To generate the third symbol, hold **Alt Gr** and press the key bearing the character you wish to create. Please note that since the **Alt Gr** key is not present on the American keyboard, it cannot be used if you have installed an American keyboard driver in MS-DOS or Windows.

### The euro symbol

By pressing **Alt Gr + e** (**Alt Gr + 5**, **Alt Gr + 4** or **Alt Gr + u** on some keyboards) you can generate the Euro symbol. Windows 98 supports the Euro symbol natively. On Windows 95 and NT, only Arial, Times New Roman and Courier New fonts have the Euro symbol implemented. Please look at Microsoft web pages for newer patches and updates.



*You may need to update the fonts on your printer to be able to print the Euro symbol properly.*

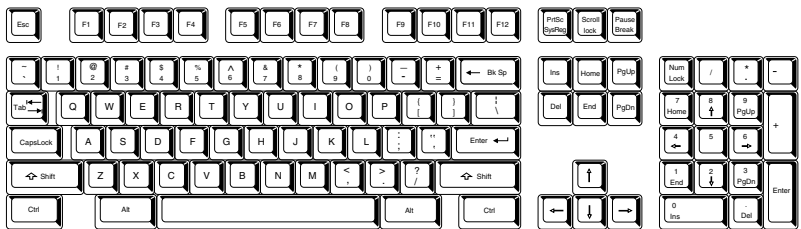
## Soft keys: Fn key combinations

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 Resume 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, shown above. The 101/102-key enhanced keyboard has a numeric keypad and scroll lock key. It also has additional **Enter**, **Ctrl** and **Alt** 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 light grey keys with white numbers 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. In MS-DOS, this has no effect. 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.



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

## Hot keys

Hotkeys (**Fn** + a function or cursor key) let you enable or disable certain features of the computers.



**Instant security:** Press **Fn + F1** to lock the keyboard and blank the screen to prevent others from accessing your data. Also, the hard disk motor is turned off and HDD auto off timing is set to one minute. To restore the screen and original settings, enter the password and press **Enter**. If no password is set, press **Enter** or **F1**. See Chapter 7, [TSETUP and Passwords](#).



**Battery save mode:** Pressing **Fn + F2** changes the battery save mode. Press once to activate the function then, continue holding down **Fn** and press **F2** again to change to one of the three battery save modes: Full power, low power and user setting.

If you press **Fn + F2** in a Windows 95 environment, an icon panel is displayed showing the setting. If you press **Fn + F2** in a Windows 98 environment, the Power Scheme menu is displayed. Continue holding down **Fn** and press **F2** again to change the setting. The mode at power on depends on the current setting. It can be changed using the Power Saver utility. See Chapter 1, [Introduction](#), or Chapter 7, [TSETUP and Passwords](#).



**Power up mode:** Pressing **Fn + F3** changes the power up mode. When you press these hotkeys, the current setting will be displayed in a window. If you use Windows 95, you can use the System window of the Power Saver utility. In a Windows 98 environment, use the **When I press the power button** item of the System Power Mode window in the Power Saver utility. See Chapter 1, [Introduction](#), or Chapter 7, [TSETUP and Passwords](#).



**Alarm volume:** Press **Fn + F4** to adjust the alarm volume to off, low, medium or high. The first time you press **Fn + F4** the volume is set to off. Continue holding down **Fn** and press **F4** again to change the setting. A beep sounds to let you know the current alarm volume. The volume at power on depends on the latest setting. It can be changed using the Power Management Properties utility. See Chapter 1, [Introduction](#), or Chapter 7, [TSETUP and Passwords](#).



**Display selection:** Pressing **Fn + F5** changes the active display device. As indicated in the table below, the changes depend on the computer's display type, current setting and whether you have an external monitor connected. It can be changed using the Hardware Setup utility. See Chapter 1, [Introduction](#), or Chapter 7, [TSETUP and Passwords](#).



*TV is selected only in a Windows environment. If you are operating in MS-DOS, the TV setting is skipped.*

Setting	Active display	Change order
Auto-Selected	Internal External	Int. ⇨ Sim. ⇨ Ext. ⇨ TV. Ext. ⇨ TV. ⇨ Int. ⇨ Sim.
Simultaneous	Simultaneous	Sim. ⇨ Ext. ⇨ TV. ⇨ Int.

The following display mode settings do not allow simultaneous display:

Resolution	Colours	Scanning frequency
1280 x 1024	64 K	75 Hz
1024 x 768	16 M	75 Hz
1024 x 768	16 M	85 Hz

When you press **Fn + F5** with the above display modes the display setting changes from Int. ⇨ Ext. ⇨ TV.

---

## Windows 95/98 special keys

The keyboard provides two keys that have special functions in Windows 95/98: one activates the **start** menu and the other has the same function as the secondary mouse button.



This key activates the Windows 95/98 **start** menu.



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

## Emulating Fn key on external keyboard

The **Fn** key is only on Toshiba keyboards. If you use an external keyboard attached to the computer, you can execute **Fn** key combinations by emulating the **Fn** key. For example, you might hold down **left Shift + left Ctrl** then press **F3** to change the power up mode. It can be changed using the Hardware Setup utility. See Chapter 1, [Introduction](#), or Chapter 7, [TSETUP and Passwords](#).

## 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 centre of the keyboard with white letters make up the numeric keypad overlay. The overlay provides the same functions as the numeric keypad on the 101/102-key enhanced keyboard in the next illustration.

## Turning on the overlays

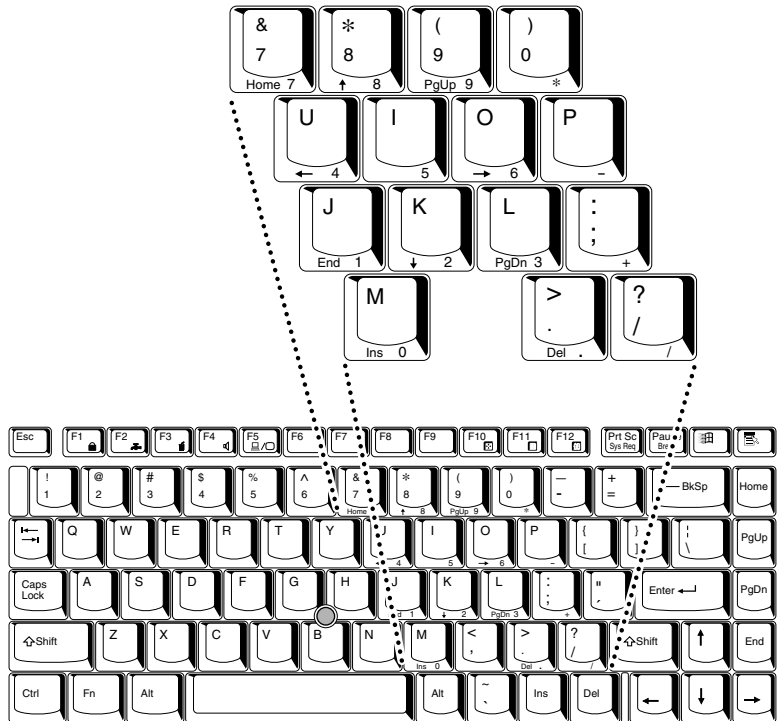
The numeric keypad overlay can be used for numeric data input or cursor and page control.

### **Arrow mode**

To turn on the Arrow mode, press **Fn + F10** (**Arrow mode** icon lights). Now try cursor and page control using the keys shown in the following picture. Press **Fn + F10** again to turn off the overlay.

## Numeric mode

To turn on the Numeric mode, press **Fn + F11** (**Numeric mode** icon lights). Now try numeric data entry using the keys in shown in the next illustration. Press **Fn + F11** again to turn off the overlay.



*The numeric keypad overlay*

## Temporarily using normal keyboard

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

1. Hold **Fn** and press any other key. All keys will operate as if the overlay were off.
2. Type upper-case characters by holding **Fn + Shift** and pressing a character key.
3. Release **Fn** to continue using the overlay.

---

## Temporarily using overlay

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 icon panel. Pressing **Fn** turns on the most recently used overlay. If the **Numeric mode** icon lights, you can use the overlay for numeric entry. If the **Arrow mode** icon lights, you can use it 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 **Alt + Fn**.
2. Using the overlay keys, type the ASCII code.
3. Release **Alt + Fn**, and the ASCII character appears on the display screen.

A list of ASCII characters with their codes is shown in [Appendix G](#).

# Power and Power-Up Modes

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

## Power conditions

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

*Table 6-1 Power conditions*

		Power on	Power off (no operation)
<b>AC adaptor connected</b>	Main battery fully charged	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>Main battery</b> green <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>LED: <b>Main battery</b> green <b>DC IN</b> green</li> </ul>
	Main battery partially charged or no charge	<ul style="list-style-type: none"> <li>Operates</li> <li>Quick charge<sup>*1</sup></li> <li>LED: <b>Main battery</b> orange <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>Quick charge<sup>*1</sup></li> <li>LED: <b>Main battery</b> orange <b>DC IN</b> green</li> </ul>
	No main battery installed	<ul style="list-style-type: none"> <li>Operates</li> <li>No charge</li> <li>LED: <b>Main battery</b> off <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>No charge</li> <li>LED: <b>Main battery</b> off <b>DC IN</b> green</li> </ul>
	2nd battery fully charged	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>2nd battery</b> green <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>LED: <b>2nd battery</b> green <b>DC IN</b> green</li> </ul>
	2nd battery partially charged or no charge	<ul style="list-style-type: none"> <li>Operates</li> <li>Quick charge<sup>*2</sup></li> <li>LED: <b>2nd battery</b> orange <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>Quick charge<sup>*2</sup></li> <li>LED: <b>2nd battery</b> orange <b>DC IN</b> green</li> </ul>
	No 2nd battery installed	<ul style="list-style-type: none"> <li>Operates</li> <li>No charge</li> <li>LED: <b>2nd battery</b> off <b>DC IN</b> green</li> </ul>	<ul style="list-style-type: none"> <li>No charge</li> <li>LED: <b>2nd battery</b> off <b>DC IN</b> green</li> </ul>

		Power on	Power off (no operation)
<b>AC adaptor not connected</b>	Main battery charge is above low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>Main battery</b> off <b>DC IN</b> off</li> </ul>	—
	Main battery charge is below low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>Alarm sounds<sup>*3</sup></li> <li>LED: <b>Main battery</b> flashes orange <b>DC IN</b> off</li> </ul>	—
	Main battery charge exhausted	Computer goes into Resume mode and shuts down <sup>*4</sup>	—
	No main battery installed	<ul style="list-style-type: none"> <li>No operation<sup>*5</sup></li> <li>LED: <b>Main battery</b> off <b>DC IN</b> off</li> </ul>	—
	2nd battery charge is above low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>LED: <b>2nd battery</b> off <b>DC IN</b> off</li> </ul>	—
	2nd battery charge is below low battery trigger point	<ul style="list-style-type: none"> <li>Operates</li> <li>Alarm sounds<sup>*3</sup></li> <li>LED: <b>2nd battery</b> flashes orange <b>DC IN</b> off</li> </ul>	—
	2nd battery charge are exhausted	Computer goes into Resume mode and shuts down <sup>*4</sup>	—
	No 2nd battery is installed	<ul style="list-style-type: none"> <li>No operation<sup>*6</sup></li> <li>LED: <b>2nd battery</b> off <b>DC IN</b> off</li> </ul>	—



**2nd battery indicator refers to the Secondary battery indicator.**

\*1 When the main battery is not charging

\*2 If a main battery and a secondary battery are installed, the alarm does not sound until the charge in both batteries falls below the low battery trigger point.

\*3 If a main battery and a secondary battery are installed, the computer does not enter Resume mode until the charge in both batteries is exhausted.

\*4 When no secondary battery is installed

\*5 When no main battery is installed



*When batteries are charged, the main battery is charged first. When it is fully charged, the secondary battery is charged.*

---

# Power indicators

The **Main battery**, **Secondary battery**, **DC IN** and **Power** indicators on the system indicator panel alert you to the computer's operating capability and battery charge status.

## Battery indicators

Check the **Main battery** indicator to determine the status of the main battery and the **Secondary battery** indicator to determine the status of the secondary battery. 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>Green</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 event occurs regardless of whether the power to the computer is on or off.*

## DC IN indicator

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

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

## Battery types

The computer has three types of batteries:

- Battery packs – main and secondary (option)
- Real Time Clock (RTC) battery

### Main battery

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



*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.*

The main battery recharges the RTC batteries. The main battery maintains the state of the computer when you enable Resume.



*When the computer is powered off in Resume mode, and the AC adaptor is not connected, the main battery pack and optional secondary battery pack supply power to maintain data and programs in memory. If the battery pack(s) is completely discharged, Resume does not function and the computer loses all data in memory.*

The following message appears when you turn on the power:



**WARNING: RESUME FAILURE.**  
**PRESS ANY KEY TO CONTINUE.**

---

## Secondary battery (option)

An optional secondary battery can be installed in the SelectBay to increase your battery operating time. Note the caution on Resume mode in the previous section *Main battery*.



*The secondary 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.*

---

## 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:



\*\*\* Bad RTC battery \*\*\*

Check system. Then press [F1] key . . . . .



*The computer's RTC battery is a nickel metal hydride (NiMH) 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.*

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## Care and use of the battery pack

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

### Safety precautions

1. Be very careful not to short-circuit the battery pack. Contacting both terminals with a metal object can cause injury, fire or damage to the battery pack.
2. Do not overcharge, reverse charge, mutilate or disassemble the battery. Any one of those actions could release toxic materials, hydrogen and/or oxygen or other electrolytic substances or cause an increase in the battery's surface temperature.
3. Do not expose the battery pack to fire; the battery pack could explode.
4. Battery packs contain toxic substances. Do not dispose of them with ordinary trash. Dispose of battery packs only in accordance with local ordinances. Always cover the metal terminals with insulating tape to avoid short circuits.
5. If the battery has leaked or been vented, it should be replaced immediately. Use protective gloves when handling a damaged battery.
6. When it becomes necessary to replace the main battery, it must be replaced only by an identical battery from the same manufacturer.
7. Do not expose the battery pack terminals to any metal object other than the computer contacts. Wrap it or place it in a plastic bag when transporting it.
8. When you install the battery pack, you should hear a click when it is seated properly.
9. Charge the battery pack only in the computer or in a battery charger designated as an approved option.
10. Reverse polarity should be avoided with all batteries. The main battery is designed so that it cannot be installed in reverse polarity.

---

## 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 Resume mode (so you don't lose data) and automatically turns off.

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** socket and plug the other end into a working outlet.

The **Battery** indicator glows orange when the battery is being charged. If the AC adaptor is connected before the main battery or the optional secondary battery is installed, the battery that is installed first will be charged first, otherwise, the main battery will be charged first.



*Use only the computer connected to an AC power source or the optional Toshiba Battery charger to charge the battery pack. Do not 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.

Battery type	Charging time (hours)	
	Power on	Power off
Main battery pack	2.5 to 6.5	2.2
Secondary battery pack	3.0 to 6.5	3.0
RTC battery	50	Doesn't charge

---

## Battery charging notice

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

- The battery is extremely hot or cold. To make sure 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.



*Once a battery pack is fully charged, it is recommended that you operate the computer only on battery power until the battery pack completely discharges. Doing so extends battery life and helps ensure accurate monitoring of battery capacity.*

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 shows green.

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

## Monitoring battery capacity

Remaining battery power can be monitored in the *Power* window of Power Properties of Windows 95 and in the *Power Save Modes* window in Power Saver of Windows 98.



*Wait at least 16 seconds after turning on the computer, installing/removing a battery or connecting/disconnecting an AC adaptor 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. If no battery is installed, N/A is displayed.*

*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 Extensions 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.*

---

## Maximising 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 to conserve battery power. This mode has the following options:
  - System Auto Off
  - Display Auto Off
  - LCD Brightness
  - Cooling Performance
  - CPU Speed
  - CPU Sleep Mode

See Chapter 7, [TSETUP and Passwords](#).

- How often and how long you use the hard disk, CD-ROM, DVD-ROM and the diskette 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 Resume 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</b>	5 days
<b>RTC battery</b>	1 month

## Extending battery life

To maximise the life of your battery pack:

- If you have extra battery packs, rotate their use.
- If you will not be using the system for an extended period, remove the battery pack.
- Disconnect the AC adaptor when the battery is fully charged. Overcharging makes the battery hot and shortens life.
- Store spare battery packs in a cool dry place out of direct sunlight.

## Replacing the battery pack

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

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



*When handling battery packs, be careful not to 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.*

*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.*

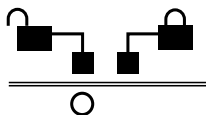
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---

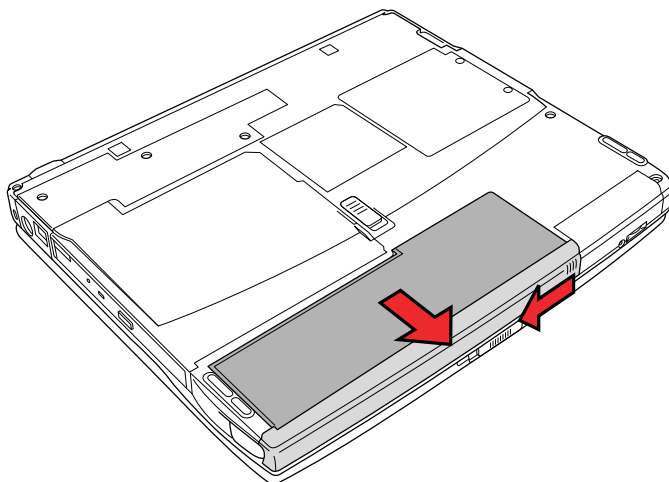
## Removing the battery pack

To replace a discharged battery pack, follow the steps below.

1. Save your work.
2. Turn the computer's power off. Make sure the **Power** indicator is off.
3. Remove all cables connected to the computer.
4. Turn the computer upside down with the front facing you and push the battery cover to the left to the unlock position. A dot on the battery cover should align with the unlock icon.



5. Pull out the battery pack forward to remove it.



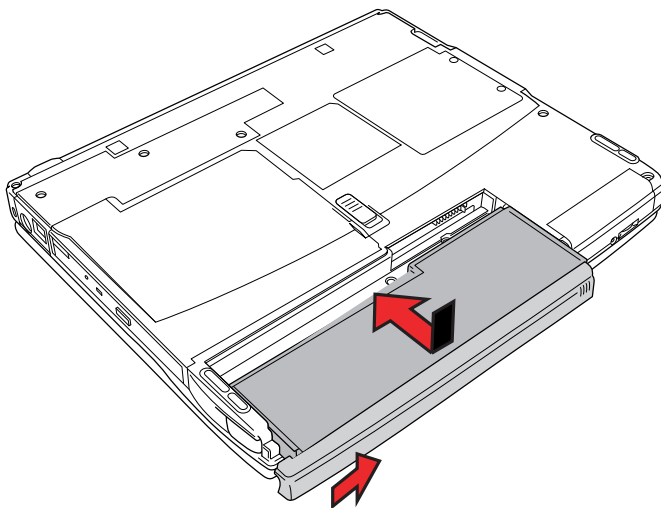
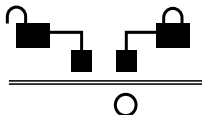
*Removing the battery pack*

---

## Installing the battery pack

To install a battery pack, follow the steps below.

1. Turn the computer's power off.
2. Make sure the battery cover is pushed to the left, then carefully insert the new or recharged battery pack.
3. Press firmly to ensure a good connection then push the cover into place. A dot on the battery pack cover should align with the lock icon.



*Securing the battery cover and lock*

---

## Starting the computer by password

If you registered a password as supervisor or user, you must enter it to start the computer. If you forget your user password, use the password service diskette. For more information about how to set a password and make a password service diskette, refer to the *Passwords* section in Chapter 7, **TSETUP and Passwords**.

To start up the computer with the password, follow these steps:

1. Turn on the computer as described in Chapter 3, **Getting Started**, and the following message appears:



Password =



*At this point, the hotkeys **Fn + F1** to **F5** do not work. They will function after you enter the password.*

2. Enter the password.
3. Press **Enter**. The computer displays the message below while it starts up.



Valid password entered, system is now starting up.



*If you have set a password and the computer boots by the alarm Power On function and Resume is on, the computer will start with the instant security function enabled. The password = message is not displayed; however, you must enter the password to use the computer.*

If you enter the password incorrectly, a buzzer sounds.



*If you enter the password incorrectly three times in a row, the computer shuts off. In this case, you must turn the computer back on to retry password entry.*

If you forget the password, follow these steps:

1. Insert the password service diskette in the drive. See the *Passwords* section in Chapter 7, **TSETUP and Passwords**, for details on how to create a password service diskette.



*If the computer is in Resume mode, the password service diskette will not work when you turn on the power. In this case, press the reset button.*

2. Press **Enter** and the following message appears.



Set Password Again? (Y/N)

Press **Y** to run the TSETUP program and set a new password.

Press **N** to restart the computer.



*The password service diskette must be inserted in drive A, otherwise the display will return to Password = . If you have inserted the diskette in drive A and the message still appears, the password service diskette is faulty. In this case, contact your dealer.*

*If the boot priority is set for the hard disk, press the reset button and hold down **F** to boot from the diskette drive.*

## Power-up modes

The computer has two operating modes: Boot mode and Resume mode. You can set the mode by pressing **Fn + F3** to activate the feature and, while holding down **Fn**, pressing **F3** again to change the mode. You can also select the mode by the TSETUP program. See Chapter 7, **TSETUP and Passwords**, for details.



*The power-up mode functions described in this section are similar to the Shutdown and Suspend (Standby) functions in Windows 95/98. Refer to your Windows documentation for details.*

### Boot mode

Boot mode is the standard operating mode for most computers.

In boot mode, you must always save your work and exit the application you're using before you turn the computer off. Any work you don't save before shutting the system off is lost.

#### **Starting the computer in boot mode**

Follow the steps below to turn on the computer in boot mode.

1. Turn on any peripheral devices connected to the computer.
2. If you have attached an external diskette drive, check that there is no diskette in the drive unless you want to boot from a diskette.
3. Press the power switch on the computer.

When the **Power** indicator lights and all disk activity has stopped, the computer is ready to begin work.

---

## Turning off the computer in boot mode

To turn off the computer in boot mode, follow the steps below.

1. Save your data to the hard disk or to a diskette.
2. Check the **Disk** indicator and SelectBay indicator to make sure all disk activity has stopped.



*Turning off the computer while it is accessing a disk could damage the disk, the drive or lose data.*

3. Turn off the computer. Make sure the **Power** indicator is out.
4. Turn off the power to any peripheral devices connected to the computer.

