1. Prepare the card for removal by right-clicking the **Safely Remove Hardware** icon on the system tray and then selecting the card or device you want to remove.

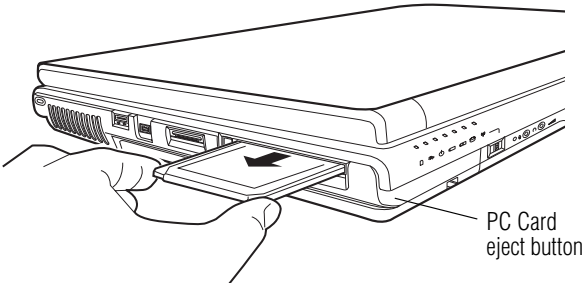
   If the system is unable to prepare the card for safe removal, a message will tell you to try again later. If the card can be removed now, the system displays **Safe to Remove Hardware**.

2. Locate the PC Card eject button.

3. Press the PC Card eject button once to pop it out slightly, and push it in to remove the PC Card.

   The PC Card ejects slightly from the slot.

4. Grasp the edges of the PC Card and slide it out of the slot.




*(Sample Illustration) Removing a PC Card*

## Setting up a PC Card for your computer

Some PC Cards are ready to use as soon as you install them. Others, such as hard disk cards, network cards, and SCSI adapters, may need to be set up to work with your computer. To set up your PC Card, refer to the documentation that came with the card or refer to your operating system manual or online Help.

# Using the Bridge Media Adapter Slot

**(Available on certain models)**

The Bridge Media Adapter slot (available on certain models) supports the use of Memory Stick™, Memory Stick™ PRO, Secure Digital™ (SD™), MMC™ (MultiMediaCard™), or xD-Picture Card™ media. These media can be used with a variety of digital products: digital music players, cellular phones, PDAs, digital cameras, digital video camcorders, etc.

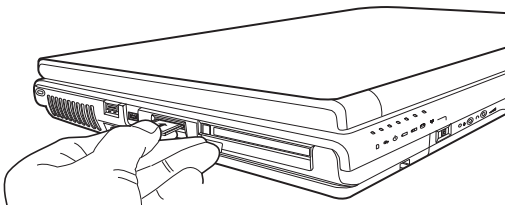
The Bridge Media Adapter slot may also support other types of media. For a complete list of supported media, visit Toshiba's Web site at accessories.toshiba.com.

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

## Inserting memory media

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

1. Turn the media so that the contacts (metal areas) are face down.
2. Push the media into the adapter until it locks in place.



*(Sample Illustration) Inserting memory media*

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

## Removing memory media

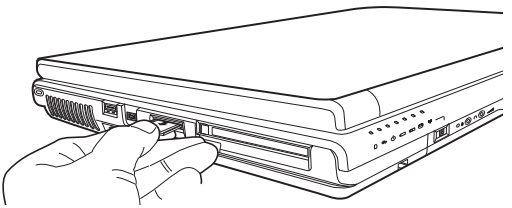
1. Prepare the media for removal by right-clicking the **Safely Remove Hardware** icon on the system tray and then selecting the card or device you want to remove.

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

2. Gently press the card inward to release it.

   The card pops out slightly.

3. Grasp the card and pull it straight out.



*(Sample Illustration) Removing memory media*

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

# Using the i.LINK® port

**(Available on certain models)**

The i.LINK® port (available on certain models) on the left side of the computer provides an extremely fast data transfer rate.

In addition to high speed, the i.LINK® port also supports isochronous data transfer (the delivery of data at a guaranteed rate). This makes it ideal for devices that transfer high levels of data in real-time, such as video devices.

As with USB ports, the i.LINK® port supports both Plug-and-Play (automatic configuration) and hot swapping (the ability to connect and disconnect devices while the computer is on).

# Using an expansion device

The expansion port is used to connect your computer to an expansion device. This is an excellent investment if you are using your computer both in and out of the office.

When you return to your desk, you can then connect to your network, print reports from your computer, or use a mouse instead of your computer's pointing device. Connecting cables for each of these devices every time you return to the office can be time-consuming.

With an expansion device, you can leave external devices connected while you are using your computer away from your desk. When you return, you can quickly connect your computer and have immediate access to all the devices.

For more information, see the accessories information package that comes with the device or visit accessories.toshiba.com.

# Chapter 5

# Toshiba Utilities

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

- TOSHIBA Assist
- TOSHIBA Application Installer
- Supervisor password
- User password
- TOSHIBA Password Utility
- TOSHIBA PC Diagnostic Tool Utility
- TOSHIBA HDD Protection Utility
- Fn-esse®
- TOSHIBA Hotkey Utility
- TOSHIBA SD™ Memory Card Format Utility
- TOSHIBA SD™ Memory Boot Utility
- TOSHIBA Power Saver
- Mouse Utility

- Toshiba Hardware Setup
- TOSHIBA Rotation Utility
- Tablet and Pen Settings
- Cross Menu Utility
- TOSHIBA Tablet Access Code Utility
- TOSHIBA Zooming Utility
- TOSHIBA Button Controls
- CD/DVD Drive Acoustic Silencer
- TOSHIBA Accessibility
- TOSHIBA Mobile Extension
- Fingerprint Authentication Utility

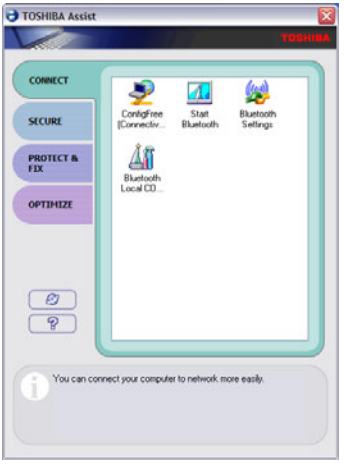
# TOSHIBA Assist

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

To access TOSHIBA Assist, do one of the following:

- Double-click the **TOSHIBA Assist** shortcut icon on the desktop.
- Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **TOSHIBA Assist**.

The TOSHIBA Assist window appears.




*(Sample Image) TOSHIBA Assist window*

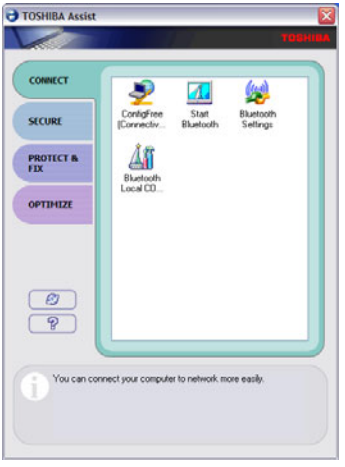
The TOSHIBA Assist offers four categories of options:

- Connect
- Secure
- Protect & Fix
- Optimize

## Connect

The features available in this category are:

- ConfigFree™ Connectivity Doctor
- ConfigFree
- *Bluetooth*® Settings
- *Bluetooth* Local COM Settings
- TOSHIBA Application Installer

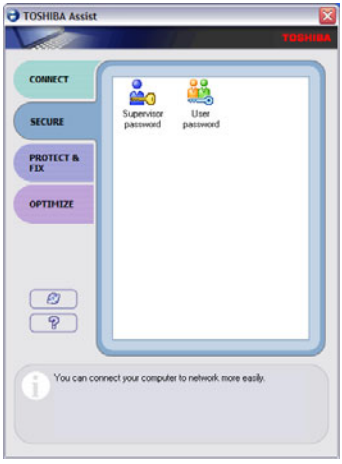



*(Sample Image) TOSHIBA Assist window – Connect tab*

## Secure

The features available in this category are:

- User password
- Supervisor password
- TOSHIBA Password Utility

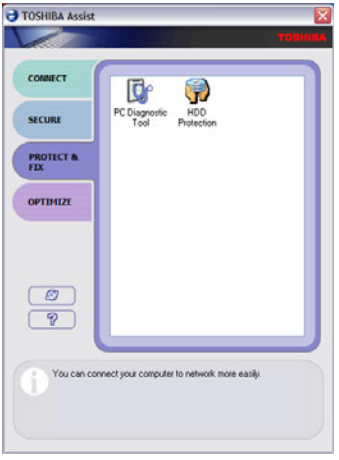



*(Sample Image) TOSHIBA Assist window – Secure tab*

## Protect & Fix

The features available in this category are:

- TOSHIBA PC Diagnostic Tool Utility
- TOSHIBA HDD Protection Utility

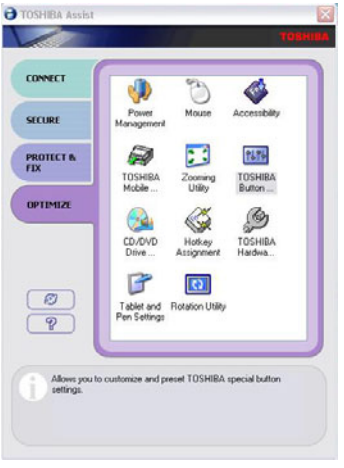



*(Sample Image) TOSHIBA Assist window – Protect & Fix tab*

## Optimize

The features available in this category are:

- Hotkey assignment using Fn-esse®
- TOSHIBA Hotkey Utility
- TOSHIBA SD™ Memory Card Format Utility
- TOSHIBA SD™ Memory Boot Utility
- TOSHIBA Power Saver
- Mouse Utility
- Toshiba Hardware Setup
- TOSHIBA Zooming Utility
- TOSHIBA Button Controls
- CD/DVD Drive Acoustic Silencer
- TOSHIBA Accessibility
- Fingerprint Authentication Utility




*(Sample Image) TOSHIBA Assist window – Optimize tab*

# TOSHIBA Application Installer

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

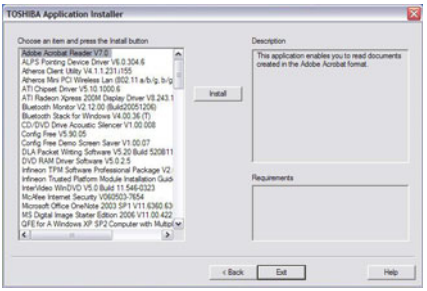
To reinstall drivers and applications:

1 Double-click the **TOSHIBA Application Installer** icon on the Windows® desktop.

2 Click **Next**.


*(Sample Image) TOSHIBA Application Installer screen*

3 Click the item(s) you want to install. To select multiple items, hold down the Ctrl key as you make your selections.




*(Sample Image) TOSHIBA Application Installer selection screen*

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

# Setting passwords

Setting a password lets you walk away from your computer, secure in the knowledge that nobody can access your files. When you set a password, you must enter the password before you can work on your computer again.

Toshiba supports several types of passwords on your computer:

- An instant password — Secures your open programs and files when leaving the computer temporarily.
- A power-on password — Prevents unauthorized users from starting or restarting the computer.
- A supervisor password — Prohibits unauthorized users from accessing certain functions such as TOSHIBA Hardware Setup. This is useful if more than one person uses the computer.

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

When setting up the various passwords, keep the following in mind:

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

## Using an instant password

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

To use an instant password, press Fn, then press F1. This freezes the keyboard and TouchPad, and blanks the screen. An instant password has no effect on an optional USB mouse or trackball.

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

## Setting a user password

To register a password for the power-on password functions:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **TOSHIBA Assist**.

   The TOSHIBA Assist window appears.

2. On the left side, select **Secure**.

3. Select the **User Password** icon.
4. Click **Set**.
5. Enter your password then enter it again to verify.
6. Click **Set**.
7. Click **OK** if you want to save the password to a text file on a diskette or media of your choice, or click **Cancel** to continue without saving the password to a text file.
8. Click **OK** to exit.

## Disabling a user password

To cancel the power-on password function:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **TOSHIBA Assist**.

   The TOSHIBA Assist window appears.

2. On the left side, select **Secure**.

3. Select the **User Password** icon.
4. Click **Delete**.
5. Follow the on-screen instructions to remove the user password.

# Using a supervisor or user password

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

## Setting a supervisor password

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

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

To register a password for the power-on password functions:

1 Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **TOSHIBA Assist**.

The TOSHIBA Assist window appears.

2 On the left side, select **Secure**.


*(Sample Image) TOSHIBA Assist Security window*

3. Select the **Supervisor Password** icon.
4. Click **Set**.
5. Enter your password then enter it again to verify.
6. Click **Set**.
7. Click **OK** if you want to save the password to a text file on a diskette or media of your choice, or click **Cancel** if you do not want to save the password to a text file.
8. Click **OK** to exit.

## Deleting a supervisor password

To cancel the power-on password function:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **TOSHIBA Assist**.

   The TOSHIBA Assist window appears.
2. On the left side, select **Secure**.

3. Select the **Supervisor Password** icon.
4. Click **Delete**.
5. Follow the on-screen instructions to remove the supervisor password.

# TOSHIBA Password Utility

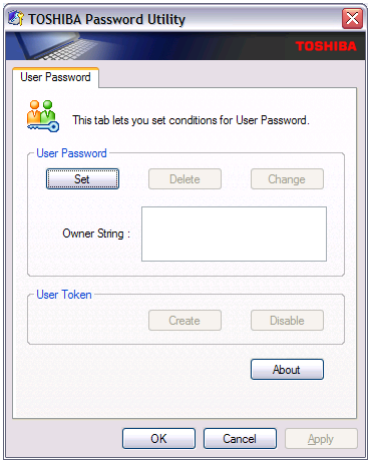
The TOSHIBA Password Utility allows you to set a user-level password in TOSHIBA Assist or in System Setup.

To use the TOSHIBA Password utility:

1. Start TOSHIBA Assist.

2. Click the **Secure** tab, then click the **User Password** icon.

   The TOSHIBA Password Utility window appears.




*(Sample Image) TOSHIBA Password Utility window*

3 Click **Set**.

4 Enter a password, then enter it again to verify.

5 Click **Set**.

6 Click **OK** if you want to save the password to a text file on a diskette or media of your choice. Click **Cancel** if you do not want to save the password to a text file. This is known as the password service diskette.

7 Click **OK** to exit.

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

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

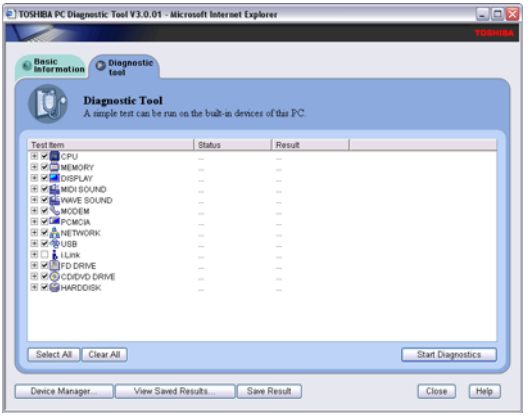
# TOSHIBA PC Diagnostic Tool Utility

This utility can help diagnose problems with devices in your computer. Refer to the online Help documentation within the application for additional help.

To use the TOSHIBA PC Diagnostic Tool utility:

1 Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **PC Diagnostic Tool**, or click the **PC Diagnostic Tool** icon in the **Protect & Fix** tab of TOSHIBA Assist.

The PC Diagnostic Tool window appears.




*(Sample Image) PC Diagnostic Tool window*

2 Select the devices that you would like to test by clicking the check box that appears to the left of the device.

NOTE Click the + (plus) and - (minus) symbols to expand and collapse the categories.

3 Click **Start Diagnostics** when you are ready to begin the tests.

# TOSHIBA HDD Protection Utility

The TOSHIBA HDD Protection utility controls your computer's hard disk drive (HDD) protection feature, which parks the HDD whenever motion is detected on the computer. Using this utility, you can enable or disable hard disk drive (HDD) protection, and set the motion detector's sensitivity level for AC power and battery power operation.

To use the TOSHIBA HDD Protection utility:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **HDD Protection**, or click the **HDD Protection** icon in the **Protect & Fix** tab of TOSHIBA Assist.

   The TOSHIBA HDD Protection Properties window appears.


*(Sample Image) HDD Protection Properties window*

2. Select **ON** to enable HDD protection, or select **OFF** to disable HDD protection.
3. Set the battery and AC power detection levels as desired.
4. Click **OK**.

# Fn-esse®

Desktop shortcuts and Toshiba's Fn-esse program provide quick ways to open programs, documents, and folders from within any Windows® program without using the Start menu. For more information on creating desktop shortcuts, refer to the operating system documentation that came with your computer.

This section describes how to use the Fn-esse program to quickly access your programs and files.

With Fn-esse, you can assign an Fn key combination to:

- Open a Windows® operating system program
- Open a file in its associated program
- Display a customized folder of programs and/or files from which to choose

Fn-esse also has several keys, known as hot keys, that perform preassigned operations. For more information, see "Hot Keys" on page 255.

You can assign any key that is not associated with a hot key or a keyboard overlay.

## Starting Fn-esse®

Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **Fn-esse**, or click the **Hotkey Assignment** icon in the **Optimize** tab of TOSHIBA Assist.

The Fn-esse keyboard appears.


*(Sample Image) Fn-esse screen*

The keys are color-coded as follows:

- Available keys are dark gray with white letters.
- Assigned keys and keys associated with a popup list are shown on the Fn-esse keyboard in the selected color.
- Unavailable keys are light gray.

There are two ways to assign a key to open a program or document:

- Using drag-and-drop
- Using the keyboard or pointing device

The method most often used is drag-and-drop.

## Using drag-and-drop to assign a key

To assign a key to open a program or document:

1. Start both Fn-esse and Windows® Explorer (or the program supporting drag-and-drop).
2. Resize the Explorer window so that you can see both the Fn-esse keyboard and Explorer at the same time.
3. In the Explorer window, highlight the program or document file you wish to assign to a key.
4. Click and hold the primary button as you drag the highlighted item from Explorer to the key on the Fn-esse keyboard which you are assigning to the item.
5. Release the primary button.

   Fn-esse displays the Add/Edit Command dialog box with the Description, Command Line, and Working Directory fields automatically completed.
6. Click **OK** to close the Add/Edit Command dialog box with your key assignment in place.

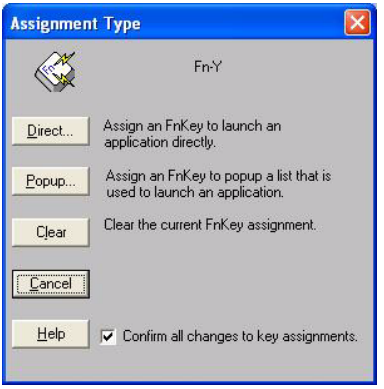
   The program or document is now associated with the key you just selected. To open the program or document, press Fn plus the appropriate key from within any Windows®-based program.

## Using the keyboard or pointing device to assign a key

To assign a key to open a program or document:

1. Start Fn-esse.
2. Perform one of the following:
   - Using the keyboard, press and hold the Fn key, then press the desired assignment key.
   - Using the pointing device, move the cursor over the desired key in the Fn-esse window and press the secondary button.

The Assignment Type dialog box appears.




*(Sample Image) Fn-esse assignment type dialog box*

Follow the instructions in "Making a direct key assignment" on page 172 or "Making a popup assignment" on page 173.

## Making a direct key assignment

1. Select **Direct** to display the Add/Edit Command dialog box.
2. Enter the Description, Command Line, and Working Directory for the new Fn-esse key assignment, or click the **Browse** button to specify this information.
3. Click **OK**.

