

**EMC Technologies Report Number: M060223\_Cert\_AR5BxB6\_NII**

## **APPENDIX I1**

### **FUJITSU NOTEBOOK USER MANUAL (part 1)**



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B6FH-6061-01EN-00

### Warning



Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm.

Wash hands after handling.



### DECLARATION OF CONFORMITY

according to FCC Part 15

Responsible Party Name: Fujitsu Computer Systems Corporation  
Address: 1250 E. Arques Avenue, M/S 122  
Sunnyvale, CA 94085  
Telephone: (408) 746-6000  
Declares that product: Model Configurations:  
LifeBook Q2010  
Complies with Part 15 of the FCC Rules.

This device complies with Part 15 of the FCC rules. Operations are subject to the following two conditions:

(1) This device may not cause harmful interference, (2) This device must accept any interference received, including interference that may cause undesired operation.

*LifeBook B Series*

**IMPORTANT SAFETY INSTRUCTIONS**

This unit requires an AC adapter to operate. Use only UL Listed Class 2 Adapters with an output rating of 16 V DC, with a current of 3.75 A.

AC Adapter output polarity:



When using your notebook equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Do not use this product near water for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
- Avoid using the modem during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the modem to report a gas leak in the vicinity of the leak.
- Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
- To reduce the risk of fire, use only No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.

**SAVE THESE INSTRUCTIONS**

**For Authorized Repair Technicians Only**



Danger of explosion if Lithium (clock) battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.



For continued protection against risk of fire, replace only with the same type and rating fuse.

**System Disposal**



LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE, OR FEDERAL LAWS.

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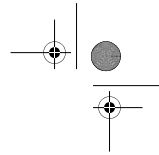
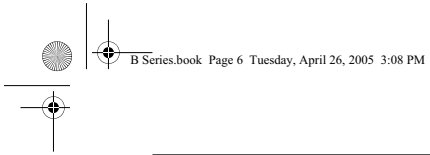
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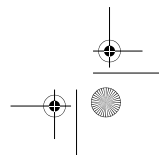
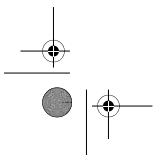
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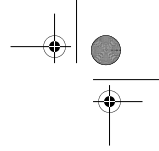
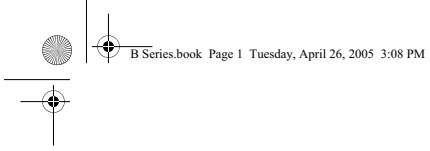
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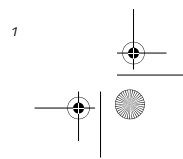
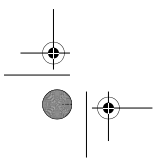


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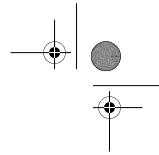
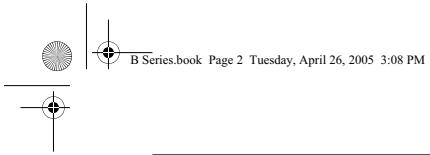




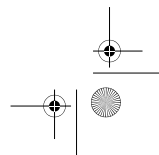
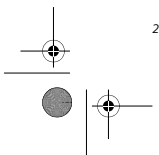
# 1 Preface







*LifeBook B Series*



## Preface

### ABOUT THIS GUIDE

The LifeBook® B Series notebook from Fujitsu Computer Systems is a powerful notebook computer. It is powered by an Intel® Pentium® M microprocessor, has a built-in 12.1" color touch screen display, and brings the computing power of a desktop personal computer to a portable environment.

This manual explains how to operate your LifeBook notebook's hardware and built-in system software.

Your computer comes with Microsoft Windows® XP Professional pre-installed.

Your notebook is a completely self-contained unit with an active-matrix (TFT) color LCD touch screen display. It has a powerful interface that enables it to support a variety of optional features.

### Conventions Used in the Guide

Keyboard keys appear in brackets.

Example: [Fn], [F1], [Esc], [Enter] and [Ctrl].

Pages with additional information about a specific topic are cross-referenced within the text.

Example: (See page xx.)

On screen buttons or menu items appear in bold

Example: Click **OK** to restart your notebook.

DOS commands you enter appear in Courier type.

Example: Shutdown the computer?



The point icon highlights information that will enhance your understanding of the subject material.



The caution icon highlights information that is important to the safe operation of your computer, or to the integrity of your files. Please read all caution information carefully.



The warning icon highlights information that can be hazardous to either you, your LifeBook notebook, or your files. Please read all warning information carefully.

### FUJITSU CONTACT INFORMATION

#### Service and Support

You can contact Fujitsu Computer Systems Service and Support the following ways:

- Toll free: 1-800-8Fujitsu (1-800-838-5487)
- Fax: 408-764-2724
- E-mail: [8fujitsu@us.fujitsu.com](mailto:8fujitsu@us.fujitsu.com)
- Web site:  
<http://www.computers.us.fujitsu.com/support>

Before you place the call, you should have the following information ready so that the customer support representative can provide you with the fastest possible solution:

- Product name
- Product configuration number
- Product serial number
- Purchase date
- Conditions under which the problem occurred
- Any error messages that have occurred
- Type of device connected, if any

#### Fujitsu Online

You can go directly to the online Fujitsu Product catalog for your notebook by clicking on the Fujitsu Weblinks -> LifeBook Accessories Web Site link, located in the Windows Start menu.

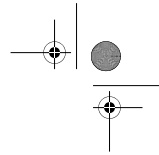
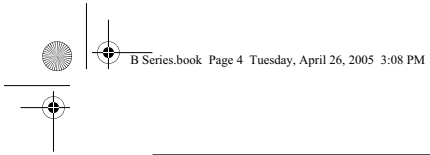
You can also reach Fujitsu Service and Support online by clicking on the Fujitsu Weblinks -> Fujitsu Service and Support link, located in the Windows Start menu.



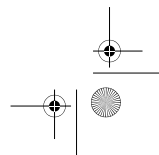
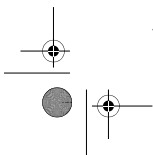
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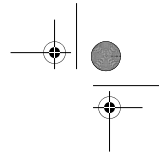
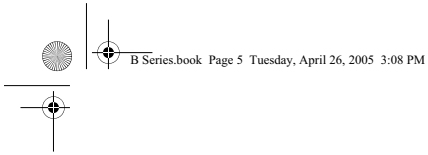
### WARRANTY

Your LifeBook notebook is backed by an International Limited Warranty and includes toll-free technical support. Check the service kit that came with your notebook for warranty terms and conditions.



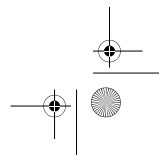
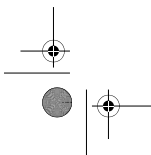
*LifeBook B Series - Section One*

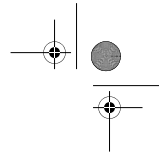
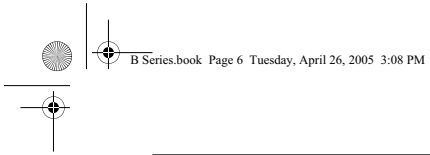




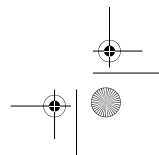
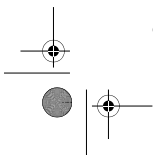
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## Getting to Know Your LifeBook





*LifeBook B Series*



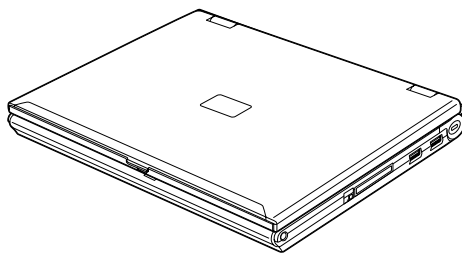


Figure 2-1. Fujitsu LifeBook B Series notebook

## Overview

This section describes the components of your Fujitsu LifeBook B Series notebook. We strongly recommend that you read it before using your notebook, even if you are already familiar with notebook computers.

### UNPACKING

When you receive your LifeBook notebook, unpack it carefully, and compare the parts you have received with the items listed below.

For a pre-configured model you should have:

- LifeBook B Series notebook (Figure 2-1)
- AC adapter with AC power cord (Figure 2-2)
- Phone/Modem (RJ-11) telephone cable
- Stylus (located in stylus holder)
- Driver and Application Restore CD
- Restore DVD
- Getting Started Guide
- User's Guide (this document)
- International Limited Warranty Brochure
- Certificate of Authenticity

Depending upon the configuration of your notebook, you will have one of the following battery configurations:

- One main high-capacity Lithium ion battery (pre-installed),  
or,
- One main Lithium ion battery pre-installed and one spare main high-capacity Lithium ion battery

You may also have one or more of the following devices in the box:

- External USB Floppy Disk Drive (Figure 2-4),  
and/or,
- Port Replicator (Figure 2-3)

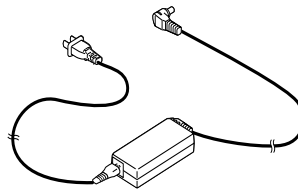


Figure 2-2. AC Adapter

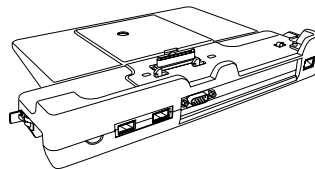


Figure 2-3. Optional Port Replicator

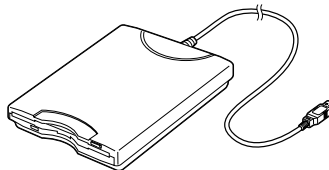


Figure 2-4. Optional External USB Floppy Disk Drive

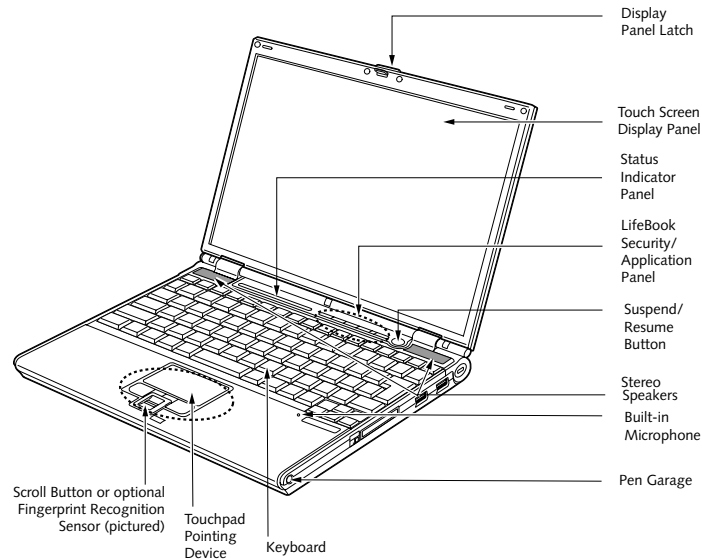


Figure 2-5. LifeBook notebook with display open (TBD)

## Locating the Controls and Connectors

### TOP AND FRONT COMPONENTS

The following is a brief description of your LifeBook notebook's top and front components.

#### Display Panel Latch

The display panel latch locks and releases the display panel.

#### Touch Screen Display Panel

The display panel is a color LCD panel with back lighting for the display of text and graphics and touch screen functionality.

#### Status Indicator Panel

The Status Indicator Panel displays symbols that correspond with a specific component of your LifeBook notebook. See "Status Indicator Panel" on page 13.

#### LifeBook Security/Application Panel

The Security/Application Panel provides hardware security and one-touch application launch capability. See "LifeBook Security/ Application Panel" on page 21.

#### Suspend/Resume Button

The Suspend/Resume button allows you to suspend notebook activity without powering off, resume your notebook from standby mode, and power on your notebook when it has been shut down from the Windows operating system. See "Power On" on page 29.