Do not turn the computer back on right away. Wait a few seconds.

## Resume mode

One of the computer's most useful features is Resume mode. This feature lets you turn the computer's power off without exiting your software application. When you turn the power on again, you can resume work where you left off, because the screen display is restored as you left it. This saves time and battery power.

With Resume enabled, the computer performs the following when you turn the system's power on:

- Confirms that resume mode is enabled.
- Restarts the hard disk.
- Restores the system, including data in memory, to its state immediately prior to shutdown.
- Restores the screen display as you left it.

Resume does not save your files to a physical disk. It maintains the information in memory so you can start your application without reloading it when you turn the computer on again. It is always a wise precaution, however, to save your work before you turn the computer off.

## Turning off the computer in Resume mode

To turn off the computer in Resume mode, follow the steps below.

1. Save your data to the hard disk or to a diskette.
2. Check the **Disk** indicator and **SelectBay** indicator to make sure all disk activity has stopped.



*Turning off the computer while it is accessing a disk could damage the disk, the drive or lose data.*

3. Turn off the computer. Make sure the **Power** indicator is out.
4. Turn off the power to any peripheral devices connected to the computer.

Do not turn the computer back on right away. Wait a few seconds.

---

## Starting the computer in Resume mode

To start the computer in Resume mode, follow the steps below.

1. Turn on any peripheral devices connected to the computer.
2. Press the power switch and hold it down until the **Power** indicator turns on.

The display will show the same screen that appeared when you turned off the power. If you experience any difficulties with Resume, refer to the sections Resume precautions and Resume error conditions, which follow in this chapter.

## Automatic enabling of Resume

The system automatically shuts down if the battery pack becomes completely discharged and the AC adaptor is not supplying power. When this occurs, the computer first enables **Resume** if you haven't already enabled it.

Follow the steps below to recover from an automatic shutdown:

1. Replace the battery pack or plug in the AC adaptor.
  2. Wait a few moments before you turn the power on again.
- If the backup battery did not completely discharge, the system operates as if it were not shut down.



*If you are unable to replace the battery pack or connect the AC adaptor to the system before the backup battery completely discharges, your data is lost.*

---

## Resume precautions

Remember these points when using Resume:

- Do not turn the power off if the **Disk**, **SelectBay** or **DVD-ROM** indicator is on.
- Do not remove the battery pack while the computer is on, unless the AC adaptor is powering the computer. If you do, the screen clears, power turns off, Resume fails and data in memory is lost.
- Do not turn power off while a printer, modem or serial device is connected and in operation.
- Resume may not work properly if you run programs that do not use the computer's Basic Input/Output System (BIOS). (For example, some game programs bypass the computer's BIOS.)

---

## Resume error conditions

If a problem occurs with **Resume**, the following message appears when you turn the computer on:



**WARNING: RESUME FAILURE.**

**PRESS ANY KEY TO CONTINUE.**

Press any key to restart the system. The computer reinitialises RAM and resets all soft keys.

The resume failure message may be caused by one or more of these conditions:

- The backup battery and the battery pack are completely discharged, and the system is not receiving power through the AC adaptor.
- You turned off the power while the system was accessing a disk drive.
- You removed the battery pack while operating the computer without the AC adaptor connected.
- You turned off the power while the system was sending or receiving data through a serial port or parallel port.
- You're running a program that does not use the computer's BIOS.

## Panel power on/off

You can set up your computer so that power turns on automatically when you open the display panel and turns off when you close it.

Refer to Chapter 7, **TSETUP and Passwords**, for an explanation of how to enable this convenient feature.



*If you have enabled the Panel power on/off function, and you are shutting the computer down in Suspend (Standby) mode, do not close the panel before the suspend function is completed. If you do so, Resume will not work.*

## System auto off

This feature turns the system off automatically if it is not used for a set duration.

Refer to Chapter 7, **TSETUP and Passwords**, for an explanation of how to set the duration.

---

## Auto power on

This feature lets you set a time for the system to turn on automatically.

Refer to Chapter 7, [TSETUP and Passwords](#), for an explanation of how to set the power on timing.

## Ring indicator power on

This feature lets the computer's power be turned on automatically when a call comes in from a remote modem. When an internal modem (option in some markets) or external modem connected to the computer's serial port receives a call from a remote modem, it sends a ring indicator power on signal to the computer. This feature does not work with a PC card modem.

Refer to Chapter 7, [TSETUP and Passwords](#), for an explanation of how to enable ring indicator power on.

# TSETUP and Passwords

This chapter explains how to use the TSETUP utility to configure your computer and how to set passwords. TSETUP is an MS-DOS-based program that provides similar functions to Hardware Setup and Toshiba Power Extensions (refer to the respective online manuals or help files). The following features, explained in this chapter, are not available in Hardware Setup: HDD Mode. The SYSTEM SETUP screen is displayed when you execute the file TSETUP.EXE, which is stored in the Windows subdirectory on your hard disk.



*If the supervisor password is set and you log onto the computer with the user password, you cannot access the TSETUP program.*

## TSETUP

When you configure the computer with TSETUP, the computer stores your selected values in memory that is backed up by the internal battery powered Real Time Clock (RTC).



*If the RTC battery fully discharges, configuration data is lost. A checksum error is displayed when you start the computer and the system configuration returns to default values. To charge the RTC battery, connect the AC adaptor and turn on the computer's power. The RTC battery does not charge when the computer is turned off.*

## Executing TSETUP

1. Select **Restart the computer in MS-DOS mode?** from the **Shut Down** window.
2. After the computer reboots in MS-DOS, type **TSETUP** and press **Enter**. TSETUP displays the **SYSTEM SETUP** screen.

The TSETUP screen is divided into two pages **SYSTEM SETUP (1/2)** and **SYSTEM SETUP (2/2)**.

SYSTEM SETUP (1/2)		ACPI BIOS version = x.xx
<b>MEMORY</b> Total = 65536 KB	<b>DISPLAY</b> Power On Display = Auto-Selected LCD Display Stretch = Disabled Multi Display Adapt.= Single Adapt. TV Config.	
<b>PASSWORD</b> Not Registered		
<b>BATTERY</b> Battery Save Mode = Full power		
<b>PERIPHERAL</b> Pointing Devices = Auto-Selected Ext Keyboard "Fn" = Disabled USB Legacy Emulation = Disabled Parallel Port Mode = ECP Hard Disk Mode = Enhanced IDE (Normal)	<b>OTHERS</b> Power-up Mode = Resume CPU Cache = Enabled Level 2 Cache = Enabled Processor Serial Number = Disabled  Auto Power On = Disabled Alarm Volume = High System Beep = Enabled Panel Power On/Off = Disabled	
<b>BOOT PRIORITY</b> Boot Priority = FDD->HDD->CD-ROM->LAN HDD Priority= Built-in HDD->Second HDD Power On Boot Select = Enable		

SYSTEM SETUP (2/2)		ACPI BIOS version = x.xx
<b>CONFIGURATION</b> Device Config. = All Devices	<b>PC CARD</b> Controller Mode = Auto-Selected	
<b>I/O PORTS</b> Serial = COM1 (3F8H/IRQ4) Built-in Modem = COM2 (2F8H/IRQ3) Parallel = LPT1 (378H/IRQ7/CH3)	<b>DRIVES I/O</b> Built-in HDD = Primary IDE (1F0H/IRQ14) Int Selectable Bay = Secondary IDE (170H/IRQ15)	
<b>PCI BUS</b> PCI BUS = IRQ11	<b>FLOPPY DISK I/O</b> Floppy Disk = (3F2H/IRQ6/CH2)	

↑↓↔: Select items   Space, BkSp: Change values   PgDn, PgUp: Change pages  
Esc: Exit without saving   Home: Set default values   End: Save changes and Exit

*The system setup screen*



*The **Panel Power On/Off** item appears only when the computer is in Resume mode.*

*The **Built-in Modem** item appears only when a modem is installed.*

---

## Changing values in the TSETUP menu

1. Press ⇐ and ⇒ to move between the two columns. Press ↑ and ↓ to move between items in a column.
2. Press either the space bar or **BkSp** to change the value.



*On either page, you can go directly to a specific group by pressing the first letter (highlighted) of the group's name. For example, press **B** to go to the **Battery** group.*

---

## Accepting changes and exiting SYSTEM SETUP

1. Press **End** to accept the changes you made.

If the changed item does not require the system to reboot, the following message is displayed:



Are you sure? (Y/N)

If the changed item requires the system to reboot, the following message is displayed:



Are you sure? (Y/N)

The changes you made will cause the system to reboot.

2. To make other changes, press **N**. Repeat the steps above.
3. To accept the changes, press **Y**.



*You can press **Esc** to quit at any time without saving changes. TSETUP asks you to confirm that you don't want to save your changes.*

---

## Default configuration

When you access TSETUP, the current configuration is displayed.

1. To show the default configuration, press **Home**.
2. To accept the default settings, press **End** and then press **Y**.



*When you execute the default setting, the following settings are not changed:*

- *Hard Disk Mode*
  - *Password*
  - *Write Policy*
-

---

## TSETUP options

The SYSTEM SETUP screen is divided into functionally related groups. This section describes each group and its options.



*Most functions described in this section can also be changed using Toshiba's Hardware Setup or the Toshiba Power Extensions program in Windows.*

### First page of TSETUP

#### **Memory**

This group displays the system's total memory.

#### **Password**

This option allows you to set or reset the user password for power on, instant and eject security.

<b>Registered</b>	The user password has been registered.
<b>Not registered</b>	The user password has not been registered.



*If the supervisor password has been registered, it must be entered to access this and other TSETUP functions as well as Hardware Setup.*

If the user password is registered, an option box will appear to let you enable or disable the eject password.

For details on setting the password, refer to the Passwords section later in this chapter.

---

## Battery

These options let you set battery save functions for optimum performance or battery power conservation.

### Battery Save Mode

This option is used to select **Full power**, **Low power** or **User Setting** of the **BATTERY SAVE OPTIONS**.

---

#### Full power

The following shows full power settings. (Default)

BATTERY SAVE OPTIONS	
Processing Speed	= High
CPU Sleep Mode	= Enabled
Display Auto Off	= 30Min.
HDD Auto Off	= 30Min.
System Auto Off	= Disabled
LCD Brightness	= Bright (W/Battery power) or Super-Bright (W/External power)
Cooling Method	= Performance

---

#### Low power

The following shows low power settings:

BATTERY SAVE OPTIONS	
Processing Speed	= Low
CPU Sleep Mode	= Enabled
Display Auto Off	= 03Min.
HDD Auto Off	= 03Min.
System Auto Off	= 30Min.
LCD Brightness	= Semi-Bright (W/Battery power) or Bright (W/External power)
Cooling Method	= Battery Optimized



*In boot mode, System Auto Off is not displayed.*

---

#### User Setting

This option, allows you to set the battery save parameters on the sub-window, **BATTERY SAVE OPTIONS**. When you select this option, the automatic setting feature (**Full power** or **Low power**) is disabled and the user-preferred parameters become effective.

---

For details on these settings, refer to Toshiba Power Extensions.

---

## Peripheral

This group of options determines how a number of internal and external devices work with your computer.

### Pointing Devices

Use this option to enable or disable the AccuPoint II when a PS/2 mouse is connected to the computer. Refer to Hardware Setup for details.

### Ext. Keyboard "Fn"

This item lets you set the Fn key equivalent when you are using an external keyboard. Refer to Hardware Setup for details.

### USB Legacy Emulation

Use this option to enable or disable USB Legacy Emulation. Refer to Hardware Setup for details.

### Parallel Port Mode

Use this option to set the parallel port mode. See Hardware Setup for details.

### Hard Disk Mode

Use this item to select the hard disk mode. The hard disk mode can be set only in TSETUP.



---

*Formats for Enhanced IDE and Standard IDE are different, so if you change the setting, you will have to reformat the hard disk for the appropriate setting.*

---

---

#### Hard Disk Mode

##### Enhanced IDE (Normal)

Select this mode when using MS-DOS, Windows for Workgroups, Windows 95 or OS/2™. (Default)

##### Standard IDE

Select this mode when using Novell® NetWare® or UNIX®. When this mode is selected, up to 504 MB is logically available even though the disk's capacity is larger than 504 MB.

##### No drive

HDD is not installed.

---

---

## ***Boot Priority***

Use this option to select the disk drive priority for boot up. Refer to Hardware Setup for details.

## ***Display***

This group of options lets you configure the computer's display. Refer to Hardware Setup for details on the settings.

## ***Others***

Whether or not you need to configure the computer with these options depends primarily on the kind of software or peripherals you use.

## ***Power-up Mode***

This option lets you choose between Resume and Boot mode.

## ***CPU Cache***

Use this feature to enable or disable the CPU cache and to set the write policy. For details on the settings, refer to Hardware Setup.

## ***Level 2 Cache***

Use this feature to enable or disable the level 2 cache. For details on the settings, refer to Hardware Setup.

## ***Processor Serial Number***

Use this feature to enable or disable the ability of a remote location to read your processor's serial number.

---

<b>Processor Serial Number</b>	<b>=</b>	<b>Disabled (Default)</b>
--------------------------------	----------	---------------------------

---

<b>Processor Serial Number</b>	<b>=</b>	<b>Enabled</b>
--------------------------------	----------	----------------

---

This item appears under the following conditions:

- A supervisor password is set, but a user password is not set.
- If a supervisor password and a user password are both set and the user password is used to log onto the computer, this item will appear if no restriction is placed on the user password.

---

## Auto Power On

This option lets you set a time and date for automatic power on and lets you enable or disable the ring indicator feature. **Ring Indicator** is displayed only when the Resume mode option is enabled and **Alarm Date Option** is displayed only when **Alarm Time** is enabled.

OPTIONS			
Alarm Time	=	00:00:00	
Alarm Date Option	=	Disabled	
Ring Indicator	=	Disabled	
Wake-up on LAN	=	Disabled	

**Alarm Time** is set in the sequence of hours and minutes. Seconds cannot be changed. **Alarm Date Option** is set in the sequence of month and day. If Alarm Date is set to Disabled, the computer will be powered on once when the set time is reached. Press  $\downarrow$  to move the cursor to the right and  $\uparrow$  to move the cursor to the left when you set the time.

## Alarm Volume

This option disables or sets the volume level of the alarm. Setting this option to off disables the computer's sound function for alarms. This option can also be set with hotkeys.

---

<b>Off</b>	disables alarm
------------	----------------

---

<b>Low</b>	sets the alarm volume to low
------------	------------------------------

---

<b>Medium</b>	sets the alarm volume to medium
---------------	---------------------------------

---

<b>High</b>	sets the alarm volume to high (Default)
-------------	---

---

When **Alarm Volume** is selected, the subwindow below is displayed to let you enable or disable certain functions.

ALARM VOLUME OPTIONS			
Low Battery Alarm	=	Enabled	
Panel Close Alarm	=	Enabled	

## System Beep

Use this feature to enable or disable the system beep.

## Panel Power On/Off

This option allows you to automatically turn your computer on or off by opening or closing the display panel. Refer to Toshiba Power Extensions for details.

This item appears when the power up mode is Resume.

---

## Second page of TSETUP

### **Configuration**

This option allows you to set the configuration method.

### **I/O Ports**

This option lets you specify the settings for the serial and parallel ports and the internal modem and sound system.

### **Serial**

This option allows you to set the COM level for the serial port.

The serial port interrupt request level (IRQ) and I/O port base address for each COM level is shown below.

COM level	I/O address	Interrupt level
COM1	3F8H	4 (Default)
COM2	2F8H	3
COM3	3E8H	4
COM3	3E8H	5
COM3	3E8H	7
COM4	2E8H	3
COM4	2E8H	5
COM4	2E8H	7
Not used		(Disables port)
Others		(Other settings made automatically by plug-and-play operating systems)



*If the setting for the serial port is the same as that for the built-in modem port, the built-in modem port is set to Not used.*

## Built-in Modem

This option allows you to set the COM level for the built-in modem port.



*If a built-in modem is not installed, this selection is not active.*

The built-in modem port interrupt request level (IRQ) and I/O port base address for each COM level is shown below.

COM level	I/O address	Interrupt level
COM1	3F8H	4
COM2	2F8H	3 (Default)
COM3	3E8H	4
COM4	2E8H	3
Not used		(Disables port)
Others		(Other settings made automatically by plug-and-play operating systems)



*If the setting for the built-in modem port is the same as that for the serial port, the serial port is set to Not used.*

### OPTION

2nd IRQ = Not Used (Default) IRQ5, IRQ7, IRQ10, IRQ11

## Parallel

Use the Windows 95 Device Manager to change these settings. Refer to your Windows 95 documentation. The Parallel Port field lets you set the I/O address for the parallel port and the Parallel Port Mode.

When the Parallel Port Mode (see settings below) is set to Standard Bi-directional, the options are:

LPT setting	I/O address	Interrupt level
LPT 1	378H	7
LPT 2	278H	5
LPT 3	3BCH	7
Not Used		(Disables port)
Others		(Other settings made automatically by plug-and-play operating systems)

When the Parallel Port Mode (see settings below) is set to ECP, the DMA channel can also be set to 1, 2 or 3. The default is 3.

LPT setting	I/O address	Interrupt level	DMA Channel
LPT 1	378H	7	3 (Default)
LPT 2	278H	5	3
LPT 3	3BCH	7	3
Not Used		(Disables port)	
Others		(Other settings made automatically by plug-and-play operating systems)	

### OPTION

DMA = Channel 1, Channel 3 (Default)

## PCI bus

This item displays the interrupt level for the CardBus in the computer. It is for information only and cannot be changed. It appears only in TSETUP.

PCI BUS = IRQ \*\* (Interrupt level is displayed)

If the system cannot assign an interrupt level to the PCI bus the display will read:

PCI BUS = IRQ Not Used



*In this case, the system will sound a warning beep when you connect the Expansion Station and turn on the computer. Also, the following on the Expansion Station cannot be used: PCI bus slots*

---

## ***PC Card***

This option lets you set the PC Card Controller mode. Refer to Hardware Setup for details.

## ***Drives I/O***

This item displays the installed hard disk drives and/or CD-ROM drives: internal standard, SelectBay or no drive. It appears only in TSETUP.

### ***Settings for Hard Disk Drive***

---

<b>Built-in HDD</b>	<b>= Primary IDE (1F0H/IRQ14)</b> (Computer HDD ready for use)
	<b>= No drive</b> (Computer HDD is not installed)
<b>Int SelectBay</b>	<b>= Secondary IDE (170H/IRQ15)</b> (Computer SelectBay HDD)

---

### ***Settings for DVD-ROM drive***

---

<b>Int SelectBay</b>	<b>= Secondary IDE (170H/IRQ15)</b> (Computer SelectBay DVD-ROM)
----------------------	---

---

## ***Floppy disk I/O***

This item displays the address, interrupt level and channel settings for the diskette drive. It appears only in TSETUP.

**Floppy disk = (3F2H/IRQ6/CH2)**

---

# Passwords

Three security levels are available: supervisor, user and hard disk drive. The supervisor password is provided for system managers or others who need to control the computer's settings. If you do not need to restrict access to the computer's settings by other users, it is better to register only a user password.

The following describes restrictions that apply to the user password mode when both supervisor and user passwords are registered. They do not apply if only the user password is registered.

## *User password log on*

The following restrictions apply when you log on with a user password:

<b>TSETUP</b>	No access
<b>Hardware Setup</b>	No access
<b>Processor Serial Number</b>	You cannot change the Processor Serial Number setting if you log on with a user's password that is restricted from making a change to this item.

## *Supervisor password log on*

The following restrictions apply when you log on with a supervisor password:

<b>Instant security</b>	User password will not provide access to the computer.
<b>Resume Mode</b>	User password will not provide access to the computer.



*The supervisor password will provide access to the computer from instant security or Resume mode even if the user password was used to log on to the computer.*

---

## How to set the passwords

This section describes how to set the supervisor and user password for power on and instant security. It also describes the hard disk password feature in a DOS environment and describes the hard disk password. All passwords except supervisor and hard disk passwords can be set using the Hardware Setup program.



*You can use either capital or small letters to enter the password. Please do not use any national specific characters.*

---

### Supervisor password

In Windows 95, the SVPW program works only in the MS-DOS environment. SVPW is stored in the Windows directory. To set the supervisor password, follow the steps below.

1. Go to the DOS prompt, type in **SVPW**, and press **Enter**.
2. If the password has not been registered, the following line will be displayed:



```
SUPERVISOR PASSWORD = Not Registered
Do you want to register the supervisor password
<Y/N>?
```

3. Press **Y** to enter a password. The following line will be displayed:



```
Enter Password --->
```

4. Enter a password of up to 10 characters. The character string you enter is displayed as a string of asterisks. For example, if you enter a password consisting of four characters, the display is shown as:



```
Enter Password ---> ****
```

5. Press **Enter**. The following message appears, allowing you to verify the password.



```
Verify Password --->
```

6. If character strings match, the password is registered and the display changes to:



```
SUPERVISOR PASSWORD = Registered
```

If they do not match, the following message appears:



```
Password verify error!
Do you want to retry <Y/N>?
```

Press **Y** to return to step 3. Press **N** to return to DOS.

---

## User password

To enter a user password, execute TSETUP, then:

1. Go to the **Password** item and press the **Space** or **BkSp** key to display the following prompt:



**Password =**

2. Enter a password of up to 10 characters. The character string you enter is displayed as a string of asterisks. For example, if you enter a password consisting of four characters, the display is shown as:



**Password = \*\*\*\***



*If you press **Enter** before entering the password, **Not registered** will appear on the display.*

3. Press **Enter**. The following message appears, allowing you to verify the password.



**Verify Password =**

4. If character strings match, the password is registered and the display changes to:



**Registered**

If they do not match, the following message appears along with a beep indicating you must repeat from step 2.



**Entry Error!!**

## Hard disk password

A hard disk password is available to prevent an unauthorised user from accessing a hard disk even if it is removed and installed in another computer. You will need a special utility, available from your Toshiba dealer, to enable or disable the hard disk password.

---

## How to reset the passwords

This section describes how to reset the supervisor and user password for power on and instant security.

### Supervisor password

1. Go to the DOS prompt, type in **SVPW**, and press **Enter**.
2. If the password has been registered, the following line will be displayed:



```
SUPERVISOR PASSWORD = Registered
Do you want to delete the supervisor password
<Y/N>?
```

3. Press **Y** to delete the password. The following line will be displayed:



```
Enter Password --->
```

4. Enter the currently registered password. The character string you enter is displayed as a string of asterisks. For example, if you enter a password consisting of four characters, the display is shown as:



```
Enter Password ---> ****
```

5. Press **Enter**. If character strings match, the password is registered and the display changes to:



```
SUPERVISOR PASSWORD = Not Registered
```

If they do not match, the following message appears:



```
Password verify error!
Do you want to retry <Y/N>?
```

Press **Y** to return to step 3. Press **N** to return to DOS.