## Making a popup assignment

1. Select **Popup** to display the Application Explorer dialog box.
2. Select the desired folder. The left side of the Application Explorer window displays the folders in the All Programs menu. The right side lists the programs and documents in the folder. These are the items that will appear in the popup list.
3. To create a popup list with items from various folders, or to pick only a few items from a folder, create a new folder containing only the desired programs and documents. If you are unsure how to do this, refer to your operating system documentation.
4. Click **OK** to associate the folder with the key you just selected.

   To open a popup list showing the items in that folder, press Fn plus the appropriate key from within any Windows®-based program.

## Viewing existing key assignments

To view the existing key assignments, choose **Assignments** from the Fn-esse keyboard. Fn-esse displays the Function Key Assignments dialog box. This box lists all the key assignments and the program or document to which each key is assigned.

To view items in a popup list, select the **Expand popup lists** check box.

## Changing or removing existing key assignments

On the Fn-esse keyboard, click the key you wish to change with the secondary button.

Fn-esse displays the Assignment Type dialog box.

- To change the key assignment, click **Direct** or **Popup** and continue as if you were creating a new assignment.
- To remove the key assignment, click **Clear**.

# TOSHIBA Hotkey Utility

The TOSHIBA Hotkey utility allows you to receive a confirmation message when you use the Hotkey combination for Standby [Fn+F3] and Hibernation [Fn+F4].

To activate the Hotkey utility:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **Hotkey utility**.

   The TOSHIBA Hotkey window appears.


*(Sample Image) TOSHIBA Hotkey Utility window*

2. Select the desired option(s).
3. Click **OK**.

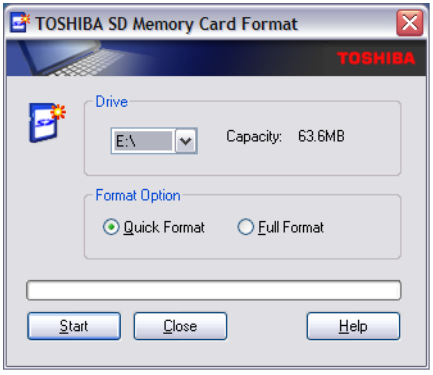
# TOSHIBA SD™ Memory Card Format Utility

This utility is used to format SD™ cards used with the Bridge Media Adapter slot.

To format an SD memory card using this utility:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **SD Memory Card Format**, or click the **SD Memory Card** icon in the **Optimize** tab of TOSHIBA Assist.

   The SD Memory Card Format screen appears.




*(Sample Image) SD Memory Card Format screen*

2. Select the drive corresponding to the SD memory card.
3. Select the formatting option:
   - **Quick Format**
   - **Full Format**
4. Click **Start** to begin formatting. The formatting progress is displayed in the horizontal bar in the window.
5. When formatting is completed, click **Close** to exit the utility.

# TOSHIBA SD™ Memory Boot Utility

The TOSHIBA SD™ Memory Boot Utility allows you to create an SD card you can use to boot up your computer.

This utility also allows you to easily format SD Memory Cards. Refer to the online Help documentation within the application for any additional help.

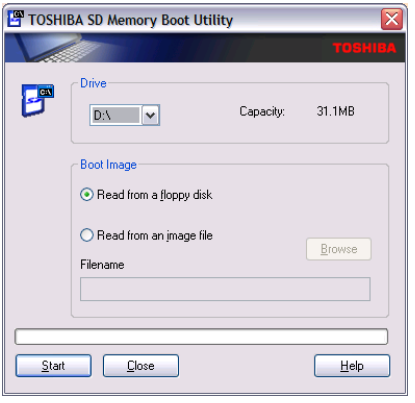
To make a bootable SD card:

1. Attach a USB floppy drive to your computer and insert a bootable floppy disk.
2. Insert the SD card.

NOTE Be sure to back up your data to external media before performing this procedure as data on the drive may be lost.

3. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **SD Memory Card**, or click the **SD Memory Card** icon in the **Optimize** tab of TOSHIBA Assist.

   The TOSHIBA SD Memory Boot Utility screen appears.




*(Sample Image) TOSHIBA SD Memory Boot Utility screen*

4 Select the drive where the SD card is located.

5 Select **Read from a floppy disk**.

6 Click **Start**.

NOTE To create a bootable SD card with the Read from an image file option, you need a third-party application.

## Booting from a bootable SD card

To boot from a bootable SD card:

1 Create a bootable SD card (see "TOSHIBA SD™ Memory Boot Utility" on page 176 for instructions).

2 Verify that no floppy disk is installed in the optional external floppy disk drive.

3 Insert a bootable SD card into the SD card slot.

4 Power on the computer.

5 During the boot process, press the F12 key.

The system displays the Boot menu.

6 Use the arrow keys to select the SD/Floppy icon.

7 Press the Enter key.

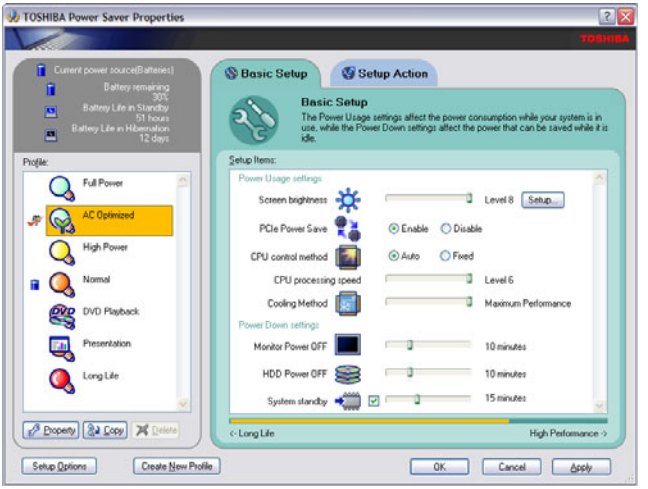
# TOSHIBA Power Saver

The TOSHIBA Power Saver is used for power management, enabling you to control your computer's power usage, regardless of the source, and use the many preset power profiles, or create one yourself.

To access TOSHIBA Power Saver:

- Click **Start**, **Control Panel**, **Performance and Maintenance**, and then **TOSHIBA Power Saver**, or click the **Power Management** icon in either the **Optimize** tab of TOSHIBA Assist or in the system tray.

The TOSHIBA Power Saver Properties window appears.




*(Sample Image) TOSHIBA Power Saver Properties window*

The Profile panel on the left of the TOSHIBA Power Saver Properties window shows the power profiles used to control power usage for both AC power and battery power, as well as the estimated battery life for each power profile mode.

The profiles shown in the Profile panel consist of the preset power profiles that come with your computer, plus any customized power profiles that you have created.

## Preset Power Profiles

The preset power profiles are:

- Full Power
- AC Optimized
- High Power
- Normal
- DVD Playback
- Presentation
- Long Life

These profiles cannot be deleted. It is not recommended to change the settings of these profiles. If you need a custom profile, create a new profile with the properties you require.

The DVD Playback profile applies only when a DVD program is playing while running the computer on battery power.

## Quickly creating a new power profile

1. Highlight one of the preset profiles.
2. Click **Copy**.

   A new profile appears with the title "Copy of *Name*" where *Name* is the title of the profile you copied.
3. To rename the profile, click **Property**.
4. Type the name for your new profile, and then click **OK**.

## Customizing a power profile

1. Select the profile to be customized in the Profile panel.
2. Make the desired changes to the settings on the **Basic Setup** tab and the **Setup Action** tab.
3. Click **Apply**, then **OK**.

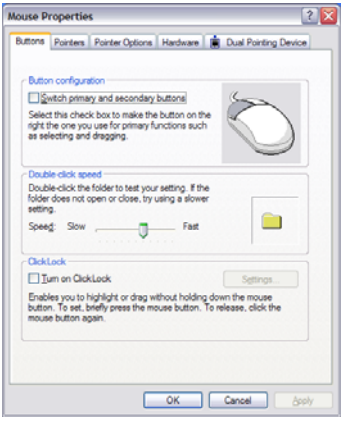
# Mouse Utility

The Mouse utility allows you to change your pointing device or mouse settings.

To access the Mouse utility:

1 Click **Start**, **Control Panel**, and then **Mouse**, or click the **Mouse** icon in the **Optimize** tab of TOSHIBA Assist.

The Mouse Properties screen appears.




*(Sample Image) Mouse Properties screen*

The settings you can change are divided into these categories:

- Buttons
- Pointers
- Pointer options
- Hardware

You may see additional categories depending on your particular pointing device. For information on these settings, see "Using the keyboard or pointing device to assign a key" on page 172.

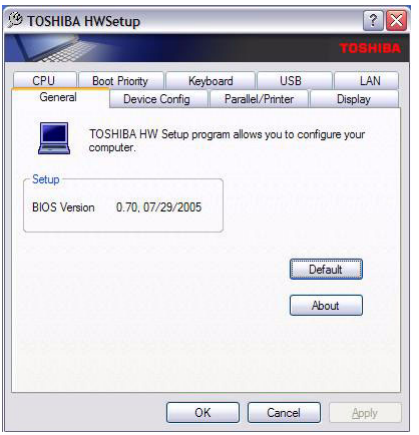
2 Adjust the settings as desired, then click **OK**.

# Toshiba Hardware Setup

Toshiba Hardware Setup is the Toshiba configuration management tool available through the Windows® operating system. To access it:

- Click **Start**, **All Programs**, **Toshiba**, **Utilities**, **Assist**, or click the **Toshiba Hardware Setup** icon in the **Optimize** tab of TOSHIBA Assist.

  The Toshiba Hardware Setup screen appears.




*(Sample Image) TOSHIBA Hardware Setup screen – General tab options*

The Toshiba Hardware Setup screen has the following tabs:

- General—Allows you to view the current BIOS version or change certain settings back to their default values
- Device Config—Shows the Device configuration options

- Display—Allows you to change various default settings for the built-in LCD display

NOTE When the computer restarts, it remembers the last configuration. If data does not appear on the display you are using after starting in Standby Mode, press Fn + F5. For more information, see "Directing the display output when you turn on the computer" on page 69.

- CPU—Allows you to enable or disable CPU frequency switching modes

  **Dynamically Switchable**—This mode is the default setting for your computer, and automatically changes the processing frequency and decreases voltage depending on the power source:

  - AC Power—If your computer is connected to the AC adaptor, the CPU frequency mode is set to high for faster processing.
  - Battery Power—If your computer is running on battery power, the CPU frequency mode is set to low for slower processing. Switching the CPU to low allows you to conserve power and extend the operating time of your battery.

  **Always High**—Sets the CPU speed to high when using either the battery or the AC adaptor

  **Always Low**—Sets the CPU speed to low when using either the battery or the AC adaptor

- Boot Priority—Allows you to change the sequence in which your computer searches the drives for the operating system

  You can also manually choose the Boot Priority by sliding the power switch, then quickly pressing the F12 key, or the right or left arrow keys.

  Select the boot device icon by pressing the right or left arrow keys, then pressing the Enter key.

NOTE Since the system is a quick-booting system, you must press the arrow keys immediately after sliding the power switch.

- Keyboard—Allows you to configure an external keyboard to emulate the Fn function key and access the wake-on keyboard function
- USB—Allows you to enable or disable USB Legacy Emulation
- LAN—Allows you to set networking functions
- Button Setting—Lets you set the resume speed for Standby mode. If you want to use the fast resume option, be sure to connect the AC adaptor to the computer.

By changing any of the options that appear in the dialog boxes and clicking **Apply**, you can reconfigure that function. Any options that you change will become default settings when you restart your system.

# TOSHIBA Rotation Utility

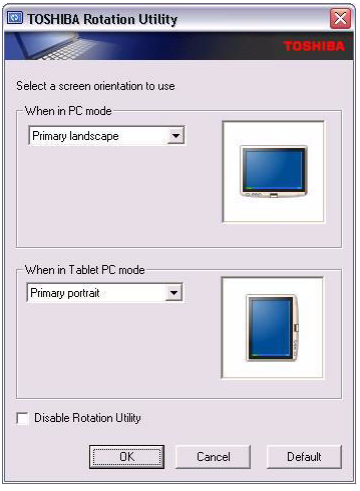
The TOSHIBA Rotation utility allows you to change the default setting of the display format (primary portrait) to three other display formats:

- Primary landscape
- Secondary portrait
- Secondary landscape

To access this utility:

1. Click the **Rotation Utility** icon in the **Optimize** tab of TOSHIBA Assist.

   The Rotation Utility screen appears.




*(Sample Image) TOSHIBA Rotation Utility screen*

2. Select a new display format for either PC mode or Tablet PC mode.

3 Click **OK**.

NOTE Toshiba recommends that you use the TOSHIBA Rotation Utility to change screen rotation options and settings for the tablet feature Tablet and Pen Settings.

NOTE The Escape key, located between the Cross-Functional button and the Windows Security button on the front of the display can "lock" the display in its current display setting - landscape or portrait.

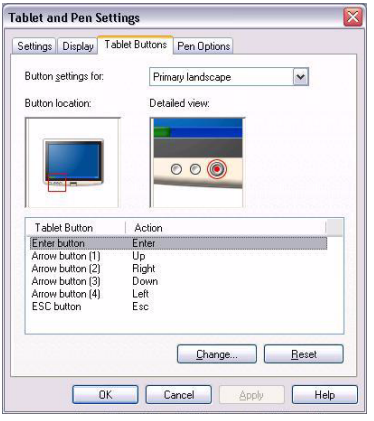
# Tablet and Pen Settings

The Tablet and Pen Settings utility allows you to set various options for using the tablet and pen.

To access this utility:

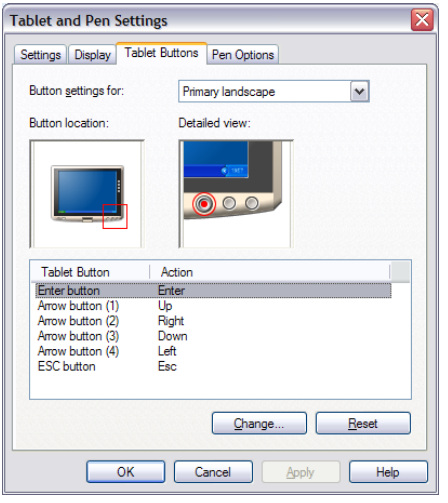
1 Click the **Tablet and Pen Settings** icon in the **Optimize** tab of TOSHIBA Assist.

The Tablet and Pen Settings screen appears.




*(Sample Image) Tablet and Pen Settings window*

- The **Settings** tab allows you to specify whether you are left handed or right handed, and the menu location.
- While the **Display** tab can be used to change the screen's orientation and adjust screen brightness, it is recommended that you use the TOSHIBA Rotation Utility (see page 184) to change the screen's orientation, and the TOSHIBA Power Saver utility (see page 178) to adjust screen brightness.
- The **Tablet Buttons** tab allows you to specify an action when a display system button is pressed. After making your selections, click **Change**, choose an **Action**, and then click **OK**.




*(Sample Image) Tablet and Pen Settings Tablet Buttons tab*

- The **Pen Options** tab allows you to set various pen options.

2. Select the desired settings.
3. Click **OK**.

# Cross Menu Utility

The Cross Menu Utility allows you to make Hot Key assignments to launch applications, access Toshiba utilities, or create your own custom menus.

To start the Cross Menu Utility:

1. Press and hold the Cross-Functional button for two seconds until the following screen displays.


*(Sample Image) Cross Menu Utility screen*

2. Move the Cross-Functional button up or down to select a menu.
3. To select an item in a menu, move the Cross-Functional button left or right until the icon is highlighted, then press the Cross-Functional button.

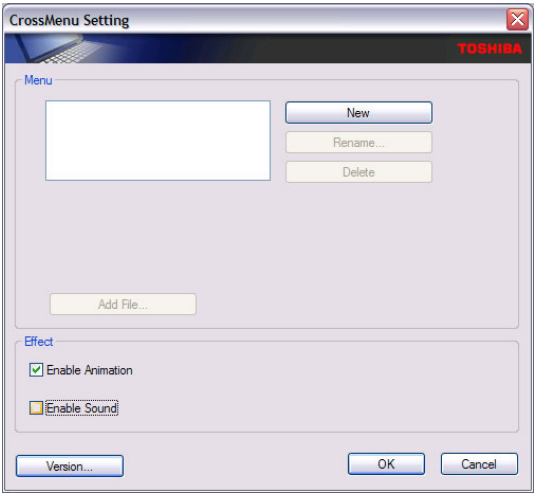
## Creating a New Menu

NOTE You can add up to five menus.

To create a new menu:

1 Click **Start**, **All Programs**, **Toshiba**, **Tablet PC**, and then **Cross Menu**.

The Cross Menu Setting window appears.




*(Sample Image) Cross Menu Setting window*

2 Click **New**.

3 Click **Add File**.

4 Browse for the application(s) you want to add to the menu and click Open.

5 When you have finished adding applications to the menu, click **OK**.

# TOSHIBA Tablet Access Code Utility

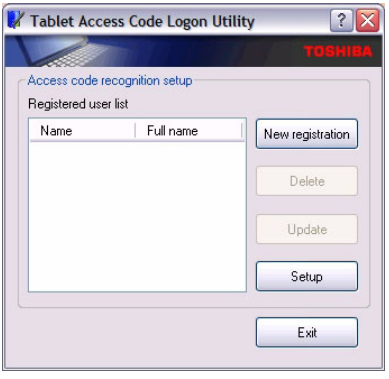
This utility allows you to create and register an access code controlling who can log onto the Windows® operating system.

NOTE When creating and registering an access code, you can choose any character or symbol you want. The more unique or complex the code that you create, the more secure. However, be sure to create a code that you can easily remember.

To access the utility:

1. Click **Start**, **All Programs**, **Toshiba**, **Tablet PC**, and then **Tablet Access Code Logon Utility**.

   The Tablet Access Code Logon Utility screen appears.




*(Sample Image) TOSHIBA Tablet Access Code Logon Utility screen*

2. To create an access code, click **New Registration**.
3. Enter the requested information, then click **Update**.
4. Click **Exit** when finished creating access codes.

# TOSHIBA Zooming Utility

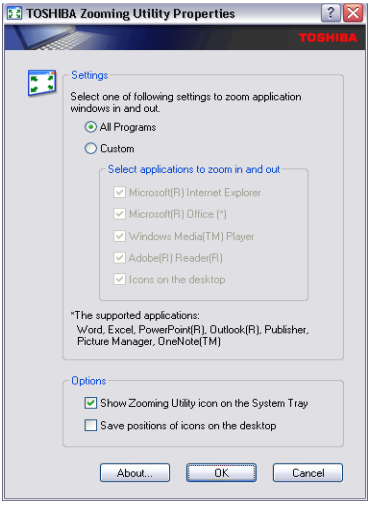
This utility allows you to select which applications will work with the zoom in/out hot keys (see "Hot Keys" on page 255). You may select all applications or any subset of the following:

- Microsoft® Internet Explorer
- Microsoft® Office
- Windows Media® Player
- Adobe® Acrobat® Reader®
- Icons on the desktop

To access the Zooming utility:

1. Click **Start**, **All Programs**, **Toshiba**, **Utilities**, and then **Zooming Utility**, or click the **Zooming Utility** icon in the **Optimize** tab of TOSHIBA Assist.