#### Stereo Speakers

The built-in dual speakers allow for stereo sound.

#### Built-in Microphone

The built-in microphone allows you to input or record mono audio.

#### Keyboard

A full-function keyboard with dedicated Windows keys. See "Using the Keyboard" on page 15.

#### Touchpad Pointing Device

The Touchpad pointing device consists of two mouse-like buttons, a scroll button, and a cursor control pad. Note that the scroll button may be replaced by an optional fingerprint recognition sensor, depending upon your system configuration. The optional fingerprint recognition sensor allows you to start your system by swiping your finger over the sensor. See "Touchpad Pointing Device" on page 17.

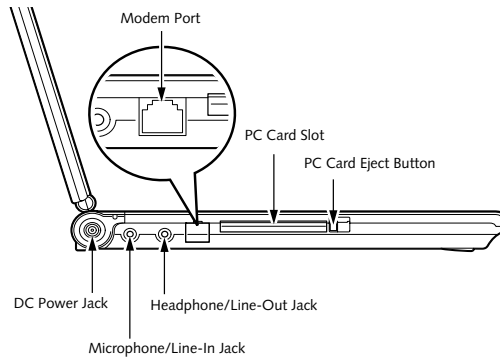


Figure 2-6. LifeBook notebook left-side panel (TBD)

#### LEFT-SIDE PANEL COMPONENTS

Following is a brief description of your LifeBook notebook's left-side components.

##### Modem (RJ-11) Telephone Port

The Modem (RJ-11) telephone port is for attaching a telephone line to the internal multinational 56K modem.



The internal multinational modem is not intended for use with Digital PBX systems. Do not connect the internal modem to a Digital PBX as it may cause serious damage to the internal modem or your entire LifeBook notebook. Consult your PBX manufacturer's documentation for details. Some hotels have Digital PBX systems. Be sure to find out BEFORE you connect your modem.



The internal modem is designed to the ITU-T V.90 standard. Its maximum speed of 53000bps is the highest allowed by FCC, and its actual connection rate depends on the line conditions. The maximum upload speed is 33600bps.

##### PC Card Slot

The PC Card Slot allows you to install a Type I or Type II PC Card. See "PC Cards" on page 41.

##### PC Card Eject Button

The PC Card eject button allows you to remove PC Cards from the PC Card slot. See "PC Cards" on page 41.

##### Microphone/Line-In Jack

The microphone/line-in jack allows you to connect an external stereo microphone. See "Microphone/Line-In Jack" on page 48.

##### Headphone/Line-Out Jack

The headphone/line-out jack allows you to connect headphones or powered external speakers. See "Headphone/Line-Out Jack" on page 48.

##### DC Power Jack

The DC power jack allows you to plug in the AC adapter or the optional Auto/Airline adapter to power your notebook and charge the internal Lithium ion Battery.



LifeBook B Series - Section Two

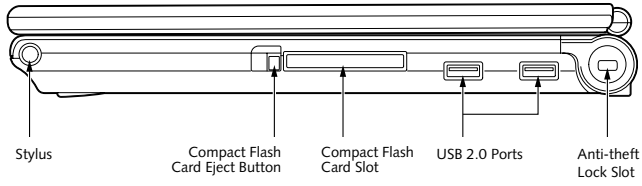


Figure 2-7. LifeBook notebook right-side panel (TBD)

**RIGHT-SIDE PANEL COMPONENTS**

Following is a brief description of your LifeBook notebook's right-side components.

**Stylus**

The stylus is used as the pointing device for the touch screen.

**Compact Flash Card Eject Button**

Allows you to eject a compact flash card.

**Compact Flash Card Slot**

Allows you to insert a compact flash (CF) card. See "Compact Flash Cards" on page 42.

**USB 2.0 Ports**

The two Universal Serial Bus (USB) 2.0 ports allow you to connect Universal Serial Bus devices. See "Universal Serial Bus 2.0 Ports" on page 48.

**Anti-theft Lock Slot**

The anti-theft lock slot allows you to attach an optional physical locking device.

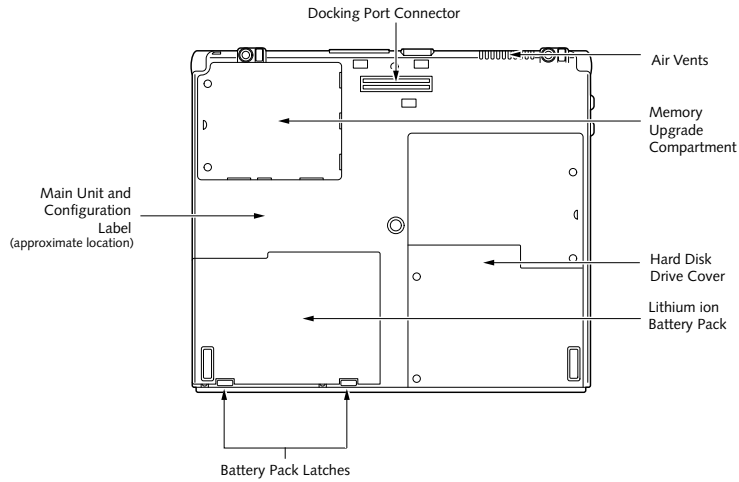


Figure 2-8. LifeBook notebook bottom panel (TBD)

### BOTTOM COMPONENTS

Following is a brief description of your LifeBook notebook's bottom panel components.

#### Docking Port Connector

This connector allows you to connect the optional Port Replicator.

#### Air Vents

The air vents are used to cool the system to prevent overheating.

To protect your notebook from damage and to optimize system performance, be sure to **keep all air all vents unobstructed, clean, and clear of debris**. This may require periodic cleaning, depending upon the environment in which the system is used.



Do not operate the notebook in areas where the air vents can be obstructed, such as in tight enclosures or on soft surfaces like a bed or cushion.

#### Memory Upgrade Compartment

Your LifeBook notebook comes with high speed Synchronous Dynamic RAM (SDRAM). The memory upgrade compartment allows you to expand the system memory capacity of your notebook, hence improving

overall performance. See "Memory Upgrade Module" on page 44.

#### Hard Disk Drive Cover

The hard disk drive cover protects the hard disk drive. Under normal circumstances, you should never remove this cover unless you are replacing a hard disk drive.

#### Lithium ion Battery Pack

The battery bay contains the internal Lithium ion battery. It can be opened for the removal of the battery when stored over a long period of time or for swapping a discharged battery with a charged Lithium ion battery. See "Lithium ion Battery" on page 37.

#### Battery Pack Latches

The battery pack latches are used to secure and release the Lithium ion battery pack. See "Lithium ion Battery" on page 37.

#### Main Unit and Configuration Label

The configuration label shows the model number and other information about your LifeBook notebook. In addition, the configuration portion of the label has the serial number and manufacturer information that you will need to give your support representative. It identifies the exact version of various components of your notebook.

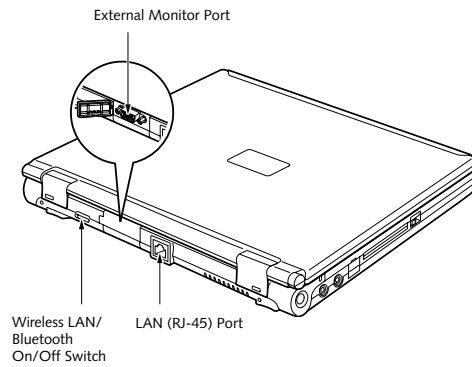


Figure 2-9. LifeBook notebook rear panel (TBD)

#### REAR PANEL COMPONENTS

Following is a brief description of your LifeBook notebook's right-side components.

##### External Monitor Port

The external monitor port allows you to connect an external VGA or SVGA CRT monitor. Note that when the optional Port Replicator is attached to the system, you must use the external monitor port on the Port Replicator rather than the port on the system. See "External Monitor Port" on page 49.

##### LAN (RJ-45) Jack

The optional internal LAN (RJ-45) port is used for an internal Fast Ethernet (10/100/1000 Base-T/Tx) Gigabit connection. See "Internal LAN (RJ-45) jack" on page 48.

##### Wireless LAN/Bluetooth On/Off Switch

Allows you to turn the optional Wireless LAN or Bluetooth devices on and off. This is present only on systems with optional wireless LAN or Bluetooth device installed.

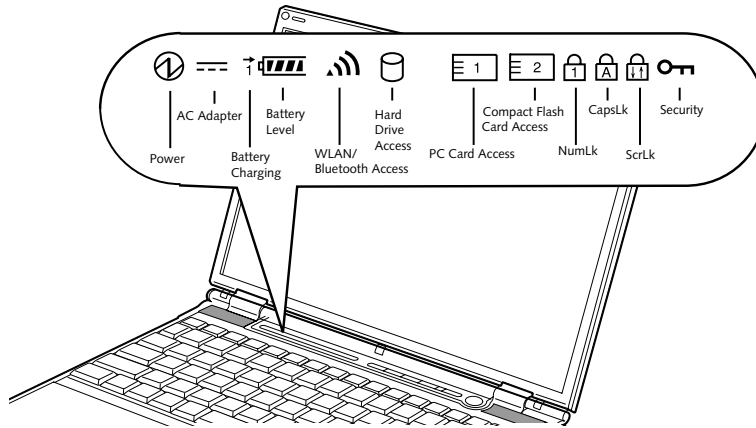


Figure 2-10. Status Indicator Panel (TBD)

## Status Indicator Panel

The Status Indicator displays symbols that correspond with a specific component of your LifeBook notebook. These symbols tell you how each of those components are operating. (Figure 2-10)

### POWER INDICATOR

The Power indicator symbol states whether your system is operational. It has several different states, each of which tells you what mode your notebook is in at that time.

- Steady On: This means that there is power to your notebook and that it is ready for use.
- Flashing: This means that your notebook is in Standby mode.
- Steady Off: This means that your system is either in Hibernate mode, or that your notebook has been turned off.

If you are charging your battery, the Power indicator symbol will remain on even if your LifeBook notebook is shut off. The Power indicator symbol will also remain on if you have either adapter connected.

### AC ADAPTER INDICATOR

The AC Adapter indicator states whether your notebook is operating from the AC adapter, the Auto/Airline adapter or the batteries. This icon has two different states that can tell you what power source your notebook is using.

- On: This means that either of the adapters are currently in use.
- Off: Power is only coming from the batteries, and you do not have an adapter connected.

### BATTERY LEVEL INDICATORS

The Battery Level indicators state whether or not the primary Lithium ion battery is installed. In addition, this symbol states how much charge is available within the installed battery. The symbol will only be displayed for a battery that is currently installed in your notebook. (Figure 2-11)

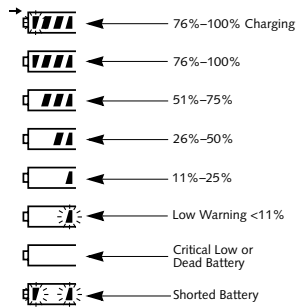


Figure 2-11. Battery Level Indicator

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A shorted battery is damaged and must be replaced. (Figure 2-11)



If there is no battery activity, the power adapters are not connected, and the power is Off, the Battery Level indicators will also be off.

**→ BATTERY CHARGING INDICATOR**

Located to the left of the Battery Level indicator is a small arrow symbol. This symbol states whether the battery is charging. This indicator will flash if the battery is too hot or cold to charge.



Batteries subjected to shocks, vibration or extreme temperatures can be permanently damaged.

**WIRELESS LAN/BLUETOOTH DEVICE ACCESS INDICATOR**

The Wireless LAN/Bluetooth Access indicator shows whether the WLAN/Bluetooth switch is turned on and the WLAN module is in active mode.