*If you enter the password incorrectly three times, the screen will display:*  
**Access denied!!**

*You will not be able to access the password item in the TSETUP menu. In this case you must turn the power off and back on to retry the procedure.*

6. Follow the same procedures described in the earlier section, How to set the password, to set a new supervisor password.



*After you register or delete a supervisor password, if you press the reset switch before turning off the power, your latest supervisor password setting will be cancelled.*

---

## User password

To delete a user password, execute TSETUP, then:

1. Press the **Space** or **BkSp** key to display the following prompt:



Password =

2. Enter the currently registered password. The character string you enter is displayed as a string of asterisks.



Password = \*\*\*\*



*If you press **Enter** before entering the password, Registered will appear on the display.*

3. Press **Enter**. If the character string you enter matches the registered password, the password option is reset and the display changes to:



Not Registered

If they do not match, the following message appears along with a beep indicating you must repeat step 2.



Entry Error!!



*If you enter the password incorrectly three times, the screen will display:*

**Access denied!!**

*You will not be able to access the password item in the TSETUP menu. In this case you must turn the power off and back on to retry the procedure.*

4. Follow the same procedures described in the earlier section, How to set the password, to set a new user password.



*After you register or delete a user password, if you press the reset switch before turning off the power, your latest user password setting will be cancelled.*

---

## Enabling Hardware Setup and TSETUP access in user password mode

A switch on the supervisor's password command lets you enable or disable Hardware Setup and TSETUP access in user password mode.

1. Type **SVPW/U** at the DOS prompt and press **Enter**. One of the following sets of messages will be displayed:

- If TSETUP access is disabled (and other restrictions in effect):



```
USER PASSWORD MODE = Unable to run SETUP
Do you want to change the setting <Y/N>?
```

Select **Y** to enable TSETUP access (and remove other restrictions). The following message will appear:



```
USER PASSWORD MODE = Able to run SETUP
```

- If TSETUP access is enabled (and other restrictions disabled):



```
USER PASSWORD MODE = Able to run SETUP
Do you want to change the setting <Y/N>?
```

Select **Y** to disable TSETUP (and apply other restrictions). The following message will appear:



```
USER PASSWORD MODE = Unable to run SETUP
```

2. If you select **N** for either message, you will return to the DOS prompt.



---

*To prevent a user from using this switch to access TSETUP, the supervisor must copy the SVPW.exe file to a diskette and delete it from the hard disk.*

---

3. If the supervisor password is not registered, entering **SVPW /U** will display the following message:



```
Unable to change user password mode because
supervisor password is not registered.
```

---

## Making a password service diskette

If a user forgets the password, the password service diskette lets you bypass the password function. To make a password service diskette, you will need one 3 ½" 2DD or 2HD diskette that contains no data you want to keep.



*You cannot make a password service diskette for the supervisor password.*

Follow these steps:

1. Set the password as described in the previous section.
2. Insert a diskette in the 3 ½" diskette drive.
3. Press **End**.

If the changed item does not require the system to reboot, the following message is displayed:



Are you sure? (Y/N)

Insert password service disk if necessary.

If the changed item requires the system to reboot, the following message is displayed:



Are you sure? (Y/N)

The changes you made will cause the system to reboot.

Insert password service disk if necessary.

Password Service Disk Type? (1:2HD, 2:2DD)

4. Press **Y** and the following will be displayed:



Password Service Disk Type? (1:2HD, 2:2DD)

5. Select **1** for a high-density diskette or **2** for a double density diskette. After the password data is written, the diskette drive's indicator goes off and the following message is displayed:



Remove the password service disk, then press any key.

6. Remove the diskette.



*It is highly recommended that you make a password service disk. Otherwise, you will have to contact your dealer if you cannot remember the password. The password service diskette does not work when the computer is in Resume mode.*

---



*When a password service disk is made, the computer overwrites all the data on the diskette with password data. Make sure the diskette you insert does not contain any data you want to keep.*

---



*If your computer is protected by the Power on Password, when you turn the power on the following message appears:*

**password =**

*If the computer boots by the Auto Power On function and Resume is on, the computer will start with the instant security function enabled. The message above is not displayed.*

*In either case you have to enter the password. If you enter an invalid password three times in succession, the computer will shut down. You must turn the power back on to retry password entry.*

---

# Optional Devices

Optional devices can expand the computer's capabilities and its versatility. This chapter describes connection or installation of the following types of devices:

## ***Cards/memory***

- PC cards
- Memory modules

## ***Power devices***

- Additional battery pack
- Secondary battery pack
- Additional AC adaptor
- Battery charger

## ***Peripheral devices***

- Hard disk drive pack
- SelectBay HDD Adaptor II
- CD-ROM drive (selectable as standard)
- DVD-ROM drive (selectable as standard)
- NetDock Port Replicator
- Expansion Station
- Card Dock
- Parallel printer
- External monitor
- PS/2 mouse
- PS/2 keyboard
- Security lockInternal modem (not supported in some markets)

---

## PC cards

The computer is equipped with a PC card (PCMCIA) expansion slot that can accommodate two 5 mm Type II cards or one 10.5 mm Type III card. Any PC card that meets industry standards (manufactured by Toshiba or other vendor) can be installed. The slots support 16-bit PC cards, including PC Card 16's multi-function card and CardBus PC cards.

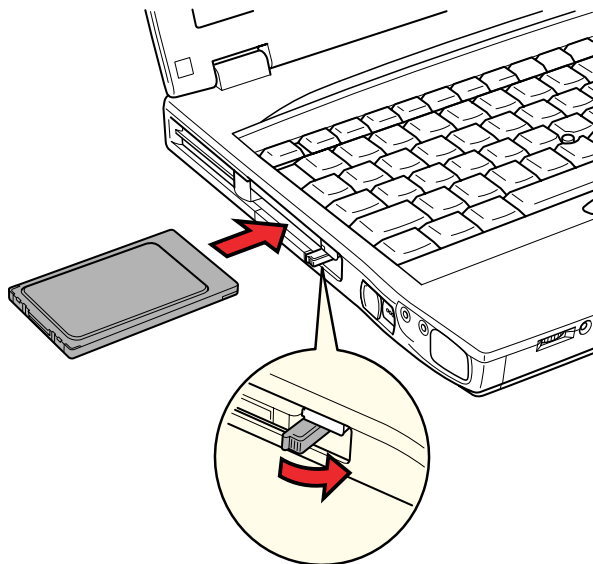
CardBus supports the new standard of 32-bit PC Cards. The bus provides superior performance for the greater demands of multimedia data transmission.

### Installing a PC card

Two PC card connectors are located one above the other on the left side of the computer. Both connectors are accessed from the same slot. You can install two Type II cards, one in each connector, or one Type III card in the bottom connector.

To install a PC card, follow the steps below.

1. Insert the PC card and press gently to ensure a firm connection. When the card is fully inserted, the eject button will pop out partially.
2. Pull the eject button out fully, then fold it down.



*Inserting a PC card*

3. To inhibit unauthorized removal of a card, secure the PC card lock as described later in this section.

After installing the card, check the configuration in the computer's Hardware Setup or TSETUP program to make sure it is appropriate for your card.

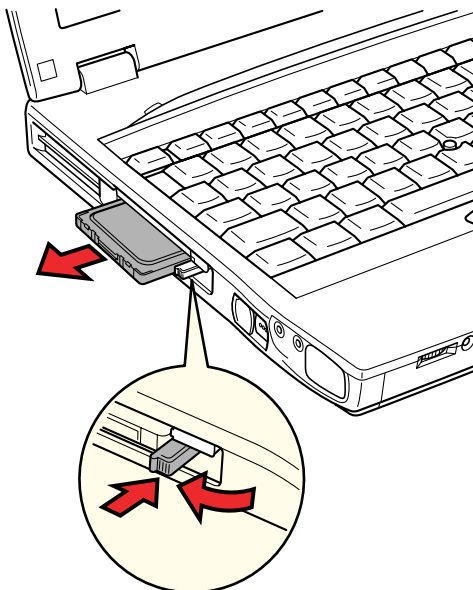
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## Removing a PC card



*Before you remove a PC card, refer to the card's documentation and to your operating system documentation for proper procedures and precautions.*

1. If the PC card lock is secured in the lock position, set it in the unlock position, as described later in this section.
2. Pull the eject button out so it is straight.
3. Push the eject button in to pop the card out slightly, then grasp the card and pull it out.



*Removing a PC card*

---

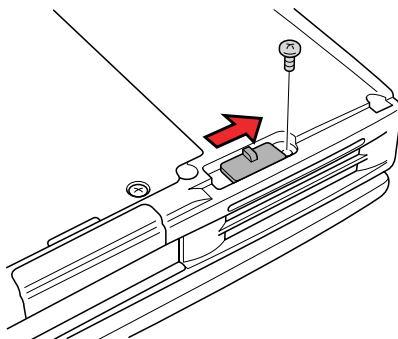
## Using the PC card lock

You can secure the PC card lock with a screw to inhibit unauthorized removal of PC cards from the computer.

### ***Locking the PC card slot***

To lock the PC card slot, follow the steps below.

1. When the computer is shipped, a screw secured the PC card lock in the unlocked position. Remove the screw.
2. Slide the PC card lock to the locked position. A metal tongue will cover the PC card slot.
3. Secure the screw.

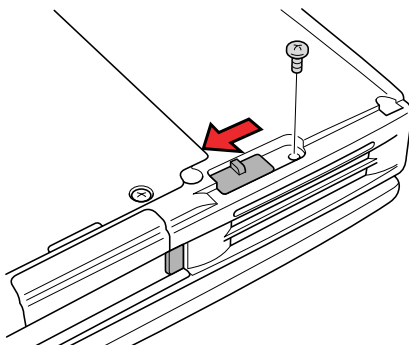


*Securing the PC card lock in the lock position*

### ***Unlocking the PC card slot***

To unlock the PC card slot, follow the steps below.

1. Remove the screw securing the PC card lock.
2. Slide the PC card lock to the unlocked position. The metal tongue covering the PC card slot will be retracted.
3. Secure the PC card lock with the screw.



*Securing the PC card lock in the unlock position*

---

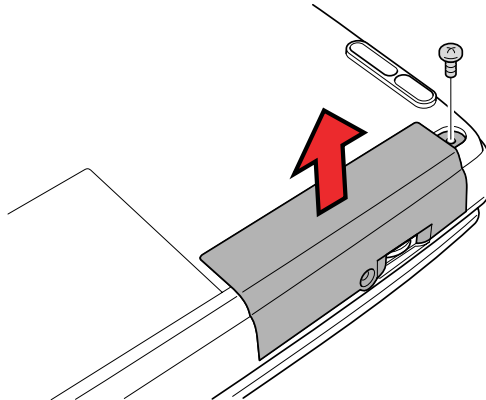
## Hard disk drive pack

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

### Removing the HDD pack

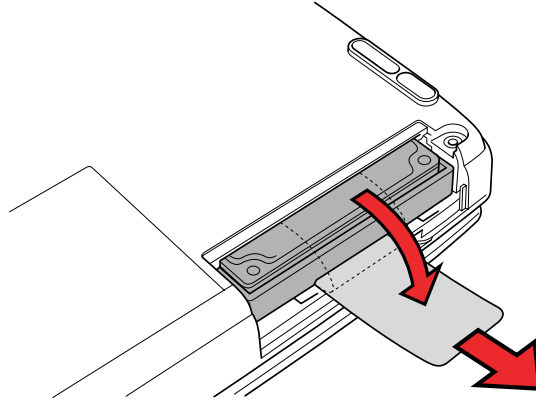
To remove the HDD pack, follow the steps below and refer to the following illustration.

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. Remove the main battery and optional secondary battery.
4. Turn the computer upside down remove the HDD cover.
5. Two small rows of ridges mark two 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 HDD slot cover*

- 
7. Pull out the HDD's plastic tab and pull it straight out to remove the HDD.

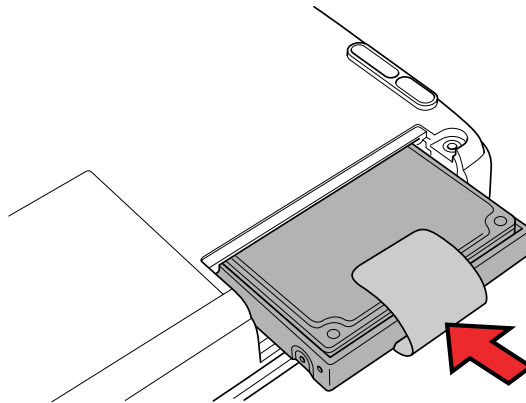


*Removing the HDD pack*

## Installing the HDD pack

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

1. Insert the HDD into the slot.
2. Fold over the plastic tab so that it goes into the HDD slot. Press to ensure a firm connection.



*Installing the HDD pack*

3. Seat the cover and press down until the latches click into place.
4. Secure the cover with one screw.

## Memory expansion

You can install additional memory in the computer's memory module socket to increase the amount of RAM.



*A 64 MB or 128 MB memory module is preinstalled in slot A. You can install an expansion memory module in slot B; however, you cannot operate the computer with a module installed in slot B only.*



*Only memory modules with the following parts numbers can be installed:*

PA3004U-1M06: 64 MB

PA3005U-1M12: 128 MB

*Memory modules designed for earlier model computers can be physically installed, but they will not work. In this case, a warning beep will sound for one second and the computer will hang up. The following message will also be displayed: Please remove the incompatible memory module in Slot X (X represents A or B). Remove the memory module if it is not listed above. Also, refer to Chapter 9, [Troubleshooting](#).*

## Installing the memory module

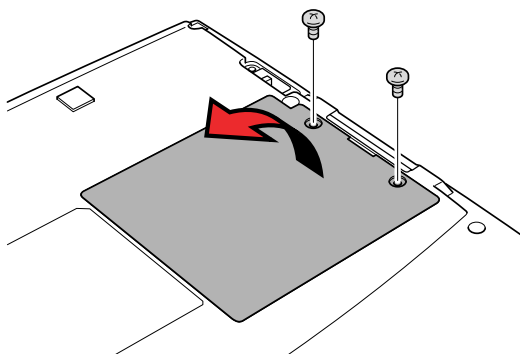
To install a memory module, make sure the computer is in Boot mode then:

1. Turn the computer off.



*Do not try to install a memory module with the computer turned on. You can damage the computer and the module.*

2. Remove all cables connected to the computer and turn the computer upside down.
3. Remove the main battery and optional secondary battery.
4. Remove two screws securing the memory module cover.
5. Lift off the cover.

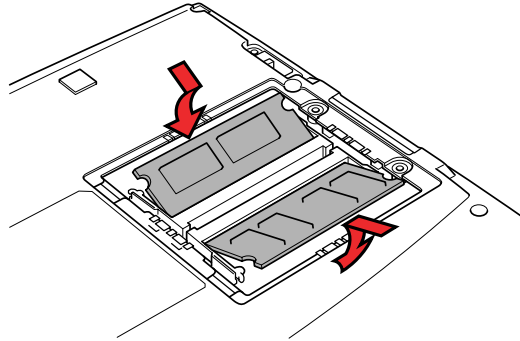


*Removing the cover*

6. Insert the memory module into the connector on the computer. Press the module carefully and firmly to ensure a solid connection.
7. Push the module down so that it lies flat and is secured by two latches.



*Do not touch the connectors on the memory module or on the computer. Debris on the connectors may cause memory access problems.*



*Inserting the memory module*

8. Seat the cover and secure it with two screws.
9. When you turn the computer on, it should automatically recognise the total memory capacity. Use the Hardware Setup or TSETUP program to verify that the added memory is recognised. If it is not recognised, check the module's connection.

## Removing the memory module

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

1. Turn the computer off.



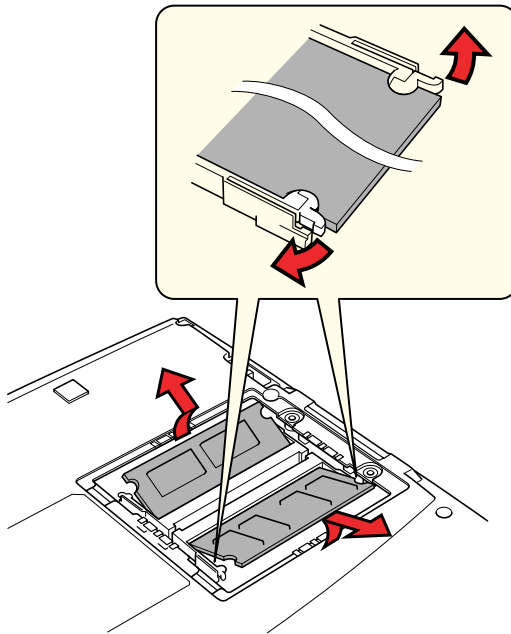
*Do not try to remove a memory module with the computer turned on. You can damage the computer and the memory module.*

2. Remove all cables connected to the computer and turn the computer upside down.
3. Remove the main battery and optional secondary battery.
4. Remove two screws securing the memory module cover.
5. Lift off the cover.
6. Use a slender object such as a pen to press two latches on either side of the memory module to the outside. The memory module will pop up.

7. Grasp the memory module by the sides and pull it out.



*Do not touch the connectors on the memory module or on the computer. Debris on the connectors may cause memory access problems.*



*Removing the memory module*

8. Seat the cover and secure it with three screws.

## Additional battery pack

You can increase the portability of the computer with additional battery packs. If you're away from an AC power source and your battery is running low, you can replace it with a freshly charged battery. See Chapter 6, [Power and Power-Up Modes](#).

## Secondary battery pack

You can install a secondary battery pack in the SelectBay, thus doubling the computer's battery operating capacity. The secondary battery pack is installed in the SelectBay in the same manner as other modules. See Chapter 4, [Operating Basics](#) for installation procedures. See Chapter 6, [Power and Power-Up Modes](#), for information on monitoring secondary battery operations.

---

## Additional AC adaptor

If you frequently carry the computer to different sites such as your home and office, having an AC adaptor at each location reduces the weight and bulk of your load.

## Battery charger

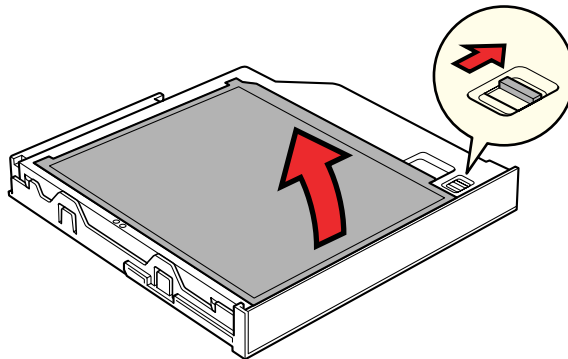
The battery charger provides a convenient way to charge main battery packs and secondary battery packs without requiring the use of your computer. The battery charger has two sockets: one for a main battery and one for a secondary battery. The batteries are charged one after the other in succession.

## SelectBay HDD Adaptor II

A 6.0 billion bytes (5.6 GB), 12.07 billion bytes (11.24 GB) or 18.15 billion bytes (16.90 GB), integrated, 2 ½" HDD is available for installation in the SelectBay.

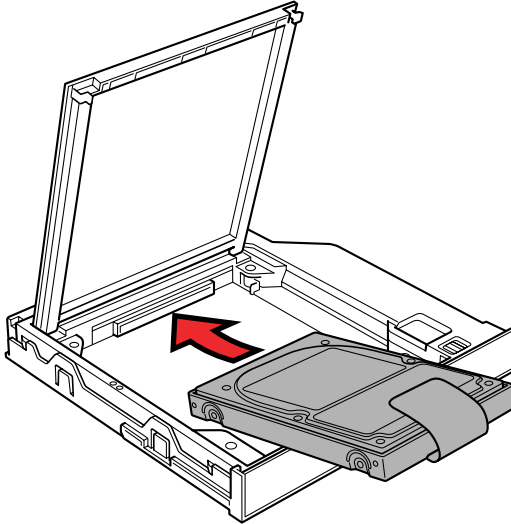
To install an HDD in the SelectBay HDD Adaptor II follow the steps below.

1. Slide the lock to the unlock position and open the lid.



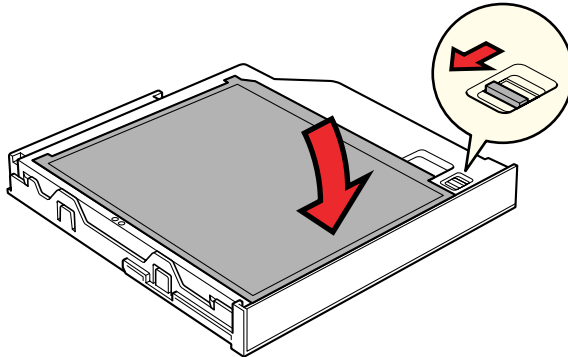
*Opening the lid*

- 
2. Insert the HDD and push forward to ensure a firm connection.



*Installing the HDD*

3. Close the lid and slide the lock to the lock position.



*Closing the lid*

For details on installing the SelectBay HDD Adaptor II in the SelectBay, refer to Chapter 4, [Operating Basics](#).

---

## CD-ROM drive

A full-size, maximum 24-speed CD-ROM drive module may be selected as a standard component or an option. Refer to Chapter 1, [Introduction](#), for details.

## DVD-ROM drive

A full-size, maximum 6-speed DVD-ROM drive may be selected as a standard component or an option. An audio-visual adaptor that connects to the MPEG2 port provides a video-out port.



*This feature is not available for computers configured with Windows NT.*

## NetDock Port Replicator

The NetDock Port Replicator has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T) and Fast Ethernet LAN (100 megabits per second, 100BASE-Tx). It also supports Intel LANDesk® Client Manager for hardware troubleshooting and resource management.

In addition to the ports available on the computer, the NetDock Port Replicator provides, audio line-out jack, line-in jack and separate ports for PS/2 mouse and PS/2 keyboard. The NetDock Port Replicator connects directly to the docking interface on the back of the computer. The AC adaptor connects the NetDock Port Replicator to a power source.



*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.*



*You must connect the AC adaptor before you connect to a LAN.*

Ports for connecting the following devices are available on the NetDock Port Replicator.