   The TOSHIBA Zooming Utility Properties screen appears.




*(Sample Image) TOSHIBA Zooming Utility Properties screen*

2 Select the desired option(s).

3 Click **OK**.

The zoom in and zoom out hot keys will now work with the applications you selected.

To zoom in, hold down the Fn key and press 2; to zoom out, hold down the Fn key and press 1.

For more information about how to use the TOSHIBA Zooming utility, right click the icon in the Taskbar and then click **Help**.

# TOSHIBA Button Controls

The TOSHIBA Button Controls allow you to customize the TOSHIBA Assist and TOSHIBA Presentation buttons. Those buttons are located to the left of the keyboard.

To access TOSHIBA Button Controls:

1 Click the **Toshiba Button Control** icon in the **Optimize** tab of TOSHIBA Assist.

The TOSHIBA Controls Properties window appears.


*(Sample Image) TOSHIBA Button Controls screen*

2 Select the button whose function is to be customized.

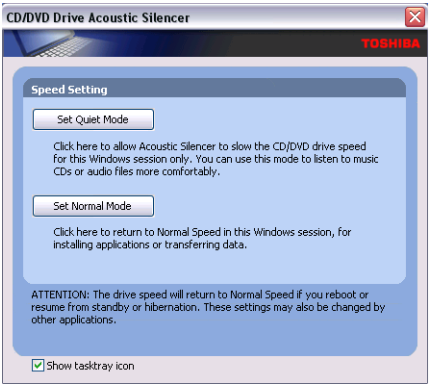
3 Make the desired selections.

4 Click **Apply**, then click **OK**.

# CD/DVD Drive Acoustic Silencer

This utility can slow the speed of your optical drive to make it run more quietly. You can use this utility to make listening to music CDs more enjoyable.

NOTE When you change the CD/DVD drive to "Quiet" mode, the setting is only valid for the current Windows session. If you shut down, restart, log off, or resume from hibernation, the setting will revert back to Normal speed. The setting can also be changed by CD burning software or other applications that can set the drive speed.




*(Sample Image) CD/DVD Drive Acoustic Silencer screen*

To access the utility:

1 Double-click the icon in the task tray, or click the **CD/DVD Drive Acoustic Silencer** icon in the **Optimize** tab of TOSHIBA Assist.

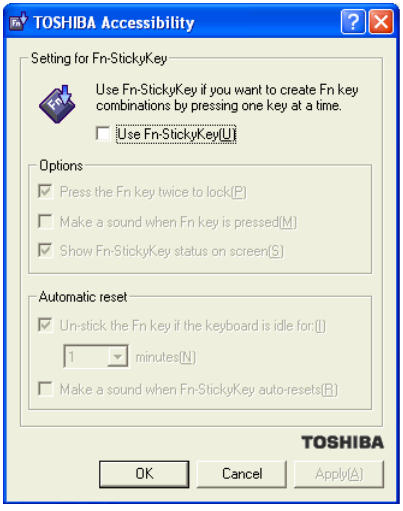
The CD/DVD Drive Acoustic Silencer screen appears.

2 Click **Set Quiet Mode** to make the drive run more slowly and quietly for listening to music or audio files on a CD.

3 Click **Set Normal Mode** to run the drive at normal speed for transferring data.

# TOSHIBA Accessibility

The TOSHIBA Accessibility utility allows you to use the Fn key to create a hot key combination with one of the function keys without pressing the two keys simultaneously as is usually required. Using Accessibility lets you make the Fn key a *sticky key*, meaning you can press it once, release it, and then press a function key to activate the hot key function.




*(Sample Image) TOSHIBA Accessibility window*

To use TOSHIBA Accessibility:

1 Click **Start**, **All Programs**, **Toshiba, Utilities**, and then **Accessibility**, or click the **Accessibility** icon in the **Optimize** tab of TOSHIBA Assist.

The TOSHIBA Accessibility window appears.

2 Check the **Use Fn-StickyKey** box.

3 Put a check mark next to the desired option.

4 Click **OK**.

# TOSHIBA Mobile Extension

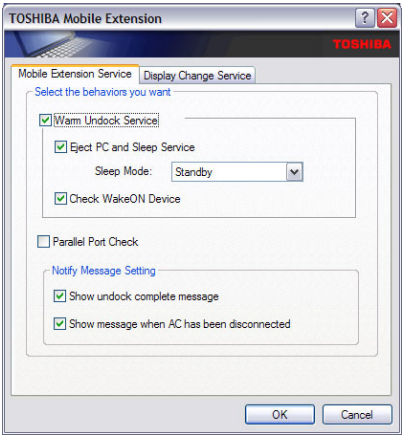
To adjust the settings for docking or using the Express Port Replicator, use the TOSHIBA Mobile Extension utility.

To use the TOSHIBA Mobile Extension utility:

1 Click **Start**, **Control Panel**, **Performance and Maintenance**, then **TOSHIBA Mobile Extension**.

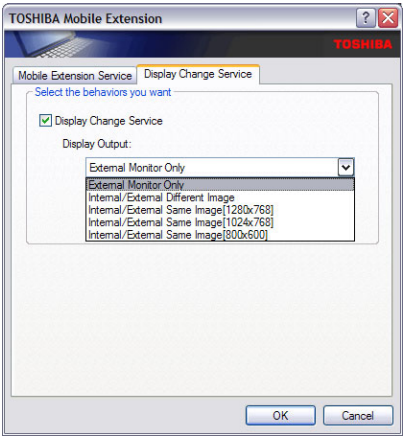
The TOSHIBA Mobile Extension Service Configuration dialog box appears.

2 Under the **Mobile Extension Service** tab, you can select behaviors to enable or disable, such as Warm Undock Service and Notification Messages, by checking or unchecking the appropriate box.




*(Sample Image) TOSHIBA Mobile Extension Service tab options*

3 Under the **Display Change Service** tab, you can set the default display configuration you wish to use when docking the system to the optional Express Port Replicator.




*(Sample Image) Display Change Service tab options*

# Fingerprint Authentication Utility

The fingerprint authentication utility (available on certain models) can be used to replace the keyboard-based user/BIOS password authentication system when booting up.

The fingerprint authentication utility can also be used for user logon. The user's fingerprint is read; if the system recognizes the fingerprint, the user is automatically logged on.

## Fingerprint utility limitations

Toshiba does not guarantee that the fingerprint utility technology will be completely secure or error-free. Toshiba does not guarantee that the fingerprint utility will accurately screen out unauthorized users at all times. Toshiba is not liable for any failure or damage that might arise out of the use of the fingerprint software or utility.

## Fingerprint Enrollment

Use the **Enroll or Edit Fingerprints** wizard to enroll new fingerprints or to update existing fingerprint samples.

NOTE It is recommended that you complete the Fingerprint tutorial before starting fingerprint enrollment. The Fingerprint tutorial shows how to achieve the highest quality fingerprint samples.

To enroll a new fingerprint:

1. Click **Start**, **All Programs**, **Protector Suite QL**, and then **Control Center**.
2. Click the **Fingerprints** topic in the Control Center. Click the **Enroll or Edit Fingerprints** wizard.
3. Enter your credentials.
4. Complete the Fingerprint tutorial.
5. Click the button above the finger you want to enroll.
6. Swipe your finger on the reader.

   A sample will be created and indicated by a Fingerprint icon.
7. Repeat the previous step. Swipe the same finger on the reader two more times to create two more samples.
8. The final template will be created from these three samples.

NOTE If you do not use a Windows password, you will be prompted to define a new (non-empty) one. This is not necessary, but a password improves the security of your software.

If your system supports power-on security, a Power-on button is also displayed above each enrolled fingerprint. This button is shown pressed by default, indicating that your fingerprint is automatically added for power-on authentication.

During fingerprint enrollment, the system displays icons as prompts, notifications, and warnings. These icons and their meanings are as follows:

- Reader ready—the reader is waiting to read your fingerprint. Swipe your finger when you are ready.

- Reader busy—wait for the reader to complete its operation.

- Problem with operation—the reader could not read your fingerprint. Swipe your finger again.

- Operation succeeded—the reader successfully read or verified your fingerprint.

- Failed to verify the user—the fingerprint could not be matched.

- Error reading fingerprint—the finger was too far to the left or right. Center your finger and swipe it again.

- Error reading fingerprint—the movement was skewed. Swipe your finger again in a straight line.

- Error reading fingerprint—the movement was too fast. Swipe your finger again at a slower speed.

- Error reading fingerprint—the movement was too short. Swipe your finger again using a longer motion.

## Fingerprint Logon

The fingerprint utility enables logon to your computer using fingerprints. During user enrollment, fingerprint samples are saved and associated with the user's Windows® user account. When the user attempts to log on again, the user's fingerprint is read and compared with the user's enrolled fingerprints; if the fingerprint is recognized, user logon is completed.

The Fast User Switching feature of the Windows® operating system is also supported. If user A is logged on and the fingerprint utility verifies the fingerprint of user B (who is already enrolled), the utility recognizes the fingerprint and switches the users.

If your system supports power-on security, existing fingerprint samples can be used also for power-on authentication.

## Power-on Security

The power-on security feature prevents unauthorized access to your computer when it is turned off by requiring the user to pass fingerprint authentication. If fingerprint authentication fails, the user will not be able to start the computer.

When power-on security is enabled, the system asks you to authenticate your fingerprint. You have 40 seconds to swipe your fingerprint.

If the authentication fails, the system tries again up to two more times. If authentication fails after the third attempt, the system shuts down.

### Enabling Power-on Security

Options for power-on security are displayed only if your computer supports this feature. In most configurations, power-on security is enabled automatically after the first user fingerprints are enrolled.

To disable/enable power-on security:

1. Open the **Control Center** and go to **Settings - Power-on Security**. (This wizard is displayed only if your system supports power-on security.)
2. Check the option **Replace the power-on and hard drive passwords with the fingerprint reader**.

Power-on security can be configured to operate with the fingerprint logon feature. If a fingerprint used for power-on security matches a fingerprint in an existing passport, the corresponding user is logged on automatically without having to enter the Windows® logon password.

NOTE Your hardware must support Power-on security to use the single logon feature. You must have administrative privileges to change settings.

To enable power-on security single logon:

1. Open the **Control Center** and go to **Settings - System Settings**.
2. Select **Logon**.
3. Check the **Allow power-on security single sign-on** check box. (Logon support must be enabled for this option to be accessible.)

## Fingerprint Management

Fingerprints are stored in memory during enrollment. After a fingerprint is enrolled, it is displayed with a power-on button above it. The button appears “pressed in” by default, indicating that the corresponding finger will be used for power-on security. If you do not want to use a fingerprint for power-on security but only for logon, click the Boot button to delete the fingerprint from the fingerprint device memory.

The fingerprint device memory can typically hold up to 21 fingerprints. The number of slots remaining is displayed in the enrollment wizard.

# Control Center

The Control Center contains various functions for fingerprint management and for setting up your fingerprint software. Available options depend on the software status, used hardware, and installed applications.

## Fingerprints

- Enroll or Edit Fingerprints—Runs the fingerprint enrollment wizard. You can enroll/delete fingerprints for the current user and, if power-on security is implemented, control whether they are stored in the fingerprint device memory. After you enroll your fingerprints, they are associated with your user name and password. The next time you log in, you can use your fingerprints instead of your user name and password.
- Delete—Deletes all fingerprints for the current user.
- Import or Export User Data—Existing fingerprints can be exported to a *.vtp file and imported back to your fingerprint software. The *.vtp file is encrypted and protected by a password that is defined during export.

## Settings

- System Settings—Opens the Settings dialog containing various options for setting up the product. Most of these settings can be modified only by administrators and affect all users.
- User Settings—Opens the User Settings dialog containing user-specific options for setting up the product.
- Power-on Security—The memory of the fingerprint device is limited (typical capacity is 21 fingerprints). You can decide which fingerprints are present in the device memory and can be used for verification on computer startup, or create new fingerprints to be used only for power-on authentication.
- Fingerprint Storage Inspector—Opens the Fingerprint Storage Inspector dialog where you can see the contents of your fingerprint storage.

## Help

- Introduction—Displays the Introduction dialog with basic information about product features.
- Tutorial—Runs the fingerprint tutorial which shows you how to enroll your fingerprints. This tutorial is highly recommended for first-time users of this technology. The quality of enrolled fingerprints is extremely important for your satisfaction with the product.
- Help icon—Displays this help. The help files in other languages (depending on your installation) are located in the mui subfolder of your installation folder.
- About icon—Displays version information.

# Password Bank

The Password Bank stores registration and logon information for Web sites and dialogs, helping to automate the task of entering this information.

You enter the required information only once, during Web page or dialog registration. When the window is displayed again, all the data is entered automatically when you scan your fingerprint on the reader. Registered Web pages can also be accessed directly from the Biomenu.

## Biomenu

Biomenu provides access to the utility's features and settings. It is available in several variants or skins. To view or select other Biomenu skins, open the Control Center and select **Settings**, **User Settings**.

Swipe your finger to open Biomenu. If fingerprint verification is configured to invoke another action (e.g., display a registered page), press and hold the Shift key while swiping your finger.

The Biomenu contains the following menu options:

- Lock computer—Locks your computer. Use the reader to unlock the computer again.
- Registered Sites—Displays a list of your Web pages registered by Password Bank. To display and fill in a registered page in your default Web browser, click it in the list.
- Register—Registers a new window (dialog or Web page).
- Lock/unlock My Safe—Opens or closes My Safe folder.
- Control Center—Displays Control Center.
- Help—Displays this help file.

## Registering a new Web page or dialog

You are logged on to the computer and want to register a new Web page.

To create a new registration:

1. Display a Web page you want to register.
2. Fill in the data you want to replay the next time you access this Web page.
3. Use the reader to display the Biomenu.
4. Select **Register**.

Password Bank recognizes pages containing a password field and displays a hint that the page can be registered. These hints can be turned off in the Settings dialog.

A wizard will assist you through your first registration.

## Replaying a registered Web page or dialog

You are logged on to the computer and want to replay a registered Web page.

To replay a registration:

1. Swipe your enrolled finger to display the Biomenu.
2. Select **Registered Sites**.
3. Select a page you want to display and replay, or simply verify your fingerprint if the page is already displayed.

If you directly access a registered page from your browser without using the Biomenu's Registered Sites option, Password Bank displays a hint that the page is registered and can be replayed. These hints can be turned off in the **Password bank** tab of the **User Settings** dialog.

## Replaying registrations with multiple forms

Password Bank registers forms, not pages. If a page contains several forms, each form requires a separate registration. If a page contains several forms, replaying works as follows:

- If only one form is registered for the page (regardless of how many forms the page has), that registration is replayed.
- If the page has multiple registered forms, and one of the registered forms is active, the active form is replayed.
- If the page has multiple registered forms, but there is no active form, all existing registered forms for the page are displayed. You then select the one to be replayed.

## Replaying a registered dialog

You are logged on to the computer and want to replay a registered dialog.

To replay a registration:

1. Display the dialog to be replayed.
2. Use the reader.

3 Optional—If the hint for replaying dialogs is displayed, confirm that you want to replay the registration.

4 The registration is replayed.

## Editing an existing registration

Sometimes it is useful to edit an existing registration. For example, your company's address may have changed and you want to update your registrations.

To edit an existing registration:

1 Click the **Settings** topic in the Control Center.

2 Click **User Settings**. Verify your fingerprint.

3 Select **Registrations**.

4 Select a registration.

5 Click **Edit**.

6 Change the value of an item or delete the item.

7 Select the **Auto submit** check box to submit the selected registration automatically after replaying the registration. A warning is displayed if you attempt to register a form or dialog that may be incompatible or not work properly with automatic submittal.

## Deleting a registration

You are logged on to the computer and want to delete an existing registration.

To delete an existing registration:

1. Click the **Settings** topic in the Control Center.
2. Click **User Settings**. Verify your fingerprint.
3. Select **Registrations**.
4. Select a registration.
5. Click **Delete**.

## How to Delete the Fingerprint Data

Fingerprint data is stored in the non-volatile memory. If the computer changes ownership, Toshiba recommends the following procedure:

1. Click **Start**, **All Programs**, **Protector Suite QL**, and then **Control Center**.

   The Protector Suite Software screen is displayed.
2. Click **Fingerprints** then **Delete**.
3. Click **Settings** then **Fingerprint Storage Inspector**.

   The Fingerprint Storage Inspector screen is displayed.
4. If other fingerprint data is still displayed on the list, hold down the Control key and select each fingerprint until they are all selected, then click **Remove**.
5. Click **OK** to make the changes permanent.
6. Check that all Fingerprint data was deleted on the Fingerprint Storage Inspector screen.

## Care and maintenance of your fingerprint reader

Failure to follow these guidelines and/or procedures might result in damage to the reader or cause reader failure, finger recognition problems, or lower finger recognition success rate.

- Do not scratch or poke the reader with your nails or any hard or sharp objects.
- Do not press the reader with too much pressure.
- Do not touch the reader with a wet finger or any wet objects. Keep reader surface dry and free of water vapor.
- Do not touch the reader with a soiled finger. Minute foreign particles on a soiled or dirty finger may scratch the reader.
- Do not paste stickers or write on the reader.
- Do not touch the reader with a finger or any object with built-up static electricity.

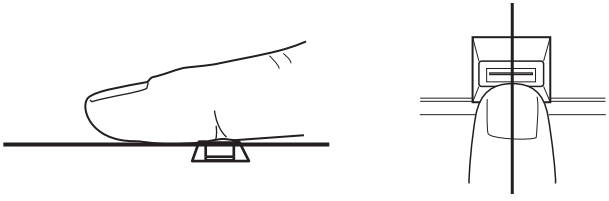
Observe the following before you swipe your finger on the reader, whether for fingerprint enrollment/registration or recognition.

- Wash and dry your hands thoroughly.
- Remove static electricity from your fingers by touching any metal surface. Static electricity is a common cause of reader failures, especially during dry seasons such as winter.
- Clean the reader with a lint-free cloth. Do not use detergent to clean the reader.
- Avoid the following finger conditions for enrollment or recognition as they may result in fingerprint enrollment errors or a drop in the fingerprint recognition success rate.
    - Soaked or swollen finger (e.g., after taking bath)
    - Injured finger

- Wet finger
- Soiled or oily finger
- Extremely dry skin condition on finger

Observe the following to improve the fingerprint recognition success rate.

- Enroll two or more fingers.
- Enroll additional fingers if recognition failure occurs often using enrolled fingers.
- Check your finger condition. Changed conditions, such as injured, rough, extremely dry, wet, soiled, dirty, oily, soaked or swollen fingers, may lower the recognition success rate. Also if the fingerprint is worn down or the finger becomes thinner or fatter, the recognition success rate may be lowered.
- The fingerprint for each finger is different and unique. Please ensure that only the registered or enrolled fingerprint or fingerprints are used for identification.
- Check sliding position (see illustration below).