**HARD DRIVE OR REMOVABLE MEDIA DRIVE ACCESS INDICATOR**

The Hard Drive Access indicator states whether your internal hard drive is being accessed.



**PC CARD ACCESS INDICATORS**

The PC Card Access indicator states whether or not your notebook is accessing a PC Card. The indicator will flash

if your software tries to access a PC Card even if there is no card installed. See "PC Cards" on page 41.



**COMPACT FLASH (CF) CARD ACCESS INDICATORS**

The Compact Flash Card Access indicator states whether or not your notebook is accessing a Compact Flash Card. The indicator will flash if your software tries to access a Compact Flash Card even if there is no card installed. See "Compact Flash Cards" on page 42.



**NUMLK INDICATOR**

The NumLk indicator states that the integral keyboard is set in ten-key numeric keypad mode.



**CAPSLOCK INDICATOR**

The CapsLock indicator states that your keyboard is set to type in all capital letters.



**SCRLK INDICATOR**

The ScrLk indicator states that your scroll lock is active.



**SECURITY INDICATOR**

The Security Indicator flashes (if a password was set) when the system resumes from Off or Standby modes. You must enter the password that was set in the Security Panel before your system will resume operation.

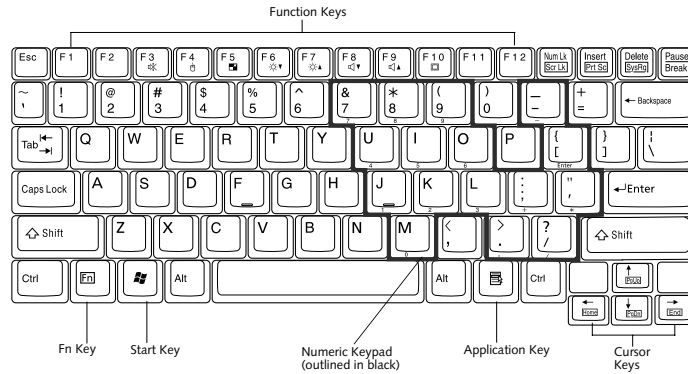


Figure 2-12. Keyboard

## Keyboard

### USING THE KEYBOARD

Your LifeBook notebook has an integral 82-key keyboard. The keys perform all the standard functions of a 101-key keyboard, including the Windows keys and other special function keys. This section describes the following keys. (Figure 2-12)

- **Numeric keypad:** Your notebook allows certain keys to serve dual purposes, both as standard characters and as numeric and mathematical keys. The ability to toggle between the standard character and numerical keys is controlled through the [NumLk] key.
- **Cursor keys:** Your keyboard contains four arrow keys for moving the cursor or insertion point to the right, left, up, or down within windows, applications and documents.
- **Function keys:** The keys labeled [F1] through [F12], are used in conjunction with the [Fn] key to produce special actions that vary depending on what program is running.
- **Windows keys:** These keys work with your Windows operating system and function the same as the onscreen Start menu button, or the right button on your pointing device.

### NUMERIC KEYPAD

Certain keys on the keyboard perform dual functions as both standard character keys and numeric keypad keys. NumLk can be activated by pressing the [NumLk] key. Turning off the NumLk feature is done the same way. Once this feature is activated you can enter numerals 0 through 9, perform addition (+), subtraction (-),

multiplication (\*), or division (/), and enter decimal points (.) using the keys designated as ten-key function keys. The keys in the numeric keypad are marked on the front edge of the key to indicate their secondary functions. (Figure 2-12)

### WINDOWS KEYS

Your LifeBook notebook has two Windows keys: a Start key and an Application key. The Start key displays the Start menu. This button functions the same as your onscreen Start menu button. The Application key functions the same as your right mouse button and displays shortcut menus for the selected item. (Please refer to your Windows documentation for additional information regarding the Windows keys.) (Figure 2-12)

### CURSOR KEYS

The cursor keys are the four arrow keys on the keyboard which allow you to move the cursor up, down, left and right in applications. In programs such as Windows Explorer, it moves the "focus" (selects the next item up, down, left, or right). (Figure 2-12)

### FUNCTION KEYS

Your LifeBook notebook has 12 function keys, F1 through F12. The functions assigned to these keys differ for each application. You should refer to your software documentation to find out how these keys are used. (Figure 2-12)

#### [Fn] Key

The [Fn] key provides extended functions for the notebook and is always used in conjunction with another key.

- [Fn+F3]: Pressing [F3] while holding [Fn] will toggle the Audio Mute on and off.
- [Fn+F4]: Pressing [F4] while holding [Fn] will toggle the touch pad on and off. Note that the [Fn+F4] combination only works if Manual Setting is selected in the BIOS.
- [Fn +F5]: Pressing [F5] while holding [Fn] allows you to toggle between video compensation and no compensation. (Video compensation controls spacing on the display. When it is enabled, displays with less than 1024 x 768 or 800 x 600 pixel resolution will still cover the entire screen.)
- [Fn+F6]: Pressing [F6] repeatedly while holding [Fn] will lower the brightness of your display.
- [Fn+F7]: Pressing [F7] repeatedly while holding [Fn] will increase the brightness of the display.
- [Fn+F8]: Pressing [F8] repeatedly while holding [Fn] will decrease the volume of your LifeBook notebook.
- [Fn+F9]: Pressing [F9] repeatedly while holding [Fn] will increase the volume of your LifeBook notebook.
- [Fn+F10]: Pressing [F10] while holding [Fn] allows you to change your selection of where to send your display video. Each time you press the combination of keys you will step to the next choice. The choices, in order, are: built-in display panel only, both built-in display panel and external monitor or external monitor only.

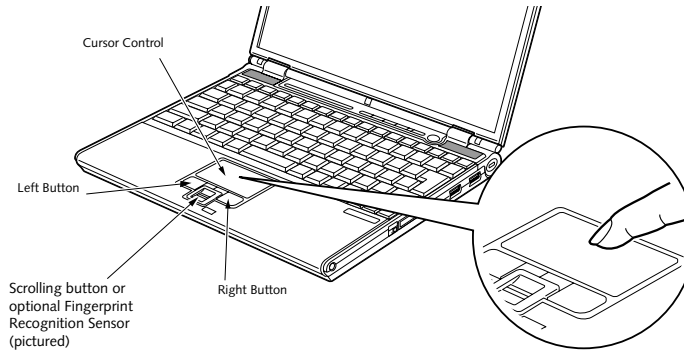


Figure 2-13. Touchpad pointing device

## Touchpad Pointing Device

The Touchpad pointing device comes built into your LifeBook notebook. It is used to control the movement of the pointer to select items on your display panel. The Touchpad is composed of a cursor control, a scrolling button, and left and right buttons.

The cursor control works the same way a mouse does, and moves the cursor around the display. It only requires light pressure with the tip of your finger.

The scrolling button allows you to navigate quickly through pages (Note that in some LifeBook configurations, the scrolling button is replaced by a Fingerprint Recognition Sensor).

The left and right buttons function the same as mouse buttons. The actual functionality of the buttons may vary depending on the application that is being used. (Figure 2-13)

### CLICKING

Clicking means pushing and releasing a button. To left-click, move the cursor to the item you wish to select, press the left button once, and then immediately release it. (Figure 2-14) You can also perform the clicking operation by tapping lightly on the Touchpad once. To right-click, move the mouse cursor to the item you wish to select, press the right button once, and then immediately release it.

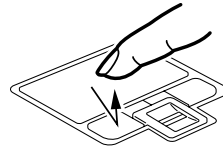


Figure 2-14. Clicking

### DOUBLE-CLICKING

Double-clicking means pushing and releasing the left button twice in rapid succession. This procedure does not function with the right button (Figure 2-15). To double-click, move the cursor to the item you wish to select, press the left button twice, and then immediately release it. You can also perform the double-click operation by tapping lightly on the Touchpad twice.

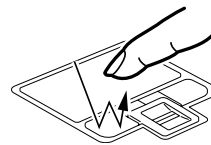


Figure 2-15. Double-clicking





- If the interval between clicks is too long, the double-click will not be executed.
- Parameters for the Touchpad can be adjusted from the Mouse Properties dialog box located in the Windows Control Panel.

### DRAGGING

Dragging means pressing and holding the left button, while moving the cursor. To drag, move the cursor to the item you wish to move. Press and hold the left button while moving the item to its new location and then release it. Dragging can also be done using the Touchpad. First, tap the Touchpad twice over the item you wish to move making sure to leave your finger on the pad after the final tap. Next, move the object to its new location by moving your finger across the Touchpad, and then releasing your finger. (Figure 2-16)

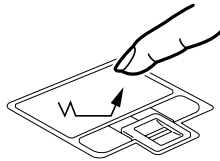


Figure 2-16. Dragging

### TOUCHPAD CONTROL ADJUSTMENT

If you need to change or adjust any of the touchpad control functions, you can customize them from the Mouse properties dialog box in the Control Panel. Click on Start, select Settings > Control Panel, then double-click Mouse.

### TOUCH SCREEN

The integrated touch screen allows you to use either the included stylus, or your fingertip, as a pointing device. You can use the stylus to click, double-click, drag items and icons, or to draw like a pen or pencil in applications that support this behavior, such as drawing or painting programs. See the documentation that came with your application for details. (Figure 2-17)

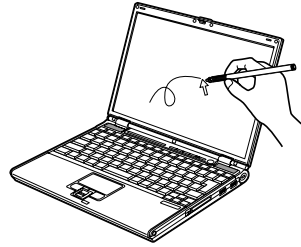


Figure 2-17. Using the Stylus with the Touch Screen

### Removing the Stylus

The stylus is located on the right side of the system, towards the front (Figure 2-18). To remove the stylus, press the end of it into the stylus holder; this will disengage it, allowing it to pop out.

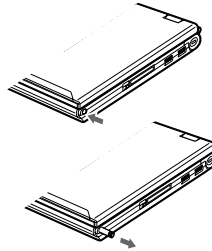


Figure 2-18. Removing the Stylus



To purchase additional or replacement styluses, visit Fujitsu's accessories web site at: <http://us.fujitsu.com/computers>.



To avoid potential scratching and damage, never use anything but the included stylus or your finger with the touch screen.

### Clicking

To left-click, touch the object you wish to select, then lift the stylus tip immediately. You also have the option to perform the left-click operation by tapping lightly with your finger on the touch screen once. (Figure 2-19)

To right-click, go to Start -> Control Panel -> Touch Panel. From that window, you can specify a right button

tool by using the Touch Panel Configuration Control button prior to the desired right mouse click. It can be used two ways: by holding down the key or by pressing the key once.

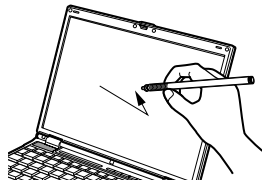


Figure 2-19. Clicking the Touch Screen

#### Double-Clicking

To double-click, touch the item twice, and then immediately remove the stylus tip. You also have the option to perform the double-click operation by tapping lightly with your finger on the touch screen twice. (Figure 2-20)



Figure 2-20. Double-clicking the Touch Screen



If the interval between taps is too long, the double-click will not be executed.

#### Dragging

Dragging means touching the screen with the stylus, moving and then lifting the stylus. To drag, tap the touch screen twice with your stylus over the item you wish to move, making sure to leave the stylus on the screen after the final tap. Next, move the item to its new location by moving the stylus across the screen, and then lifting the stylus to release it. Dragging can also be done using your fingertip. (Figure 2-21)



Figure 2-21. Dragging on the Touch Screen

#### Right-clicking

It is possible for you to perform right-click functions with the stylus.

1. Click Start -> Control Panel -> Touch Panel.
2. Select the Right button simulation tab.
3. Check the "Enable the right click simulation" box.
4. Choose which key you prefer to enable the right-click function: Ctrl Key, Shift Key, or Alt Key.