- One RJ45 LAN jack
- External monitor
- Parallel printer
- Serial devices
- PS/2 mouse
- PS/2 keyboard
- DC IN socket
- Security lock slot
- Audio line-in, line-out jacks
- Universal Serial Bus (two)

---

## Expansion Station

You can connect the NetDock Port Replicator to an Expansion Station, which provides two PCI card slots ( $\frac{1}{2}$  and  $\frac{3}{4}$  size), a 5" drive bay slot and a 3.5" HDD slot. The Expansion Station's 5" drive slot can accommodate the same IDE modules (with an adaptor) as the computer's SelectBay. It cannot accommodate a diskette drive module. A different adaptor is required to install a 2.5" HDD module in the 3.5" HDD slot.

- The following slots and bays are available:
- Two PCI card slots (PCI 2.2 standard) ( $\frac{1}{2}$  size and  $\frac{3}{4}$  size)
- 5" drive bay (accommodates conventional devices or SelectBay IDE modules with an adaptor)
- 3.5" bay (accommodates HDDs, including 2.5" HDDs with an adaptor)



*The computer cannot be booted from an IDE device in the Expansion Station. When you install or remove a PCI card, be sure to disconnect the AC adaptor.*

---

## CardDock

In addition to the ports available on the computer, a CardDock provides audio line-in and line-out jacks and separate ports for PS/2™ mouse and PS/2 keyboard. CardDock connects directly to the docking interface port on the back of the computer so no cabling is necessary. The AC adaptor connects the CardDock to a power source.

The following ports and connections are available on the CardDock.

- External monitor
- Parallel printer
- Serial port
- PS/2 mouse
- PS/2 keyboard
- DC IN socket
- Security lock
- Audio line-in, line-out
- Universal Serial Bus (two)
- PC card slot

---

## Parallel printer

You can connect any standard Centronics-compatible parallel printer to your computer. All you need is an IBM PC parallel printer cable. Your dealer can supply one or you can purchase one at most computer stores.

The cable's connectors are designed so that it is impossible for you to connect them incorrectly. You can also connect a parallel printer to an optional NetDock Port Replicator. To connect a printer, follow these steps:

1. Turn off the computer.
2. Insert one end of the cable into the computer's parallel port.
3. Tighten the screws that fasten the cable connector to the computer's parallel port.
4. Insert the other end of the cable into the printer's parallel connector.
5. Fasten the connector to the printer with the clips on the parallel port.
6. Turn on the printer.
7. Turn on the computer.
8. Start the Hardware Setup program. Refer to the Utilities section in Chapter 1, [Introduction](#).
9. Select the **Parallel/Printer** tab from the **Toshiba Hardware Setup** window.
10. Set the mode to **ECP** and press **OK**.
11. Choose **Reboot** for the change to take effect.

## External monitor

An external analog monitor can be connected to the external monitor port on the computer or on an optional NetDock Port Replicator. The computer supports VGA and Super VGA video modes. To connect a monitor, follow the steps below.



*The Resume feature can be used with an external monitor. Simply enable Resume and the computer will maintain the data as it is displayed on the external monitor.*

1. Turn the computer off.
2. Connect the monitor 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 recognises the monitor and determines whether it is colour or monochrome.

You can use the Hardware Setup or TSETUP program to choose either **Auto-Selected** and **Simultaneous** displays.

If you have selected **Simultaneous** under the **Display** options of the Hardware Setup or TSETUP program, both the external monitor and the internal LCD will be active when you turn on the computer. If **Auto-Selected** is chosen, only the external monitor will be active.

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 hotkeys to change the display setting.

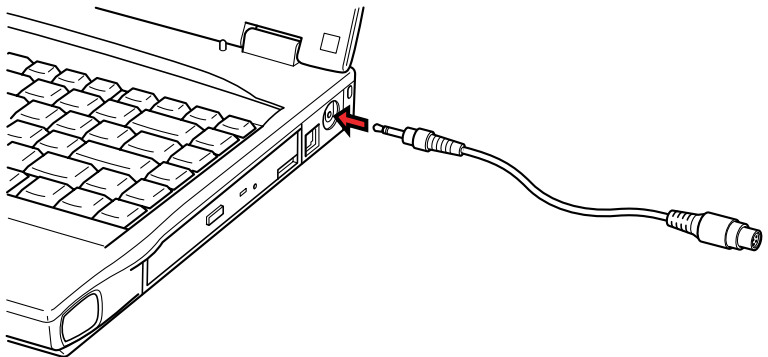


*Simultaneous display will not work if the external monitor, or other device such as a projector, supports only VGA mode (640 x 480). This is because the computer operates in the higher resolution Super VGA (800 x 600) or XGA (1024 x 768). In this case, choose **Auto-Selected** in Hardware Setup or press **Fn + F5** to switch to the external display.*

## Television

A television can be connected to the video out port on the computer. To connect a television, follow the steps below. Also refer to Chapter 7, [TSETUP and Passwords](#), for details on setting the type of TV signal and selecting the television as an output device.

1. Turn the computer off.
2. Use a composite video cable to connect the television to the video out port.



*Connecting a television*

3. Turn the television on.
4. Turn the computer on.

---

## PS/2 mouse

Use the PS/2 mouse/keyboard port on the computer or optional NetDock Port Replicator to connect a PS/2 mouse.

Make sure the mouse has a cable with a 6-pin connector for the PS/2 mouse port. If the mouse's cable is not compatible, see your dealer for an adaptor cable.



*How the computer treats the connection to a PS/2 mouse depends on the setting for **Pointing Devices** under the **PERIPHERAL** options in the Setup program. If **Simultaneous** is selected, you can operate both the AccuPoint II and the PS/2 mouse. If **Auto Selected** is chosen, the AccuPoint II is disabled when a PS/2 mouse is connected.*

To connect a PS/2 mouse:

1. Turn the computer off.
2. Connect the PS/2 mouse to the PS/2 mouse/keyboard port on the computer or the mouse port on the NetDock Port Replicator or Expansion Station, pressing gently to assure a firm connection.
3. Turn on the computer.

To disconnect the mouse, turn off the computer and pull out the mouse connector.

Consult your mouse manual for instructions on how to install necessary software.

## PS/2 keyboard

Use the PS/2 mouse/keyboard port on the computer or optional NetDock Port Replicator to connect a PS/2 keyboard. When an external keyboard is connected, you can use both the external keyboard and the computer's internal keyboard. To connect a PS/2 keyboard:

1. Turn the computer off.
2. Plug the PS/2 keyboard connector into the PS/2 mouse/keyboard port on the computer or the keyboard port on the optional NetDock Port Replicator or Expansion Station, pressing gently to assure a firm connection.
3. Turn on the computer.

To disconnect the keyboard, turn off the computer and pull out the keyboard connector.

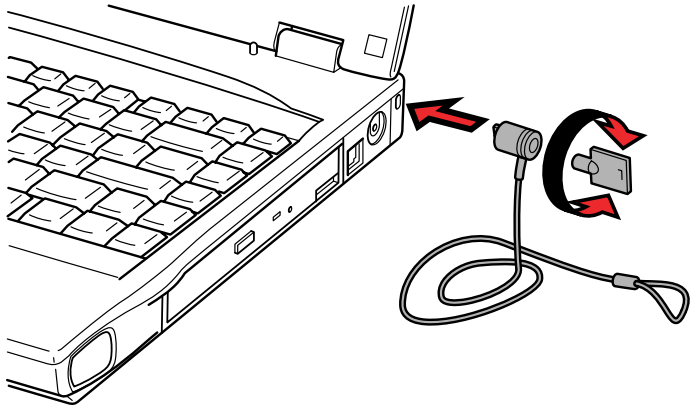
---

## Security lock

Security locks enable you to anchor your computer, an optional NetDock Port Replicator to a desk or other heavy object to help prevent unauthorized removal of the computer, NetDock Port Replicator or Expansion Station.

The computer has a security lock slot on the right side. Attach one end of a cable to a desk and the other end to the security lock slot.

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



*Security 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 recognise 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 recognises 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 diskette or CD/DVD-ROM is correctly inserted and that the diskette'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.

## Analysing 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, diskette drives, hard disk drive, printer, 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? Print a copy of the screen if you have a printer attached. 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 icons light? Which ones? What colour are they? Do they stay on or blink? Write down what you see.
- Do you hear any beeps? How many? Are they long or short? Are they high pitched or low? Is the computer making any unusual noises? Write down what you hear.

Record your observations so you can describe them to your dealer.

---

## Software

The problems may be caused by your software or diskette. If you cannot load a software package, the media (usually a diskette) may be damaged or the program might be corrupted. Try loading another copy of the software.

If an error message appears while you are using a software package, check the software documentation. These documents usually include a problem solving section or a summary of error messages.

Next, check any error messages in the OS documentation.

## Hardware

If you cannot find a software problem, check your hardware. First run through the items in the preliminary checklist above. If you still cannot correct the problem, try to identify the source. The next section provides checklists for individual components and peripherals.

# Hardware and system checklist

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

- |                    |                    |
|--------------------|--------------------|
| ■ System start-up  | ■ Infrared port    |
| ■ Self Test        | ■ Printer          |
| ■ Power source     | ■ AccuPoint II     |
| ■ Password         | ■ PS/2 mouse       |
| ■ Hotkeys          | ■ Serial mouse     |
| ■ Keyboard         | ■ PC card          |
| ■ LCD panel        | ■ External monitor |
| ■ Hard disk drive  | ■ Sound system     |
| ■ CD/DVD-ROM drive | ■ TV output signal |
| ■ Diskette drive   | ■ USB              |
| ■ Hibernation      | ■ Memory Expansion |

## 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:



In Touch with Tomorrow  
TOSHIBA

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 Hardware Setup or TSETUP program, the computer tries to load first from drive A then from drive C, or first from drive C then from drive A.

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 Toshiba 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 as well as PC card and memory module connections. If the test fails again, contact your dealer.

If the following message is displayed, turn off the computer, lock the SelectBay lock and turn the power back on.



SelectBay lock key is unlocked. Please power off the machine and lock the SelectBay lock key, then power on.

## Power

When the computer is not plugged into an AC adaptor, the battery pack is the primary power source. However, your computer has a number of other power resources, including intelligent power supply, Real Time Clock battery and Backup battery. These resources are interrelated and any one could affect apparent power problems. This section provides check lists for the AC adaptor and the main battery. If you cannot resolve a problem after following them, the cause could lie with another power resource. In such case, contact your dealer.



*A memory module must be installed in slot A to start up the system. It will not start if no memory is installed or if a module is installed in slot B only.*

---

## Power switch

If the SelectBay lock is set to the unlock position you cannot turn on the computer. Refer to Chapter 4, [Operating Basics](#), for more information.

Problem	Procedure
The computer does not turn on when you press the power switch	<p>Make sure the SelectBay lock is set to the lock position and try again to turn on the computer.</p> <p>If the computer still does not turn on, refer to the sections <i>Overheating power down</i>, <i>AC power</i> and <i>Battery</i> below.</p>

## Overheating power down

If the computer's internal temperature becomes too high, the computer will automatically enter Resume mode and shut down.

Problem	Procedure
Computer enters Resume mode and shuts down	<p>Leave the computer off until its interior reaches room temperature.</p> <p>If the computer has reached room temperature and still does not start, or if it starts but shuts down quickly contact your dealer.</p>

## 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 and Power-Up Modes](#), for more information.

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

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## 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 see Chapter 6, [Power and Power-Up Modes](#).

Problem	Procedure
Battery doesn't power the computer	<p>The battery may be discharged. Connect the AC adaptor to charge the battery.</p> <p>If the system fails to start up by the Alarm Power On, the battery may be low. Connect the AC adaptor to start up the system and charge the battery.</p>
Battery doesn't charge when the AC adaptor is attached (Battery indicator should glow orange)	<p>If the battery is completely discharged, it will not begin charging immediately. Wait a few minutes.</p> <p>If the battery still does not charge, make sure the outlet is supplying power. Test it by plugging in an appliance.</p> <p>Check if 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> <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.</p> <p>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>
Battery doesn't power the computer as long as expected	<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 Power Saver or TSETUP. Consider using a power saving mode.</p>

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## Password

If you forgot your password, you can use your password service diskette to start the computer. If you did not make a password service diskette or if it doesn't work, see your dealer.

Problem	Procedure
Cannot enter password	Refer to the Passwords section in Chapter 7, <a href="#">TSETUP and Passwords</a> .

## Hot keys

Refer to Chapter 5, [The Keyboard](#), for information on using hotkeys. Make sure the operation is correct and try a few hotkey combinations.

Problem	Procedure
Hotkeys do not work	<p>If you are using an external keyboard, make sure the External Keyboard <b>Fn</b> key is set to the combination you are using.</p> <p>If you are still unable to use the hotkeys, consult your dealer.</p>

## Keyboard

Keyboard problems can be caused by your setup configuration. For more information refer to Chapter 5, [The Keyboard](#), and Chapter 7, [TSETUP and Passwords](#).

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	<p>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.</p> <p>If you are still unable to use the keyboard, consult your dealer.</p>

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## LCD panel

Apparent LCD problems may be related to the computer's setup. Refer to Chapter 7, [TSETUP and Passwords](#), for more information.

Problem	Procedure
Lines appear broken	Check if you are in DOS mode. In DOS, lines may appear broken, because of the LCD screen's higher resolution. The Windows display should appear normal.
No display	<p>Press hotkeys <b>Fn + F5</b> to change the display priority, to make sure it is not set for an external monitor.</p> <p>Make sure instant security was not activated. Try entering your password, if you have one registered. Or, turn the power off and back on to clear instant security.</p>



*Pressing the reset button will also clear instant security. But if the computer is in Resume mode, your data will not be saved.*

Problems above remain unresolved or other problems occur	<p>Refer to your software's documentation to determine if the software is causing the difficulty.</p> <p>Run the diagnostic test.</p> <p>Contact your dealer if the problems continue.</p>
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## Hard disk drive

Refer to Chapter 7, [TSETUP and Passwords](#), for more information.

Problem	Procedure
Computer does not boot from hard drive	<p>Insert a system diskette and reboot.</p> <p>There may be a problem with your operating system files. Refer to your OS documentation.</p>
Slow performance or disk errors	<p>Your files may be fragmented. Run SCANDISK and defragmenter to check the condition of your files and disk. Refer to your OS documentation or online HELP for information on running SCANDISK and the defragmenter.</p> <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>

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## CD-ROM drive

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

Problem	Procedure
You cannot access a CD in the drive	<p>Make sure the drive's drawer is securely closed. Press gently until it clicks into place.</p> <p>Open the drawer and make sure the CD is properly seated. It should lie flat with the label facing up.</p> <p>A foreign object in the drawer could block laser light from reading the CD. Make sure there is no obstruction. Remove any foreign object.</p> <p>Check whether the CD is dirty. If necessary, wipe it with a clean cloth dipped in water or a neutral cleaner. See the CD care section in Chapter 4 for details on cleaning.</p> <p>Check your config.sys and autoexec.bat files to make sure they have the necessary drivers and execution lines.</p>
Some CDs run correctly, but others do not	<p>The software or hardware configuration may be causing a problem. Make sure the hardware configuration match's your software's needs. Check the CD's documentation.</p> <p>Check the type of CD you are using. The drive supports audio CDs, photo CDs, ISO 9660 and CD plus.</p> <p>If problems persist, contact your dealer.</p>

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## DVD-ROM drive

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

Problem	Procedure
You cannot access a DVD in the drive	<p>Make sure the drive's drawer is securely closed. Press gently until it clicks into place.</p> <p>Open the drawer and make sure the DVD is properly seated. It should lie flat with the label facing up.</p> <p>A foreign object in the drawer could block laser light from reading the DVD. Make sure there is no obstruction. Remove any foreign object.</p> <p>Check whether the DVD is dirty. If it is, wipe it with a clean cloth dipped in water or a neutral cleaner. See the CD/DVD care section in Chapter 4, <a href="#">Operating Basics</a>, for details on cleaning.</p> <p>Check the SelectBay lock on the bottom of the computer. It should be in the lock position.</p> <p>Check TSETUP, if DVD-ROM is not displayed as the SelectBay module, remove the DVD-ROM drive and reinsert it.</p>
Some DVD/CDs run correctly, but others do not	<p>The software or hardware configuration may be causing a problem. Make sure the hardware configuration matches your software's needs. Check the DVD/CD's documentation.</p> <p>Check the type of DVD/CD you are using. The drive supports:</p> <p><b>DVD-ROM:</b> DVD-ROM, DVD-Video</p> <p><b>CD-ROM:</b> Audio CD, Photo CD, ISO 9660, CD-EXTRA, CD-R (read only), CD-Rewritable (read only)</p> <p>Check the region code on the DVD. It must match that on the DVD drive. Region codes are listed in the DVD-ROM drive section in Chapter 2, <a href="#">The Grand Tour</a>.</p>
DVD does not play correctly in an optional Expansion Station	<p>Some video discs might not play properly in a Expansion Station. Play the disc in the DVD-ROM drive installed in the computer.</p> <p>If problems persist, contact your dealer.</p>

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## Diskette drive

For more information on the optional diskette drive, refer to Chapter 4, [Operating Basics](#).

Problem	Procedure
Drive does not operate	<p>There may be a faulty cable connection if you are using an external drive. Check the connection to the computer and to the drive.</p> <p>Check the SelectBay lock on the bottom of the computer. It should be in the lock position.</p> <p>Check TSETUP, if Diskette Drive is not displayed as the SelectBay module, remove the diskette drive and reinsert it.</p>
Some programs run correctly, but others do not	<p>The software or hardware configuration may be causing a problem. Make sure the hardware configuration matches your software's needs.</p>
You cannot access the internal/external 3 1/2" diskette drive	<p>Try another diskette. If you can access this diskette, the original diskette (not the diskette drive) is probably causing the problem.</p> <p>If problems persist, contact your dealer.</p>

## Infrared port

Refer also to the documentation for your IrDA compatible device and related software.

Problem	Procedure
Infrared devices do not work as expected	<p>Make sure there is no obstruction blocking communication between the computer and the target device.</p> <p>If problems persist, contact your dealer.</p>

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## Printer

Refer also to the printer sections in Chapter 8, [Optional Devices](#), and to the troubleshooting and other relevant sections in your printer and software documentation.

Problem	Procedure
Printer does not turn on.	Check that the printer is connected to an electric outlet. Make sure the outlet is supplying power by plugging in an appliance.
Computer/printer do not communicate	<p>Make sure the printer is turned on and is online (ready to use).</p> <p>Inspect the cable connecting the printer to the computer for damage. Make sure it is securely connected.</p> <p>A parallel printer connects to the parallel port and a serial printer to the RS-232C serial port. Make sure the ports are configured correctly.</p> <p>Make sure your software is configured to recognise the printer. Check your printer and software documentation.</p>
Printer error	<p>Check your printer documentation.</p> <p>If problems persist, contact your dealer.</p>

## Pointing device

If you are using a PS/2 or serial mouse, also refer to Chapter 8, [Optional Devices](#), and to your mouse documentation.

### *AccuPoint II*

Problem	Procedure
On-screen pointer does not respond to AccuPoint II operation	<p>If a PS/2 or serial mouse is connected, check the Hardware Setup or TSETUP program. The <b>Pointing Device</b> option should be set to <b>Simultaneous</b> to use both the AccuPoint II and an external mouse.</p> <p>If problems persist, contact your dealer.</p>

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## **PS/2 mouse**

<b>Problem</b>	<b>Procedure</b>
On-screen pointer does not respond to PS/2 mouse operation	<p>Check that the PS/2 mouse cable's 6-pin connector is firmly connected to the mouse/keyboard port.</p> <p>You may have connected the mouse after turning the computer on. Turn off the computer, make sure the mouse is firmly connected and turn the computer back on.</p> <p>Is your software configured to recognise the mouse? Check the software documentation.</p> <p>If problems persist, contact your dealer.</p>

## **Serial mouse**

<b>Problem</b>	<b>Procedure</b>
On-screen pointer does not respond to serial mouse operation	<p>Check for a firm connection between the computer's serial port and the cable's 9-pin connector.</p> <p>Did you connect the mouse before turning on the computer?</p> <p>Is the <b>Serial port</b> option in Hardware Setup or TSETUP program set properly?</p> <p>Is your software configured to recognise the mouse? Check the software documentation.</p> <p>If problems persist, contact your dealer.</p>

## **PC card**

Refer also to Chapter 8, [Optional Devices](#).

<b>Problem</b>	<b>Procedure</b>
PC card error occurs	<p>Reseat the PC card to make sure it is firmly connected.</p> <p>Make sure the connection between the external device and the card is firm.</p> <p>Check the card's documentation and the online manual for CardWorks.</p> <p>If problems persist, contact your dealer.</p>

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## Monitor

Refer also to Chapter 8, [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 hotkeys <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.  Run the diagnostic test program.  If problems persist, contact your dealer.

## Sound system

Problem	Procedure
No sound is heard	Adjust the volume control dial.  Check the software volume settings.  Make sure the headphone connection is secure.  Check the Hardware Setup or TSETUP program. Make sure the sound function is enabled and that settings for I/O address, Interrupt level and DMA are correct for your software and do not conflict with other hardware devices that you may have connected to the computer.
Annoying sound is heard	You may be experiencing feedback. Refer to Using the microphone in Chapter 4, <a href="#">Operating Basics</a> .  If problems persist, contact your dealer.

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## TV output signal

Problem	Procedure
Display on TV is poor	Make sure the TV type is correct for your area: NTSC (US), PAL (Europe) or NTSC (Japan).
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 in Resume mode while the display is on TV, the computer will select either the internal LCD or an external computer CRT as the display device.*

## 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 95 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 Legacy Emulation item in TSETUP is set to <b>Enabled</b>.</p> <p>This feature works only for mouse and keyboard. Also, the mouse and keyboard must be connected, before you boot the computer.</p> <p>If problems persist, contact your dealer.</p>

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## Hibernation

Refer also to the Toshiba Power Extensions section and Chapter 7, [TSETUP and Passwords](#).

Problem	Procedure
Hibernation does not work	<p>Are you using a compression utility on C drive? Hibernation will not work with Windows 95 Drvspace or other compression utility.</p> <p>Hibernation will not work if the Windows 98 Drive Converter converts the file allocation table to FAT32.</p> <p>If problems persist, contact your dealer.</p>

## Memory expansion

Refer also to Chapter 8, [Optional Devices](#), for information on installing memory modules.