*(Sample Illustration) Aligning the finger on the reader*

## Fingerprint reader limitations

- The fingerprint reader compares and analyzes the unique characteristics in a fingerprint. However, there may be instances where certain users are unable to register their fingerprints due to insufficiently unique characteristics in their fingerprints.
- A warning message will be displayed when recognition is abnormal or recognition is not successful within a fixed duration.
- The recognition success rate may differ from user to user.
- Toshiba does not guarantee that this fingerprint recognition technology will be error-free.
- Toshiba does not guarantee that the fingerprint reader will recognize the enrolled user or accurately screen out unauthorized users at all times. Toshiba is not liable for any failure or damage that might arise out of the use of this fingerprint recognition software or utility.

# Chapter 6

# If Something Goes Wrong

Some problems you may encounter when using your computer are relatively easy to identify and solve. Others may require help from your network administrator or the manufacturer of the software program.

This chapter aims to help you solve many problems by yourself. It covers the problems you are most likely to encounter.

If all else fails, contact Toshiba. You will find information on Toshiba's support services at the end of this chapter.

## Problems that are easy to fix

### Your program stops responding.

If you are working with a program that suddenly freezes all operations, chances are the program has stopped responding. You can exit the failed program without shutting down the operating system or closing other programs.

To close a program that has stopped responding:

1. Press Ctrl, Alt, and Del simultaneously (once).

   The Windows Task Manager window appears.

2. Click the **Applications** tab.

   If a program has stopped responding, the words "not responding" appear beside its name in the list.

3. Select the program you want to close, then click **End Task**.

   Closing the failed program should allow you to continue working. If it does not, continue with the next step.

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

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

If you are not connected to a domain server:

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

   The Turn off computer window appears.

2. Click **Turn Off**.

   The computer turns off.

If you are connected to a domain server:

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

   The Shut Down window appears.

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

3. Click **OK**.

   The computer shuts down completely.

### Your program performs an illegal operation.

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

To record the details:

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

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

2. Press Ctrl + C to copy the text to the clipboard.
3. Open Notepad (click **Start**, **All Programs**, **Accessories** and then click **Notepad**).
4. Press Ctrl + V to paste the details into Notepad.
5. Add a paragraph break and type some notes describing what you were doing when you received the message and how the error can be reproduced.
6. Save the file and refer to it when you contact the software manufacturer.

# Problems when you turn on the computer

These problems may occur when you turn on the power.

### The computer will not start.

Make sure you attached the AC adaptor and power cord/cable properly or installed a charged battery.

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

If you are using the AC adaptor, check that the wall outlet is working by plugging in another device, such as a lamp.

Verify that the computer is on by looking at the on/off indicator. If the indicator is glowing, the computer is on.

If you are using an AC adaptor, verify that the computer is receiving power from the external power source by looking at the AC power light. If the indicator is glowing, the computer is connected to a live external power source.

### The computer starts but when you press a key nothing happens.

Verify that the active program accepts text input. Try clicking your mouse on an area where you can type text and try typing again.

Your computer may be in Standby mode and have a software or resource conflict. When this happens turning the power on returns you to the problem instead of restarting the system. To clear the condition, press Ctrl, Alt, and Del simultaneously.

Clearing the condition may get the computer running, but it will not solve a resource conflict. Read the documentation that came with the conflicting device and "Resolving a hardware conflict" on page 217.

### The computer is not accessing the hard disk or the optional external diskette drive.

Your computer normally loads the operating system from the hard disk. If you have a hard disk problem, you will not be able to start the computer. Insert a system diskette into the optional external diskette drive and press F12 when the machine starts and use the arrow keys to select the boot-up device.

### The computer displays the WARNING RESUME FAILURE message.

The computer was placed in Standby mode and the battery has discharged. Data stored in the computer's memory has been lost. Data stored in the computer's hard drive may not be affected.

Always save your data even when you are using Standby. If your battery fully discharges, information that has not been saved will be lost. Your computer can be configured to warn you when the battery is running low see "What to do when the main battery runs low" on page 117.

If you are running on battery power, it is recommended that you do not leave the computer in Standby mode for long periods of time.

To charge the battery, leave the computer plugged into a live wall outlet for several hours. For more information see "Charging batteries" on page 112.

**The computer displays the** Non-System disk **or** disk error **message.**

Make sure there is no diskette in the optional external diskette drive. If there is a diskette in the drive, remove it and press any key to continue. If pressing any key does not work, press Ctrl, Alt, and Del to restart the computer. For more information see "The computer is not accessing the hard disk or the optional external diskette drive." on page 212.

**The AC power light is blinking.**

If the AC power light is blinking, try the following steps:

1. Cut off power to the computer by disconnecting the AC adaptor and removing the battery. The error condition will be interrupted, and the AC power light will stop flashing.
2. Put the battery back into the computer. Do not connect the AC adaptor. Try turning the computer on again.

   If the computer starts normally, the AC adaptor may be defective and will need to be replaced (see the Toshiba Web site at accessories.toshiba.com).

   If the AC power light starts flashing, remove the battery, and continue with the steps below.
3. Connect the AC adaptor to the computer. Leave the battery out of the computer. Try turning the computer on again.

If the computer starts normally, the battery may need charging, may be depleted, or may be defective. Turn the computer on, insert the battery, and then leave the computer running for several hours, which will deliver a slow, steady "trickle-charge" to the battery. Once the battery has been trickle-charged, it may begin working correctly again.

If the trickle-charging does not prove effective, visit the Toshiba Web site at pcsupport.toshiba.com and see the Support Bulletin **Step-Charging the computer's battery** (click the **Ask Iris**® link and search for the support bulletin by name).

4 Connect the AC adaptor to a different power outlet, preferably in a different room. If the computer starts normally, there may be a problem with the AC outlet itself, or the voltage level available from it.

5 Verify that the AC adaptor is the correct unit for your computer model. The computer may not be able to start from an AC adaptor that is rated for less current (amperage) than the computer requires, even if the rated voltage is correct, and the plug fits correctly in the DC-IN socket. The labels on the bottom of the computer and the AC adaptor show the specifications for voltage ("V") and current ("A") for each device. The voltage level must match exactly. The amperage rating of the AC adaptor must be equal to or greater than that required by the computer.

# The Windows® operating system is not working

Once you are familiar with the desktop and used to the way the operating system responds to your work routine, you can easily detect if the operating system is not working correctly. For example:

- The operating system fails to start after the Starting Windows XP message appears.
- The operating system takes a long time to start.
- The operating system responds differently from the normal routine.
- The screen does not look right.

Unless a hardware device has failed, problems usually occur when you change the system in some way such as installing a new program or adding a device.

If you experience any of these problems, use the options in the Startup menu to fix the problem.

## Using Startup options to fix problems

If the operating system fails to start properly, you may have to change your system's configuration or verify the startup procedure to fix the problem. To do this, use the options in the Startup menu.

To open the Startup menu:

1. Restart your computer.
2. Press F8 when your computer starts and before Windows starts loading.

   The Windows® Advanced Options menu displays these options:

   - Safe Mode

- Safe Mode (with Networking)
- Safe Mode (with Command Prompt)
- Enable Boot Logging
- Enable VGA Mode
- Last known good configuration (your most recent settings that worked)
- Directory Services Restore Mode (Windows® domain controllers only)
- Debugging Mode
- Start Windows® normally
- Reboot
- Return to OS Choices (menu)

See your Windows® documentation for further explanation.

NOTE If your computer is connected to a network, the Startup menu may display different versions of Safe mode.

## Internet problems

### My Internet connection is very slow.

Many factors contribute to the speed with which you can surf the Internet. They include: modem speed, telephone line conditions, time of day (when everyone else is surfing, your access can be slow) and popularity of the sites you are trying to access. If accessing a particular site is very slow, try later.

### My browser cannot find the URL address I typed in.

Make sure you separated the domain names of the address with the forward slash (/). Check the spelling of each name and the syntax of the address carefully. A single incorrect letter or missed character will make it impossible for your browser to locate the site.

**My browser cannot find a site I bookmarked.**

The World Wide Web is constantly changing. A site you bookmarked yesterday may not be available today or its server may be down for temporary repair. Try again later.

## The Windows® XP operating system can help you

If the operating system has started properly but you still have a problem using your computer, the online Help can assist you in troubleshooting the problem.

To access Windows® XP Help and Support:

1. Click **Start**, then click **Help and Support**.

   The Help and Support window appears.

2. Then do one or both of the following:

   - In the search field, type in the topic for which you need help and follow the on-screen instructions.
   - Click a problem you would like help with from the listings and follow the on-screen instructions.

You can connect to Support Online by clicking **Support** from the menu or by going to pcsupport.toshiba.com.

# Resolving a hardware conflict

If you receive an error message telling you there is a device driver conflict or a general hardware problem, try using Windows® Help and Support to troubleshoot the problem first.

For help on hardware conflicts:

1. Click Start, then click **Help and Support**.
2. Click the **Hardware** link in the window's left pane.

   A list of category links appear.

3 Click the **Fixing a hardware problem** link.

4 Choose from specific topics and follow the steps.

If there is still a problem, the operating system should display a message that explains what the conflict is.

## A plan of action

The smooth operation of the system depends on the interaction of all devices, programs, and features. If the system or one of its attached devices is not working, resolving the problem can be time-consuming and frustrating.

The recommended procedure for getting multiple devices to work together is to add and set up one device at a time. After you add each device, test it to make sure it and all previously connected devices work.

The device most recently connected to the system is the one most likely to be causing a hardware conflict.

## Resolving hardware conflicts on your own

Computer components need resources to accomplish a task. A device, such as a disk drive or a modem, needs a channel to the computer's Central Processing Unit (CPU). It also needs a direct channel to the computer's memory to store information as it works. These channels of communication are commonly referred to as system resources.

### Interrupt Request Channel

The channel to the CPU is called an Interrupt Request (IRQ) because it interrupts what the processor is doing and requests some of the processor's time. If two or more devices use the same IRQ, the processor does not know which device is asking for attention. This causes a hardware conflict.

## Direct Memory Access

The data required by a device is stored in a specific place or address in memory called the Direct Memory Access (DMA). The DMA provides a dedicated channel for adapter cards to bypass the microprocessor and access memory directly. If two or more devices use the same DMA, the data required by one device overwrites the data required by the other, causing a hardware conflict.

## Plug and Play

With Plug and Play and the operating system, avoiding hardware conflicts is easy. Plug and Play is a computer standard that helps the system BIOS (basic input/output system) and the operating system to automatically assign system resources to Plug and Play-compliant devices. In theory, if every device connected to the computer is Plug and Play-compliant, no two devices will compete for the same system resources. Plug in the device and turn on your computer. The operating system is automatically set up to accommodate the new device.

If you install an older (legacy) device that the operating system cannot recognize, the operating system may have difficulty assigning resources to it. As a result, a hardware conflict can occur.

## Resolving conflicts

There are several things you can do to resolve hardware conflicts:

- Get the most recent drivers from the manufacturer.
- Disable the device.

  For an older device, remove it from the computer.
- Disable another system component and use its resources for the new device. See "Fixing a problem with Device Manager" on page 220.

- Reconfigure the device so that its requirements do not conflict. Refer to the device's documentation for instructions about changing settings on the device.

## Fixing a problem with Device Manager

Device Manager provides a way to check and change the configuration of a device.

**CAUTION** Changing the default settings using Device Manager can cause other conflicts that make one or more devices unusable. Device Manager is a configuration tool for advanced users who understand configuration parameters and the ramifications of changing them.

### Disabling a device

1. Click **Start**, **Control Panel**, then click **Performance and Maintenance**.
2. Click the **Administrative Tools** icon.
3. Double-click **Computer Management**, then click **Device Manager**.
4. Select the specific device from the device category. To expand a device category, double-click the category.
5. In the toolbar, look to the far right for an icon of a monitor with a strike mark through a circle on the front. This is the disable feature.
6. Click the icon.

   You are given the option of disabling the device.
7. Click **Yes** to disable the device or **No** to cancel.

## Checking device properties

Device Manager provides a way to view the properties of a device. Properties include the name of the manufacturer, the type of device, the drivers installed, and the system resources assigned to the device.

To check a device's properties:

1. Click **Start**, **Control Panel**, then click **Performance and Maintenance**.
2. Click the **Administrative Tools** icon.
3. Double-click **Computer Management**, then click **Device Manager**.
4. To view the device(s) installed, double-click the device type.
5. To view the properties, double-click the device.

   The operating system displays the Device Properties dialog box, which provides an array of tabs. They may include:

   - The **General** tab, which provides basic information about the device.
   - The **Resource** tab, which lists resources assigned to the monitor, optional external optical drive, optional external diskette drive, and other power-using functions. This tab does not appear if the device is not using resources.
   - The **Driver** tab, which displays the drivers being used by the device.

   The tabs that appear in the dialog box vary from one device to another. A Troubleshooting button is also present.
6. Click **Troubleshoot...**

   A Help and Support window for that device appears.

For more information about Device Manager, refer to Windows® XP online help.

## Memory problems

Incorrectly connected or faulty memory modules may cause errors that seem to be device-related. It is worthwhile checking for these first:

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

   The operating system shuts down and turns off the computer automatically.
3. Remove the memory module.
4. Reinstall the memory module, following the instructions in "Installing a memory module" on page 54, and making sure the module is seated properly.
5. Check for the error again.
6. If the error recurs, remove the memory module entirely and check for the error again.

   If removing the memory module eliminates the error, the memory module may be faulty. If the error recurs without the memory module installed, the error is not caused by the memory module.

TECHNICAL NOTE: You must have at least one memory module installed for the computer to work.

## Power and the batteries

Your computer receives its power through the AC adaptor and power cord/cable or from the system batteries (battery, optional high-capacity battery, and real-time clock (RTC) battery). Power problems are interrelated. For example, a faulty AC adaptor or power cord/cable will neither power the computer nor recharge the batteries.

Here are some typical problems and how to solve them:

### The AC power light does not come on when you plug in the AC adaptor and power cord/cable.

Make sure the AC adaptor and power cord/cable are firmly plugged into both the wall outlet and the computer.

If the AC power light still does not come on, check that the wall outlet is working properly by plugging in a lamp or other appliance.

### The AC adaptor and power cord/cable work correctly, but the battery will not charge.

The battery does not charge while the computer is consuming full power. Try turning off the computer.

The battery may not be inserted correctly in the computer. Turn off the computer, remove the battery, clean the contacts with a soft dry cloth (if necessary) and replace the battery. See "Removing the battery from the computer" on page 121.

The battery may be too hot or too cold to charge properly. If you think this is the probable cause, let the battery reach room temperature and try again.

If the battery has completely discharged, it will not begin charging immediately. Leave the AC adaptor and power cord/cable connected, wait 20 minutes and see if the battery is charging.

If the battery light is glowing after 20 minutes, let the computer continue charging the battery for at least another 20 minutes before you turn on the computer.

If the battery light does not glow after 20 minutes, the battery may have reached the end of its useful life. Try replacing it.

### The battery appears not to power the computer for as long as it usually does.

If you frequently recharge a partially charged battery, it may not charge fully. Let the battery discharge completely, then try charging it again.

Check the power options using the Power Management utility. Have you added a device, such as a PC Card or memory module, that takes its power from the battery? Is your software using the hard disk more? Is the display power set to turn off automatically? Was the battery fully charged to begin with? All these conditions affect how long the charge lasts.

After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries. To purchase a new battery pack, see your accessories information that shipped with your computer, or visit the Toshiba Web site at accessories.toshiba.com. Refer to this site often to stay current on the most recent software and hardware options for your computer, and for other product information.

For more information on maximizing battery power, see "Charging batteries" on page 112.

## Keyboard problems

If, when you type, strange things happen or nothing happens, the problem may be related to the keyboard itself.

### The keyboard produces unexpected characters.

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

If the problem occurs when both the keypad overlays are off, make sure the software you are using is not remapping the keyboard. Refer to the software documentation and check that the program does not assign different meanings to any of the keys.

**You have connected an external keyboard and the operating system displays one or more keyboard error messages.**

The keyboard you connected may be defective or incompatible with the computer. Try using a different make of keyboard.

**Nothing happens when you press the keys on the external keyboard.**

You may have plugged the external keyboard in while the computer was turned on. Using the computer's TouchPad, click **Start**, then either **Shut Down** or **Turn off computer**, and then **Restart the Computer**. The computer will restart and recognize the device.

## Display problems

Here are some typical display problems and their solutions:

**The screen is blank.**

Display Auto Off may have gone into effect. Press any key to activate the screen.

You may have activated the instant password feature by pressing Fn and F1 simultaneously. If you have registered a password, press any key, type the password and press Enter. If no password is registered, press any key. The screen reactivates and allows you to continue working.

If you are using the built-in screen, make sure the display priority is not set for an external monitor. To do this, press Fn and F5 simultaneously (once). If this does not correct the problem, press Fn and F5 simultaneously again to return the display priority to its previous setting.

HINT: Holding the Fn key and pressing the F5 key several times will advance you through the display options.

If you are using an external monitor:

- Check that the monitor is turned on.
- Check that the monitor's power cord/cable is firmly plugged into a working power outlet.
- Check that the cable connecting the external monitor to the computer is firmly attached.
- Try adjusting the contrast and brightness controls on the external monitor.
- Press Fn and F5 simultaneously to make sure the display priority is not set for the built-in screen.

### The screen does not look right.

You can change the display settings by clicking a blank area of the desktop with the secondary control button, then clicking Properties. This opens the Display Properties dialog box. The Appearance tab of this dialog box allows you to choose the colors for the screen. The Settings tab allows you to choose the screen resolution.

### The built-in screen flickers.

Some flickering is a normal result of the way the screen produces colors. To reduce the amount of flickering, try using fewer colors.

To change the number of colors displayed:

1 Right-click in a blank area of the Windows® desktop.

2 Click **Properties**, and then the **Settings** tab.

3 Change the Colors option and click **OK**.

For more information see Windows® Help.

### A message displays saying that there is a problem with your display settings and that the adapter type is incorrect or the current settings do not work with your hardware.

Reduce the size of the color palette to one that is supported by the computer's internal display.

To change the display properties:

1 Right-click in a blank area of the Windows® desktop.

The Display Properties window appears.

2 Click **Properties**, then click the **Settings** tab.

3 Adjust the screen resolution and/or color quality.

4 Click **OK**.

### The display mode is set to Simultaneous and the external display device does not work.

Make sure the external monitor is capable of displaying at resolutions of 800 x 600 or higher. Devices that do not support this resolution will only work in Internal/External mode, and not simultaneous mode.

### Small bright dots appear on your TFT display when you turn on your computer.

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

## Disk drive problems

Problems with the hard disk or with a diskette drive usually show up as an inability to access the disk or as sector errors. Sometimes a disk problem may cause one or more files to appear to have garbage in them. Typical disk problems are:

### You are having trouble accessing a disk, or one or more files appear to be missing.

Make sure you are identifying the drive by its correct name (A: or C:).

### Error-checking

Run Error-checking, which analyzes the directories, files and File Allocation Table (FAT) on the disk and repairs any damage it finds.

To run Error-checking:

1. Click **Start**, then click **My Computer**.
2. Right-click the drive you want to check.

3 On the pop-up menu, click **Properties**.

The drive's Properties box appears.

NOTE This feature is not available for CD/DVD drives.