#### Calibrating the Touch Screen

In order to ensure accurate tracking between the stylus and cursor, you should run the Touch Screen Calibration Utility before you use the touch screen for the first time, or after you change the display resolution.

To run the calibration utility:

1. Go to [Start] -> Control Panel, and double-click on the Touch Panel icon.
2. Select the Calibration tab and click the [Calibrate Now] button.
3. Adjust the display of your notebook to a comfortable angle and find the red (+) symbol in the upper-left corner of the display.
4. Using the stylus, touch the screen directly on the (+) symbol, then lift the stylus. When you lift the stylus tip, the (+) symbol will move to the next location.
4. Repeat step 4 until you have selected a total of nine symbols. This is the minimum number of points necessary to calibrate your touch screen.
5. Once you have selected the nine symbols, click the [Update] button to return to the Touch Panel Settings screen.

## Volume Control

Your Fujitsu LifeBook notebook has multiple volume controls which interact with each other.



Any software that contains audio files will also contain a volume control of its own. If you install an external audio device that has an independent volume control, the hardware volume control and the software volume control will interact with each other. It should be noted that if you set your software volume to Off, you will override the external volume control setting.

### CONTROLLING THE VOLUME

The volume can be controlled in several different ways:

- Volume can be set from within the Volume Control on the Taskbar.
- Volume can be controlled from the Control Panel by selecting the Sounds and Audio Devices icon. Select the Volume tab and move the slider bar to the desired volume level.
- Volume can be controlled with the F8 and F9 function keys. Pressing [F8] repeatedly while holding [Fn] will decrease the volume of your notebook. Pressing [F9] repeatedly while holding [Fn] will increase the volume of your notebook. Volume can be controlled by many volume controls that are set within individual applications.



There are twenty-six levels through which the volume function keys cycle.

- Certain external audio devices you might connect to your system may have hardware volume controls.

Each source discussed above puts an upper limit on the volume level that must then be followed by the other sources.

We recommend that you experiment with the various volume controls to discover the optimal sound level.

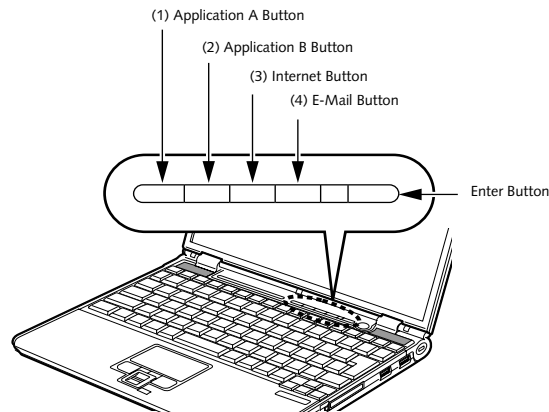


Figure 2-22. LifeBook Security/Application Panel

## LifeBook Security/ Application Panel

A unique feature of your LifeBook notebook is the Security/Application Panel that allows you to secure your notebook from unauthorized use. The Security/Application Panel also allows you to launch applications with the touch of a button when your system is on.

If the security system is activated, upon starting your notebook or resuming from Standby mode the security system requires you to enter a password code using the buttons on the Security/Application Panel. After entering a correct password, your notebook resumes system operation. (Figure 2-22)

### SETTING UP YOUR LIFEBOOK SECURITY PANEL

When you receive your LifeBook notebook, the security panel application is pre-installed without any passwords. The following sections provide detailed information on your security panel, how to set, change or remove passwords.

#### Numbered Buttons

Use these buttons to enter your password.

#### Enter Button

After entering the button strokes, push this button to enter the password into the LifeBook notebook.

### PASSWORDS

The user and supervisor password may be set on this notebook. A supervisor password is typically the same for all LifeBook notebooks in a working group, office, or company to allow for system management. Individual LifeBook notebooks in a group environment should not use a common password. A password consists of one to five button strokes plus the enter button. A valid stroke consists of pushing one or up to four buttons simultaneously. The following are valid button strokes:

- Pushing [4] by itself
- Pushing [2] and [3] at the same time
- Pushing [1], [2], and [4] at the same time
- Pushing [1], [2], [3], and [4] at the same time

The following are valid passwords. The numbers within braces ( { } ) are button strokes using more than one button.

- {[2]+[3]}, [1], [enter]
- [4], [enter]
- {[1]+[3]}, {[2]+[3]+[4]}, [1], [4], [2], [enter]

#### Setting Passwords

When shipped from the factory, no passwords are set. You have a choice of having no password or setting a supervisor and user password. You must set the supervisor password before the user password.



- The purpose of supervisor password is to be able to bypass the user password in case the user password is forgotten. The supervisor password alone will not lock the system.
- You have to set both the supervisor and user passwords for the security panel to work.

#### Setting Supervisor Password

You must have set a supervisor password before setting any user passwords. The supervisor password can bypass the user password.

1. Go to the Start menu.
2. Click on Run.
3. Type in:  
C:\Program Files\Fujitsu\  
Security Panel Application\  
Supervisor\FJSECS.EXE,  
then press [Enter]
4. Follow the on-screen instructions to set the Supervisor password.

#### Setting User Password

1. Go to the Start menu.
2. Click on Programs.
3. Click on Security Panel Application and Set User Password.
4. Follow the on-screen instructions to set the user password.



You may change or remove the supervisor or user password by repeating the steps defined above.

#### OPERATING YOUR LIFEBOOK SECURITY/ APPLICATION PANEL

The security lock feature is in effect both when the system resumes from Off or Standby state. You always need to push the Suspend/Resume button to input the user password. Your system will not begin the boot sequence without entering your supervisor/user password.

#### From Off State

1. Turn on your system.
2. When the Security Indicator flashes, enter the password and press Enter button.  
For example, if the password is 22222, Press Button Number 2 five times and press Enter button.  
The LifeBook notebook will boot to normal operation.

#### From Standby State

1. Press your Suspend/Resume button.
2. When the Security Indicator flashes, enter the password and press Enter button.

The notebook should resume normal operation.

#### Incorrect Password Entry

If an invalid supervisor or user password is entered three times in succession, the system will "beep" for about one minute. If a valid password is entered within a minute (while system beeps), the beeping will stop and the notebook will resume normal operation. If no or an invalid password is entered while the system beeps, the system will return to its previous locked state (standby or off) and the Security Indicator will go off. To reactivate the notebook after a password failure, you must press the Suspend/Resume button, then enter a correct password.



Remember the user password you specified on the Security Panel Application. If you forget the password you will not be able to use your computer. The supervisor password can override the user password.

#### PRECAUTIONS

##### Opening and Closing the Cover

Closing the cover automatically places the notebook into Standby mode. Opening the cover does not automatically place the notebook into normal operation. Instead, you must enter the proper security password after pushing the Suspend/Resume button.

##### Low Battery Operations

If your LifeBook notebook has low battery, pushing the suspend/resume button only turns on the Security Indicator. Your notebook does not unlock, the Security Indicator turns off after one minute. To resume normal operation, first attach a power supply to the notebook. Then you may unlock the notebook.

#### UNINSTALLING THE SECURITY PANEL APPLICATION

You have two options when uninstalling the security panel application:

- Uninstall the security panel application software. This will disable all security feature.
- Uninstall the security panel application with password still active. This will not allow any changes to the password.

##### Uninstalling the Security Panel Application Software

Remove passwords when User wants no password protection whatsoever and doesn't want to give anybody the utility to set a password on their computer. In this

case, if passwords (supervisor, user, or both) are set, the passwords must first be cleared before removing the application. To clear passwords, follow same procedure in setting the passwords, except this time, check the "Remove Supervisor (and/or) User Password" box, as appropriate. Click [Next]. Enter the password. When asked to confirm that you want to remove the password, click [OK], then click [Finish].

#### Removing Security Panel Application with Passwords Still Active

Using this feature will not allow any changes to the password.



Removing the applications does not remove the password. It simply removes the utility to change/add/remove passwords. To change your password you must reinstall the application.

#### User:

1. Go to **Start Menu**, Click on **Control Panel**.
2. Open **Add/Remove Programs Properties** in the Control Panel.
3. Select the **Security Panel Application** in the list, and click **Add/Remove**.
4. When the **Confirm File Deletion** box appears, click **Yes**.

#### Supervisor:

1. Go to **Start Menu**, Click on **Control Panel**.
2. Open **Add/Remove Programs Properties** in the Control Panel.
3. Select the **Security Panel Application for Supervisor** in the list, and click **Add/Remove**.
4. When the **Confirm File Deletion** box appears, click **Yes**.

#### Reinstalling the Security/Application Panel

To reinstall supervisor or user security application, you will need your Drivers and Applications CD. The Utilities\Security Application Panel folder contains two separate folders: Supervisor and User. The setup files for supervisor and user security applications are contained in those folders.

1. Go to the Utilities\Security Application Panel\Supervisor folder on the CD and double-click the **setups.exe** file. The Installing Security Panel Application window will appear. Follow the instructions on the screen.
2. Go to the Utilities\Security Application Panel\User folder on the CD and double-click the **setup.exe** file. The Installing Security Panel Application window will appear. Follow the instructions on the screen.

Supervisor and user passwords can be set via Windows software using the FJSECS.exe and FJSECU.exe files, respectively. FJSECU.exe for the user password cannot run without first setting a supervisor password. You need to run FJSECS.exe first to set the supervisor password. Follow instructions under Setting Passwords on page 21.

If you forget both passwords, please contact Fujitsu Computer Systems Service and Support at 1-800-8FUJITSU (1-800-838-5487). Fujitsu Computer Systems Corporation charges a service fee for unlocking a password restricted LifeBook notebook. When calling please have a valid credit card and provide proof of ownership. You will then be given instructions on where to ship your notebook.

#### LAUNCHING APPLICATIONS WITH THE SECURITY/APPLICATION PANEL

The security panel also enables you to launch applications with the touch of a button when your system is on. Pressing any of the buttons will launch a user-defined application. Your notebook is pre-installed with software utilities that let you operate and configure your LifeBook Security /Application Panel. These utilities are found under the Start menu, under Programs, then under LifeBook Application Panel. They include Application Panel Setup, Application Panel Guide, Activate Panel and Deactivate Panel.

#### Configuring your LifeBook Application Panel

When you start Windows, the LifeBook Application Panel is automatically activated. An icon resembling a finger pressing a button will appear in the system Control Panel. When you see this icon you will know that LifeBook Application Panel is active.

As an application launcher, the LifeBook Application Panel is very flexible, giving you a variety of options. To set up the Panel to best suit your needs, we have provided the Application Panel Setup utility that quickly and easily helps you make the most of this valuable feature.

#### To configure your LifeBook Application Panel with Application Panel Setup:

1. Click on [Start].
2. Click on Control Panel.
3. Double-click on the Application Panel icon.

The Application Panel setup utility will appear. There are tabs that correspond to the application buttons on the LifeBook Application Panel. When you receive your notebook, these buttons are pre-configured to launch specific programs, as referenced in Chapter 7 of this document.

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The tabs in Application Panel Setup may not be in the same order as the buttons on your LifeBook notebook, please select the tab you wish to change carefully.

To change an application associated with the Application buttons, click on the tab for the button you would like to reconfigure – for example, Application A. Click on [Browse] or [Go to Start Menu...], scroll down the list of applications, click on the application you wish to launch with this button, and then click OK. The button will now launch the new application.

The Internet tab is different. It comes set to launch your Windows default Internet browser (Internet Explorer), unless you have changed this in Windows. In order to reconfigure it to launch another program follow these easy steps:

1. Select "Start Other Program" from the "Specify the button action:" box.
2. Click on [Browse] or [Go to Start Menu...].
3. Scroll down the list of applications, and then click on the application you wish to launch with this button.
4. Click [OK].