Problem	Procedure
Beep sounds, and computer halts when I turn on the power	<p>Make sure the memory module installed in the expansion slot is appropriate. Modules with parts numbers PA3004U-1M06, PA3005U-1M12 can be installed. If another module has been installed, follow the steps below.</p> <ol style="list-style-type: none"><li>1. Disconnect the AC adaptor and all peripheral devices.</li><li>2. Remove the battery.</li><li>3. Remove the memory module.</li><li>4. Replace the battery and/or connect the AC adaptor.</li><li>5. Turn on the power.</li></ol>
The computer does not recognize the memory module	<p>There are two slots for memory modules. Make sure one memory module is installed in slot A. If a module is installed in slot B only, 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.</li><li>4. Remove the memory module from slot B and install it in slot A.</li><li>5. Replace the battery 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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## Diagnostic test

The diagnostic test program checks system components to help you determine the cause of the computer's problem.

### Executing the diagnostic test program

To start the diagnostics, follow these steps:

1. Check all cables for loose connections.
2. Select **Restart the computer in MS-DOS mode?** from the **Shut Down** window.
3. Be sure the computer is not in virtual 86 mode. The test will not run in that mode. If you try to run the test in virtual 86 mode, the following message will be displayed:



`Cannot execute in a virtual 8086 mode.`

If the preceding message is displayed, remove memory managers from your config.sys file. See your MS-DOS documentation for information on the config.sys file.

4. Go to drive C and at the DOS prompt `C:\>`, type **TDIAGS**. MS-DOS loads the diagnostic test and displays the following screen:



```
TOSHIBA personal computer xxxx DIAGNOSTICS
version x.xx (c) copyright TOSHIBA Corp. 19xx
Test the DIAGNOSTICS (Y/N)
```

5. To execute the program type **Y**; to exit, type **N**.

---

## Choosing test options

Before the test begins, you are prompted to select whether to test the following components. To select the test, type **Y** at the prompt, otherwise type **N**.

Component	Prompt
Diskette drive	<p>Test the FDD (Y/N)?</p> <p>This test writes patterns to the diskette. Use a formatted, write-enabled diskette. Data on the diskette will be destroyed.</p>
Hard disk drive	<p>Test the HDD (Y/N)?</p> <p>This test writes a small amount of data to the hard disk.</p>
Printer	<p>Test the Printer (Y/N)?</p> <p>Before executing this test, make sure the printer is connected and turned on.</p> <p>If you select <b>Y</b>, the following prompt will appear:</p> <p>Compatible with IBM printer (Y/N)?</p> <p>Select <b>Y</b> for IBM compatible and <b>N</b> for non-compatible. If you are not sure, select <b>N</b>.</p> <p>Selecting <b>Y</b> for a non-compatible printer may result in garble and processing of excess pages.</p>

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## Test sequence

The diagnostic test checks the computer and attached peripherals in the following sequence:

1. System test
2. Memory test
3. Display tests
4. Floppy Disk (Diskette) test
5. Hard disk test
6. Printer test

When a test is in progress, the program displays:



TEST IN PROGRESS TTSSDSS

where **TT** indicates the test number, the first **SS** indicates the subtest number, **D** indicates the drive (if tested), and the second **SS** indicates the hardware status.

## Subtests

The following gives details on each subtest:

### System/memory

The System and Memory tests run together for about one minute. The System test displays no messages. The Memory test displays the following message:



MEMORY TEST IN PROGRESS XXXXXX

where xxxxxx is the current memory location being tested. The memory test includes conventional and extended memory.

If either test aborts:

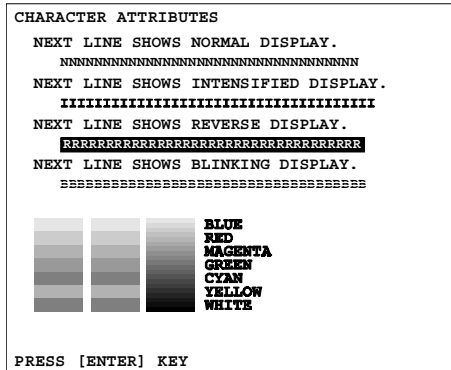
1. Write down everything that appears on screen.
2. Press **Ctrl + Pause (Break)** or **Ctrl + C** to return to the diagnostics menu.
3. Consult your dealer.

---

## Display tests

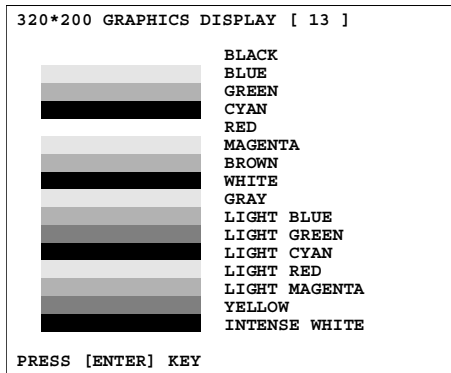
### Character attributes

After the System/Memory tests end, the Display tests begin with the Character attributes screen shown below.



Make sure the line under the message **NEXT LINE SHOWS BLINKING DISPLAY** is actually blinking.

After you press **Enter**, the following screen appears:



If your display does not match the test screen, write down the differences and contact your dealer. If it does match, press **Enter** to continue the display test.

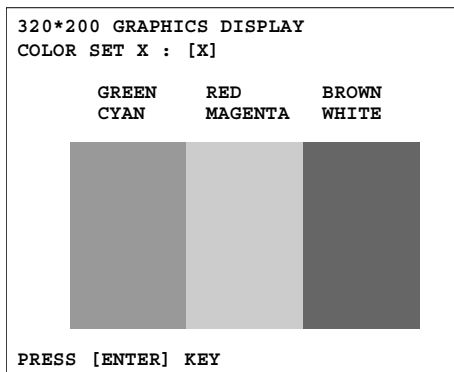


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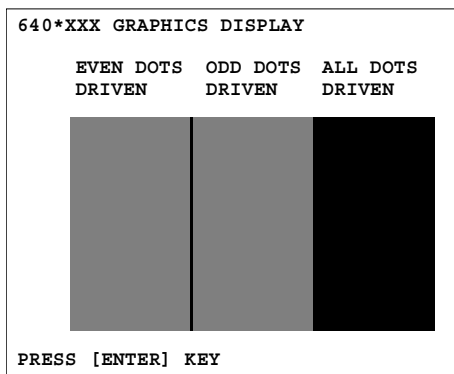
## Graphics capabilities

This set of displays tests the screen's capabilities for each graphics mode. During the test, the resolution and mode number appear above an image representing the mode's capabilities. The number inside the brackets is the mode number. If the image appears normal, press **Enter** to test the next mode. If the image on your screen appears different from the one shown below, contact your dealer.

The first two tests check the 320 x 200 graphics modes:



The remaining screens 640 x 200 mode 6, 640 x 200 mode E, 640 x 350 mode 10 and 640 x 480 mode display similar tests.



---

## Floppy disk (Diskette test)

After the last graphics display test, the program displays the following prompt:



```
FLOPPY DISK                                503000
Mount the work disk(s) on the drive(s), then press
[Enter] key
[Warning : The contents of the disk(s) will be
destroyed]
```

If diskette drives are connected, this prompt asks you to insert a diskette into each diskette drive you want to test. The diskettes you insert should contain no important information because the test destroys all data on the diskette.

The diskettes must be write enabled. For 3 1/2" diskettes, the write-protect tab must be closed so you cannot see through it.

These disks must also be formatted

Press **Enter** when you've inserted the disk(s) in the drive(s). The test begins and displays:



```
FLOPPY DISK TEST IN PROGRESS 503000
```

If there is an error, the **ABORTED** message appears. Write down the highlighted numbers and press **Ctrl + Break** to return to the **DIAGNOSTICS MENU**. If a disk drive fails, check the following:

- Disks are properly formatted.
- Disks are not damaged.

Try another disk and if there is still a problem, consult your dealer.



*If you change your mind and decide not to test a disk, press **Ctrl + Break** to return to the **DIAGNOSTICS MENU**.*

## Hard disk test

If the diskette test passes, and you selected to test the hard disk, you see the following message:



```
HARD DISK TEST IN PROGRESS 805000
```

If this test aborts, write down any messages and consult your dealer. The computer or the drive may require service. Press **Enter** to return to the **DIAGNOSTICS MENU**.

## Printer test

If the hard disk test passes and you selected to test the printer, you see the following message:



PRINTER TEST IN PROGRESS 60xxxx

where xxxx is a counter that shows the test is still in progress.

If you specified an IBM compatible printer, the test prints:

```
PRINTER TEST
1. THIS LINE SHOWS NORMAL PRINT
2. THIS LINE SHOWS DOUBLE WIDTH PRINT.
3. THIS LINE SHOWS OVERSTRIKE PRINT
4. THIS LINE SHOWS EMPHASIZED PRINT
5. THIS LINE SHOWS DOUBLE STRIKE PRINT
6. ALL CHARACTERS PRINT

!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

If you specified a printer that is not IBM compatible, the test prints:

```
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN
OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

If an error occurs, the test displays the **ABORTED** message.

Write down all messages and highlighted numbers and check the following items:

- Is the printer cord securely plugged into a live wall outlet?
- Is the printer cable properly connected to the computer?
- Is the printer turned on?
- Is the printer ready (on-line and selected)?

Run the test again. If the **ABORTED** message appears, consult your dealer.

If the printer tests successfully, the following message is displayed:



DIAGNOSTICS completed  
Press [Enter key]

Press **Enter** to return to the **DIAGNOSTICS MENU**.

---

## If you need further assistance

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

### Before you call

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

- Review troubleshooting sections in the documentation for software and peripheral devices.
- If a problem occurs when you are running software applications, consult the software documentation for troubleshooting suggestions. Call the software company's technical support for assistance.
- Consult the dealer you purchased your computer and/or software from. They are your best sources for current information and support.

### Where to write

If you are still unable to solve the problem and suspect that it is hardware related, write to Toshiba at the nearest location listed in [Appendix C](#).



# Specifications

This appendix summarises the computer’s technical specifications.

## Physical dimensions

Size					
With TFT display		312 (w) × 37 (h) × 254 (d) millimetres (14.1" display)			
Weight					
Processor	Hard disk	Memory	CD/DVD	Display	Kilograms
500 MHz	6 GB	64 MB	CD-ROM	14.1" XGA-TFT	2.7
500 MHz	12 GB	64 MB	DVD-ROM	14.1" XGA-TFT	2.8
500 MHz	12 GB	128 MB	DVD-ROM	14.1" XGA-TFT	2.8
500 MHz	18 GB	128 MB	DVD-ROM	14.1" XGA-TFT	2.8

## Environmental Requirements

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

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# Power Requirements

<b>AC adaptor</b>	45 Watt 100 - 240 volts AC 50 or 60 hertz (cycles per second)
<b>Computer</b>	15 VDC 4.0 amperes

# Processor

<b>Pentium® III:</b>	500 MHz Other processor speeds may be introduced as they become available
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# Memory

<b>Built-in</b>	64 or 128 MB of system memory installed in the expansion slots
<b>Microprocessor cache</b>	32 KB cache memory is incorporated in the processor.
<b>Level 2 cache</b>	The processors have the following level 2 caches to maximize performance: <ul style="list-style-type: none"><li>• Pentium® III 500mhz: 256 KB</li></ul>
<b>Video RAM</b>	8.0 MB of RAM is provided for video display.

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## Disks

<b>Built-in</b>	<p>Hard disk drive is available in three sizes:</p> <ul style="list-style-type: none"><li>• 6.0 billion bytes (5.6GB)</li><li>• 12.07 billion bytes (11.24GB)</li><li>• 18.15 billion bytes (16.90GB)</li></ul> <p>Other hard disk drive sizes may be available in the future</p>
<b>Secondary hard disk</b>	<p>SelectBay (option)</p> <p>6 GB, 12 GB or 18 GB 13 millisecond average access time</p>
<b>Diskette drive</b>	<p>3 ½" 1.44-megabyte or 720-kilobyte installs either in the computer or in an external attachment for connection to the external diskette drive port.</p>
<b>CD-ROM drive</b>	<p>A maximum 24-speed 540MB CD-ROM drive installs in the computer. The drive supports the following formats:</p> <ul style="list-style-type: none"><li>• Video CD</li><li>• Photo CD</li><li>• CD-ROM</li><li>• CD-ROM x A</li><li>• CD-I FMV</li><li>• CD-EXTRA</li><li>• CD-R (read only)</li><li>• CD-Rewritable (read only)</li><li>• CD-DA</li></ul>
<b>DVD-ROM drive</b>	<p>A full-size, DVD-ROM drive module lets you run either 12 cm (4.72") or 8 cm (3.15") digital video disk/compact disks without using an adaptor. It runs DVD-ROMs at maximum 6 speed and CD-ROMs at maximum 24 speed. This drive supports the same formats as the CD-ROM drive plus the following:</p> <ul style="list-style-type: none"><li>• DVD-ROM</li><li>• DVD-Video</li></ul>

## Display

<b>Built-in</b>	<p>Thin-film transistor colour LCD is available in these models:</p> <ul style="list-style-type: none"><li>• 13.3" XGA-TFT, 1024 horizontal x 768 vertical pixels</li><li>• 14.1" XGA-TFT, 1024 horizontal x 768 vertical pixels</li></ul>
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## Keyboard

<b>Built-in</b>	84 keys or 86 keys, compatible with IBM enhanced keyboard, embedded numeric overlay, dedicated cursor control, and two dedicated Windows keys.
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## Ports

<b>Parallel</b>	Parallel printer or other parallel device (ECP compatible)
<b>Serial</b>	RS-232C compatible port (16550 UART compatible)
<b>External monitor</b>	15-pin, analogue VGA port supports VESA DDC2B compatible functions.
<b>PS/2 Mouse/Keyboard</b>	Connects an external PS/2 mouse or PS/2 keyboard
<b>Docking interface</b>	Special port for connecting a NetDock Port Replicator.
<b>Microphone</b>	Enables connection of a monaural microphone
<b>Headphone</b>	Enables connection of a stereo headphone
<b>Line-in</b>	Enables connection of a stereo device for audio input.
<b>External diskette drive</b>	Lets you connect an external diskette drive
<b>Security lock slot</b>	Connects a security lock to anchor the computer to a desk or other large object
<b>Infrared</b>	The serial infrared port is compatible with Infrared Data Association (IrDA 1.1) standards. It enables cableless data transfer up to 4 Mbps with IrDA 1.1 compatible external devices.
<b>Universal Serial Bus</b>	The Universal Serial Bus (USB) enables chain connection of a number of USB-equipped devices to one port on your computer.
<b>Video-out</b>	This RCA video jack lets you transfer data to external devices. It does support DVD decoding.

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## AccuPoint II

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<b>Built-in</b>	A pointing device, the AccuPoint II, in the centre of the keyboard and control buttons at the base of the keyboard enable control of the on-screen pointer.
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## PC card slot

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<b>Built-in</b>	Slot for PC cards (PCMCIA) accommodate: two 5 mm Type II, or one 10.5 mm Type III The slot supports 16-bit PC cards and CardBus PC cards (32 bit).
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## Sound system

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<b>Built-in</b>	Sound Blaster Pro and Windows Sound System compatible sound system provides internal stereo speakers and microphone as well as jacks for an external microphone, headphone and line-in. It also has a volume control dial.
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## Internal modem

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<b>Built-in</b>	An internal modem provides telephony functions as well as facsimile and modem communications. It operates at up to 56,000 bps for data transfer and at up to 14,400 for facsimiles and telephony. It is not supported in some markets.
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## Software

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<b>Preinstalled</b>	Windows 95/98 dual install and Toshiba Utilities preloaded on hard disk. Windows NT 4.0 operating system and Toshiba Utilities preloaded on hard disk.
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## Options

	PA Number	Article
<b>Memory</b>	PA3004U-1M06	64 MB memory Kit
	PA3005U-1M12	128 MB memory kit
<b>Keyboard</b>	PA3006E-1KGR	Keycaps for German keyboard
	PA3006E-1KFR	Keycaps for French keyboard
	PA3006E-1KSC	Keycaps for Scandinavian keyboard
	PA3006E-1KSL	Keycaps for Swiss keyboard
	PA3006E-1KIT	Keycaps for Italian keyboard
	PA3006E-1KSP	Keycaps for Spanish keyboard
<b>Power</b>	PA3009U-1BAT	Battery pack
	PA3010U-1BAT	Secondary battery pack
	PA2444U	Universal AC adapter
	PA3011U-1CHG	Battery charger
<b>Storage</b>	PA 3012U-SH06	6GB HDD kit
	PA 3013U-SH10	10GB HDD kit
	PA 3027U-SH12	12GB HDD kit
	PA 3029U-SH18	18GB HDD kit
	PA3015U-1CDD	24x CD-ROM Drive Kit
	PA3014E-1DVD	DVD Drive Kit
	PA3020U-SOTR	SelectBay HDD adaptor II
<b>Expansion</b>	PA3017E-1PRP	NetDock Port Replicator
	PA3018E-1DST	Expansion Station
	PA3028E-1PRP	CardDock
	PA3021E-1OTR	Monitor Stand
	PA3022U-1OTR	Expansion Station SelectBay Adaptor
	PA3023U-1OTR	Expansion Station HDD adaptor

# 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 in which it is used. All cords must meet the following specifications:

<b>Length:</b>	Minimum 2 metres (6.5 ft.)
<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'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 conductor
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<b>Australia:</b>	AS
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### *Europe:*

<b>Austria:</b>	OVE
<b>Belgium:</b>	CEBEC
<b>Denmark:</b>	DEMKO
<b>Finland:</b>	FIMKO
<b>France:</b>	UTE
<b>Germany:</b>	VDE
<b>Italy:</b>	IMQ
<b>The Netherlands:</b>	KEMA

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<b>Norway:</b>	NEMKO
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<b>Sweden:</b>	SEMKO
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<b>Switzerland:</b>	SEV
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<b>United Kingdom:</b>	BSI
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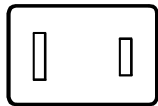
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In Europe, power cords must be VDE type, H05VVH2-F and two conductor.

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

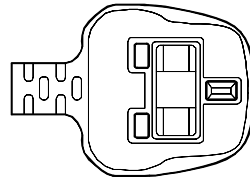
The following illustrations show the plug shapes for the U.S.A. and Canada, the United Kingdom, Australia and Europe.

#### USA and Canada



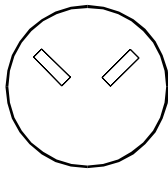
UL approved  
CSA approved

#### United Kingdom



BS approved

#### Australia



AS approved

#### Europe



Approved by the  
appropriate agency

# The Toshiba International Warranty

The Toshiba International Warranty is a service policy on the parts and repair on your Toshiba portable personal computer which is automatically available to purchasers of the computer.

The cover is assured in major industrial countries of the world. It means that wherever you take your Toshiba mobile PC in this area, you will never be left without help should any problems arise.

## *What the warranty covers*

The Warranty covers the computer in the standard version, including the AC adaptor. Batteries, modems, memory expansion kits and other Toshiba branded options, as well as third party expansion boards are NOT covered by this warranty. For information concerning warranties for these products, please consult your dealer.



*If you would like to use the international warranty, please register with Toshiba. You will then receive a warranty sticker to be placed on your computer. In case no registration card for the international warranty was bundled with your computer, please contact the nearest Toshiba representation for registration.*

On the following pages is a list of the Toshiba companies who can be contacted if a claim on the warranty needs to be made. If difficulties arise which cannot be solved from one of these addresses, the headquarters for Toshiba computers in Europe can be found at:

### **Toshiba Europe GmbH**

- Regensburg Operations -  
Leibnizstrasse 2  
D-93055 Regensburg  
Germany  
Tel: +49 (0)941 7807-888  
Fax: +49 (0)941 7807-925

If users need further addresses in eastern Europe or outside Europe, these are available from the national or European companies.