4 Click the **Tools** tab.

5 Click the **Check now** button.

The Check Disk All Apps box appears.

6 You can choose one or both options:

- Automatically fix file system errors
- Scan for and attempt recovery of bad sectors

7 Click **Start**.

Error-checking tests and repairs the disk.

### Your hard disk seems very slow.

If you have been using your computer for a long time, your files may have become fragmented. Run Disk Defragmenter. To do this, click **Start**, **All Programs**, **Accessories**, **System Tools**, and then **Disk Defragmenter**.

### Your data files are damaged or corrupted.

Refer to your software documentation for file recovery procedures. Many software packages automatically create backup files.

You may also be able to recover lost data using utility software. Consult your network administrator.

### Some programs run correctly but others do not.

This is probably a configuration problem. If a program does not run properly, refer to its documentation and check that the hardware configuration meets its needs.

**A diskette will not go into the optional external diskette drive.**

You may already have a diskette in the drive. Make sure the drive is empty.

You may be inserting the diskette incorrectly. Hold the diskette with the hub side facing down, and insert it so that the metal head window cover goes into the drive first.

The metal cover or a loose label may be obstructing the path into the drive. Carefully inspect the diskette. If the metal cover is loose, replace the diskette. If the label is loose, replace the label and try inserting the diskette again.

**The computer displays the** Non-system disk or disk error **message**.

If you are starting the computer from a diskette, the diskette in the drive does not have the files necessary to start the computer. Replace it with a bootable diskette.

**The drive cannot read a diskette.**

Try another diskette. If you can access the second diskette, the first diskette (not the drive) is probably causing the problem. Run Error-checking on the faulty diskette (for instructions see "Disk drive problems" on page 228).

## Optical drive problems

**You cannot access a disc in the drive.**

If the optical drive is an external drive, make sure that the drive's cable is properly connected to the computer.

Make sure the tray that holds the CD or DVD is closed is closed properly. Press gently until it clicks into place.

Open the tray and remove the disc. Make sure the tray is clean. Any dirt or foreign object can interfere with the laser beam.

Examine the disc to see if it is dirty. If necessary, wipe it with a clean cloth dipped in water or a neutral cleaner.

Replace the disc in the tray. Make sure that the disc is lying flat, label side up. Close the tray carefully, making sure it has shut completely.

### You press the disc eject button, but the drive tray does not slide out.

Make sure the computer is connected to a power source and turned on. The optical drive eject mechanism requires power to operate.

Make sure a program is not accessing the drive and preventing it from ejecting.

If you need to remove a disc and cannot turn on the computer (for example, if the battery is completely discharged), use a narrow object, such as a straightened paper clip, to press the manual eject button. This button is in the small hole next to the optical drive eject button on the face of the optical drive tray.

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

### Some discs run correctly but others do not.

Check the type of disc you are using. The optical drive supports the Digital Versatile Disc (DVD) formats DVD±R, DVD±RW, and DVD RAM, plus the CD formats CD-Recordable (CD-R) and CD-Rewritable (CD-RW).

If the problem is with a data CD or DVD, refer to the software's documentation and check that the hardware configuration meets the program's needs.

**The disc will not come out of the drive when you click the eject button on the screen.**

Press the button on the optical drive itself. For additional information see "You press the disc eject button, but the drive tray does not slide out." on page 231.

## Sound system problems

**No sound is coming from the computer's speakers.**

Adjust the volume control.

Try pressing Fn + Esc to see if volume mute is disabled.

If you are using external headphones or speakers, check that they are securely connected to your computer.

**The computer emits a loud, high-pitched noise.**

This is feedback between the microphone and the speakers. It occurs in any sound system when input from a microphone is fed to the speakers and the speaker volume is too loud. Adjust the volume control.

## PC Card problems

PC Cards (PCMCIA-compatible) include many types of devices, such as a removable hard disk, additional memory, or a pager.

Most PC Card problems occur during installation and setup of new cards. If you are having trouble getting one or more of these devices to work together, several sections in this chapter may apply.

Resource conflicts can cause problems when using PC Cards. See "Resolving a hardware conflict" on page 217.

## Card Information Structure

When you insert a PC Card into a slot, the computer attempts to determine the type of card and the resources it requires by reading its Card Information Structure (CIS). Sometimes the CIS contains enough information for you to use the card immediately.

Other cards must be set up before you can use them. Use the Windows® XP PC Card (PCMCIA) Wizard to set up the card. Refer to your Microsoft® documentation for more information, or refer to the documentation that came with the PC Card.

Some card manufacturers use special software called *enablers* to support their cards. Enablers result in nonstandard configurations that can cause problems when installing the PC Card.

If your system does not have built-in drivers for your PC Card and the card did not come with an operating system driver, it may not work under the operating system. Contact the manufacturer of the PC Card for information about using the card under the operating system.

## PC Card checklist

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

## Resolving PC Card problems

Here are some common problems and their solutions:

### The slot appears to be dead. PC Cards that used to work no longer work.

Check the PC Card status:

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

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

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

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

The problem may be caused by an I/O (input/output) conflict between the PCMCIA socket and another device in the system. Use Device Manager to make sure each device has its own I/O base address. See "Fixing a problem with Device Manager" on page 220 for more information.

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

**Hot swapping (removing one PC Card and inserting another without turning the computer off) fails.**

Follow this procedure before you remove a PC Card:

1. Double-click the **Safely Remove Hardware** icon on the System tray.
2. Select the item you wish to remove.
3. Click **Stop**.
4. Remove the device when prompted to do so.
5. Click **OK** three times to close the **Safely Remove Hardware** screen.

**CAUTION** Never swap modules when the computer is in Hibernation or Standby mode. This is known as "warm swapping" and is not supported with this computer. For more information on Hibernation and Standby modes see "Hibernation mode" on page 76 and "Standby mode" on page 77.

**The system does not recognize your PC Card.**

Refer to the PC Card documentation.

Removing a malfunctioning card and reinstalling it can correct many problems.

**A PC Card error occurs.**

Reinsert the card to make sure it is properly connected.

If the card is attached to an external device, check that the connection is secure.

Refer to the card's documentation, which should contain a troubleshooting section.

## Printer problems

This section lists some of the most common printer problems.

### The printer will not print.

Check that the printer is connected to a working power outlet, turned on and ready (on line).

Check that the printer has plenty of paper. Some printers will not start printing when there are just two or three sheets of paper left in the tray.

Make sure the printer cable is firmly attached to the computer and the printer.

Run the printer's self-test to check for any problem with the printer itself.

Make sure you installed the proper printer drivers as shown in "Setting up a printer" on page 73 or in the instructions that came with the printer.

You may have connected the printer while the computer is on. Disable Standby mode, turn off the computer, and turn off the printer. Turn the printer back on, make sure it is online, and then turn the computer back on.

Try printing another file. For example, you could create and attempt to print a short test file using Notepad. If a Notepad file prints correctly, the problem may be in your original file.

If you cannot resolve the problem, contact the printer's manufacturer.

### The printer will not print what you see on the screen.

Many programs display information on the screen differently from the way they print it. See if your program has a print preview mode. This mode lets you see your work exactly as it will print. Contact the software manufacturer for more information.

## Modem problems

This section lists common modem problems.

### The modem will not receive or transmit properly.

Make sure the cable from the modem to the telephone line is firmly connected to the computer's modem port and the telephone line jack.

Check the port settings to make sure the hardware and software are referring to the same COM port. See "Determining the COM port" on page 133.

Check the communications parameters (baud rate, parity, data length and stop bits) specified in the communications program. It should be set up to transmit at 300, 1200, 2400, 4800, 9600, 14400, 28800, 33600 bps (bits per second) or higher. Refer to the program's documentation and the modem manual for information on how to change these settings.

### The modem is on, set up properly but still does not transmit or receive data.

Make sure the line has a dial tone. Connect a telephone handset to the line to check this.

The other system may be busy or off line. Try making a test transmission to someone else.

For more information regarding your system's V.92 modem, visit the Toshiba Web site at pcsupport.toshiba.com.

## Wireless networking problems

NOTE This section provides general troubleshooting tips for networking problems, specifically wireless (Wi-Fi) networking.

The terms and concepts used assume a basic understanding of networks, and may be for more advanced users. If you need assistance or if you are not familiar with the terminology, please see Windows Help and Support or contact your computer technician.

- If your computer is equipped with an internal Wi-Fi adapter, verify that the Wi-Fi antenna switch is on (the Wi-Fi light will be lit).

NOTE To determine if your computer has an internal Wi-Fi adapter, check the device list in Device Manager (part of the Windows Control Panel). Some Toshiba models may have a Wi-Fi antenna switch even though they do not have an internal Wi-Fi adapter.

- Verify that signal strength is good using the utility provided with the Wi-Fi adapter.
- If another computer is on the same network, verify that it has network access, and can connect to the Internet. If, for example, the other computer cannot browse to a public Web site, the ISP's (Internet Service Provider) service may be disrupted.
- Verify that the Service Set Identifier (SSID), or network name, is correct—i.e., that it matches the SSID assigned to the access point you are attempting to connect through. SSIDs are case-sensitive. Toshiba provides a Client Manager utility for setting and managing SSIDs.

- Check the Control Panel's Device Manager to verify that the Wi-Fi adapter is recognized by Windows®, and that the driver is loaded. Carefully note any error messages—these will be very helpful if you should confer with a support technician at a later time.
- Verify that the network connection is configured to obtain its Internet Protocol (IP) address dynamically:
  1. Click **Start**, **Control Panel**.
  2. Double-click **Network Connections**.
  3. Right-click the name of your wireless network connection, then click **Properties**.
  4. Select **Internet Protocol (TCP/IP)**, then click **Properties**.
  5. Select **Obtain an IP address automatically**.
  6. Click **OK**, then click **Close**.
- Use IPCONFIG to verify that the computer has a useful IP address—one other than the private address of 169.254.xxx.xxx assigned by Windows.
  - Click **Start**, then click **Run...**
  - Enter **Cmd** and press **Enter**.
  - Enter **IPCONFIG /ALL** and press **Enter**.
  - The IP address for each active network adapter will be displayed.
- Connect your computer directly to your router or broadband modem, by plugging a standard CAT5 Ethernet patch cable (sold separately) into your computer's RJ45 Ethernet port. If your connection problem disappears, the problem lies in the Wi-Fi part of your network.

- Use the PING command to verify a connection to the gateway at 192.168.1.1 (a default gateway for most wireless routers).
  - Click **Start**, then click **Run...**
  - Enter **Cmd** and press **Enter**.
  - Enter **PING 192.168.1.1** at the command prompt, and press **Enter**.
  - If "Request Timed Out" or another error message appears in response, then the problem is probably Wi-Fi-related.
- If you have enabled any security provisions (closed system, MAC address filtering, Wired Equivalent Privacy [WEP], etc.), check the access point vendor's Web site for recent firmware upgrades. Problems with WEP keys, in particular, are frequently addressed in new firmware releases.

## Special considerations for Windows XP

### Wired Equivalent Privacy (WEP) encryption is not enabled on the wireless access point.

When you install a wireless access point device, Windows XP checks whether WEP encryption is enabled on the device. If it is not enabled, Windows XP adds the device to its list of available wireless networks, but does not create a wireless connection using the device, since the connection would not be secure. You can still, however, use the access point. To use an access point without WEP encryption, follow these steps:

1. Right-click the **Wireless Network** icon in the System Tray (far-right portion of the Windows Taskbar).
2. Click **View Available Wireless Networks**.

3 Select **Allow me to connect to the selected wireless network, even though it is not secure**.

4 Windows XP will now try to establish a wireless connection.

**The Windows XP wireless management facility does not work.**

If you are using an external Wi-Fi adapter (a PC Card, USB adapter, or other variety), check if the adapter comes with its own management utility. If it does, the utility may be disabling the Windows XP wireless management facility, in which case you must use the adapter's management utility. If the documentation that accompanies the adapter does not provide enough information to determine if this is the case, contact that vendor's support group for further advice.

# DVD operating problems

If you experience a problem playing DVDs, you may be able to fix the problem yourself.

For general problems playing a DVD title, try the following steps:

1 Verify that the disc is in a format that the drive supports.

2 Ensure that the disc is properly inserted in the drive tray.

3 Ensure that the Display properties are not True Color (24-bit). If it is set to 24-bit color, there may be a video format error. To verify your display settings:

   a Click **Start**, **Control Panel**, **Appearance and Themes**, and double-click **Display**.

   b Click the **Settings tab** and ensure that the **Color Palette** is set to **High Color** (16-bit).

   c If it is not set to High Color, change the settings to **16-bit color** and click **OK**.

4 Clean the disc and try again.

   A dirty drive can also cause audio problems. If you have tried several discs and all fail, consider sending your drive to an authorized service provider to get it cleaned.

5 Verify that your computer recognizes your optical drive by double-clicking the **My Computer** icon on the desktop. The optical drive should appear in the list.

6 See "Checking device properties" on page 221 for instructions on using Device Manager to view the optical drive properties.

7 Check the Toshiba Web site for new information on optical drives and their operation.

### A blank screen appears while watching a DVD-ROM movie or title.

Disable the Shut off Monitor feature in the Display Properties using the following steps:

1 Right-click in a blank area of the Windows® desktop.

2 Click **Properties**.

3 Click the **Screen Saver** tab.

4 Deselect **Shut off Monitor**.

### Jumping video lines appear around the DVD-ROM video window.

To change the screen's display resolution:

1 Click **Start**, **Control Panel**.

   The Control Panel window appears.

2 Click **Appearance and Themes**, and double-click the **Display** icon.

   The Display Properties dialog box appears.

3 Click the **Settings** tab.

4 Next to the words **Desktop Area**, move the slider to a lower setting, such as 800 x 600 or 640 x 480.

5 Click **OK**.

### DVD titles, games, or applications appear distorted.

Having Stretch enabled when your video resolution is set to 640 x 480 or 800 x 600 can cause distortion. To disable Stretch, follow the instructions below:

1 Right-click the **Desktop**, select **Properties**.

2 Select the **Settings** tab.

3 Select the **Advanced Flat Panel** tab.

4 Click **Disable Display Stretch Feature**.

5 Click **OK**.

### The screen saver runs while you are watching a movie or title.

If the screen saver is enabled, it runs on top of any movie or title you are watching. To disable the screen saver:

1 Click **Start**, **Control Panel**.

The Control Panel window appears.

2 Click **Appearance and Themes**, and double-click the **Display** icon.

The Display Properties dialog box appears.

3 Click the **Screen Saver** tab.

In the Screen Saver list, the current screen saver is highlighted.

4 Click the down arrow at the right of the current screen saver name.

A list of screen savers displays.

5 Click and hold the up arrow by the list or move the slide to the top.

6 Click **None**.

7 Click **OK**.

# Develop good computing habits

### Save your work frequently.

You can never predict when your computer will lock, forcing you to close a program and lose unsaved changes. Many software programs build in an automatic backup, but you should not rely solely on this feature. Save your work! See "Computing tips" on page 88 for instructions.

### On a regular basis, back up the information stored on your hard disk.

Here are some ways you can do this:

- Copy files to diskette.
- Copy files to an external storage device.
- Connect a CD/DVD to the system and use specialized software to copy everything on the hard disk to a CD/DVD.
- Connect your computer to the office network and copy files to your network partition.

Some people use a combination of these methods, backing up all files to tape weekly and copying critical files to diskette on a daily basis.

If you have installed your own programs, you should back up these programs as well as your data files. If something goes wrong that requires you to reformat your hard disk and start again, reloading all your programs and data files from a backup source will save time.

**Read the user's guides.**

It is very difficult to provide a fail-safe set of steps you can follow every time you experience a problem with the computer. Your ability to solve problems will improve as you learn about how the computer and its software work together.

Get familiar with all the user's guides provided with your computer, as well as the manuals that come with the programs and devices you purchase.

Your local computer store or book store sells a variety of self-help books you can use to supplement the information in the manuals.

## Data and system configuration backup in Windows XP

Windows XP offers some easy-to-use features for backing up your Windows settings and your data—documents and other important files. Take advantage of these features to protect yourself from much more difficult and time-consuming restoration procedures, and to safeguard your valuable data from loss.

### Saving system configuration with Restore Points

The System Restore feature of Windows XP quickly creates Restore Points—'snapshots' of your Windows configuration—and saves them for later recall. If you experience problems after installing some new hardware or software, you can easily select a previously established Control Point to 'turn back the clock,' restoring Windows to the state it was in just prior to the installation. This is much easier and more effective than uninstalling the hardware or software, which often leaves behind unwanted files and settings. It is also easy to undo a Restore Point selection, if you change your mind.

Follow these steps to create a Restore Point using the System Restore utility:

1 Click **Start**, and then **Help and Support**.

2. Under **Pick a Task**, click **Undo changes to your computer with System Restore**.
3. Click **Create a restore point**, and then click **Next**.
4. In the **Restore point description** field, enter a name that is descriptive enough to be easily understood in the future, such as "Before installing Brand X Accounting app." Then click **Create**.
5. Windows creates the Restore Point and automatically stamps it with the current date and time.

Then, at a later time, you can re-establish your Windows configuration using the saved Restore Point. To do this:

1. Click **Start**, and then **Help and Support**.
2. Under **Pick a Task**, click **Undo changes to your computer with System Restore**.
3. Click **Restore my computer to an earlier time**, then click **Next**.
4. A calendar will be presented, showing a month at a time. Each date for which a Restore Point has been set will be marked as bold. When a boldfaced date is clicked, a description of the Restore Point will appear in a list to the right.

NOTE This list may contain Restore Points that you did not create. Restore Points labeled System Checkpoint were automatically created by Windows XP. Other Restore Points may have been created automatically by applications when they were installed.

5. Select the desired Restore Point from the list, and then click **Next**.
6. Your Windows configuration will now be restored to the state it was in when the chosen Restore Point was created.

## Backing up your data to CDs with Windows XP

The most valuable component of your computer system is the data that you create and store on its hard drive. Since problems with either hardware or software can make the data inaccessible or even destroy it, the next most valuable component of your computer system may be a recent backup of your data.

Fortunately, Windows XP offers a convenient way to back up your important data files to CDs, a relatively high-capacity storage media. No additional software is required. Most of the CD and DVD drives built into recent Toshiba portable computer models can write to (or 'burn') as well as read from CDs. External CD and DVD writers are also widely available.

Follow these steps to back up files in the **My Documents** folder to one or more CDs:

1. Put a blank CD-R (CD-recordable) disc into the computer's CD or DVD drive.
2. A menu of options will appear. Select **Open writable CD folder using Windows Explorer**, and click **OK**.
3. A Windows Explorer window will open for the blank CD. This window will be referred to as "the CD window."
4. Open a second Windows Explorer window by clicking **Start**, then **My Computer**.
5. In this second window, browse to the files you wish to back up. Click the down-pointing arrow at the upper-right of the window (to the left of the **Go** button) to see a list of locations that includes **My Documents**—a likely location of your data.
6. Drag and drop folders or individual files from this window into the CD window. If the files do not immediately appear in the CD window, press **F5** (or click **View**, **Refresh**) to prompt Windows to display them.