The button will now launch the new application. If you want to return to launching your Windows default Internet browser with this button, you need only click on "Default Internet Browser" from the Internet browser box. Be aware that you will erase the settings for the "other application". If you wish to go back to launching the "other application" from this button, you will need to reconfigure it as described above.



If your system has dedicated one of the application launcher buttons to be an Internet launcher, the button can still be configured to launch any application you wish, not just an Internet browser.

When you have finished with Application Panel Setup click OK, and the new settings will take effect. You can reconfigure your LifeBook Application Panel as often as you like.

**Deactivating and Activating the LifeBook Application Panel**

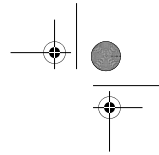
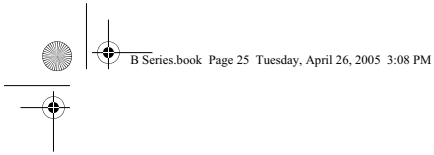
To deactivate the LifeBook Application Panel, follow these easy steps:

1. Click on [Start].
2. Click on Programs.
3. Click on LifeBook Application Panel.
4. Click on Stop Application Panel.

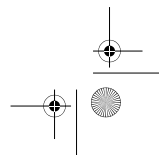
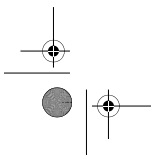
To reactivate, follow the same procedure, except for step 4. Click on Restart Application Panel instead.



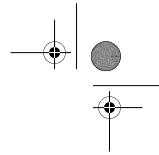
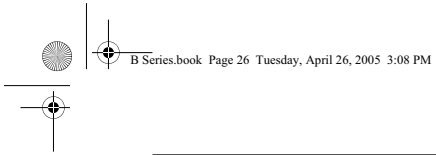
Every time you start Windows the LifeBook Application Panel is activated, even if you deactivated it before you shut down.



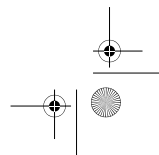
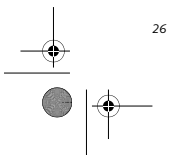
# 3 Getting Started







*LifeBook B Series*



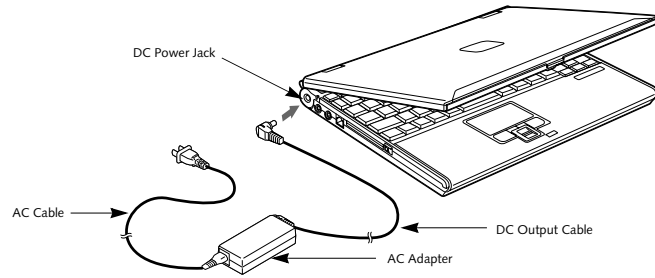


Figure 3-1. Connecting the AC Adapter

## Power Sources

Your LifeBook notebook has three possible power sources: a primary Lithium ion battery, an AC adapter or an optional Auto/Airline adapter.

### CONNECTING THE POWER ADAPTERS

The AC adapter or optional Auto/Airline adapter provides power for operating your notebook and charging the batteries.

#### Connecting the AC Adapter

1. Plug the DC output cable into the DC power jack of your notebook.
2. Plug the AC adapter into an AC electrical outlet. (Figure 3-1)

#### Connecting the Optional Auto/Airline Adapter

1. Plug the DC output cable into the DC power jack on your notebook.
  2. Plug the Auto/Airline adapter into the cigarette lighter of an automobile with the ignition key in the On or Accessories position.
- OR
3. Plug the Auto/Airline adapter into the DC power jack on an airplane seat.

#### Switching from AC Adapter Power or the Auto/Airline Adapter to Battery Power

1. Be sure that you have at least one charged battery installed.
2. Remove the AC adapter or the Auto/Airline adapter.



The Lithium ion battery is not charged upon purchase. Initially, you will need to connect either the AC adapter or the Auto/Airline adapter to use your notebook.

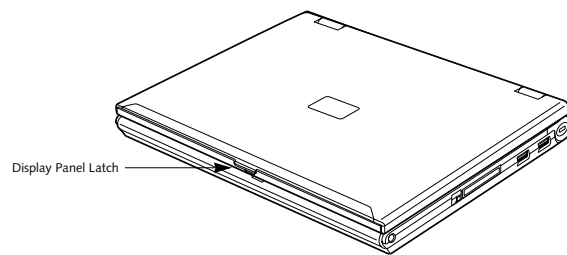


Figure 3-2. Opening the Display Panel

## Display Panel

Your LifeBook notebook contains a display panel that is backlit for easier viewing in bright environments and maintains top resolution through the use of active-matrix technology.

### OPENING THE DISPLAY PANEL

1. Press the Display Panel latch in. This releases the locking mechanism and raises the display slightly.
2. Lift the display backwards, being careful not to touch the screen, until it is at a comfortable viewing angle.

### ADJUSTING DISPLAY PANEL BRIGHTNESS

Once you have turned on your notebook, you may want to adjust the brightness level of the screen to a more comfortable viewing level.

Adjusting the brightness using the keyboard changes the setting only temporarily.

- [Fn+F6]: Pressing repeatedly will lower the brightness of your display.
- [Fn+F7]: Pressing repeatedly will increase the brightness of the display.



If using AC power your brightness setting is set to its highest level by default. If using battery power your brightness setting is set to approximately mid-level by default.

---

The higher the brightness level, the more power the LifeBook notebook will consume and the faster your batteries will discharge. For maximum battery life, make sure that the brightness is set as low as possible.

---

### CLOSING THE DISPLAY PANEL

1. Holding the edge of your display panel, pull it forward until it is flush with the body of your notebook.
2. Push down until you hear a click. This will engage the locking mechanism and prevent your display panel from opening unexpectedly.

## Starting Your LifeBook Notebook

### POWER ON

#### Suspend/Resume On button

The Suspend/Resume button is used to turn on your LifeBook notebook from its off state. Once you have connected your AC adapter or charged the internal Lithium ion battery, you can power on your notebook.



When you turn on your LifeBook notebook be sure you have a battery installed and charged, or that the AC or Auto/Air-line adapter is connected and has power.

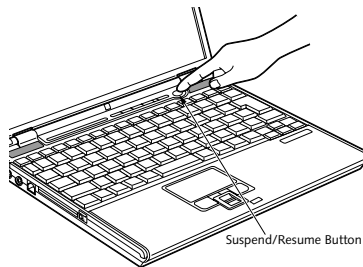


Figure 3-3. Pressing the Suspend/Resume Button

Press the Suspend/Resume button (Figure 3-3). When you are done working you can either leave your LifeBook notebook in Suspend mode (See "Suspend/Resume Button" on page 32.), or you can turn it off (See "Power Off" on page 34.)



Do not carry your LifeBook notebook around with the power on or subject it to shocks or vibration, as you risk damaging your notebook.

When you turn on your LifeBook notebook, it will perform a Power On Self Test (POST) to check the internal parts and configuration for correct functionality. If a fault is found, your LifeBook notebook will emit an audio warning and/or an error message will be displayed. See "Power On Self Test Messages" on page 84. Depending on the nature of the problem, you may be able to continue by starting the operating system or by entering the BIOS setup utility and revising the settings.

After satisfactory completion of the Power On Self Test (POST), your notebook will load your operating system.

Never turn off your LifeBook notebook during the Power On Self Test (POST) or it will cause an error message to be displayed the next time you turn on your LifeBook notebook. See "Power On Self Test Messages" on page 61.



### BOOT SEQUENCE

The procedure for starting-up your notebook is termed the Bootup sequence and involves your LifeBook notebook's BIOS. When your notebook is first turned on, the main system memory is empty, and it needs to find instructions to start up your notebook. This information is in the BIOS program. Each time you power up or restart your notebook, it goes through a boot sequence which displays a Fujitsu logo until your operating system is loaded. During booting, your notebook is performing a standard boot sequence including a Power On Self Test (POST). When the boot sequence is completed without a failure and without a request for the BIOS Setup Utility, the system displays the operating system's opening screen.

The boot sequence is executed when:

- You turn on the power to your notebook.
- You restart your notebook from the Windows Shut Down dialog box.
- The software initiates a system restart. Example: When you install a new application.
- You reset the system by pressing the three keys [CTRL+ALT+DEL].

### BIOS SETUP UTILITY

The BIOS Setup Utility is a program that sets up the operating environment for your notebook. Your BIOS is set at the factory for normal operating conditions, therefore there is no need to set or change the BIOS' environment to operate your notebook.

The BIOS Setup Utility configures:

- Device control feature parameters, such as changing I/O addresses and boot devices.
- System Data Security feature parameters, such as passwords.

### Entering the BIOS Setup Utility

To enter the BIOS Setup Utility do the following:

1. Turn on or restart your notebook.
2. Press the [F2] key once the Fujitsu logo appears on the screen. This will open the main menu of the BIOS Setup Utility with the current settings displayed.
3. Press the [RIGHT ARROW] or [LEFT ARROW] key to scroll through the other setup menus to review or alter the current settings.

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### BIOS Guide

A guide to your notebook's BIOS is available online. Please visit our service and support Web site at <http://www.computers.us.fujitsu.com/support>. Once there, select User's Guides under Notebook/Tablet PC Support. Select your system model and click [Go]. Select the BIOS Guide from the menu for your LifeBook series. If you are unsure of your notebook's BIOS number, refer to your packing slip.



If your data security settings require it, you may be asked for a password before the BIOS main menu will appear.

### BOOTING THE SYSTEM

We strongly recommend that you not attach any external devices until you have gone through the initial power-on sequence.

When you turn on your LifeBook notebook for the first time, it will display a Fujitsu logo on the screen. If you do nothing the system will load the operating system, and then the Windows Welcome will begin.

Designed to accommodate the needs of many users, in many different countries, Windows needs to be configured the first time you use them. Windows has three parts:

- Getting Started: You have the opportunity to enter custom information for your configuration file and setup your modem so that your LifeBook notebook will be prepared to dial out.
- Windows License Agreement and Final Settings: You have the opportunity to review the Windows License Agreement.



- If you reject the terms of the license agreement you will be asked to review the license agreement for information on returning Windows or to shut down your LifeBook notebook.
- You cannot use your LifeBook notebook until you have accepted the License Agreement. If you stop the process your notebook will return to the beginning of the Windows Welcome Process.

### Getting Started

Read the instructions on the screens carefully and fill in the information as directed. You will be asked for such items as the language you wish to use, the country in which you live, your first and last name, and about how you dial out from where you will be using your LifeBook notebook. For the modem settings, enter your current location information where you will be using your LifeBook notebook. If you are not connected to a

phone line and plan to register at a later time, you may click the **Skip** button, and you will go directly to the condition of use page.

Once you have set up your LifeBook notebook to dial out, Windows will make a free telephone call to test the settings. If the call is unsuccessful, you will be returned to the phone settings page where you may try to fix them. If you are unable to fix the settings, contact Fujitsu Service and Support. See "Fujitsu Contact Information" on page 3. If you would simply like to move on, and register at a later time, you may click the **Skip** button, and you will go directly to the Condition of Use page.

### Registration

If your connection is successful, you will go to the Registration Confirmation page. On this page simply enter the requested information, and then check the box at the bottom to register your copy of Windows with Microsoft. Once you have finished, click the **Next** button to continue.



If you do not register at this time you can do it later simply by double-clicking on the **LifeBook Registration** icon on your desktop and following the instructions.

You will then go through the Fujitsu registration process. Follow the instructions on the screens, and enter all of the necessary information. Be as specific as possible so that if you need help the service and support team will be able to serve you better.

### Final Settings

The first part of your final settings is the Windows End User License Agreement. Read the agreement carefully. When you finish reading you must accept or reject the terms of the agreement and then click on the **Next** button.