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## Toshiba's Worldwide Computer Representatives

<b>Australia</b>	Toshiba (Australia) Pty. Limited 84-92 Talavera Road, North Ryde NSW 2113	Tel: +61-2-9887-3322 Fax: +61-2-9888-3664 <a href="http://www.isd.toshiba.com.au">http://www.isd.toshiba.com.au</a>
<b>Austria</b>	Toshiba Europe GmbH Handelskai 388 1020 Wien	Tel: +43-1-72031000 Fax: +43-1-72031002 <a href="http://www.toshiba.at">http://www.toshiba.at</a>
<b>Belgium</b>	Toshiba Information Systems Benelux B.V. Excelsiorlaan 40, B-1930 Zaventem	Tel: +32-2-715-8700 Fax: +32-2-725-3030 <a href="http://www.toshiba.be">http://www.toshiba.be</a>
<b>Canada</b>	Toshiba Canada Ltd. 191 McNabb Street Markham, Ontario L3R-8H2	Tel: +1-800-663-0378 Fax: +1-905-470-3509 <a href="http://www.toshiba.ca">http://www.toshiba.ca</a>
<b>Czech Republic</b>	CHG Toshiba, s.r.o. Hnevkovskeho 65, 617 00 Brno	Tel: +420-5-4323-5528 Fax: +420-5-4323-5519 <a href="http://www.toshiba-pc.cz">http://www.toshiba-pc.cz</a>
<b>Denmark</b>	Scribona Danmark A/S Naverland 27, DK-2600 Glostrup	Tel: +45-4343-2049 Fax: +45-4343-4684 <a href="http://www.toshiba.-tpc.com">http://www.toshiba.-tpc.com</a>
<b>Estonia</b>	CHS Estonia Parnu mnt. 142A 11317 Tallinn	Tel: +372-6504-960 Fax: +372-6504-916
<b>Finland</b>	Scribona TPC OY Sinimäentie 14,P.O.Box 83, 02630 ESPOO	Tel: +358-9-5272555 Fax: +358-9-5272500 <a href="http://www.toshiba.se">http://www.toshiba.se</a>
<b>France</b>	Toshiba Systèmes (France) S.A. 7 Rue Ampère, 92804 Puteaux Cedex	Tel: +33-1-4728-2929 Fax: +33-1-4728-2499
<b>Germany</b>	Toshiba Europe GmbH Leibnizstraße 2, D-93055 Regensburg	Tel: +49-(0)941-7807-888 Fax: +49-(0)941-7807-948 BBS: +49-(0)941-7807-999 <a href="http://www.toshiba-tro.de">http://www.toshiba-tro.de</a>
<b>Greece</b>	Ideal Electronics S.A. 190 Syngrou Ave.; 176 71 Kalithea/Athens	Tel: +30-1-95625514 Fax: +30-1-9579094
<b>Hungary</b>	Technotrade Kft. Szerencs utca 202, 1147 Budapest	Tel: +36-1-410-5987 Fax: +36-1-4106691 <a href="http://www.technotrade.hu">http://www.technotrade.hu</a>
<b>Ireland</b>	See 'United Kingdom'	
<b>Italy</b>	Progetto Elettronica 92 s.r.l. Viale Certosa 138, 20156 Milano	Tel: +39-02-9397-5551 Fax: +39-02-9397-5299 <a href="http://www.toshiba.it/pc">http://www.toshiba.it/pc</a>
<b>Japan</b>	Toshiba Corporation, IOPC 1-1, Shibaura 1-Chome, Minato-KU Tokyo 105-01	Tel: +81-3-3457-5565 Fax: +81-3-5444-9262 <a href="http://www.toshiba.co.jp">http://www.toshiba.co.jp</a>

<b>Latvia</b>	CHS Riga Kalnciema 12a LV1048 Riga	Tel: +371-27 60 20 52 Fax: + 371-7 61 38 87
<b>Lithuania</b>	CHS Baltic Palemono 7A 3023 Kaunas	Tel: + 370 7 31 01 34 Fax: + 370 7 31 08 05
<b>Luxemburg</b>	See 'Netherlands'	
<b>Morocco</b>	C.B.I. 22 Rue de Béthune, Casablanca	Tel: +212-2-30-65-35 Fax: +212-2-30-80-68
<b>Malta</b>	Tabone Computer Centre Limited 111 Old Railway Track HMR-16 St Venera	Tel: +356-49 36 04 Fax: +356-49 36 03 <a href="http://www.tabone.com.mt">http://www.tabone.com.mt</a>
<b>Netherlands</b>	Toshiba Information Systems Benelux B.V. Rivium Boulevard 41 2909 LK Capelle a/d IJssel	Tel: +31-10-2882-300 Fax: +31-10-2882-390 <a href="http://www.toshiba.nl">http://www.toshiba.nl</a>
<b>Norway</b>	Scribona Norge A/S; Toshiba PC Service Stålfjæra 20, P.O.Box 51, Kalbakken 0901 OSLO	Tel: +47-22-897-000 Fax: +47-22-897-389 <a href="http://www.toshiba.se">http://www.toshiba.se</a>
<b>Poland</b>	AC Serwis Sp. Z o. o. ul. Partyzantów 71, 43-316 Bielsko-Biala	Tel: +48 (0-33)8130-205 Fax: +48 (0-33)8130-209 <a href="http://www.techmex.com.pl">http://www.techmex.com.pl</a>
<b>Portugal</b>	Quinta Grande Assistência Técnica Informática Lda. Av. Quinta Grande, 30 J; 2720-487 Alfragide	Tel: +351-21-472-1730 Fax: +351-21-472-1739
<b>Romania</b>	Scop Computers SRL 162 Barbu Vacarescu St, Sector 2 71424 Bucharest	Tel: +40-1-231-4602 Fax: +40-1-231-4606 <a href="http://www.scop.ro">http://www.scop.ro</a>
<b>Slovakia</b>	HTC a.s. Dobrovicova 8; 81109 Bratislava	Tel: +421-7-593345-50 Fax: +421-7-593345-55 <a href="http://www.htc.sk">http://www.htc.sk</a>
<b>Slovenia</b>	Inea d.o.o. Ljubljanska 80, 61230 Domzale	Tel: +386-61-718-000 Fax: +386-61-721672 <a href="http://www.inea.si">http://www.inea.si</a>
<b>Spain</b>	Toshiba Information Systems (España) S.A. Parque Empresarial San Fernando Edificio Europa, 1a Planta, Escalera A 28831 (Madrid) San Fernando de Henares	Tel: +34-91-6606-700 Fax: +34-91-6606-760 <a href="http://www.toshiba.es">http://www.toshiba.es</a>
<b>Sweden</b>	Scribona Toshiba PC AB Sundbybergsvägen 1, Box 1374 171 27 Solna	Tel: +46-200-212100 Fax: +46-8-734-4656 <a href="http://www.toshiba.se">http://www.toshiba.se</a>

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<b>Switzerland</b>	Ozalid AG Herostrasse 7, 8048 Zürich	Tel: +41-1-439-7200 Fax: +41-1-439-7340 BBS: +41-1-439-7392 <a href="http://www.ozalid.ch">http://www.ozalid.ch</a>
<b>United Kingdom</b>	Toshiba Information Systems (UK) Ltd. Toshiba Court, Weybridge Business Park Addlestone Road, Weybridge KT15 2UL	Tel: +44-1932-828828 Fax: +44-1932-822958 <a href="http://www.toshiba.co.uk">http://www.toshiba.co.uk</a>
<b>United States</b>	Toshiba America Information Systems, Inc. 9740 Irvine Blvd., Irvine, CA 92713-9724	Tel: +1-949-583-3000 Fax: +1-949-583-3345 <a href="http://www.toshiba.com">http://www.toshiba.com</a>

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Or for all countries not listed, please call the **Toshiba International Service Line:** Tel: +352 460433  
or E-mail: [toshibawarranty@unn.unisys.com](mailto:toshibawarranty@unn.unisys.com)

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## Toshiba addresses for the Internet/World Wide Web

### ***Toshiba Europe***

<http://www.toshiba-teg.com>

### ***Toshiba America***

<http://www.toshiba.com>

### ***Toshiba Japan***

<http://www.toshiba.co.jp>

### ***Toshiba Canada***

<http://www.toshiba.ca>

## Toshiba Bulletin Board Service addresses

**Analogue number:**

+49 941-7807-999

**ISDN1:**

+49 941-7810500

**ISDN2:**

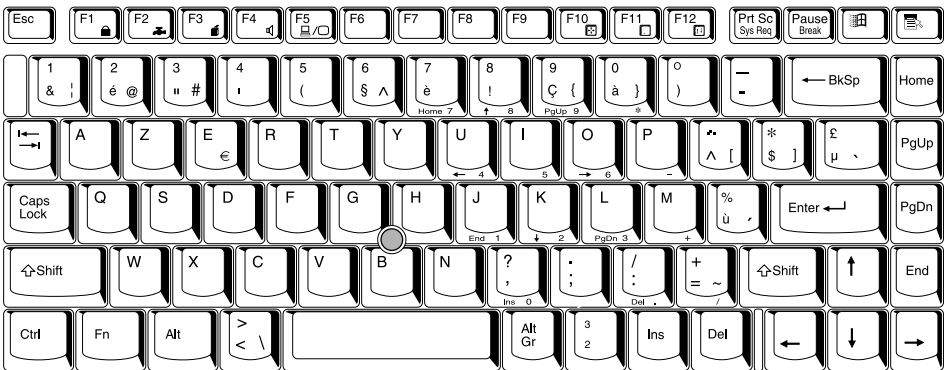
+49 941-7813131

**Internet BBS:**

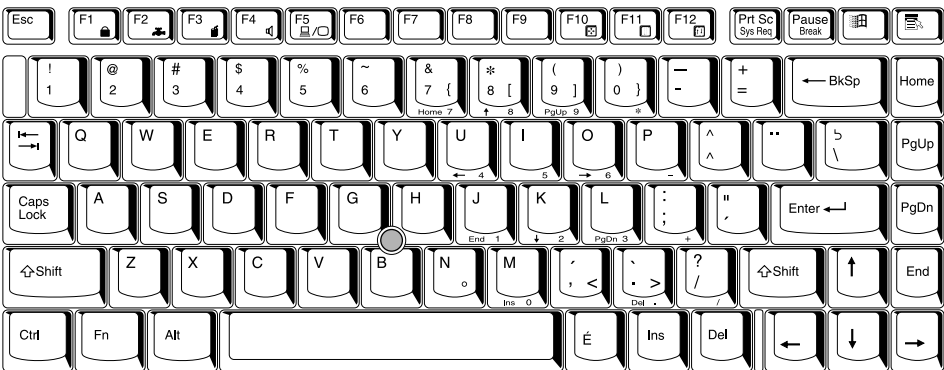
[www.toshiba-tro.de](http://www.toshiba-tro.de)

# Keyboard Layouts

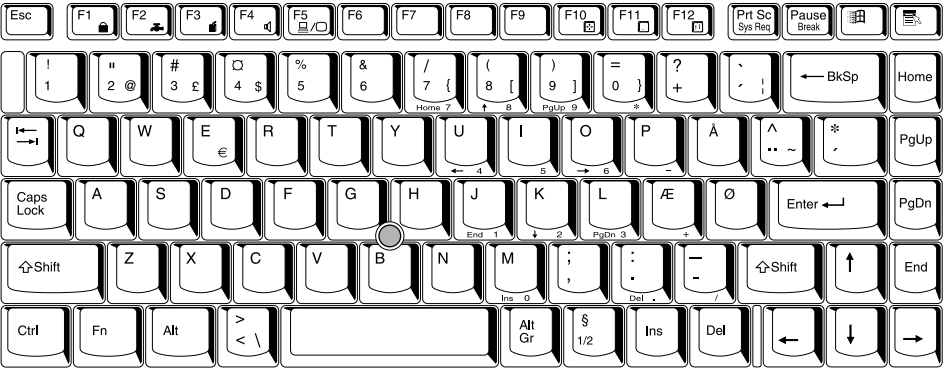
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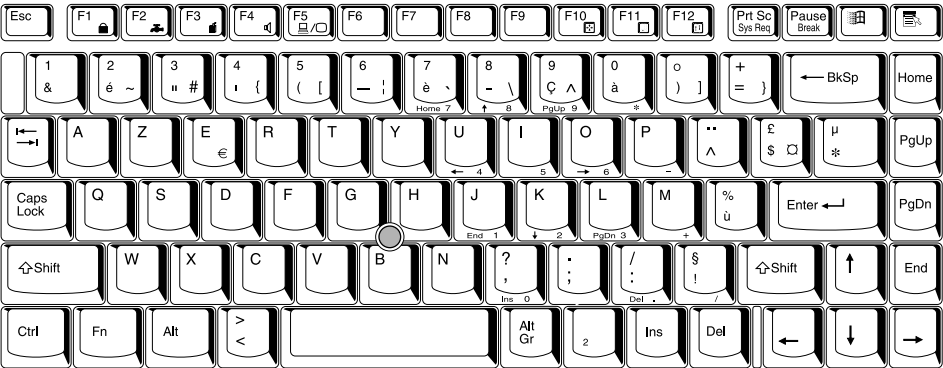
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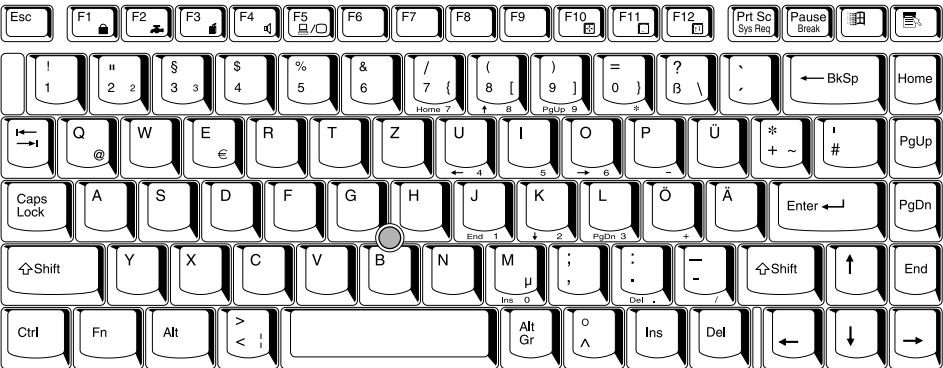
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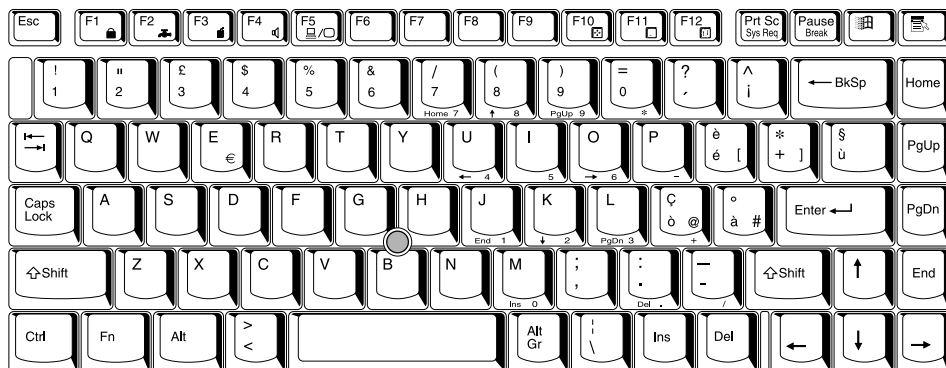
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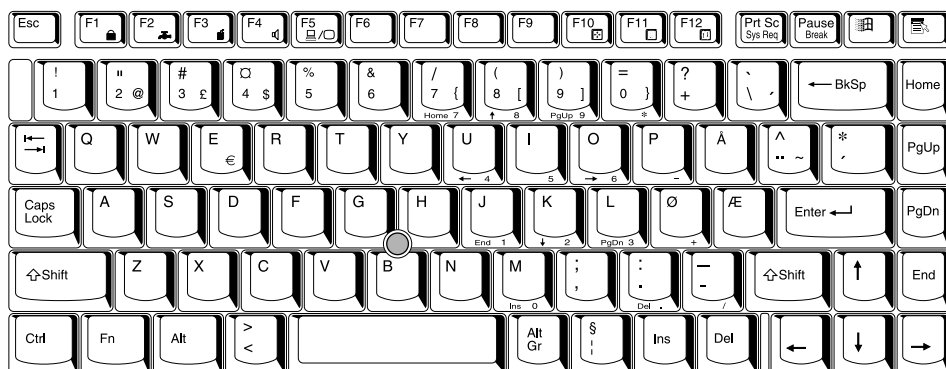
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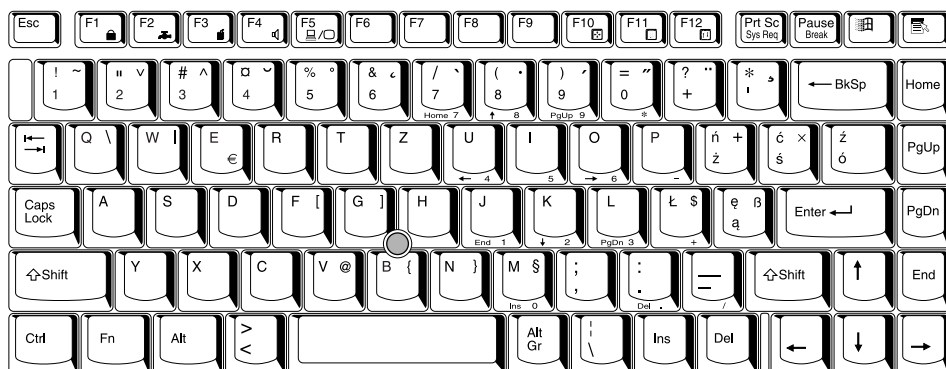
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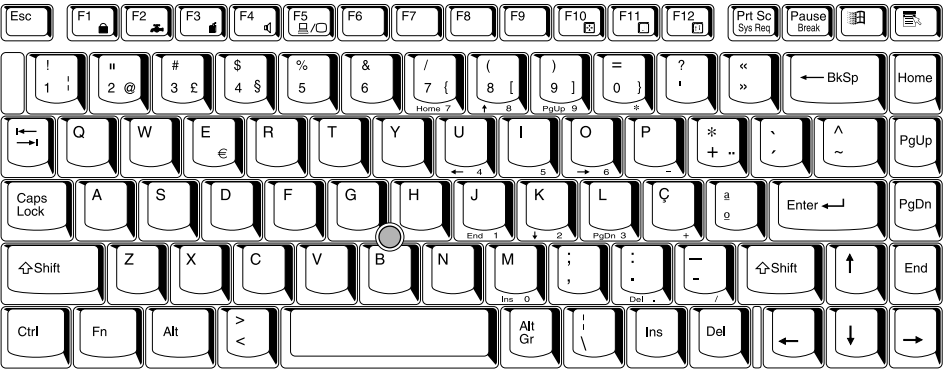
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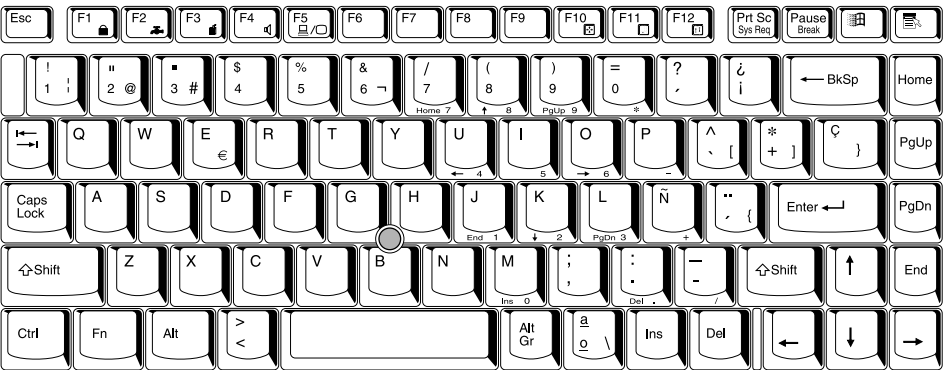
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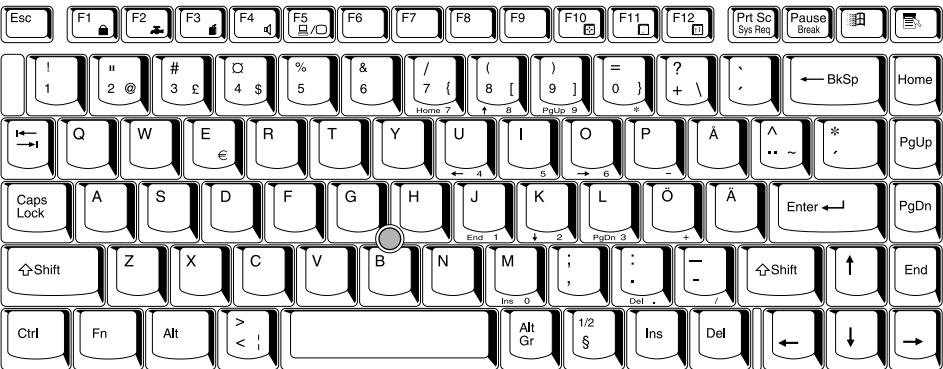
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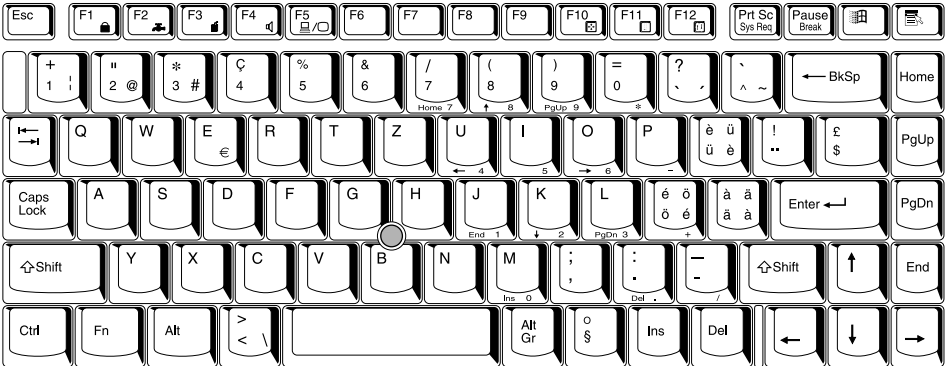
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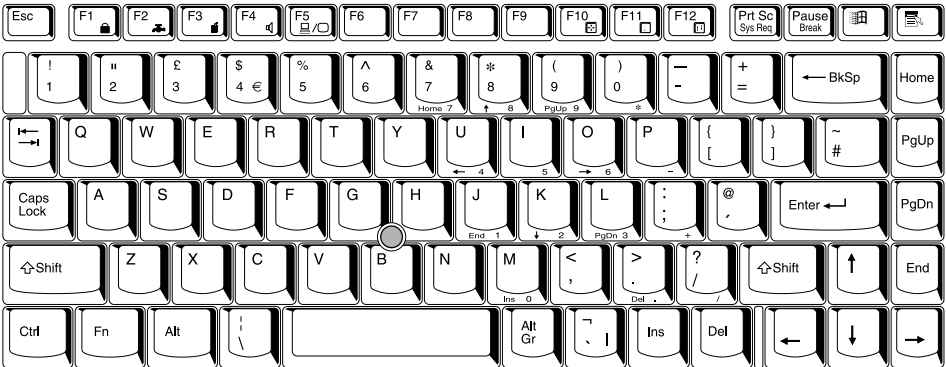
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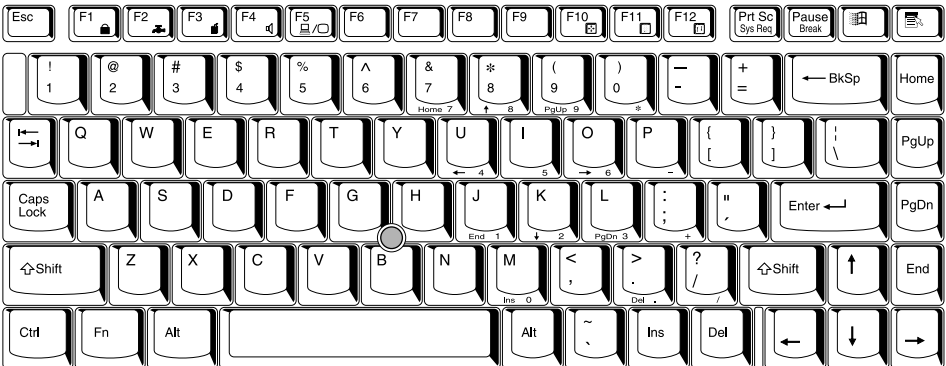
## Swiss-German



## UK English



## US English





# Display Controller and Modes

## Display controller

The display controller interprets software commands into hardware commands that turn particular pels on or off.

The controller is an advanced Video Graphics Array (VGA) that provides Super VGA (SVGA) and Extended Graphics Array (XGA) support for the internal LCD and external monitors.

Two models are available:

- 13.3" XGA, 1024 horizontal x 768 vertical pixels
- 14.1" XGA, 1024 horizontal x 768 vertical pixels



*Because of the LCD's increased resolution, lines may appear broken in DOS mode.*

A high-resolution external monitor connected to the computer can display up to 1280 horizontal and 1024 vertical pixels at up to 256 colors or 1024 horizontal and 768 vertical pixels at up to 16M 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 the video modes defined in table 1. 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, consider that if your software supports both graphics and text modes, the screen display may appear to operate faster using a text mode.