NOTE Documents and other data files that you create as you work are typically stored in the My Documents folder. You may also wish to back up other important data files stored elsewhere on your hard disk drive, for example:

- E-mail files and settings—for Outlook, Outlook Express, or other e-mail applications. Visit the vendors' Web sites (www.microsoft.com, for example) for detailed instructions.
- Newsgroup files and settings—for Outlook Express or other newsgroup readers. Visit the vendors' Web sites for detailed instructions.
- Other data files. If you do not find an application's data files in any of the folders within the My Documents folder, check the application's options or preferences settings to discover the locations of the files.

7 When you have finished copying files to the CD window, click **File**, **Write these files to CD**.

8 A CD Writing Wizard will appear, prompting for a name for the CD. You may accept the default name, or enter a new (more descriptive) name. Click **Next** to continue.

9 The CD Writing Wizard will now write the selected files to the CD. It is best not to use the computer for any other tasks during this operation, to avoid interrupting the process.

10 Finally, click **Finish**.

The CD will be ejected. It should contain all of the files you have selected, but you may easily verify this by placing the CD back into the drive, and viewing the list of files.

## Favorites (bookmarks) for Internet Explorer

Follow these steps to back up your Favorites for Internet Explorer (ver 5.0 or newer):

1. In Internet Explorer, click **File**, **Import and Export**.
2. The Import/Export Wizard will appear. Click **Next**.
3. Click **Export Favorites**, **Next**. (To restore the Favorites to the hard disk drive later you would select **Import Favorites** from this list.)
4. A list of your Favorites folders will appear, with the top-level Favorites folder selected (highlighted). Click **Next** to back up all of your Favorites, or select a particular Favorites folder to back up, then click **Next**.
5. In the Export Favorites Destination window, use the Browse button to browse to the **My Documents** folder. Click **Save** in the Select Bookmark file window, and then click **Next**.
6. Click **Finish**. The message "**Successfully exported favorites**" should appear.
7. Follow the steps above for backing up files from the **My Documents** folder to a CD.

Each CD has room for 650-700 megabytes of data. Follow this same set of steps any number of times to back up any number of files to as many CDs as is required to hold them.

Windows XP also includes a Backup utility, though it does not directly support writing to CDs. For more information, click **Start**, **Help and Support**, or start the Backup utility by clicking **Start**, **All Programs**, **Accessories**, **System Tools**, **Backup**.

## General tips for installing hardware and software

Here are a few tips to help ensure safe and easy installation of new hardware (printers, pointing devices, external hard drives, DVD writers, scanners, etc.) and software (applications like Microsoft Office and Adobe® Photoshop®, or utility software such as special toolbars for your web browser).

- Create a Restore Point (refer to "Saving system configuration with Restore Points" on page 245). Before installing anything, use the System Restore utility to set a Restore Point (see the section titled Restore Points). If anything goes wrong, you will then be able to easily restore Windows to the state it was in prior to the installation, undoing any changes that the installation process introduced.
- Back up your critical data (see "Backing up your data to CDs with Windows XP" on page 247).
- Have your factory Restore/Reconfiguration CD(s) on hand in case you need any files from them.
- Do not guess—follow directions carefully! It is often necessary to run an installation utility first—before connecting a new hardware item to the computer. If the device is connected first, it may be very difficult to complete the installation successfully. Always carefully follow the installation instructions that accompany the hardware or software.
- Restart Windows. Always restart Windows after each installation, even if the installation utility does not prompt you to do so. This will ensure that the installation is completed, and will clean up anything that the installation utility left behind.

- Do one installation at a time. If you have several new items to add to your computer system, install just one at a time, creating Restore Points immediately before each successive installation. This will make it much easier to determine the origin of any new problems. For best results, follow this sequence:

  1. Back up critical data.
  2. Create a Restore Point.
  3. Install one item of hardware or software.
  4. Restart Windows.
  5. Use the new hardware or software for a while, noting any new problems. Make sure that your critical applications (e-mail, business applications, etc.) are working correctly, and verify that important devices are still functioning.
  6. For each additional hardware or software item, repeat these steps, starting at step 1 if any of your critical data has changed, or starting at step 2 if no critical data has changed.

# If you need further assistance

If you have followed the recommendations in this chapter and are still having problems, you may need additional technical assistance. This section contains the steps to take to ask for help.

## Before you contact Toshiba

Since some problems may be related to the operating system or the program you are using, it is important to investigate other sources of assistance first.

Try the following before you contact Toshiba:

- Review the troubleshooting information in your operating system documentation.

- If the problem occurs while you are running a program, consult the program's documentation for troubleshooting suggestions. Contact the software company's technical support group for their assistance.
- Consult the dealer from whom you purchased your computer and/or program. Your dealer is your best source for current information.

For the complete detailed specifications for your computer, visit pcsupport.toshiba.com. Go to the Tech Support Center, select your particular model from the list and go to the Detailed Specifications for that model.

For the number of a Toshiba dealer near you in the United States, call: (800) 457-7777.

## Contacting Toshiba

If you still need help and suspect that the problem is hardware-related, Toshiba offers a variety of resources to help you.

### Toshiba's Technical Support Web site

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

### Toshiba voice contact

Before calling Toshiba, make sure you have:

- Your computer's serial number
- The computer and any optional devices related to the problem
- Backup copies of your Windows® operating system and all other preloaded software on your choice of media
- Name and version of the program involved in the problem along with its installation media

- Information about what you were doing when the problem occurred
- Exact error messages and when they occurred

For technical support, call the Toshiba Global Support Centre:

Within the United States at (800) 457-7777

Outside the United States at (949) 859-4273

# Other Toshiba Internet Web sites

| | |
|---|---|
| toshiba.com | Worldwide Toshiba corporate site |
| computers.toshiba.com | Marketing and product information in the USA |
| accessories.toshiba.com | Accessories information in the USA |
| www.toshiba.ca | Canada |
| www.toshiba-Europe.com | Europe |
| www.toshiba.co.jp/index.htm | Japan |
| http://servicio.toshiba.com | Mexico and all of Latin America |

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For more information on additional Toshiba worldwide locations, please visit: www.toshiba.co.jp/index.htm.

# Appendix A

# Hot Keys

Hot keys are keys that, when pressed in combination with the Fn key, turn system functions on and off. Hot keys have a legend on the key indicating the option or feature the key controls.

## Volume Mute

Fn + 


This hot key enables/disables volume mute on your computer.

When volume mute is enabled, no sound will come from the speakers or headphones.

# Password security

Fn +  This hot key blanks the display.

## Without a password

The Fn + F1 key combination turns off the display and activates instant security. Using the pointing device or any key will make the display's content reappear, if no password is set for the current user.

## With a password

The Fn + F1 key combination turns off the display and activates instant security.

If you set a blank screen saver, pressing the Fn + F1 key combination to activate instant security will cause the screen to go blank. Using the pointing device or any key will make the display's content reappear. The Windows® operating system log-on screen will appear, prompting you for a password. After typing in the password for the current user, press Enter.

To activate the password feature:

1. Click **Start**, **Control Panel**, and then **Appearances and Themes**.
2. Click one of the following:
   - **Choose a screen saver** in the "Pick a task" section
   - **Display** in the "or pick a Control Panel icon" section

   The Display Properties window appears.
3. If you clicked **Choose a screen saver**, the Screen Saver tab has already been selected. If it is not selected, click the **Screen Saver** tab.

4 Click the **On resume, password protected** check box.

5 Click **OK**.

## Maintaining security when the battery is not fully charged

When the battery is not fully charged (even if the computer is operating on AC power) your display may reappear automatically after a short time. To protect your desktop, you must set up a screen saver with a password before activating the password feature.

To set up a password with a screen saver, go to Windows online Help for instructions:

1 Click **Start**, and then **Help and Support**.

2 In the **Search** field, type password screen saver.

3 Press Enter.

4 Click the **Protect your files with a screen saver password link** located under the suggested topics.

Follow the steps listed in the Windows online Help to set up your password-protected screen saver.

To ensure the password protection is activated after pressing Fn + F1 (to activate instant security), wait ten seconds before walking away from the computer.

# Power profile

Fn + 


This hot key displays the power profile pop-up window and cycles through the power profiles.


*(Sample Image) Power profiles*

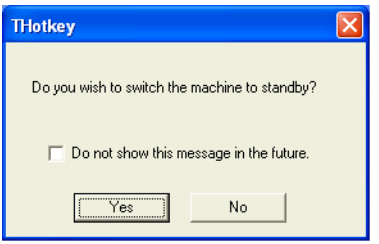
The properties of each power profile are set in the TOSHIBA Power Saver utility. For more information, see "TOSHIBA Power Saver" on page 178.

# Standby mode

Fn + 


This hot key places the computer into Standby mode.

A message box displays by default to confirm that the computer is entering Standby mode. You can choose not to display this message box.




*(Sample Image) Sample Standby confirmation box*

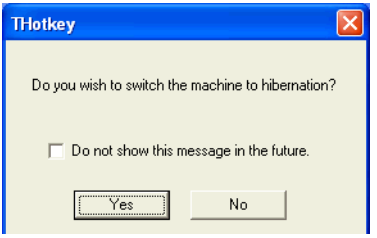
For more information about Standby mode, please see "Using and configuring Standby mode" on page 82.

# Hibernation mode

Fn + 


This hot key places the computer into Hibernation mode.

If Hibernation mode is enabled (the default) a message box displays by default to confirm the computer is entering Hibernation mode. You can choose not to display this message box.




*(Sample Image) Hibernation confirmation box*

If Hibernation mode is disabled, this hot key will not respond. For more information on Hibernation mode, see "Using and configuring Hibernation mode" on page 80.

# Display modes

Fn + 


This hot key cycles through the power-on display options.

The display modes are:

- Built-in display only
- Built-in display and external monitor simultaneously
- External monitor only
- TV and built-in display
- TV only
- Primary and CRT
- Dual Mode display
- Swap image display

*(Sample Image) Display options window*

To use a simultaneous mode, you must set the resolution of the internal display panel to match the resolution of the external display device.

# Display brightness

Fn + 


This hot key decreases the screen brightness.

Fn + 


This hot key increases the screen brightness.

# Disabling or enabling wireless devices

Fn + 


This hot key enables/disables the optional wireless devices installed in your computer.

The wireless modes are:

- All disabled—Disables both the *Bluetooth*® and Wi-Fi modules.
- Wi-Fi enabled—Enables just the Wi-Fi module.
- *Bluetooth* enabled—Enables just the *Bluetooth* module.
- All enabled—Enables both *Bluetooth* and Wi-Fi.

# Disabling or enabling the TouchPad

Fn + 


This hot key enables/disables the TouchPad.

For more information on using the TouchPad, see "Disabling or enabling the TouchPad™" on page 67.

*(Sample Image) Disable and enable TouchPad windows*

# Zooming applications in/out

Fn + 

This hot key turns the Zooming utility to zoom-out. For more information, see "TOSHIBA Zooming Utility" on page 190.

Fn + 

This hot key turns the Zooming utility to zoom-in. For more information, see "TOSHIBA Zooming Utility" on page 190.

# Keyboard hot keys

Fn + 


This hot key turns the cursor control overlay on and off.

Fn + 


This hot key turns the numeric overlay on and off.

Fn + 


This hot key turns the scroll lock feature on and off.

Fn + [Space bar] 

This hot key switches screen resolution.

# Appendix B

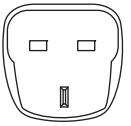
# Power Cord/Cable Connectors

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

## USA and Canada

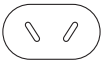
UL approved
CSA approved

## United Kingdom



BS approved

## Australia



AS approved

## Europe

VDA approved
NEMKO approved

# Appendix C

# Using ConfigFree™ with your Toshiba Computer

NOTE All references to *Bluetooth*® in this appendix are applicable only if *Bluetooth* is available on your system.

ConfigFree™ is a set of utilities that makes it easy to control communication devices and network connections. ConfigFree also lets you identify communication problems and create profiles for easy switching between locations and communication networks.

NOTE For more information on using ConfigFree, see the ConfigFree online Help.

The ConfigFree utilities include the following:

- Connectivity Doctor—The Connectivity Doctor utility is used to analyze network connections and fix networking problems with your notebook computer. For more information, see "Connectivity Doctor" on page 267.

- Search for Wireless Devices—The Search for Wireless Devices utility searches for wireless LAN and *Bluetooth*® devices used in the neighborhood, and displays information about them on a virtual map. For more information, see "Search for Wireless Devices" on page 270.
- Profile Settings—The Profiles utility lets you switch between network configurations. For more information, see "Profile Settings" on page 276.
- ConfigFree SUMMIT—The ConfigFree SUMMIT utility is used to connect with other ConfigFree users for file sharing. For more information, see "ConfigFree SUMMIT" on page 280.

ConfigFree also includes a screen saver that you can customize by adding identifying text to devices. Click **Options** on the Connectivity Doctor screen to access the screen saver option.

# Getting Started

This section contains information about the ConfigFree main screen, and how to start and set up ConfigFree.

For more detailed information on setting up and using ConfigFree, see the Help File included in the application.

## Starting ConfigFree

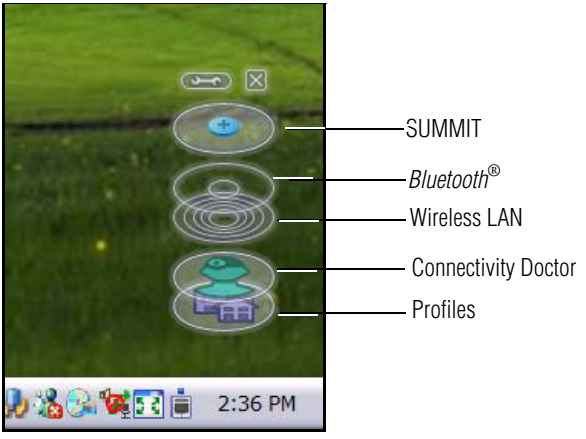
To start ConfigFree, be sure the computer has a wired or wireless connection. Then perform any of the following steps:

- Click **Start**, **All Programs**, **Toshiba**, **Networking**, and then **ConfigFree**.
- Double-click the **ConfigFree** icon  on the Taskbar.

- Press the **TOSHIBA Assist** button (if applicable to your system) to open the TOSHIBA Assist, and then click the **ConfigFree** icon.
- Click the **ConfigFree** icon  on the Taskbar, and then click the desired utility.

NOTE If your computer is not connected to a network, the ConfigFree icon on the Taskbar is displayed with an "X."

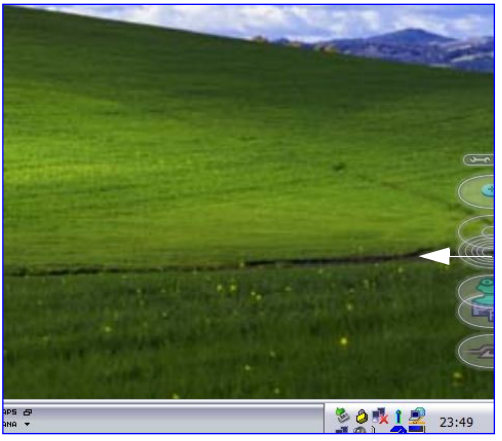
When you start a search for wireless devices, ConfigFree Launcher displays on your computer desktop. You can then click the appropriate icon on the Launcher to start the desired ConfigFree utilities.




*(Sample Image) ConfigFree Launcher*

ConfigFree Launcher can be set to hide from view when it is not in use. When this setting is active (set the ConfigFree Launcher to Auto-hide mode), you can re-display ConfigFree Launcher by moving the mouse cursor to the right of the screen.


*(Sample Image) ConfigFree Launcher Auto-hide mode setting*




*(Sample Image) ConfigFree Launcher coming back into view*

# ConfigFree Utilities

## Connectivity Doctor

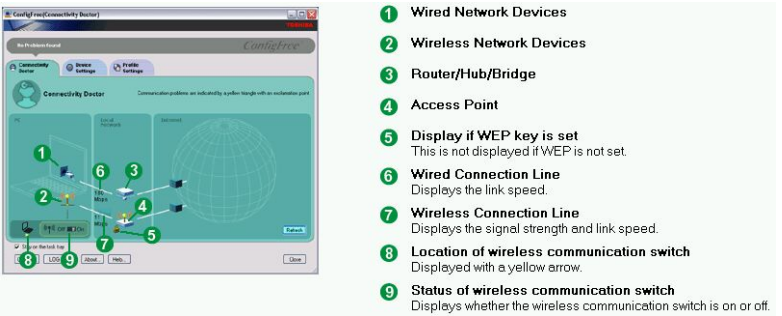
The Connectivity Doctor lets you analyze your network connections and fix network connection problems. Using Connectivity Doctor, you can view detailed network information by simply moving the mouse pointer.

The Connectivity Doctor works with the following network devices:

- Wired and wireless network devices
- Routers, hubs, and bridges
- Access points

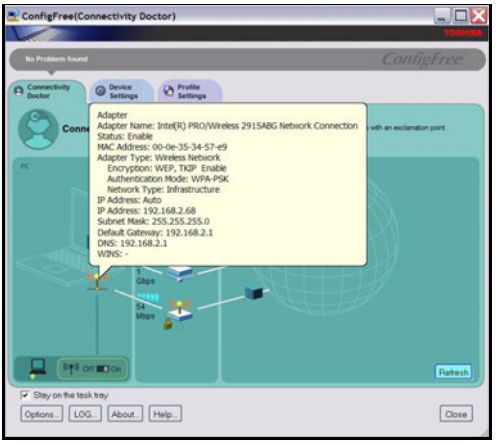
The Connectivity Doctor displays the following information:

- WEP (Used, not Used)
- Wired connection line (link speed)
- Wireless connection line (signal strength and link speed)
- Location of wireless communication switch (identified with a yellow arrow)
- Status of wireless communication switch (on or off)




*(Sample Image) Connectivity Doctor screen*

Moving the mouse pointer over a wired or wireless network device icon displays information about the device, such as its IP address, subnet mask, and MAC address. A wireless network device also shows information such as the network SSID and the device's Wired Equivalent Privacy (WEP) key settings.




*(Sample Image) Viewing device information*

If a problem or potential problem is detected, in most cases, a screen automatically displays showing you the possible cause and solution for the problem.

A triangle containing an exclamation point also appears on the Connectivity Doctor screen, and an orange frame describes the relevant location. You can also view the possible cause and solution for the problem by clicking the exclamation point. If multiple triangles display, you can toggle between each of their cause and solution information screens by clicking its exclamation point.

For example, if the connection to a wireless network cannot be established because the wireless communication switch is turned off, the problem description screen will normally display automatically when you start the Connectivity Doctor, and an exclamation point will appear next to the wireless communication switch.

The following checkboxes and buttons are provided on the Connectivity Doctor screen:

| | |
|---|---|
| **Stay on the task tray** | When checked, the ConfigFree icon resides in the system tray. |
| **Options** | Displays ConfigFree setting screen. |
| **Log** | Lets you create a diagnostic log, view a history of log files, or delete the history. Log files are saved as CFhtml*xxxxx*.htm, where *xxxxx* is the creation date and time. The logs reside in the folder: C:\Documents and Settings*username*\Local Settings\Temp |
| **About** | Displays the version of Connectivity Doctor. |
| **Help** | Displays online Help. |
| **Close** | Closes the Connectivity Doctor screen. |

## Search for Wireless Devices

The Search for Wireless Devices utility searches for wireless LAN and *Bluetooth*® devices currently used in the neighborhood, and displays information about them on a virtual map.