If you do not register at this time you can do it later simply by double-clicking on the **LifeBook Registration** icon on your desktop and following the instructions.

### ACTIVATING ADDITIONAL UTILITIES

In Windows XP systems, the Click Me! icon is in the Start menu. When you click the Click Me! icon, your system will automatically build the icon tray in the bottom right of the screen. These icons provide links to utilities that you will frequently access.

Although the icon remains on the screen, you need invoke it only once.

## REGISTERING YOUR LIFEBOOK NOTEBOOK

### How do I register?

With Windows, just follow the on-screen instructions during the Welcome process. If you do not register during the Welcome process you can double-click on the LifeBook Registration icon on your desktop at any time and follow the instructions.



Make sure you have connected a phone line to your modem before you use E-Registration.

You may also register on our Web site:

- <http://www.computers.us.fujitsu.com/support>

You will need to be set up with an Internet Service Provider (ISP) to use this option.

## Power Management

Your LifeBook notebook has many options and features for conserving battery power. Some of these features are automatic and need no user intervention, such as those for the internal modem. However, others depend on the parameters you set to best suit your operating conditions, such as those for the display brightness. Internal power management for your notebook may be controlled from settings made in your operating system, pre-bundled power management application, or from settings made in BIOS setup utility.

Besides the options available for conserving battery power, there are also some things that you can do to prevent your notebook battery from running down as quickly. For example, you can create an appropriate power saving profile, put your notebook into Standby mode when it is not performing an operation, and you can limit the use of high power devices. As with all mobile, battery powered computers, there is a trade-off between performance and power savings.

Power Mode	System Activity	Events causing system to enter mode state
Fully On Mode	System is running. CPU, system bus, and all other interfaces operate at full speed.	<ul style="list-style-type: none"> <li>▪ From Standby mode: System operation resumed (Suspend/Resume button pressed, resume on modem ring, resume on time).</li> <li>▪ From Hibernation mode: Suspend/Resume button pressed.</li> <li>▪ From Off mode: Suspend/Resume button pressed.</li> </ul>
Standby Mode (Suspend-to-RAM)	Resume system logic remains powered and RAM remains powered to maintain active data. All other devices are turned off.	<ul style="list-style-type: none"> <li>▪ Standby timeout occurs.</li> <li>▪ Suspend request issued by software or by pressing the Suspend/Resume button.</li> <li>▪ Low battery.</li> </ul>
Hibernation Mode (Suspend-to-Disk)	Windows saves desktop state (including open files and documents) to hard disk. CPU stops. All other devices are turned off.	<ul style="list-style-type: none"> <li>▪ Suspend timeout occurs.</li> <li>▪ Clicking Start -&gt; Shut Down -&gt; Hibernate (It may be necessary to Enable Hibernate Support from Windows Power Options.)</li> <li>▪ Low battery condition</li> </ul>
Power Off	System is fully powered off except for logic components required for Suspend/Resume button and real-time clock operation.	<ul style="list-style-type: none"> <li>▪ System shutdown.</li> <li>▪ Low battery condition</li> </ul>

Table 3-1. System Power States

### SUSPEND/RESUME BUTTON

When your LifeBook notebook is active, the Suspend/Resume button can be used to manually put your LifeBook into Standby mode. Push the Suspend/Resume button when your notebook is active, but not actively accessing anything, and immediately release the button. You will hear two short beeps and your system will enter Standby mode. (See figure 2-5 on page 8 for location).

If your notebook is suspended, pushing the Suspend/Resume button will return your notebook to active operation. You can tell whether or not your system is in Standby mode by looking at the Power indicator. See "Power Indicator" on page 13. If the indicator is visible and not flashing, your notebook is fully operational. If the indicator is both visible and flashing, your notebook is in Standby mode. If the indicator is not visible at all, the power is off or your notebook is in Hibernate mode.

### STANDBY MODE

Standby mode in Windows saves the contents of your notebook's system memory during periods of inactivity by maintaining power to critical parts. This mode will turn off the CPU, the display, the hard drive, and all of the other internal components except those necessary to maintain system memory and allow for restarting. Your notebook can be put in Standby mode by:

- Pressing the Suspend/Resume button when your system is turned on.
- Selecting Standby from Windows Shut Down menu.
- Timing out from lack of activity.
- Allowing the battery to reach the Dead Battery Warning condition.

Your notebook's system memory typically stores the file(s) on which you are working, open application(s) information, and any other data required to support the

operation(s) in progress. When you resume operation from Standby mode, your notebook will return to the point where it left off. To resume operation, you must use the Suspend/Resume button to resume operation, and there must be an adequate power source available, or your notebook will not resume.



If you are running your LifeBook notebook on battery power, be aware that the battery continues to discharge while your notebook is in Standby mode, though not as fast as when fully operational.

### HIBERNATE MODE

Hibernate mode saves the contents of your notebook's system memory to the hard drive as a part of the Suspend/Resume mode. Your notebook is pre-configured to perform this function. The Hibernate mode can also be configured through the system BIOS to run in other ways depending on what you need to accomplish. See "BIOS Setup Utility" on page 29.

- The Standby or Hibernate modes should not be used with certain PC Cards. Check your PC Card documentation for more information.
- Disabling the Suspend/Resume button prevents it from being used to put your notebook in Standby or Hibernate mode. The resume function of the button cannot be disabled.
- If your notebook is actively accessing information when you enter the Standby or Hibernate mode, changes to open files are not lost. The files are left open and memory is kept active during Standby mode or the memory is transferred to the internal hard drive during Hibernate mode.
- When PC Cards or external devices are in use, Save-to-Disk mode cannot return to the exact state prior to suspension, because all of the peripheral devices will be re-initialized when the system restarts.
- The main advantage of using the Hibernate function is that power is not required to maintain your data. This is particularly important if you will be leaving your notebook in a suspended state for a prolonged period of time. The drawback of using Hibernate mode is that it lengthens the power down and power up sequences and resets peripheral devices.

### Using Hibernate Mode

To enable or disable the Hibernation feature follow these easy steps:

1. From the Start menu, select Settings, and then select Control Panel --> Power Options.
2. Select the Hibernate tab, and then select the box to enable or disable this feature.
3. Click [Apply].

To use Hibernate mode:

1. Click the Ctrl-Alt-Del keys.
2. Select Shut Down from the top of the window.
3. Select Hibernate from the drop down list that appears.

### DISPLAY TIMEOUT

The display timeout is a power management feature. This feature saves power by turning off the display if there is no keyboard or pointer activity for the user selected timeout period. Any keyboard or pointer activity will cause the display to restart automatically. This feature is independent of the Suspend/Resume button and can be enabled and disabled in Windows Power Management and BIOS setup utility (APM only). See "BIOS Setup Utility" on page 29.

### HARD DISK TIMEOUT

The hard disk timeout is another one of the power management parameters. This feature saves power by turning off the hard drive if there is no hard drive activity for the user selected timeout period. Any attempt to access the hard drive will cause it to restart automatically. This feature is independent of the Suspend/Resume button and can be enabled and disabled in Windows and BIOS setup utility (APM only). See "BIOS Setup Utility" on page 29.

### WINDOWS POWER MANAGEMENT

The Power Management icon located in the Windows Control Panel allows you to configure some of the power management settings. For example, you can use the Power Management to set the timeout values for turning off the display and hard disks whether you are running the notebook on battery power or one of the adapters. The settings may also be changed in the BIOS (APM only). See "BIOS Setup Utility" on page 29.

### RESTARTING THE SYSTEM

If your system is on and you need to restart it, be sure that you use the following procedure.

1. Click the Start button, and then click Turn Off Computer.
2. Select the Restart option from within the Windows Turn Off Computer dialog box.



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3. Click OK. Your notebook will shut down and then reboot.



Turning off your LifeBook notebook without exiting Windows or turning on your notebook within 10 seconds of the notebook being shut off may cause an error when you start the next time.

**POWER OFF**

Before turning off the power by choosing Turn Off Computer from the Windows Start menu, check that the Hard Drive, PC Card and the Floppy Disk Drive Access indicators are all Off. (See *Figure 2-5 on page 8*) If you turn off the power while accessing a disk or PC Card there is a risk of data loss. To ensure that your notebook shuts down without error, use the Windows shut down procedure.

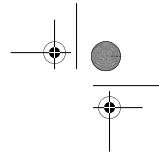
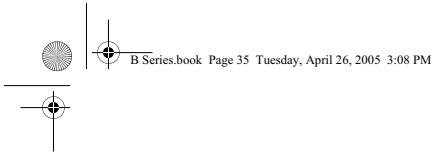


Be sure to close all files, exit all applications, and shut down your operating system prior to turning off the power. If files are open when you turn the power off, you will lose any changes that have not been saved, and may cause disk errors.

Using the correct procedure to shut down from Windows, allows your notebook to complete its operations and turn off power in the proper sequence to avoid errors. The proper sequence is:

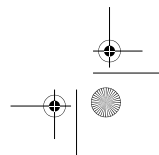
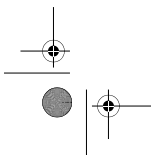
1. Click the Start button, and then click Turn Off Computer.
2. Select the Turn Off option from within the dialog box.

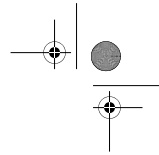
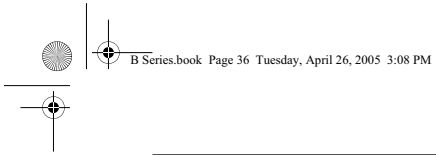
If you are going to store your notebook for a month or more see the Care and Maintenance section.



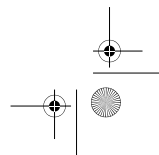
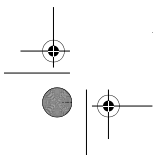
# 4

## User-Installable Features





*LifeBook B Series*



## Lithium ion Battery

Your LifeBook notebook has a Lithium ion battery that provides power for operating your notebook when no external power source is available. The battery is durable and long lasting, but should not be exposed to extreme temperatures, high voltages, chemicals or other hazards.

The Lithium ion battery operating time may become shorter if it is used under the following conditions:

- When used at temperatures that exceed a low of 40°F (5°C) or a high of 95°F (35°C). Extreme temperatures not only reduce charging efficiency, but can also cause battery deterioration. The Charging icon on the Status Indicator panel will flash when you try to charge a battery that is outside its operating temperature range. See "Battery Charging Indicator" on page 14.
- When using a high current device such as a modem, CD-ROM drive, or the hard drive. Using the AC adapter when operating such devices will help to conserve your battery life.

- Do not leave a faulty battery in your notebook. It may damage your AC adapter, optional Auto/Airline adapter, another battery or your notebook itself. It may also prevent operation of your notebook by draining all available current into the bad battery.



- Under federal, state, or local law it may be illegal to dispose of batteries by putting them in the trash. Please take care of our environment and dispose of batteries properly. Check with your local government authority for details regarding recycling or disposing of old batteries. If you cannot find this information elsewhere, contact your support representative at 1-800-8Fujitsu.



Actual battery life will vary based on screen brightness, applications, features, power management settings, battery condition and other customer preferences. CD-ROM drive or hard drive usage may also have a significant impact on battery life. The battery charging capacity is reduced as the battery ages. If your battery is running low quickly, you should replace it with a new one.

### RECHARGING THE BATTERIES

If you want to know the condition of the primary Lithium ion battery, check the Battery Level indicator located on the Status Indicator panel. The indicator changes as the battery level changes.

The Lithium ion battery is recharged internally using the AC adapter or Auto/Airline adapter. To recharge the battery make sure the battery that needs to be charged is installed in your notebook and connect the AC or Auto/Airline adapter.



Make sure that the Battery Charging indicator and the percentage charge is shown inside the Battery Level icon on the Status Indicator Panel.