*Table 1. Video modes*

Type	Resolution	Character matrix (pels)	LCD colours	CRT colours	Scanning frequency Ver./Hor.
VGA Text	40 x 25 Characters	8 x 8	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Text	80 x 25 Characters	8 x 8	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Text	40 x 25 Characters	8 x 14	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Text	80 x 25 Characters	8 x 14	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Text	40 x 25 Characters	8(9) x 16	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Text	80 x 25 Characters	8(9) x 16	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Grph	320 x 200 Pels	8 x 8	4 of 256k	4 of 256k	70Hz/31.5kHz
VGA Grph	640 x 200 Pels	8 x 8	2 of 256k	2 of 256k	70Hz/31.5kHz
VGA Text	80 x 25 Characters	8(9) x 14	Mono	Mono	70Hz/31.5kHz
VGA Text	80 x 25 Characters	8(9) x 16	Mono	Mono	70Hz/31.5kHz
VGA Grph	320 x 200 Pels	8 x 8	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Grph	640 x 200 Pels	8 x 8	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Grph	640 x 350 Pels	8 x 14	Mono	Mono	70Hz/31.5kHz
VGA Grph	640 x 350 Pels	8 x 14	16 of 256k	16 of 256k	70Hz/31.5kHz
VGA Grph	640 x 480 Pels	8 x 16	2 of 256k	2 of 256k	60Hz/31.5kHz
VGA Grph	640 x 480 Pels	8 x 16	16 of 256k	16 of 256k	60Hz/31.5kHz
VGA Grph	320 x 200 Pels	8 x 8	256 of 256k	256 of 256k	70Hz/31.5kHz

**Table 1. Video modes**

Type	Resolution	Character matrix (pels)	LCD colours	CRT colours	Scanning frequency Ver./Hor.
SVGA Grph	640 x 480 Pels	8 x 16	256 of 256k	256 of 256k	60/75/85Hz 31.5/37.6/43.3kHz
SVGA Grph	800 x 600 Pels	8 x 16	256 of 256k	256 of 256k	60/75/85Hz 37.8/46.9/53.7kHz
SVGA Grph	1024 x 768 Pels	8 x 16	256 of 256k*	256 of 256k	60/75/85Hz 48.3/60.0/68.7kHz
SVGA Grph	1280 x 1024 Pels	8 x 16	256 of 256k* (Virtual)	256 of 256k	60Hz/75Hz 64.0kHz
SVGA Grph	1600 x 1200 Pels	8 x 16	256 of 256k* (Virtual)	256 of 256k	60Hz 64.0kHz
SVGA Grph	640 x 480 Pels	8 x 16	64k of 64k	64k of 64k	60/75/85Hz 31.5/37.6/43.2kHz
SVGA Grph	800 x 600 Pels	8 x 16	64k of 64k	64k of 64k	60/75/85Hz 37.8/46.9/53.7kHz
SVGA Grph	1024 x 768 Pels	8 x 16	64k of 64k*	64k of 64k	60/75/85Hz 48.3/60.0/68.7kHz
SVGA Grph	1280 x 1024 Pels	8 x 16	64k of 64k*	64k of 64k	60/75/85Hz 48.3/60.0/68.7kHz
SVGA Grph	1600 x 1200 Pels	8 x 16	64k of 64k*	64k of 64k	60Hz 48.3/60.0/68.7kHz
SVGA Grph	640 x 480 Pels	8 x 16	16M of 16M	16M of 16M	60/75/85Hz 31.5/37.5/43.3kHz
SVGA Grph	800 x 600 Pels	8 x 16	16M of 16M	16M of 16M	60/75/85Hz 37.8/46.9/53.7kHz
SVGA Grph	1024 x 768 Pels	8 x 16	16M of 16M*	16M of 16M	60/75/85Hz 48.3/60.0/68.7kHz
SVGA Grph	1280 x 1024 Pels	8 x 16	16M of 16M*	16M of 16M	60/75/85Hz 48.3/60.0/68.7kHz

\* Enters virtual mode when the LCD screen resolution is 800 x 600 (panning).



# 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 was the warranty seal number (if available)?
- What is your address, phone, and fax number?

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

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

Your registration will be entered in a database, which is used to track Toshiba computers at our service points around Europe.

---

## ***Toshiba Theft Registration***

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

Fax number: +49 (0) 941 7807 925

Country stolen:	
Machine type: (e.g. Tecra 8100)	
Model number: (e.g. PA1218E YXT)	
Serial number: (e.g. 70123456E)	
Date stolen:	
Warranty seal: (e.g. 9813 123456 049)	

### **Owner's details**

Name:	
Company:	
Street:	
Postal Code/City:	
Country:	
Phone:	
Fax:	

# ASCII Character Codes

This appendix shows the American Standard Code for Information Interchange (ASCII) on the following pages. The characters in the **IBM char** column appear on your display when you type the corresponding ASCII code (as described in Chapter 5, [The Keyboard](#)). The characters that are printed, however, depend on the software you are using. For most software, the printed output for decimal codes 32 to 128 will match your screen display.

Dec code	Hex code	IBM char	Sort seq	Ctrl char
000	00		000	NUL
001	01	☺	1	SOH
002	02	☹	2	STX
003	03	♥	3	ETX
004	04	♦	4	EOT
005	05	♣	5	ENQ
006	06	♠	6	ACK
007	07	•	7	BEL
008	08	■	8	BS
009	09	○	9	HT
010	0A	◉	10	LF
011	0B	◯	11	VT
012	0C	🎵	12	FF
013	0D	🎵	13	CR
014	0E	🎵	14	SO
015	0F	⚙	15	SI
016	10	▶	16	DLE
017	11	◀	17	DC1
018	12	↕	18	DC2
019	13	!!	19	DC3
020	14	¶	20	DC4
021	15	§	21	NAK
022	16	▬	22	SYN
023	17	↕	23	ETB
024	18	↑	24	CAN
025	19	↓	25	EM
026	1A	→	26	SUB
027	1B	←	27	ESC
028	1C	└	28	FS
029	1D	↔	29	GS
030	1E	▲	30	RS
031	1F	▼	31	US

---

Dec code	Hex code	IBM char	Sort seq
032	20	space	32
033	21	!	33
034	22	"	34
035	23	#	35
036	24	\$	36
037	25	%	37
038	26	&	38
039	27	'	39
040	28	(	40
041	29	)	41
042	2A	*	42
043	2B	+	43
044	2C	,	44
045	2D	-	45
046	2E	.	46
047	2F	/	47
048	30	0	48
049	31	1	49
050	32	2	50
051	33	3	51
052	34	4	52
053	35	5	53
054	36	6	54
055	37	7	55
056	38	8	56
057	39	9	57
058	3A	:	58
059	3B	;	59
060	3C	<	60
061	3D	=	61
062	3E	>	62
063	3F	?	63

Dec code	Hex code	IBM char	Sort seq
064	40	@	64
065	41	A	65
066	42	B	66
067	43	C	67
068	44	D	68
069	45	E	69
070	46	F	70
071	47	G	71
072	48	H	72
073	49	I	73
074	4A	J	74
075	4B	K	75
076	4C	L	76
077	4D	M	77
078	4E	N	78
079	4F	O	79
080	50	P	80
081	51	Q	81
082	52	R	82
083	53	S	83
084	54	T	84
085	55	U	85
086	56	V	86
087	57	W	87
088	58	X	88
089	59	Y	89
090	5A	Z	90
091	5B	[	91
092	5C	\	92
093	5D	]	93
094	5E	^	94
095	5F	_	95

Dec code	Hex code	IBM char	Sort seq
096	60	'	96
097	61	a	97
098	62	b	98
099	63	c	99
100	64	d	100
101	65	e	101
102	66	f	102
103	67	g	103
104	68	h	104
105	69	i	105
106	6A	j	106
107	6B	k	107
108	6C	l	108
109	6D	m	109
110	6E	n	110
111	6F	o	111
112	70	p	112
113	71	q	113
114	72	r	114
115	73	s	115
116	74	t	116
117	75	u	117
118	76	v	118
119	77	w	119
120	78	x	120
121	79	y	121
122	7A	z	122
123	7B	{	123
124	7C		124
125	7D	}	125
126	7E	~	126
127	7F	␣	127

Dec code	Hex code	IBM char	Sort seq
128	80	Ç	67
129	81	ü	85
130	82	é	69
131	83	â	65
132	84	ä	65
133	85	à	65
134	86	ã	65
135	87	ç	67
136	88	ê	69
137	89	ë	69
138	8A	è	69
139	8B	ï	73
140	8C	î	73
141	8D	ì	73
142	8E	Ä	65
143	8F	Å	65
144	90	É	69
145	91	æ	65
146	92	Æ	65
147	93	ô	79
148	94	ö	79
149	95	ò	79
150	96	û	85
151	97	ù	85
152	98	ÿ	89
153	99	Ö	79
154	9A	Ü	85
155	9B	ç	36
156	9C	£	36
157	9D	¥	36
158	9E	Pt	36
159	9F	f	36

Dec code	Hex code	IBM char	Sort seq
160	A0	á	65
161	A1	í	73
162	A2	ó	79
163	A3	ú	85
164	A4	ñ	78
165	A5	Ñ	78
166	A6	ā	166
167	A7	ō	167
168	A8	¿	63
169	A9	┐	169
170	AA	┐	170
171	AB	½	171
172	AC	¼	172
173	AD	¡	33
174	AE	«	34
175	AF	»	34
176	B0	▤	
177	B1	▥	
178	B2	▦	
179	B3	┐	
180	B4	┐	
181	B5	┐	
182	B6	┐	
183	B7	┐	
184	B8	┐	
185	B9	┐	
186	BA	▤	
187	BB	┐	
188	BC	┐	
189	BD	┐	
190	BE	┐	
191	BF	┐	

Dec code	Hex code	IBM char	Sort seq
192	C0	┐	
193	C1	┐	
194	C2	┐	
195	C3	┐	
196	C4	┐	
197	C5	┐	
198	C6	┐	
199	C7	┐	
200	C8	┐	
201	C9	┐	
202	CA	┐	
203	CB	┐	
204	CC	┐	
205	CD	▤	
206	CE	▥	
207	CF	▦	
208	D0	┐	
209	D1	┐	
210	D2	┐	
211	D3	┐	
212	D4	┐	
213	D5	┐	
214	D6	┐	
215	D7	┐	
216	D8	┐	
217	D9	┐	
218	DA	┐	
219	DB	▤	
220	DC	▥	
221	DD	▦	
222	DE	▧	
223	DF	▨	

---

Dec code	Hex code	IBM char	Sort seq
224	E0	$\alpha$	83
225	E1	$\beta$	
226	E2	$\Gamma$	
227	E3	$\Pi$	
228	E4	$\Sigma$	
229	E5	$\sigma$	
230	E6	$\mu$	
231	E7	$\Upsilon$	
232	E8	$\Phi$	
233	E9	$\Theta$	
234	EA	$\Omega$	
235	EB	$\delta$	
236	EC	$\phi$	
237	ED	$\phi$	
238	EE	$E$	
239	EF	$\Lambda$	
240	F0	$\Xi$	
241	F1	$\pm$	
242	F2	$\geq$	
243	F3	$\leq$	
244	F4	$\int$	
245	F5	$\int$	
246	F6	$+$	
247	F7	$\approx$	
248	F8	$\circ$	
249	F9	■	
250	FA	■	
251	FB	$\sqrt{\quad}$	
252	FC	$\eta$	
253	FD	$^2$	
254	FE	■	
255	FF		

---

## K56flex

The Toshiba internal modem uses K56flex technology with the Windows 95 and Windows NT 4.0 operating systems. The modem is capable of downstream speeds of 56Kbps (kilobits per second) when connected to an Internet service provider that supports K56flex. As with any modem, the actual throughput (speed of data transfer) depends on analogue telephone line conditions, which can vary considerably. Therefore, many users will experience throughput in the range of 32-44Kbps under normal telephone line conditions. Upstream data flows at the V.34 rate.



*K56flex rates can be achieved only when one K56flex-capable modem is connected to another. The Toshiba Internal modem will select automatically V.34 if the remote modem lacks K56flex capability or if a combination of network and/or phone line conditions prevent K56flex connection.*

### K56flex mode

Function	Transmission speed
Data K56flex	From 56K (maximum) to 32Kbps (minimum) Reception only

---

### *Result codes for a 56K connection*

No.	Result code	Description
70	CONNECT 32000 EC*	Connection at 32000 bits/s (reception only)
71	CONNECT 34000 EC*	Connection at 34000 bits/s (reception only)
72	CONNECT 36000 EC*	Connection at 36000 bits/s (reception only)
73	CONNECT 38000 EC*	Connection at 38000 bits/s (reception only)
74	CONNECT 40000 EC*	Connection at 40000 bits/s (reception only)
75	CONNECT 42000 EC*	Connection at 42000 bits/s (reception only)
76	CONNECT 44000 EC*	Connection at 44000 bits/s (reception only)
77	CONNECT 46000 EC*	Connection at 46000 bits/s (reception only)
78	CONNECT 48000 EC*	Connection at 48000 bits/s (reception only)
79	CONNECT 50000 EC*	Connection at 50000 bits/s (reception only)
80	CONNECT 52000 EC*	Connection at 52000 bits/s (reception only)
81	CONNECT 54000 EC*	Connection at 54000 bits/s (reception only)
82	CONNECT 56000 EC*	Connection at 56000 bits/s (reception only)
* EC stands for the Error Control method, which appears only when the extended result codes configuration option is enabled. EC is replaced by one of the following symbols, depending on the error control method used.		
<b>V42bis</b>	V.42 error control and V.42bis data compression	
<b>V42</b>	V.42 error control only	
<b>NoEC</b>	No error control protocol	

## S-register

<b>S38</b>	56K Dial Line Rate
	S38 sets the maximum 56K downstream that the modem attempts to connect.
	S38=0                      56K disabled
	S38=1 (default)        56K enabled: automatic speed selection - maximum modem speed

# Internal Modem Guide

This manual guides you through the installation of the internal modem for the 8100 computer. Please read through it carefully before you begin, so you can get an overview of the procedure. Then follow the guides step by step as you install the internal modem.

If your internal modem was preinstalled, you should read the sections *Connection procedures* and *Precautions and notes*. Please keep this manual for use if you upgrade your modem at a later date.

## Tools

You will need the following equipment to disassemble the computer and install the internal modem:

- A 2 mm Phillips screwdriver to remove and replace screws.
- Tweezers to lift out screws that may be difficult to grasp with your fingers.

## Before you begin

Look over the procedures in this document before you begin installing the internal modem. Familiarize yourself with the steps and remember the following points:

1. After removing parts from the computer, put them in a safe place away from the computer so they are not damaged and do not interfere with your work.
2. You will remove and replace screws during the installation. When you remove screws, make sure they are put in a safe place.

When you are familiar with the procedures and information in this guide, carefully follow the steps in the next section, *Removing the internal modem*.

---

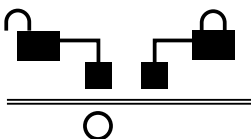
## Removing the internal modem

To access the internal modem slot, you will remove the battery pack.

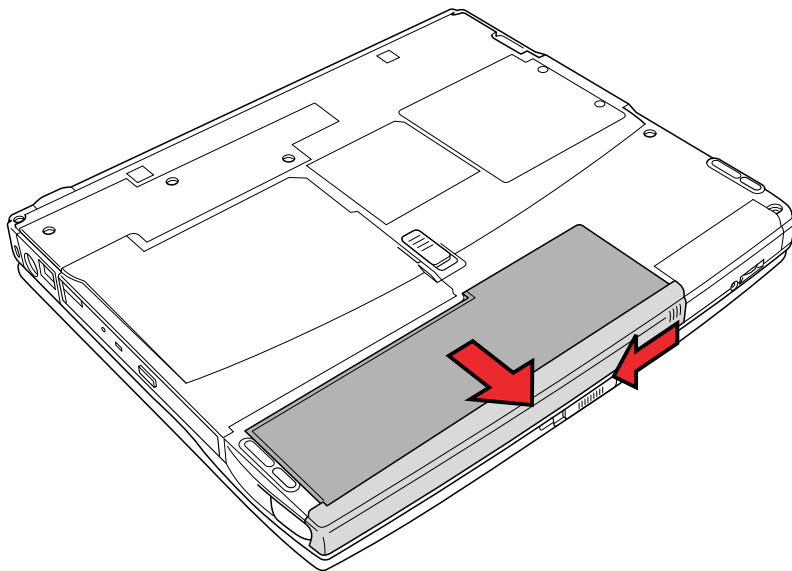
### Removing the battery pack

To remove a battery pack, follow the steps below.

1. Save your work.
2. Turn the computer's power off. Make sure the **Power** indicator is off.
3. Remove all cables connected to the computer.
4. Turn the computer upside down with the front facing you and push the battery cover to the right to the unlock position. A dot on the battery cover should align with the unlock icon.



5. Pull out the battery pack forward to remove it.



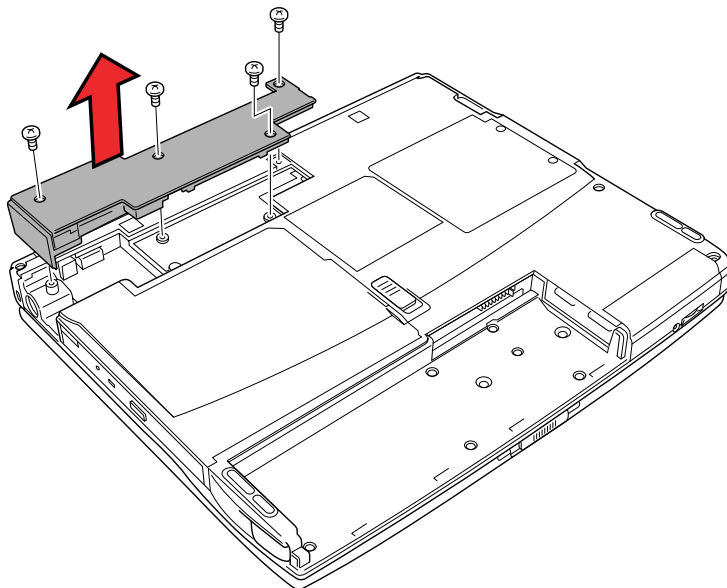
*Removing the battery pack*

---

## Removing the dummy modem

To remove the dummy modem, follow the steps below and refer to the following figure.

1. Remove four screws securing the dummy modem.
2. Lift out the dummy modem.



*Removing the dummy modem*

---

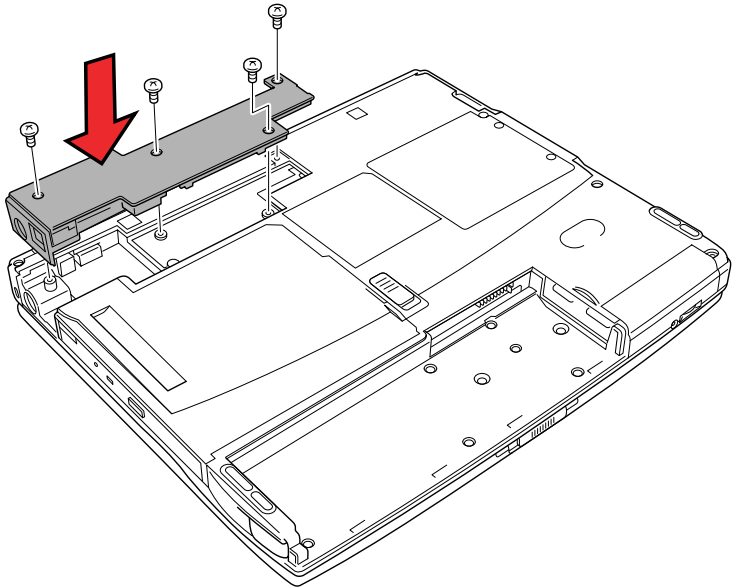
## Installing the internal modem

First install the internal modem board, then replace the battery pack.

### Installing the modem board

To install the internal modem board, follow the steps below and refer to the following figure.

1. Seat the modem board.
2. Secure the modem board with four screws.



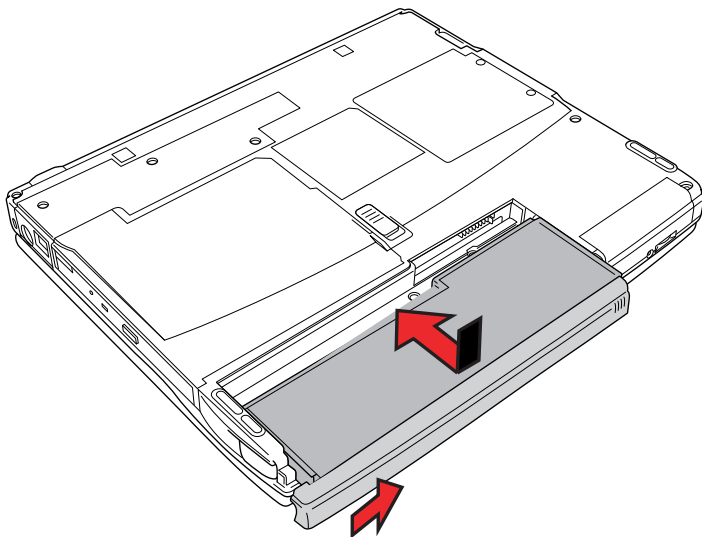
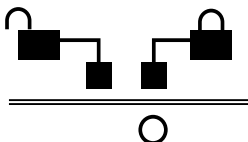
*Installing the modem board*

---

## Installing the battery pack

To install a battery pack, follow the steps below and refer to the following figure.

1. Turn the computer's power off.
2. Make sure the battery cover is pushed to the left, then carefully insert the new or recharged battery pack.
3. Press firmly to ensure a good connection then push the cover into place. A dot on the battery pack cover should align with the lock icon.



*Securing the battery cover and lock*

---

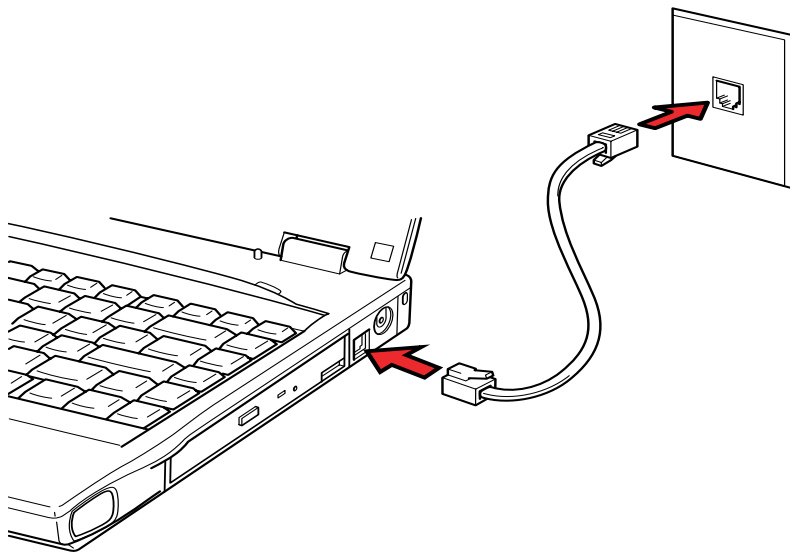
## Connection procedures

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

### Connecting the modem

A standard modular cable is supplied with the internal modem. Follow the steps below to connect the internal modem to a telephone jack.