To search for wireless devices:

1. Click the  icon in the system tray.
2. Click **Search for Wireless Devices**.

A virtual map appears with a graphical representation of the wireless devices that have been detected.

NOTE Search for Wireless Devices can also be started from the ConfigFree Launcher.

For Wi-Fi networks, the intensity of a signal is displayed in five levels or "bands." The signal from the connected access point is displayed in the bands surrounding the computer icon at the center of the map. The closer to the center, the stronger the connection. Placing the pointer over the displayed "point of light" shows detailed information about the wireless device.

NOTE The wireless device shown near the center of the map is not necessarily near your notebook computer. If a wireless device located a distance away also has a strong signal, it appears near the center of the map as well.

The Search for Wireless Devices feature identifies if a device is IEEE 802.11a, b, or g. It also includes an option to display hidden access point availability.

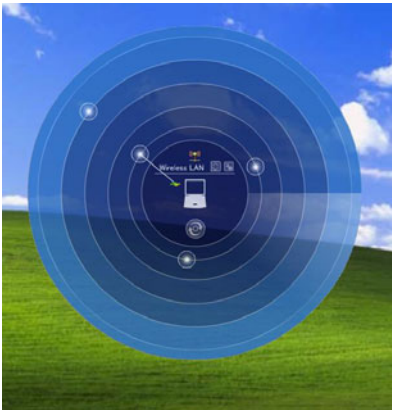
*(Sample Image) Viewing Wi-Fi devices*

## Creating a new wireless connection

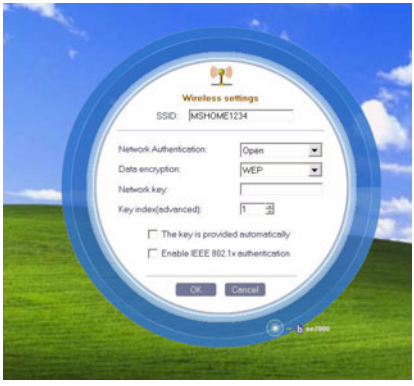
NOTE This feature is only supported on systems running Windows XP SP2.

To add a new wireless connection to an Access Point:

1. Open the Search for Wireless Devices option from ConfigFree Launcher.
2. Drag and drop the device you want to connect to the computer icon at the center of the map. The Wireless Settings screen appears.




*(Sample Image) Dragging a device to the Access Point*




*(Sample Image) Wireless settings screen*

3 Enter the SSID/WEP information and connect to the device.

NOTE After the Access Point is set up and added to the connection list, the system displays the Connection screen rather than the Wireless settings screen.

## Creating a detected device wireless connection

The following screen shows an example of *Bluetooth*® devices that are detected using the **Search for Wireless Devices** option. Moving the mouse cursor over a device icon displays information about the device.

*(Sample Image) Viewing Bluetooth® devices*

You can connect to devices shown on the *Bluetooth*® map:

1. Drag and drop the device you want to connect to the computer icon at the center of the map.
2. Configured devices are automatically connected. Devices not yet configured launch the Add New Connection Wizard, where you can configure and connect to the device.

## Transferring files using *Bluetooth*®

There are several ways to use *Bluetooth*® to send files to other devices.

To select the device using the *Bluetooth*® radar screen:

- Open the *Bluetooth*® radar screen.
- Drag and drop the file directly onto the icon for that *Bluetooth*® device.

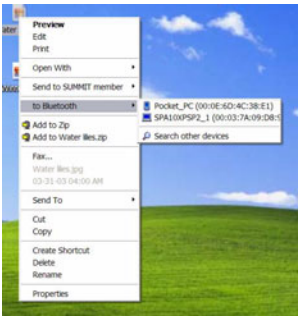
*(Sample Image) Dragging the file to the Bluetooth® device icon*

To be prompted for the device:

1 Drag and drop the file to the *Bluetooth®* radar icon on the ConfigFree Launcher.

*(Sample Image) Dragging the file to the Bluetooth® radar icon*

Or, you can right-click the file and select **Send to Bluetooth Devices**.




*(Sample Image) Selecting Send to Bluetooth® Devices option*

2 Choose a file recipient.

3 Click **Send**.

NOTE During a file transfer, connecting and disconnecting to the selected device will occur automatically.

## Disconnecting from a *Bluetooth*® device

To disconnect from a *Bluetooth*® device:

1 Place the cursor on top of the connected line. The icon changes to a pair of scissors.

2 Click to disconnect from the device.

# Profile Settings

The Profile Settings utility lets you save network settings in "profiles." ConfigFree profiles are useful for easily switching network settings and devices.You can switch network settings simply by selecting the profile with the desired settings.

If you visit a client company occasionally, for example, you can set up a profile to match that environment and connect to the network. Similarly, users who access networks in the office and at home can set up profiles to handle these networking environments.

A profile contains the currently configured network settings on the computer, as well as information about any network devices. The following settings can be saved (or "captured") in a profile:

- **Internet settings**—includes LAN settings (proxy server settings) and the address of a home page that opens automatically when Internet Explorer starts
- **Devices**—lets you enable or disable settings of wired and wireless network devices, infrared devices, and set the power status of *Bluetooth*® antennas
- **TCP/IP settings**—includes DHCP, IP address, subnet mask, default gateway, DNS server, and WINS server settings
- Personal firewall settings for Internet connections
- Dial-up connection settings for the default connection
- File and printer sharing settings
- Printer settings for the default printer
- *Bluetooth*® Security Level (for example, high or medium)

To create a profile:

1. Click the  icon in the system tray.
2. Move the pointer to **Profile**.
3. Click **Add**. The Add Profile screen appears.
4. Select **Capture** and click **OK**. The Add Profile screen appears.
5. Enter the name of the profile you want to create.
6. Enter any optional comments, if desired.

7 Click **Change Icon** and select an icon for this profile.

8 Click the icon at the bottom of the screen to display more capture options.

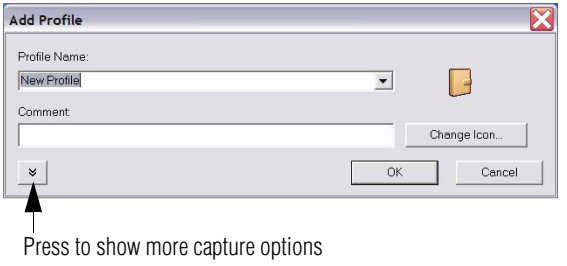
9 Under **Captured Items**, select the items you want to capture for this profile.

10 If connecting with a wireless network, select the desired **Auto Switch Settings**. (These options are unavailable if wireless devices have been disabled.)

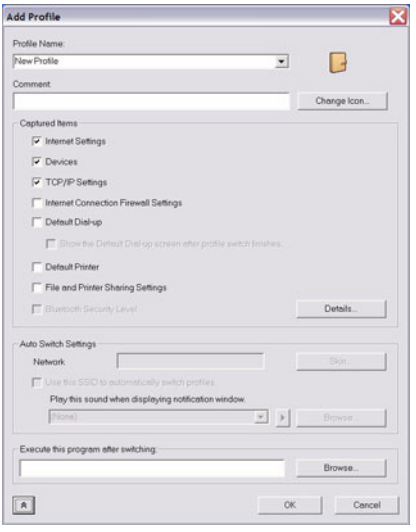
11 Under **Execute this program after switching**, click the **Browse** button and select the program, file, or Web site URL that is to start after switching to this profile.

For example, to have Internet Explorer start in the Windows operating system after switching profiles, type: C:\Program Files\Internet Explorer\IEXPLORE.EXE

12 Click **OK**.




*(Sample Image) Add Profile screen*




*(Sample Image) Expanded Add Profile screen*

NOTE The online Help provides real-world examples of setting up profiles for different networking environments.

After you set up one or more profiles, you can check their settings and fine-tune them as necessary. Profiles can also be imported and exported. This feature is useful when transferring profile settings to other computers. For more information about modifying, importing, and exporting profiles, refer to the online Help.

## ConfigFree SUMMIT

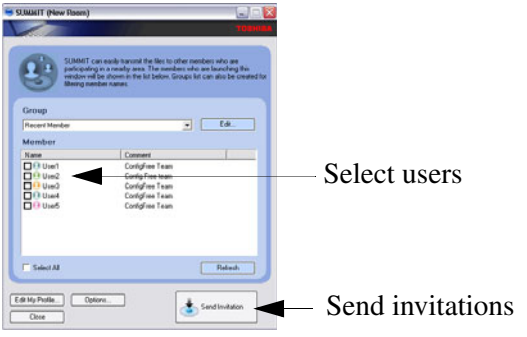
The ConfigFree SUMMIT utility is a convenient way to share files with other users and to transfer files between your computers at home and at work. This utility is faster and more dependable than sending the files via email.

Use this utility, which handles files regardless of size, to distribute presentations, reports, or music files to meeting attendees or to users at different locations.

The SUMMIT utility uses the following types of connections:

- Wireless LAN via Access Point
- Wireless LAN via Ad Hoc
- LAN (same subnet)
- *Bluetooth*® PAN/LAP
- Cross cable (Ethernet or Gbit Ethernet)

To host a ConfigFree SUMMIT, click the SUMMIT icon on the ConfigFree Launcher, select the users that you want to attend the SUMMIT meeting, and send them an invitation.




*(Sample Image) Inviting users to SUMMIT meeting*

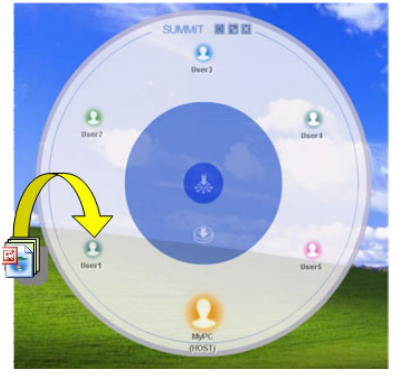
When a user joins the SUMMIT, their icon appears on the SUMMIT table.

*(Sample Image) Users attending SUMMIT meeting (user icons appear on SUMMIT table)*

Files can be shared with one user or all users attending the meeting.

- To share a file with one user, drag and drop the file on the user's icon.

NOTE Only the SUMMIT Host (the initiator) can share files with multiple users by this method. SUMMIT users can share a file with only one other user.

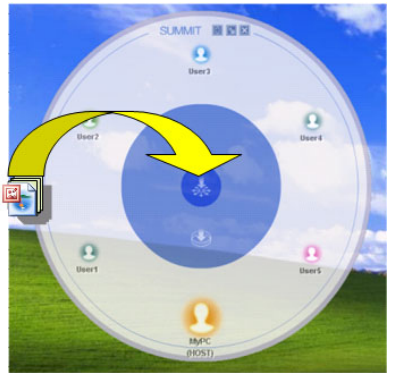


*(Sample Image) Sharing a file with one user*

- To share a file with all users, drag the file to the center of the SUMMIT table where users can access it as desired.

NOTE

If you are the Host of the summit, and drag a file to the center of the SUMMIT table, it will automatically be sent to all SUMMIT users who can then accept or decline the file as desired.




*(Sample Image) Sharing a file with all users*

NOTE

Participating users must be connected by LAN, wireless LAN, or *Bluetooth*® (PAN). Firewall software may prevent ConfigFree SUMMIT from working.

## Using ConfigFree SUMMIT

To host a ConfigFree SUMMIT:

1. Click the  icon in the system tray.
2. Click **SUMMIT**. Other users appear on the SUMMIT main window.

NOTE SUMMIT can also be started from the ConfigFree Launcher.

3. Select the appropriate users and invite them to the SUMMIT meeting. As users join the SUMMIT, their icons appear on the SUMMIT table.
4. Use drag and drop to share documents with SUMMIT users:
   - ❖ To share a file with one user, drag the file to the user's icon.
   - ❖ To share a file with all users, drag the file to the center of the summit table.

There are other ways to send files to users.

To send files to all SUMMIT users:

1. Right-click the file and select **Send to SUMMIT Devices**.
2. Click **Send**.

To send files to a user without creating a SUMMIT meeting:

1. Drag and drop the file to the Wireless radar icon on the ConfigFree Launcher.
2. Right-click the file and choose a file recipient.
3. Click **Send**.

An Access Point may not always be available. To find out how to use Quick Connect to launch ConfigFree Summit, see "Direct Link Toshiba Device" on page 286.

## Quick Connect

The Quick Connect feature includes two options:

- **Toshiba Wireless Projector.** Switches the Wireless LAN connection to connect to a Toshiba Wireless Projector
- **Direct Link Toshiba Device**. Launches ConfigFree SUMMIT

### Toshiba Wireless Projector

The Quick Connect feature switches the Wireless LAN connection to connect to a Toshiba Wireless Projector. Once the projector utility is installed, launching the Quick Connect utility automatically opens the Wireless Data Projector Application. There you can configure how you would like to use the projector.

To connect to a Toshiba Wireless Projector:

1. Click the  icon in the system tray.
2. Use the pointing device to select the **Toshiba Wireless Projector (DPJ)**, then click **Connect**.

Launching Quick Connect prevents you from using the network to connect to a Toshiba Wireless Projector when the wireless LAN Configuration is set to Ad Hoc. If you are connected to an access point, the connection is broken and re-established later.

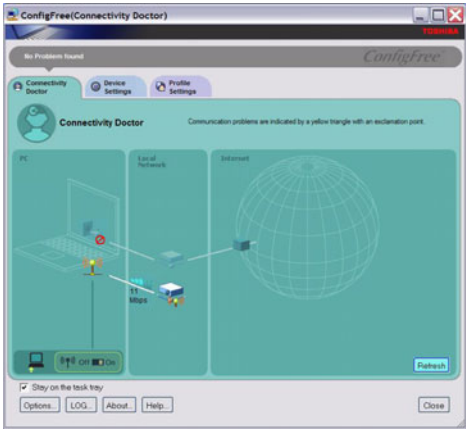
To review the current Toshiba Wireless Projector settings and change them if necessary:

1. Click the  icon in the system tray.
2. Use the pointing device to select the **Toshiba Wireless Projector (DPJ)**, then click **Settings**. The Quick Connect properties dialog box appears.

3 Complete the settings. Refer to the online Help if necessary.

4 Click **OK**.

NOTE Because the wireless LAN's default connection setting is for Ad Hoc mode, the Toshiba Wireless Projector will not connect if the projector is set to Infrastructure mode. If this occurs, you can change the wireless LAN's connection setting to Infrastructure mode to match the settings on the projector.




*(Sample Image) Projector icon when connected with Quick Connect*

If the wireless mode for the wireless setting is set for 5 GHz (802.11a), Quick Connect changes this mode to 2.4 GHz (802.11b) and then connects to the projector.

The wireless LAN configuration returns to the settings that were last used before the Quick Connect function was started:

- If the Toshiba Wireless Projector utility is closed
- If you select Toshiba Wireless Projector (DPJ) from the ConfigFree tray menu (this disconnects the wireless LAN connection)

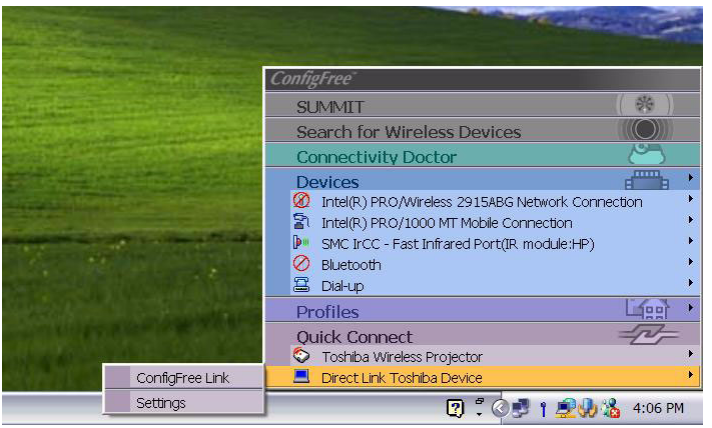
- If you select a profile from the ConfigFree tray menu or when you disable a wireless device
- If you close ConfigFree

## Direct Link Toshiba Device

When Access Point is not available, use the Direct Link Toshiba Device feature to connect your computer in Ad Hoc (peer-to-peer) mode and use the Summit feature.

To use this feature:

1. Display the ConfigFree menu.
2. Select the ConfigFree Link option from the Direct Link Toshiba Device submenu. This action switches the computer's wireless network setting to Ad Hoc mode, and launches the SUMMIT feature.




*(Sample Image) Using the Direct Link Toshiba Device feature*

# Using the Automatic Switch

The Automatic Switch feature allows the computer to automatically switch profiles the next time it is powered on. This feature is particularly useful if you want your computer to automatically switch from the network configuration you use in your office to the one you use at home.

The Auto Switch feature contains options for automatically switching between wired and wireless devices. With these options, the computer automatically switches to a wireless LAN network when the cable of the wired LAN network is removed from the computer. When the cable is reconnected, the connection to the wired LAN is re-established.

To use the Automatic Switch feature:

1. Right-click the  icon in the system tray.
2. Click **Auto Switch**. The Auto Switch dialog box appears.
3. Check **Enable Wireless when cable disconnect occurs**.
4. Click **OK**.

NOTE

If your computer is connected to multiple wireless LAN devices, the Auto Switch (SSID) feature is disabled. To enable this feature, only one wireless LAN device can be used.

# Semi-Automatic Switch Feature

The Semi-Automatic feature alerts you when the computer connects to a Service Set Identifier (SSID) stored in a profile, When the computer connects to the designated SSID, a notification window appears. You can then click this window to connect using the settings specified in the profile.

To use the Semi-Automatic Switch feature:

1. Right-click the  icon in the system tray.
2. Click **Auto Switch**. The Auto Switch dialog box appears.
3. Select the **Auto Switch (SSID)** tab.
4. Select the profile to be automatically selected when the SSID is detected, then click **Add**. The profile is moved to the **List of target SSIDs and profiles**.
5. Repeat the previous step for each additional profile you want to select.
6. Select **Automatically switch profiles when connected to this SSID**.
7. Check **Automatically switch profile when connected to this SSID**.
8. Click **OK**.

The computer is now configured to use the Semi-Automatic Switch feature. When the computer connects to an SSID in a profile, a display notification window appears. You can then click **Switch** on the window to switch profiles. You can also set the option for having the switch be automatic without the need for a notification.

NOTE Several profiles can be defined for a single SSID. In this case, several notification windows are displayed. By clicking these windows, you can switch to the profile for that location.

# Glossary

TECHNICAL NOTE: Some features defined in this glossary may not be available on your computer.