There is no memory effect on the Lithium ion battery therefore you do not need to discharge the battery completely before recharging. The charge times will be significantly longer if your notebook is in use while the battery is charging. If you want to charge the battery more quickly, put your notebook into Standby mode, or turn it off while the adapter is charging the battery. See "Power Management" on page 32.



Using heavy current devices such as a modem or frequent CD-ROM and PCMCIA powered external devices accesses may prevent charging completely.

### Low Battery State

When the battery is running low, your notebook will beep every 15 seconds and the Battery Level indicator will flash. If you do not respond to the low battery alarm, the batteries will continue to discharge until they are too low to operate. When this happens there will be a multiple beep alarm and the Battery Level indicator will show a dead battery. Your LifeBook will then go into Standby mode to try and protect your data for as long as possible. There is no guarantee that your data will not be lost once the notebook reaches this point.



- You may not be able to hear the audio alarm if the volume control is set too low or is turned off by either the hardware or software. However, you will still be able to see the Battery Level indicator flash. Once the low battery alarm occurs you must save all your active data and put your notebook into Standby mode until you can provide a new power source. You should provide a charged battery, an AC power adapter, or Auto/Airline as soon as possible.
- When you are in Standby mode there must always be at least one power source active. If you remove all power sources while your notebook is in Standby mode, any data that has not been saved to the hard drive will be lost.

Dead Battery Suspend mode shows on the Status indicator just like the normal Standby mode. Once your notebook goes into Dead Battery Suspend mode you will be unable to resume operation until you provide a source of power either from an adapter, or a charged battery. Once you have provided power, you will need to press the Suspend/Resume button to resume operation. In the Dead Battery Suspend mode, your data can be maintained for some time, but if a power source is not provided promptly, the Power indicator will stop flashing and go out, meaning that you have lost the data that was not stored. Once you provide power, you can continue to use your notebook while an adapter is charging the battery.

#### Shorted Batteries

The Status Indicator panel uses a symbol inside the battery outline of the Battery Level indicator to display the operating level available in that battery. (See figure 2-11 on page 13) If this display shows a Shorted Battery, it means that the battery is damaged and must be replaced so it does not damage any other parts of your notebook.

#### REPLACING THE BATTERY

Your LifeBook B Series notebook comes with one battery pack, but it's a good idea to purchase a second one. By keeping a spare battery fully charged, you can immediately swap with one that is not charged. The battery can only be replaced by cold-swapping; doing otherwise could result in loss of data. (Cold swapping means swapping batteries when the system has been powered down.)

#### Cold-swapping Batteries

To cold-swap batteries in your battery bay follow these easy steps: (Figure 4-1)

1. Have a charged battery ready to install.
2. Shut down your notebook and disconnect the AC adapter.

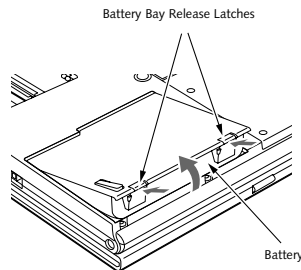


Figure 4-1. Removing the Battery

3. Push the battery bay release latches inward, then lift the front of the battery away from the battery bay and remove it from the bay.
4. Position the new battery in the bay and carefully lay it into the tray. (Figure 4-2) Press it down so that the latches click into place to secure the battery.
5. Turn the power on.

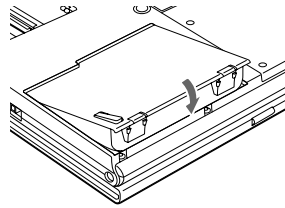


Figure 4-2. Installing the Battery



If the Lithium ion battery connector is not fully seated, you may not be able to use your notebook or charge your battery.

User Installable Features

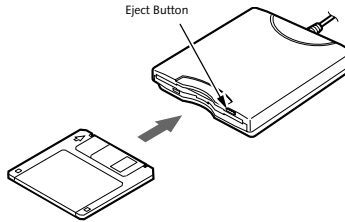


Figure 4-3. Loading/Ejecting a 3.5" Floppy Disk

## External Floppy Disk Drive\*

\*Optional device

### CONNECTING AN OPTIONAL EXTERNAL FLOPPY DISK DRIVE

Your LifeBook notebook may have an optional external floppy disk drive which can read and write information on removable 1.44MB and 720KB floppy disks.

The USB floppy disk drive can be installed while your system is in a suspended state ("warm" connection), while the system is running ("hot" connection), or when the system is off ("cold" connection).

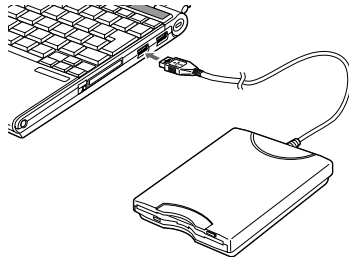


Figure 4-4. USB floppy disk drive cable and connection

Attach the external USB floppy disk drive by inserting the end of the cable connector into the USB port. See the figure above.

See your computer's User's Guide to determine the location of the USB port.

Your computer will automatically detect the floppy disk drive and activate it within your system. The drive letters associated with the floppy disk drive will be created and listed under My Computer and Windows Explorer.

### LOADING A DISK

To load a disk into your disk drive, follow these steps:

1. Orient the disk so that its label is facing upwards and the shutter side is pointing towards the drive. (Figure 4-3)
2. Push the disk into the drive until the Eject button pops out and you hear a click.



When there is no disk in the drive, the Eject button is flush with your LifeBook notebook.

### EJECTING A DISK

To eject a disk from the disk drive, follow these steps:

1. Check that the Floppy Disk Drive Access indicator is inactive.
2. Press the Eject button. This will push your disk partially out of the drive.
3. Remove the disk.



If you eject the disk while the Floppy Disk Drive Access indicator is active, there is a risk of damaging the data on the disk, the disk itself or even the disk drive.

### PREPARING A DISK FOR USE

Before you can use a new disk, it needs to be prepared so your notebook knows where to store information. This preparation is called formatting or initializing a disk. You will need to format new disks, unless they are preformatted. (Please refer to your operating system manual for step-by-step instructions on formatting a disk)

To prevent accidental erasure of the data stored on a disk, slide the "write protect" tab until a small hole is exposed. This sets the disk into a protected state where nothing can be added or removed. If you want to add or remove data on a protected disk, slide the "write protect" tab to close the small hole. (Figure 4-5)

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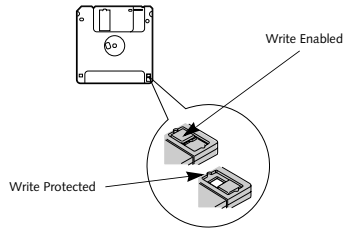


Figure 4-5. Floppy Disk Write Protect



Formatting a floppy disk that already contains data will erase all of the information on the disk.

## User Installable Features

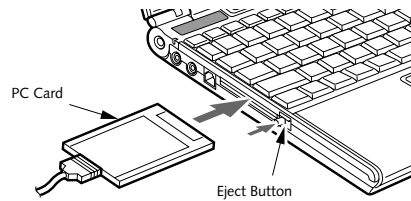


Figure 4-6. Installing/Removing PC Cards

## PC Cards

Your LifeBook notebook supports Type I and Type II PC Cards, which can perform a variety of functions.

Some available PC Cards:

- Fax/data modem cards.
- Local area network (LAN) cards.
- IDE solid-state disk cards.
- SCSI cards.
- Other PC Cards that conform to PCMCIA 2.1 or CardBus standards.
- Optional SmartCard adapter

For further information, refer to the instructions supplied with your PC Card.

### INSTALLING PC CARDS

PC Cards are installed in the PC Card slot. To install a PC Card, follow these easy steps: (Figure 4-6)



- Installing or removing a PC Card during your notebook's shutdown or bootup process may damage the card and/or your notebook.
- Do not insert a PC Card into a slot if there is water or any other substance on the card as you may permanently damage the card, your notebook, or both.

1. See your PC Card manual for specific instructions on the installation of your card. Some PC Cards may require your notebook to be Off while installing them.
2. Make sure there is no PC Card currently in the slot. If there is, see Removing PC Cards.
3. Insert your PC Card into the slot, with the product label facing up.
4. Push the card into the slot firmly until it is seated in the opening.



Windows has a shutdown procedure for PC Cards that must be followed before removing a card. (Review your operating system manual for the correct procedure)

### REMOVING PC CARDS

To remove a PC Card, follow these easy steps:

1. See your PC Card manual for specific instructions on removing your card. Some PC Cards may require your notebook to be in Standby Mode or Off while removing them.



If the dialog box states that the device cannot be removed, you must save all of your open files, close any open applications and shut down your LifeBook.

2. Push the Eject button until it pops out, and then push it in to eject the card. This will allow you to remove the card.



If the PC Card has an external connector and cable, do not pull the cable when removing the card.

### SMART CARD READER

An embedded Smart Card Reader is provided on your LifeBook notebook. Smart Cards are the same size and shape as credit cards, but they contain an integrated microprocessor chip. The chip can hold a variety of information, and provides the user with many possible options, such as allowing them to make secure purchases, pay for phone calls, store security information, and provide identification and information.

In order to use the embedded Smart Card Reader, you must purchase an optional Smart Card holder for installation into an available Type II PC Card slot.



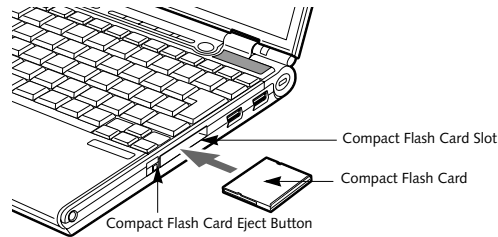


Figure 4-7. Compact Flash Card Slot

## Compact Flash Cards

Your Fujitsu LifeBook notebook supports Compact Flash (CF) cards, which can perform a variety of functions.

Some available Compact Flash Cards:

- Memory cards
- Fax/data modem cards
- Local area network (LAN) cards

For further information, refer to the instructions supplied with your PC Card.

### INSTALLING COMPACT FLASH CARDS

Compact Flash Cards are installed in the Compact Flash Card slot. To install a Compact Flash Card, follow these steps: (Figure 4-7)

- Installing or removing a Compact Flash Card during your LifeBook notebook's shutdown or bootup process may damage the card and/or your notebook.
- Do not insert a Compact Flash Card into a slot if there is water or any other substance on the card as you may permanently damage the card, your LifeBook notebook, or both.

1. See your Compact Flash Card manual for specific instructions on the installation of your card. Some Compact Flash Cards may require your notebook to be Off while installing them.
2. When you receive your LifeBook, there will be a protective plug installed in the slot. Whenever you don't have a Compact Flash Card installed, be sure to replace the plug to prevent system contamination. To remove the plug, press the Compact Flash Card eject button. (Figure 4-8)

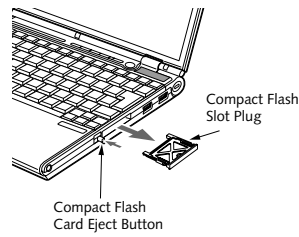


Figure 4-8. Removing Compact Flash Slot plug

3. When the Compact Flash Slot plug is ejected, remove it from the slot.
4. Insert your Compact Flash Card into the slot, with the product label facing up.
5. Push the card into the slot firmly until it is seated in the opening. You will hear a click and the Eject button will pop away from your notebook.

### REMOVING COMPACT FLASH CARDS

To remove a Compact Flash Card, follow these easy steps:



Windows has a shutdown procedure for Compact Flash Cards that must be followed before removing a card. (Please review your operating system manual for the correct procedure).

1. See your Compact Flash Card manual for specific instructions on removing your card. Some Compact Flash Cards may require your notebook to be in Suspend Mode or Off while removing them.