1. Squeeze the lever and plug the connector into the internal modem's RJ11 jack.
2. Plug the other end of the cable into a standard telephone wall jack.



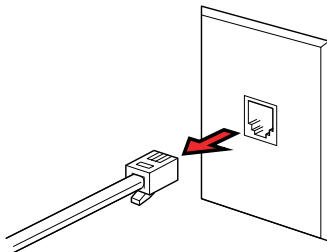
*Connecting the internal modem*

---

## Disconnecting the modem

When you need to disconnect the internal modem cable, follow the steps below.

1. Pinch the connecting lever on the connector in the telephone wall jack and pull out the connector.



*Disconnecting the cable from the wall jack*

2. Disconnect the cable from the computer.

## Precautions and notes

Observe the following precautions and notes.

- In case of a lightning storm, unplug the modem cable from the telephone jack.
- Speaker phone, answering machine and other voice functions are supported only by the computer's internal microphone and speaker.
- When voice functions are used, other sound functions are muted.
- Do not connect the modem to a digital telephone line. A digital line will damage the modem.



---

# Glossary

The terms in this glossary cover the topics discussed in this manual. Alternate naming is included for reference.

## 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.
- analogue signal:** A signal whose characteristics such as amplitude and frequency vary in proportion to (are an analogue of) the value to be transmitted. Voice communications are analogue signals.
- ANSI:** American National Standards Institute. An organisation 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 build-up 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, etc.
- 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.
- AUTOEXEC.BAT:** A batch file that executes a series of MS-DOS commands and programs each time you start the computer. This is no longer necessarily used when booting Windows 95 or WindowsNT 4.0 and higher

---

## 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. See also AUTOEXEC.BAT.
- billion byte (Bi.B):** A unit of data storage equal to 1,000,000,000 bytes. See also million byte.
- 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 diskette (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 Station II:** A device that enables one-point connection to a number of peripheral devices and provides additional ports and slots.

---

**card:** Synonym for board. See board.

**CardBus:** An industry standard bus for 32-bit PC Cards.

**Centronics:** The printer manufacturer whose method of data transmission between a parallel printer and a computer has become an industry standard.

**CGA:** Colour/graphics adaptor. A video display protocol defined by the IBM Colour/Graphics Monitor Adaptor and its associated circuitry. This protocol supports two-colour 640x200 and four-colour 320x200 graphics, and 16-colour 640x200 and 320x200 text modes.

**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. See parallel interface; serial interface.

**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).

**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 Hardware Setup, MaxTime or TSETUP 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).
- 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 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.
- data:** Information that is factual, measurable or statistical that a computer can process, store, or retrieve.
- 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.
- Desk Station V Plus:** An expansion device that provides the computer with additional ports, slots and bays.
- 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.
- 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.
- diskette:** A removable disk that stores magnetically encoded data used on a microcomputer. Also called floppy disk.
- display:** A CRT, plasma screen, LCD, or other image producing device used to view computer output.
- documentation:** The set of manual 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).

## 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.

**EGA:** Enhanced Graphics Adaptor. A video display protocol defined by the IBM Enhanced Graphics Adaptor and its associated circuitry for direct drive TTL displays that supports 16-colour/monochrome 640x350 and 16-colour 640x200 and 320x200 graphics, and 16-colour 640x350 and 320x350 text modes.

**erase:** See delete.

**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.

**escape:** 1) A code (ASCII code 27), signalling 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.

**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.

**fixed disk:** See hard disk.

**floppy disk drive (FDD):** An electromechanical device that reads and writes to floppy disks. See also diskette.

**floppy disk:** See diskette.

**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 labelled **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.

**GND:** Ground. An RS-232C signal used in the exchange of data between a computer and serial device.

**graphics:** The use of drawings, pictures, or other images, such as charts or graphs, to present information.

## H

---

**hard disk drive (HDD):** An electromechanical device that reads and writes a hard disk. *See also* hard disk.

**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.

**Hardware Setup:** A Toshiba utility that lets you set the parameters for various hardware components.

**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 dock/undock:** Connecting or disconnecting a device to or from the computer while the computer's power is turned on.

**hotkey:** 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.

---

## I

**I/O devices:** Equipment used to communicate with the computer and transfer data to and from it.

**I/O:** Input/output. Refers to acceptance and transfer of data to and from a computer.

**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.

**infrared port:** A cableless communications capable of using infrared signals to send serial data.

**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.

## 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 megabit.

---

## 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 darkens the liquid crystal to provide contrast to lighted portions of the display.

**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 the large scale integration.

---

## M

**magiCDisc:** A Toshiba utility that lets you create a CD-ROM data base for quick access to CD-ROM data.

**main board:** See motherboard.

**maths co-processor:** A circuit built into the processor that is dedicated to intensive math calculations.

**MaxTime:** A Toshiba utility that lets you set the parameters for various power-saving functions.

**MDA:** Monochrome Display Adaptor. A video display protocol defined by the IBM Monochrome Display Adaptor and its associated circuitry for direct drive TTL displays that supports a monochrome 720x350 text mode.

**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.

**million byte (GB):** A unit of data storage equal to 1,000,000 bytes.

**MMX:** Refers to microprocessors with additional instructions beyond the x86 standard. The instructions were developed on the basis of multimedia code requirements and thus improve the performance of multimedia applications.

**mode:** A method of operation, for example, the boot mode or the resume 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* 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.

**MousePoint:** A pointing device integrated into the Toshiba computer keyboard.

**MPEG:** Moving picture coding expert group is an industry standard architecture for compression of video signals.

## N

---

**non-system disk:** A formatted diskette (floppy disk) you can use to store programs and data but you cannot use to start the computer. *See* system disk.

**non-volatile 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 non-volatile 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 wand:** A device that reads, using an optical device, hand written or machine printed symbols into a computer. *See also* OCR.

**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.

**on-line state:** A functional state of a peripheral device when it is ready to receive or transmit data.

**operating system:** A group of programs that controls the basic operation of a computer. Operating system functions include interpreting programs, creating data files, and controlling the transmission and receipt (input/output) of data to and from memory and peripheral devices.

**output:** The results of a computer operation. Output commonly indicates data 1) printed on paper, 2) displayed at a terminal, 3) sent through the serial port of internal modem, or 4) stored on some magnetic media.

---

## P

**parallel interface:** Refers to a type of information exchange that transmits information one byte (8 bits) at a time. See *also* serial interface.

**parallel:** Refers to two or more processes or events that can occur simultaneously, and without interfering with each other. See *also* serial.

**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, supervisor and eject.

**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.

**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 95 that enables the system to automatically recognise 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.

**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 fibreglass, 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.

**RAMDRIVE:** Part of the computer's random access memory assigned to simulate a disk. RAMDRIVE is a feature of MS-DOS.

**Random Access Memory (RAM):** High speed memory within the computer circuitry that can be read or written to.

**RCA jack:** A single-pin connector that carries composite video signals, which include both contrast and colour information. See also S-video.

**restart:** Resetting a computer without turning it off (also called 'warm boot' or 'soft reset'). To restart the computer, press **Ctrl + Alt + Del** while the computer is on. See also boot.

**resume:** A feature that lets you turn off the power without first exiting a program and retain your data in RAM. When you turn on the computer, the screen appears the same as when you turned it off.

**RGB:** Red, green, and blue. A device that uses three input signals, each activating an electron gun for a primary additive colour (red, green, and blue) or port for using such a device. See also CRT.

**RJ11:** A modular telephone jack.

**ROM:** Read Only Memory: A non-volatile memory chip manufactured to contain information that controls the computer's basic operation. You cannot access or change information stored in ROM.

**RS-232C:** The Electronic Industries Association (EIA) interface standard that describes the 25-pin connector interface and control, data, and status signals that allow asynchronous communications between computers, printers, communications and other peripheral devices.

---

## S

**SCSI:** Small Computer System Interface is an industry standard interface for connection of a variety of peripheral devices.

**serial communications:** A communications technique that uses as few as two interconnecting wires to send bits one after another.

**serial interface:** Refers to a type of information exchange that transmits information sequentially, one bit at a time. Contrast: Parallel interface.

**serial port:** A communications port to which you can connect devices, such as a modem, mouse, or serial printer.

**serial:** The handling of data bits one after the other.

---

**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 colour LCD. The computer sets subpixels independently, each may emit a different degree of brightness. *See also* pixel.

**S-video:** This connection provides separate lines for contrast and colour, which produces a video image superior to that produced by a composite connection. *See also* RCA jack.

**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

**TDIAG:** A Toshiba diagnostic program used for testing and configuring the computer system's resources.

**terminal:** A typewriter-like keyboard and CRT display screen connected to the computer for data input/output.

**TFT:** A colour LCD technology that applies individual transistors to each pixel enabling fine display control and excellent screen legibility.

**TTL:** Transistor-transistor logic. A logic circuit design that uses switching transistors for gates and storage.

---

## U

**USB:** The *Universal Serial Bus* is a way to connect up to 127 devices through one connector. A new development in 1997, this offers significantly improved ease of use and reliability than earlier expansion methods.

## 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 the computer is connected to a power source.

## W

**Warm dock/undock:** Connecting or disconnecting a device to or from the computer while the computer is suspended.

**warm start:** Restarting or resetting a computer without turning it off.

**window:** A portion of the screen that can display its own application or document. Often used to mean a Microsoft Windows window.

**write protection:** A method for protecting a diskette (floppy disk) from accidental erasure.

## Z

**ZV port:** Zoomed Video port dedicated to high-performance video data transfer.



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# Index

## A

- AC adaptor, 1-5, 2-11
  - additional, 1-13
  - connecting, 3-5
- AccuPoint II, 1-8, 2-8, A-5
  - problems, 9-12
- AccuPoint II control buttons, 2-8
- Additional AC adaptor, 8-10
- ASCII characters, 5-8, G-1
- Auto power on, 1-10, 6-18
- Automatic power off, 1-9

## B

- Back side, 2-5
- Battery. *See also* Battery pack
  - automatic suspend, 1-11
  - backup, 1-4
  - care and use of, 6-6
  - charging, 6-7
  - charging notice, 6-8
  - charging time, 6-7
  - extending life, 6-10
  - main, 6-4
  - monitoring capacity, 6-8
  - problems, 9-6
  - real time clock, 1-4, 6-5
  - safety precautions, 6-6
  - save mode, 1-10
  - saving power, 6-9. *See also* Battery save mode
  - secondary, 6-5
  - types, 6-4
- Battery charger, 1-14, 8-10
- Battery indicators, 6-3
- Battery pack, 1-4, 2-6
  - additional, 1-13, 8-9
  - removing, 6-11
  - replacing, 6-10
  - secondary, 8-9
- Battery Pack
  - installing, 6-12
- Boot mode. *See* Power-up modes

## C

- CardDockadditional, 1-14
- CD-ROM drive, 1-6, 8-12
  - using, 4-6
- CDs
  - loading, 4-6
  - removing, 4-9
- Certification agencies, B-1
- Cleaning the computer, 4-15
- CPU Cache
  - enabling/disabling, 7-7

## D

- DC IN
  - indicator, 2-10
- DC IN indicator, 6-3
- Diagnostic test
  - choosing options, 9-18
  - execution, 9-17
  - sequence, 9-19
  - subtests, 9-19
    - display, 9-20
    - hard disk, 9-23
    - printer, 9-24
    - system/memory, 9-19
- Diagnostic test, 9-17
- Diagnostic tests
  - subtests
    - diskette, 9-23
- Disk
  - indicator, 2-10
- diskette care, 4-13
- Diskette drive
  - problems, 9-11
- diskette drive attachment
  - using, 4-10
- Diskette drive attachment, 1-14
- Disks, A-3
- Display, 1-6, A-3. *See also* Video
  - modes and Monitor
  - automatic power off, 1-9
  - Opening, 3-6

- Display controller, E-1
- Display Driver for Windows
  - definition, 1-12
- Display hinges, 2-8
- Docking interface port, 1-7, 2-5
- DVD Video Player
  - definition, 1-12
- DVD-ROM drive, 1-6, 8-12
  - problems, 9-10
  - using, 4-6

## E

- Emulating Fn key on external keyboard, 5-6
- Environmental Requirements, A-1
- Equipment checklist, 1-1
- Equipment setup
  - computer placement, 3-2
  - general conditions, 3-2
- Ergonomics
  - lighting, 3-4
  - seating and posture, 3-3
  - work habits, 3-4
- Expansion Station, 8-13
  - additional, 1-13
- External diskette drive port, 1-7, 2-3
- External monitor, 8-14
- External monitor port, 1-7, 2-5

## F

- Features, 1-4
  - special, 1-9
- Fn + F1 (instant security), 5-4
- Fn + F2 (power save mode), 5-4
- Fn + F4 (alarm volume), 5-5
- Fn + F4 (speaker volume), 5-5
- Fn+F10 (arrow mode), 5-3, 5-6
- Fn+F11 (numeric mode), 5-3, 5-7

## H

- Hard disk drive, 1-5
  - automatic power off, 1-9
  - installing, 8-6
  - problems, 9-8
  - removing, 8-5
- Hard disk drive pack, 2-2, 8-5
- Hardware setup
  - definition, 1-12
- Headphone jack, 2-3
- Heat dispersal, 1-11, 4-16
- Hibernation, 1-11, 9-16

- Hot keys, 5-4
  - definition, 1-9
  - instant security, 5-4
- Hotkeys
  - alarm volume, 5-5

## I

- Indicator panels, 2-9
- Indicators
  - arrow mode, 2-9
  - Caps Lock, 2-9
  - DC IN, 2-10
  - disk, 2-10
  - Main battery, 2-10
  - numeric mode, 2-9
  - power, 2-10
  - secondary battery, 2-10
  - SelectBay, 2-10
- Infrared port, 1-8, 2-6
  - problems, 9-11
- Intelligent power supply, 1-10
- IntelliSync
  - definition, 1-13
- Internal modem, A-5
- Internal Modem Guide, I-1
- International keyboards. See Keyboard. See Keyboard

## J

- Jack
  - video-out, 1-8

## K

- K56flex, H-1
- K56flex mode, H-1
- Keyboard, 1-4, A-4
  - emulating keys on enhanced keyboard, 5-3
  - F1...F12 function keys, 5-2
  - Light grey keys, 5-1
  - problems, 9-7
  - soft keys
    - Fn key combinations, 5-3
  - Soft Keys/ Alt Gr Key
    - Combinations, 5-2
    - Windows 95/98 keys, 5-6
- Keyboard indicator panel, 2-8
- Keyboard overlay
  - temporarily changing modes, 5-8
  - temporarily using the overlay, 5-8

---

- Keypad overlay, 1-9, 5-6
  - arrow mode, 5-6
  - numeric mode, 5-7
  - temporarily using the normal keyboard, 5-7
  - turning on, 5-6

## L

- LAN driver
  - definition, 1-12
- LCD. See Display, Video modes, Monitor
- Left side, 2-3
- Level 2 cache, 1-4
- Lock, security. See Security lock.
  - See Security lock

## M

- Main battery, 6-4. See Battery pack indicator, 2-10
- Memory, A-2
  - expansion, 1-4, 1-13
- Memory expansion, 9-16
- Memory expansion, 8-7
- Memory module
  - removing, 8-8
- Memory module cover, 2-7
- Microphone, 2-8
- Microphone/stereo speakers, 1-8
- Microprocessor. See also Processor
- Monitor. See also Video modes and Display
  - external, 8-14
- Monitor external
  - problems, 9-14
- Mouse
  - PS/2
    - problems, 9-13
  - serial
    - problems, 9-13
- Mouse/keyboard port
  - PS/2
    - port location, 2-5
- MousePoint
  - using, 4-1
- Moving the computer, 4-16

## N

- NetDock Port Replicator, 8-12
  - additional, 1-13
- NetDock Port Replicator II, 2-6
- Numeric keypad, 5-6. See Keypad overlay

## O

- Options, A-6
- Overlay. See Keypad overlay

## P

- Panel power on/off, 1-10, 6-17
- Parallel port, 2-5. See Ports, parallel
- Parallel printer, 8-14
- Password
  - supervisor, 7-14
- Password, 7-4
  - enabling TSETUP access, 7-18
  - hard disk, 7-15
  - instant, 1-10
  - problems, 9-7
  - registration indication, 7-4
  - resetting, 7-16
  - setting, 7-14
  - starting the computer by, 6-13
  - supervisor logon, 7-13
  - user, 7-15
  - user logon, 7-13
- Password service diskette
  - making, 7-19
- Passwords, 7-13
- PC card slot, 2-3, A-5
- PC card slots, 1-8
- PC cards, 8-2
  - installing, 8-2
  - removing, 8-3
- Physical dimensions, A-1
- Plug and Play, 1-8
- Ports, A-4
  - Docking interface port, 2-5
  - external diskette drive, 1-7
  - external monitor, 1-7
  - infrared, 1-8, 2-6
  - parallel, 1-7, 2-5
  - PS/2 mouse/keyboard port, 2-5
  - PS/2™ mouse/keyboard, 1-7
  - serial, 1-7
  - serial port, 2-5

- Power
  - auto power on, 1-10, 6-18
  - DC input, 2-5
  - indicator, 2-10
  - panel power on/off, 1-10, 6-17
  - ring indicator power on, 1-11, 6-18
  - turning off, 3-8
  - turning on, 3-7
- Power conditions, 6-1
- Power indicator, 6-4
- Power indicators, 6-3
- Power Requirements, A-2
- Power save mode. See Battery save mode and Hotkeys
- Power Saver Utility
  - definition, 1-12
- Power supply, intelligent, 1-10
- Power switch, 2-3
  - cover, 2-3
- Power-up modes, 6-14. See also
  - Resume
    - boot, 6-14
  - Resume, 6-15
- Problems. See also Diagnostic test
  - AC power, 9-5
  - AccuPoint II, 9-12
  - analysing symptoms, 9-2
  - diskette drive, 9-11
  - DVD-ROM drive, 9-10
  - hard disk drive, 9-8
  - hardware and system checklist, 9-3
  - hot keys, 9-7
  - infrared port, 9-11
  - initial precautions, 9-1
  - keyboard, 9-7
  - LCD panel, 9-8
  - monitor, external, 9-14
  - mouse
    - PS/2, 9-13
    - serial, 9-13
  - overheating, 9-5
  - password, 9-7
  - PC card, 9-13
  - power sources, 9-4
  - preliminary checklist, 9-2
  - printer, 9-12
  - self test, 9-4
  - sound system, 9-14
  - support from Toshiba, 9-25
  - system start-up, 9-3

- Processor, A-2. See also
  - Microprocessor
- Processor Serial Number, 7-7
- PS/2 keyboard, 8-16
- PS/2 mouse, 8-16
  - connecting, 8-16
- PS/2™ mouse/keyboard port, 1-7

## R

- Real time clock battery, 1-4, 6-5
- Region Codes, 2-14
- Reset button
  - location, 2-2
- Restarting the computer, 3-8
- Restoring the preinstalled software, 3-9
- Resume, 1-11, 6-15. See also
  - TSETUP and MaxTime
  - automatic enabling, 6-16
  - error conditions, 6-17
  - precautions, 6-16
  - setting, 7-13
- Retaining data with power off, 6-10
- Right side, 2-4
- Ring indicator power on, 1-11, 6-18

## S

- Screen. See Display and LCD
- ScrLock (Fn + F12), 5-3
- Secondary battery, 6-5
  - indicator, 2-10
- Security lock, 1-14, 8-17
  - location, 2-4
- Select Bay lock, 2-6
- SelectBay, 1-5
  - indicator, 2-10
  - modules, 2-12
    - CD-ROM drive, 2-14
    - diskette drive, 2-12
    - DVD-ROM drive, 2-13
    - secondary battery pack, 2-15
    - secondary hdd, 2-16
- SelectBay cover, 1-5
- SelectBay HDD Adaptor II, 8-10
- SelectBay modules
  - changing, 4-3
- SelectBay utility
  - definition, 1-13
- Self Test, 9-4
- Sensor switch, 2-8
- Serial port, 2-5. See Ports, serial

---

- Setting up, 3-1
- Soft keys, 5-3
  - emulating enhanced keyboard
  - Enter, 5-3
  - numeric mode, 5-3
  - right Alt key, 5-4
  - right Ctrl key, 5-4
  - ScrLock, 5-3
- Software, A-5
- Sound drivers
  - definition, 1-12
- Sound system, 1-6, A-5
  - microphone, 4-14
  - Microphone jack, 2-3
  - problems, 9-14
- Special features, 1-9
- Specifications, A-1
- S-register, H-2
- System Auto Off, 6-17. See also
  - MaxTime, machine settings and
  - SETUP, battery save options
- System indicator panel, 2-2, 2-8

## T

- Television, 8-15
- Troubleshooting. See Problems
- TSETUP, 7-1
  - definition, 1-13
  - options, 7-4
    - alarm volume, 7-8
    - auto power on, 7-8
    - battery save mode, 7-5
    - boot priority, 7-7
    - configuration, 7-9
    - display, 7-7
    - drives I/O, 7-12
    - ext keyboard "Fn", 7-6
    - floppy disk I/O, 7-12
    - hard disk mode, 7-6
    - I/O ports, 7-9
      - parallel, 7-11
      - serial, 7-9
    - level 2 cache, 7-7
    - memory, 7-4
    - others, 7-7
    - panel power on/off, 7-8
    - parallel port mode, 7-6
    - password, 7-4
    - PC card, 7-12
    - PCI bus, 7-11
    - peripheral, 7-6
    - pointing devices, 7-6
    - power-up mode, 7-7
    - system beep, 7-8
    - USB legacy emulation, 7-6
- TV output signal, 9-15

## U

- Underside, 2-6
- Universal Serial Bus port, 1-7
  - location, 2-6
- USB, 9-15

## V

- Video modes, E-1
- Video RAM, 1-4
- Video-out, 2-4
- Video-out jack, 1-8
- Volume control, 2-2

## W

- Weight saver, 2-16