## Acronyms

The following acronyms may appear in this user's guide.

| | |
|---|---|
| **AC** | alternating current |
| **BIOS** | basic input/output system |
| **bps** | bits per second |
| **CD** | compact disc |
| **CD-ROM** | compact disc read-only memory |
| **CD-RW** | compact disc rewrite memory |
| **CMOS** | complementary metal-oxide semiconductor |
| **COM1** | communications port 1 (serial port) |
| **COM2** | communications port 2 (serial port) |
| **CPU** | central processing unit |
| **DC** | direct current |

| | |
|---|---|
| **DMA** | direct memory access |
| **DIMM** | dual inline memory module |
| **DOS** | disk operating system |
| **DPI** | dots per inch |
| **DSTN** | dual supertwist nematic |
| **DVD** | digital versatile (or video) disc |
| **DVD-ROM** | digital versatile (or video) disc read-only memory |
| **ECP** | enhanced capabilities port |
| **EPROM** | erasable programmable read-only memory |
| **FAT** | file allocation table |
| **FCC** | Federal Communications Commission |
| **FIR** | fast infrared |
| **GB** | gigabyte |
| **HDD** | hard disk drive |
| **HTML** | Hypertext Markup Language |
| **IEEE** | Institute of Electrical and Electronics Engineers |
| **I/O** | input/output |
| **IRQ** | interrupt request |
| **ISP** | Internet service provider |
| **KB** | kilobyte |
| **LAN** | local area network |
| **LCD** | liquid crystal display |
| **LPT1** | line printer port 1 (parallel port) |
| **LSI** | large-scale integration |
| **MB** | megabyte |
| **MIDI** | Musical Instrument Digital Interface |
| **PC** | personal computer |
| **PCI** | Peripheral Component Interconnect |
| **PCMCIA** | Personal Computer Memory Card International Association |

| | |
|---|---|
| **RAM** | random access memory |
| **RFI** | radio frequency interference |
| **ROM** | read-only memory |
| **RTC** | real-time clock |
| **SCSI** | small computer system interface |
| **SDRAM** | synchronous dynamic random access memory |
| **SRAM** | static random access memory |
| **SVGA** | super video graphics adapter |
| **TFT** | thin film transistor |
| **USB** | universal serial bus |
| **URL** | uniform resource locator |
| **WAN** | wide area network |
| **www** | World Wide Web |

# Terms

The following terms may appear in this user's guide.

## A

**active-matrix display** — A liquid crystal display (LCD) made from an array of liquid crystal cells using active-matrix technology. Also known as a "TFT display," in its simplest form there is one thin film transistor (TFT) for each cell. This type of display works well with notebook computers because of its shallow depth and high-quality color. Active-matrix displays are viewable from wider angles than most passive-matrix displays.

**adapter** — A device that provides a compatible connection between two units. For example, the computer's internal display adapter receives information from the software and translates it into images on the screen. An adapter can take a number of forms, from a microprocessor to a simple connector. An intelligent adapter (one that is capable of doing some processing) may also be called a controller.

**alternating current (AC)** — The type of power usually supplied to residential and commercial wall outlets. AC reverses its direction at regular intervals. Compare *direct current (DC)*.

**application** — A computer program that you use to perform tasks of a specific type. Applications include word processors, spreadsheets, and database management systems. See also *program*.

## B

**backup** — A copy of a file, usually on a removable disk, kept in case the original file is lost or damaged.

**basic input/output system (BIOS)** — See *BIOS*.

**baud rate** — The speed at which a communication device, such as a printer or modem, transmits information. Baud rate is the number of signal changes per second (not necessarily the same as bits per second). See also *bits per second*.

**BIOS (basic input/output system)** — Basic instructions, stored in read-only memory (ROM), containing the information the computer needs to check hardware and load the operating system when you start up the computer.

**bits per second (bps)** — A way of measuring the speed at which information is passed between two devices. This is the basic unit of measure used in modem communications, and is similar, but not identical, to the baud rate. See also *baud rate*.

**boot** — To start the computer. The term "boot" originates from bootstrap program (as in "pulling itself up by its bootstraps"), a program that loads and initializes the operating system. See also *reboot*.

**boot disk** — See *system disk*.

**boot priority (startup sequence)** — The order in which the computer accesses its disk drives to locate the startup files. Under the default startup sequence, the computer looks for the startup files in the diskette drive before checking the hard disk.

**bus** — An electrical circuit that connects the central processing unit (CPU) with other parts of the computer, such as the video adapter, disk drives, and ports. It is the pathway through which data flows from one device to another. See also *bus speed*, *frontside bus*.

**bus speed** — The speed at which the central processing unit (CPU) communicates with the other parts of the computer.

## C

**cache** — A section of very fast memory in which frequently used information is duplicated for quick access. Accessing data from cache is faster than accessing it from the computer's main memory. See also *CPU cache, L1 cache, L2 cache.*

**CD** — An individual compact disc. See also *CD-ROM.*

**CD-ROM (compact disc read-only memory)** — A form of high-capacity storage that uses laser optics instead of magnetic means for reading data. See also *CD*. Compare *DVD-ROM.*

**central processing unit (CPU)** — The chip that functions as the "brain" of the computer. It takes information from outside sources, such as memory or keyboard input, processes the information, and sends the results to another device that uses the information.

**character** — Any letter, number, or symbol you can use on the computer. Some characters are non-printing characters, such as a paragraph break in a word-processing program. A character occupies one byte of computer storage.

**chip** — A small piece of silicon containing computer logic and circuits for processing, memory, input/output, and/or control functions. Chips are mounted on printed circuit boards.

**click** — To press and release the pointing device's primary button without moving the pointing device. In the Windows® operating system, this refers to the pointing device's left button, unless otherwise stated. See also *double-click.*

**color palette** — A set of specified colors that establishes the colors that can be displayed on the screen at a particular time.

**compatibility** — The extent to which computers, programs, or devices can work together harmoniously, using the same commands, formats, or language as another.

**configuration** — (1) The collection of components that make up a single computer system. (2) How parts of the system are set up (that is, configured).

**controller** — A device that controls the transfer of data from a computer to a peripheral device and vice versa. For example, disk drives, monitors, keyboards, and printers all require controllers.

**CPU** — See *central processing unit (CPU).*

**CPU cache** — A section of very fast memory residing between the CPU and the computer's main memory that temporarily stores data and instructions the CPU will need to execute commands and programs. See also *cache, L1 cache, L2 cache.*

**cursor** — A symbol that indicates the current position on the screen. The shape of the cursor varies, depending on the program you are using and what you are doing.

## D

**default** — The setting selected by a program when the user does not specify an alternative setting.

**device** — A component attached to the computer. Devices may be external (outside the computer's case) or internal (inside the computer's case). Printers, disk drives, and modems are examples of devices.

**device driver** — A program (called a "driver") that permits a computer to communicate with a device.

**dialog box** — An on-screen window displayed by the operating system or a program giving a direction or requesting input from the user.

**direct current (DC)** — The type of power usually supplied by batteries. DC flows in one direction. Compare *alternating current (AC).*

**direct memory access (DMA)** — A dedicated channel, bypassing the CPU, that enables direct data transfer between memory and a device.

**directory** — See *folder.*

**disable** — To turn a computer option off. See also *enable*.

**disc** — A round, flat piece of material, designed to be read from and written to by optical (laser) technology, and used in the production of optical discs, such as CDs and DVDs. Compare *disk.*

**disk** — A round, flat piece of material that can be magnetically influenced to hold information in digital form, and used in the production of magnetic disks, such as diskettes and hard disks. Compare *disc.* See also *diskette, hard disk.*

**disk drive** — The device that reads and writes information and programs on a diskette or hard disk. It rotates the disk at high speed past one or more read/write heads.

**diskette** — A thin, flexible disk in a protective jacket that stores magnetically encoded data. Diskettes can be removed from the computer and come in two sizes: 5.25-inch and 3.5-inch. Your computer uses 3.5-inch diskettes. See also *double-density diskette, high-density diskette.*

**document** — Any file created with an application and, if saved to disk, given a name by which it can be retrieved. See also *file*.

**double-click** — To press and release the pointing device's primary button rapidly twice without moving the pointing device. In the Windows® operating system, this refers to the pointing device's left button, unless otherwise stated.

**double-density diskette** — A 3.5-inch diskette that can hold up to 720 KB of information (half the capacity of a high-density diskette). See also *diskette, high-density diskette.*

**download** — (1) In communications, to receive a file from another computer through a modem or network. (2) To send font data from the computer to a printer. See also *upload*.

**drag** — To hold down the mouse button while moving the cursor to drag a selected object. In the Windows® operating system, this refers to the left mouse button, unless otherwise stated.

**driver** — See *device driver*.

**DVD** — An individual digital versatile (or video) disc. See also *DVD-ROM*.

**DVD-ROM (digital versatile [or video] disc read-only memory)** — A very high-capacity storage medium that uses laser optics for reading data. Each DVD-ROM can hold as much data as several CD-ROMs. Compare *CD-ROM*.

E

**emulation —** A technique in which a device or program imitates another device or program.

**enable** — To turn on a computer option. See also *disable*.

**executable file** — A computer program that is ready to run. Application programs and batch files are examples of executable files. Names of executable files usually end with a .bat or .exe extension.

**expansion device** — A device that connects to a computer to expand its capabilities. Other names for an expansion device are port expander, port replicator, docking station, or network adapter.

**extension** — See *file extension*.

**external device** — See *device.*

## F

**file** — A collection of related information, saved on disk with a unique name. A file may be a program, information used by a program, or a document. See also *document.*

**file allocation table (FAT)** — The section of a disk that keeps track of the location of files stored on the disk.

**file name** — A set of characters that uniquely identifies a file within a particular folder. It consists of two parts: the actual name and the file name extension. See also *file extension*.

**file extension** — The three characters following the period (pronounced "dot") at the end of a file name. The extension indicates the type of file. Examples are .exe for program files and .hlp for help files. See also *file name.*

**folder** — Also called directory. A container for organizing files saved to a disk. A folder is symbolized on screen by a graphical image (icon) of a file folder. A folder can contain files and other folders.

**format** — (verb) To prepare a blank disk for use with the computer's operating system. Formatting creates a structure on the disk so the operating system can write information to the disk or read information from it.

**frontside bus** — The primary pathway (bus) between the CPU and the computer's main memory. Also called "system bus." See also *bus.*

**function keys** — The keys labeled F1 through F12, typically located on the keyboard. Their function is determined by the operating system and/or individual programs.

## G

**ground** — A conductor to which all components of an electric circuit are connected. It has a potential of zero (0) volts, is connected to the earth, and is the point of reference for voltages in the circuit.

## H

**hard disk** — A storage device composed of a rigid platter or platters that can be magnetically coded with data. Hard disks hold much more information than diskettes and are used for long-term storage of programs and data. The primary (or only) hard disk in a computer is usually fixed, but some computers have secondary hard disks that are removable. By default, the hard disk is referred to as drive C.

**hardware** — The physical components of a computer system. Compare *software.*

**Hibernation** — A feature of many Toshiba notebook computers that saves to the hard disk the current state of your work, including all open files and programs, when you turn the computer off. When you turn on the computer again, your work is returned to the same state it was when the computer was turned off. See also *Standby, Suspend.*

**high-density diskette** — A 3.5-inch diskette that holds 1.44 MB of data. See also *diskette.*

**hot key** — (1) A feature in which certain keys in combination with the Fn key can set system options or control system parameters, such as the battery save mode. (2) A key or combination of keys that activates a memory resident program.

**hot swapping** — The ability to add or remove devices from a computer while the computer is running and have the operating system automatically recognize the change.

## I

**icon** — A small image displayed on the screen that represents a function, file, or program.

**interlaced** — A method of refreshing a computer screen, in which only every other line of pixels is refreshed. Interlaced monitors take two passes to create a complete screen image. Compare *non-interlaced.*

**internal device** — See *device.*

**Internet** — The decentralized, world-wide network of computers that provides electronic mail, the World Wide Web, and other services. See also *World Wide Web*.

## K

**keyboard shortcut** — A key or combination of keys that you use to perform a task instead of using a pointing device such as a mouse.

## L

**L1 (level one) cache** — Memory cache built into the processor to help improve processing speed. See also *cache, CPU cache, L2 cache*.

**L2 (level two) cache** — Memory cache installed on the motherboard to help improve processing speed. It is slower than L1 cache and faster than main memory. See also *cache, CPU cache, L1 cache*.

**LAN (local area network)** — A group of computers or other devices dispersed over a relatively limited area and connected by a communications link that enables any device to interact with any other on the network.

**liquid crystal display (LCD)** — A type of display that uses a liquid substance between two transparent electrode panels. When an electric current passes through the electrodes, the molecules in the liquid form a crystalline pattern that polarizes the light passing through it. A filter over the electrodes permits only non-polarized light to pass to the surface of the display, creating light and dark pixels.

**load** — To move information from a storage device (such as a hard disk) into memory for processing.

**local area network** — See *LAN*.

**logical drive** — A section of a disk that is recognized by the operating system as a separate disk drive. A system's logical drives may differ from its physical drives. For example, a single hard disk drive may be partitioned into two or more logical drives.

## M

**memory** — Typically refers to the computer's main memory, where programs are run and data is temporarily stored and processed. Memory can be volatile and hold data temporarily, such as RAM, or it can be nonvolatile and hold data permanently, such as ROM. A computer's main memory is RAM. See *RAM*, *ROM*.

**microprocessor** — See *central processing unit (CPU)*.

**MIDI (Musical Instrument Digital Interface)** — A standard for connecting musical instruments, synthesizers, and computers. The MIDI standard provides a way of translating music into a form computers can use, and vice versa.

**modem** — Short for "modulator/demodulator." A device that converts information from digital to analog, and back to digital, enabling information to pass back and forth between digital computers and analog telephone lines.

**motherboard** — The computer's main circuit board that contains the processor, memory, and other primary components.

**MS-DOS prompt** — See *system prompt.*

**multi-function drive** — A DVD drive that can read and write to CD and DVD media.

**multimedia** — A combination of two or more media, such as sound, animation, and video in a computer program or presentation.

**Musical Instrument Digital Interface** — See *MIDI*.

## N

**network** — A collection of computers and associated devices that are connected by communications facilities. A network allows you to share data and peripheral devices, such as printers, with other users and to exchange electronic mail.

**non-interlaced** — A method of refreshing a computer screen, in which each pixel of every line is refreshed as the electron beam scans across and down the screen. Compare *interlaced.*

**non-system disk** — A disk for storing programs and data that cannot be used to start the computer. Compare *system disk*.

## O

**online** — Available through the computer. Online may refer to information being read from your own computer's hard disk, such as online documentation or online Help, or to information coming from another company on a company network or the Internet.

**operating system** — A set of programs that controls how the computer works. Examples of operating systems are the Windows® XP Tablet PC Edition and Windows® XP Home operating systems.

**optical drive** — A drive which reads plastic coated discs on which information is recorded digitally and uses a laser to read data, music, or videos.

## P

**palette** — See *color palette.*

**parallel** — Processes that occur simultaneously. In communications, it means the transmission of more than one bit of information at a time. On your computer, the parallel port provides a parallel communications interface between the computer and an appropriate device. Most modern printers are parallel. Compare *serial.*

**password** — A unique string of characters entered by a user to verify his or her identity to the computer or the network.

**PC Card** — A credit-card-sized expansion card designed to increase the capabilities of notebook computers. PC Cards provide functions such as modem, fax/modem, hard disk drive, network adapter, sound card, or SCSI adapter.

**peripheral** — Any device, such as a printer or joystick, that is attached to the computer and controlled by the computer's CPU.

**pixel** — Short for "picture element." The smallest dot that can be produced on a screen or printer.

**Plug and Play** — Generally, refers to the computer's ability to automatically configure itself to work with peripheral devices. When capitalized, refers to a standard that, when followed by a device manufacturer, allows a computer to configure itself automatically to work with the device.

**pointing device** — Any device, such as the TouchPad or a mouse, that enables you to move the cursor on the screen.

**port** — A socket on the computer where you plug in a cable for connection to a network or a peripheral device.

**processor** — See *central processing unit (CPU).*

**program** — A set of instructions that can be executed by a computer. The general classes of programs (also called software) are operating system, application, and utility. See also *operating system, application, utility.*

**properties** — The attributes of an object or device. For example, the properties of a file include the file's type, size, and creation date.

## R

**RAM (random access memory)** — *Volatile* memory that can be written to as well as read. *Volatile* here means that information in RAM is lost when you turn off your computer. This type of memory is used for your computer's main memory. See also *memory*. Compare *ROM*.

**random access memory** — See *RAM*.

**read-only memory** — See *ROM*.

**reboot** — See *boot*, *restart*.

**removable disk** — A disk that can be removed from a disk drive. A diskette is one example of a removable disk.

**resolution** — A measure of the sharpness of the images that can be produced by a printer or displayed on a screen. For a printer, resolution is expressed in dots per inch (dpi). For a screen, it is expressed as the number of pixels available horizontally and vertically.

**restart** — Synonymous with reboot. To reset the computer by reloading the operating system without turning the computer off. See also *boot*.

**RJ11** — A modular connector used on most U.S. telephone systems and direct-connect modems. The RJ11 connector is a 6-wire connector.

**ROM (read-only memory)** — Non-volatile memory that can be read but not written to. *Non-volatile* here means that information in ROM remains whether or not the computer is receiving power. This type of memory is used to store your computer's BIOS, which is essential instructions the computer reads when you start it up. See also *BIOS, memory*. Compare *RAM*.

## S

**select** — To highlight or otherwise specify text, data, or graphics with the intent to perform some operation on it.

**serial** — Processes that occur one at a time. In communications, it means the transmission of one bit at a time sequentially over a single channel. On your computer, the serial port provides a serial interface between the computer and an appropriate device. Compare *parallel*.

**shortcut** — See *keyboard shortcut*.

**software** — See *program.* Compare *hardware.*

**Standby** — A feature of some Windows® operating systems that allows you to turn off the computer without exiting your open applications and to continue from where you left off when you turn the computer on again.

**Suspend** — A feature of some Windows® operating systems that allows you to turn off the computer without exiting your open applications and to continue from where you left off when you turn the computer on again.

**system disk** — A diskette that contains the operating system files needed to start the computer. Any diskette can be formatted as a system disk. A system disk is also called a "bootable disk" or a "startup disk." Compare *non-system disk.*

**system prompt** — The symbol (in the MS-DOS® operating system, generally a drive letter followed by a "greater than" sign) indicating where users are to enter commands.

## T

**Toshiba tablet pen** — The writing instrument used with the tablet. It is stored on the right side of the computer.

**TFT display** — See *active-matrix display.*

## U

**universal serial bus (USB)** — USB is a serial bus that supports a data transfer rate of up to 480 Mbps (480 million bits per second). USB can connect up to 127 peripheral devices through a single all-purpose USB port. USB allows hot swapping of peripherals. See also *bus, hot swapping, serial.*

**upload** — To send a file to another computer through a modem or network. See also *download.*

**USB** — See *universal serial bus (USB).*

**utility** — A computer program designed to perform a narrowly focused operation or solve a specific problem. Utilities are often related to computer system management.

## W

**Web** — See *World Wide Web.*

**Wi-Fi** — A registered trademark term of the Wi-Fi Alliance that stands for Wireless Fidelity, and is another term for the communication protocol to permit an Ethernet connection using wireless communication components.

**World Wide Web (www)** — The worldwide network of Web sites linked together over the Internet. A user of the Web can jump from site to site regardless of the location of the computer hosting the site. See also *Internet.*

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