If the dialog box states that the device cannot be removed, you must save all of your open files, close any open applications and shut down your notebook.

2. Push the eject button in until it is flush with the notebook. This will push the Compact Flash Card slightly out of the slot allowing you to remove the card.

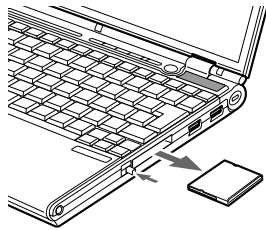


Figure 4-9. Removing a Compact Flash Card

## Memory Upgrade Module

Your notebook has been configured with a minimum of 256 MB of high speed DDR2 400 MHz RAM factory installed. In addition to the installed memory, there is a second DIMM slot in which you can install a second module. You can also increase your notebook's memory capacity by replacing the original module with a higher capacity module (2 GB maximum). The memory upgrade must be a dual-in-line 400 MHz DDR2 module. (To be certain the correct module is used, you should only use Fujitsu memory modules. To order, go to the Fujitsu Web site: <http://us.fujitsu.com/computers>).

### INSTALLING A MEMORY MODULE

1. Turn off power to your notebook and remove any attached power adapter (AC or auto/airline).



A memory module can be severely damaged by electrostatic discharge (ESD). Be sure you are properly grounded when handling and installing the module.

2. Make sure that all connector covers are closed.
3. Turn the notebook bottom side up.
4. Remove the memory upgrade compartment screws, then remove the cover. (Figure 4-10)



Do not remove any screws from the memory upgrade module compartment except those specifically shown in the directions for installing and removing the memory upgrade module.

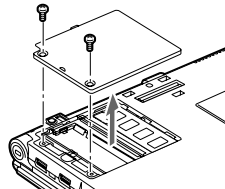


Figure 4-10. Removing the Memory Module Cover

5. Align the new memory upgrade module with the part side up. Align the connector edge of the memory upgrade module with the empty connector slot in the compartment (Figure 4-11).
6. Insert the memory upgrade module at a 45° angle. Press the connector edge of the module firmly down and into the connector until it lodges under the retaining clip. You will hear a click when it is properly in place. (Figure 4-11)
8. Replace the memory compartment cover.

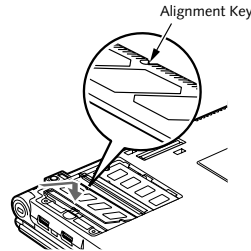


Figure 4-11. Installing a Memory Module

### REMOVING A MEMORY MODULE

1. Turn off power to your notebook and remove any attached power adapter (AC or auto/airline).
2. Make sure you are properly grounded.
3. Make sure that all connector covers are closed.
4. Turn the notebook bottom side up, with the battery toward you.
5. Remove the memory upgrade module compartment screws and remove the cover (Figure 4-10).
6. Pull the clips sideways away from each side of the memory upgrade module at the same time (Figure 4-12).
7. While holding the clips out, remove the module from the slot by lifting it up and pulling towards the rear of your notebook.
8. Store the memory module in a static guarded sleeve.
9. Install a new memory module as instructed in "Installing a Memory Upgrade Module".

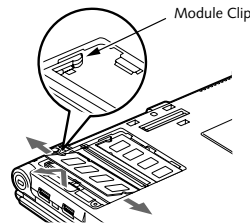


Figure 4-12. Removing a Memory Upgrade Module

10. Replace the cover and the screws.



The memory upgrade module is not something you routinely remove from your notebook. Once it is installed, you should leave it in place unless you want to change system memory capacity.

### CHECKING THE COMPUTER RECOGNITION OF NEW MEMORY CAPACITY

Once you have changed the system memory capacity, be sure to check that your notebook has recognized the change.

You can check the memory capacity by looking at the main menu of the BIOS setup:

1. Turn on the power to your notebook.
2. Right-click on My Computer.
3. Under the General tab, the amount of memory is displayed towards the bottom right of the window.



If the total memory displayed is incorrect, check that your memory upgrade module is properly installed. If the module is properly installed and the capacity is still not correctly recognized, see "Troubleshooting" on page 53.

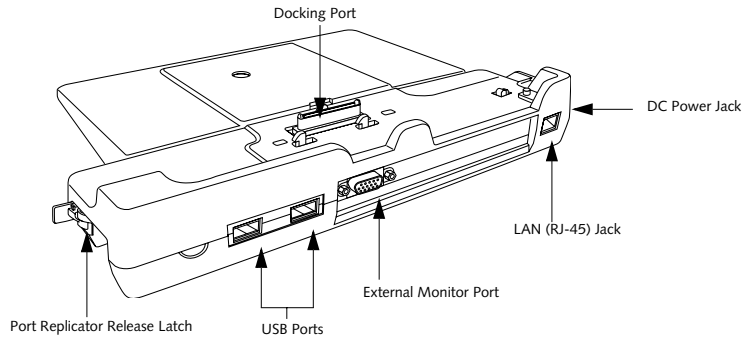


Figure 4-13. Optional Port Replicator rear panel

## Port Replicator\*

Ideal for quick connect/disconnect of peripheral devices, the optional Port Replicator extends the functionality of your LifeBook notebook by providing ports to connect a LAN (RJ-45) cable, an external monitor, two USB 2.0 devices, and DC power.

The Port Replicator connects to the bottom of your notebook. See "Device Ports" on page 48.

### PORT REPLICATOR COMPONENTS

Following is a description of the Port Replicator components. (Figure 4-13)

#### DC Power Jack

The DC power jack allows you to plug in the AC adapter to power your notebook and charge the internal Lithium ion battery. The DC power jack is located on the end of the port replicator.

#### USB 2.0 Ports (Qty. 2)

Universal Serial Bus (USB) 2.0 ports allow you to connect USB devices. USB 2.0 ports are backward-compatible with USB 1.1 devices.

#### External Monitor Port

The external monitor port allows you to connect an external VGA or SVGA monitor. Note that if a Port Replicator is attached, you must use the external monitor port on the Port Replicator, not the one on your system.

#### LAN (RJ-45) Jack

The LAN jack allows you to connect a LAN to the Port Replicator. Note that when the system is attached to the Port Replicator, the LAN Jack on the Port Replicator should be used, not the one on the system.

\* Optional device

#### Docking Port

The docking port connects the Port Replicator to your LifeBook notebook.

#### Port Replicator Release Latch

Pull the Port Replicator Release latch away from the Port Replicator to remove it from your notebook.

#### ATTACHING PORT REPLICATOR

To attach the Port Replicator, align the Port Replicator connector on the bottom of your notebook with the connector on the Port Replicator and push the corners down simultaneously. (Figure 4-14)

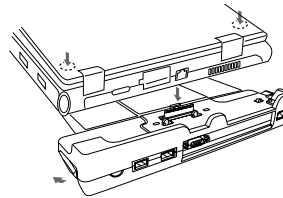


Figure 4-14. Attaching the Port Replicator

#### DETACHING PORT REPLICATOR

To detach the Port Replicator:

1. Pull the Port Replicator's release latch away from the Port Replicator to release it from your notebook. (Figure 4-15)

User Installable Features

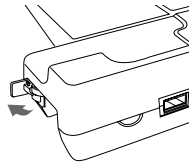


Figure 4-15. Unlatching the Port Replicator

2. Pull the notebook away from the Port Replicator to detach it from your notebook. (Figure 4-16)

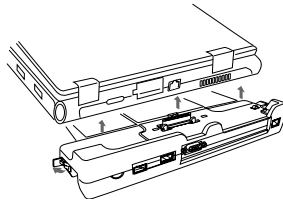


Figure 4-16. Removing the Port Replicator

## Device Ports

Your LifeBook notebook and the optional Port Replicator come equipped with multiple ports to which you can connect an external device including: disk drives, keyboards, modems, printers, etc.

### MODEM (RJ-11) JACK

The modem (RJ-11) jack is used for an internal modem. To connect the telephone cable follow these easy steps: See "LifeBook notebook left-side panel" on page 9.

1. Align the connector with the jack opening.
2. Push the connector into the jack until it is seated.
3. Plug the other end of the telephone cable into a telephone outlet.



- The internal modem is designed to the ITU V.90 standard. Its maximum speed of 53000bps is the highest allowed by FCC, and its actual connection rate depends on the line conditions. The maximum speed is 33600bps at upload.
- The internal modem on all LifeBook notebooks from Fujitsu Computer Systems Corporation are certified for use in the United States and Canada.
- Depending upon the configuration of your system, your LifeBook notebook may have either a LAN jack or an IEEE 1394 jack.



The internal modem is not intended for use with Digital PBX systems. Do not connect the internal modem to a Digital PBX as it may cause serious damage to the internal modem or your entire LifeBook notebook. Consult your PBX manufacturer's documentation for details. Some hotels have Digital PBX systems. Be sure to find out BEFORE you connect your modem.

### INTERNAL LAN (RJ-45) JACK

The internal LAN (RJ-45) jack is used for an internal Fast Ethernet (10/100/1000 Base-T/Tx) connection. If your notebook has been configured with internal LAN capability you will need to configure your notebook to work with your particular network. (Please refer to your network administrator for information on your network configuration.) To connect the LAN cable follow these steps: See "LifeBook notebook rear panel" on page 12.



Note that the optional Port Replicator is designed to cover the LAN jack located on the system. This design ensures that the LAN jack on the Port Replicator is the only one used when the Port Replicator is installed.

1. Align the connector with the jack opening.
2. Push the connector into the jack until it is seated.
3. Plug the other end of the cable into a LAN outlet.

### DOCKING PORT

The docking port is used for the connection of your LifeBook notebook to an optional port replicator. In order to connect your notebook to one of these devices follow the instructions that came with your docking port.

### UNIVERSAL SERIAL BUS 2.0 PORTS

The two Universal Serial Bus (USB) 2.0 ports allow you to connect USB devices such as external floppy disk drives, game pads, pointing devices, keyboards and/or speakers. In order to connect a USB device follow these easy steps: See "LifeBook notebook right-side panel" on page 10.

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

### MICROPHONE/LINE-IN JACK

The microphone/line-in jack allows you to connect an external stereo microphone. Your microphone must be equipped with a 1/8" (3.5 mm) mono mini-plug in order to fit into the microphone jack of your notebook. In order to connect a microphone follow these easy steps: See "LifeBook notebook left-side panel" on page 9.

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

### HEADPHONE/LINE-OUT JACK

The stereo headphone/line-out jack allows you to connect stereo headphones or powered external speakers to your notebook. Your headphones or speakers must be equipped with a 1/8" (3.5 mm) stereo mini-plug. In order to connect headphones or speakers follow these easy steps: See "LifeBook notebook left-side panel" on page 9.

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.



If you plug headphones into the headphone jack, the built-in stereo speakers will be disabled.

User Installable Features

### EXTERNAL MONITOR PORT

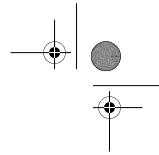
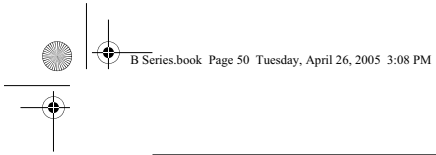
The external monitor port allows you to connect an external monitor. In order to connect an external monitor follow these easy steps: See "LifeBook notebook rear panel" on page 12.

1. Remove the cover from the port opening, if present.
2. Align the connector with the port opening.
3. Push the connector into the port until it is seated.
4. Tighten the two hold-down screws, located on each end of the connector.



When a Port Replicator is attached and an external monitor is plugged in, pressing the [Fn] + [F10] keys allows you to change your selection of where to send your display video. Each time you press the key combination, you will step to the next choice, starting with the built-in display panel only, moving to the external monitor only, finally moving to both the built-in display panel and an external monitor.





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