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

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IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save these instructions for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This will only plug into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points that could result in a fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
    e. If the product has been dropped or the cabinet has been damaged.
    f. If the product exhibits a distinct change in performance, indicating a need for service.
14. **CAUTION. When replacing the battery, be sure to install it with the polarities in the correct position. There is a danger of explosion if the battery is replaced with an incorrect type or is mistreated. Do not recharge, disassemble or dispose of in fire. Replace only with the same or equivalent type recommeded by the manufacturer. Dispose of the used battery according to the manufacturer's instructions.**
15. Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, BS1363,ASTA,SS145 certified, rated 10A 250V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

High Safety Required Use

This Product is designed, developed and manufactured as contemplated for general use, including without limitation, general office use, personal use, household use and ordinary industrial use, but is not designed,developed and manufactured as contemplated for use accompanying fatal risks or dangers that, unless extremely high safety is secured, could lead directly to death, personal injury,severe physical damage or other loss (hereinafter 'High Safety Required Use'), including without limitation, nuclear power reactioncore control in nuclear atomic facility, airplane automatic aircraft flight control, air traffic control, operation control in mass transport control system,medical instrument for life support system, missile launching control in weapon system. You shall not use this Product without securing the sufficient safety required for the High Safety Required Use.

Data Storage Media and Customer Responsibilities

The only effective protection for the data stored in a computer,such as on a hard disk,is for you, Purchaser to regularly back up the data.Fujitsu and its affiliates,suppliers,service providers and resellers shall not be responsible for any software programs,data or other information stored or used on any media or part of any Product returned to Fujitsu or its service providers for Warranty Service or other repair,including but not limited to the costs of recovering such programs,data or other information.It is solely your responsibility as the Purchaser to back up any software programs, data,or information stored on any storage media or any part of a Product returned for Warranty Service or repair to the designated service centers.

AUSTRALIAN WARNINGS

WARNING

FOR SAFETY REASONS, ONLY CONNECT EQUIPMENT WITH A TELECOMMUNICATIONS COMPLIANCE LABEL. THIS INCLUDES CUSTOMER EQUIPMENT PREVIOUSLY LABELLED PERMITTED OR CERTIFIED.

Connection of Non Certified/Approved peripherals may result in the equipment operating outside the Australian EMI Standards.

Modems connected to the Australian telecommunications network must be operated in accordance with the Labelling Notice. This modem has been specifically configured to ensure compliance with the ACA Standards. Do not adjust your modem or software outside the values indicated below. To do so would result in your modem being operated in a non-compliant manner.

Call Attempts/Retries:

Applications software shall be configured so that no more than 3 attempts are made to establish a connection to a given number (Note: if the modem can detect service tones, up to 10 attempts can be made). If the call sequence is unsuccessful, there shall be a delay of at least 30 minutes before attempting to call the number again.

Failure to set the modem, and any application software used with the modem, to the values shown above will result in the modem being operated in a non-compliant manner. Consequently, this would be in violation of the Labelling Notice for this equipment, and the Telecommunications Act 1997 prescribes penalties for the connection of non-compliant equipment.

NEW ZEALAND WARNINGS

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment is not capable under all operating conditions of correct operation at the higher speeds for which it is designed. 56 KBPS connections are likely to be restricted to lower bit rates when connected to some PSTN implementations. Telecom will accept no responsibility should difficulties arise in such circumstances.

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

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

This equipment shall not be set to make automatic calls to the Telecom "111" Emergency Service.

This device is equipped with pulse dialing while the New Zealand standard is DTMF tone dialing. There is no guarantee that Telecom lines will always continue to support pulse dialing. It is strongly recommended that pulse dialing is not used.

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

For repeat calls to the same number.

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

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

For Automatic calls to different numbers.

The equipment shall go on-hook for a period of not less than 5 seconds between the end of one attempt and the beginning of the next attempt.

For Automatically answered Incoming Calls

Incoming calls shall be answered between 3 and 30 seconds from the start of the ringing.

For correct operation, the total of the RNs of all devices connected to a single line at anytime should not exceed 5. The RN of this Equipment is 0.5.

WARNING

Connection of Non Certified/Approved peripherals may result in the equipment operating outside the New Zealand EMI Standards.

Note: Modem setting in Windows 98 / Windows Me

The default modem setting in Windows 98 / Windows Me operating system is United States of America. If you are residing in Australia or New Zealand, please choose the appropriate country where you are located.

The Modem will only operate with Tone Dialing; Selection of Pulse dialing is not possible.

Please see below instruction for quick modem setup.

A. If you are located in Australia

1. Go to Control panel, select modem icon.
2. Choose Australia in “What country/region are you in now?”
3. Select Phone system as “Tone Dialing”
4. Close

B. If you are located in New Zealand

1. Go to Control panel, select modem icon.
2. Choose New Zealand in “What country/region are you in now?”
3. Select Phone system as “Tone Dialing”
4. Close

Note:

Please check with your local distributor for the availability of Win Me and Win 98SE support.

Note: Modem setting in Windows XP

A. If you are located in Australia

1. Click Start select Control panel select "Phone and Modem Options".
2. Double click New Location.
3. Choose "Australia" in Country/region pull down menu bar.
4. Select Phone system as “Tone Dialing”.
5. Click OK and Apply.

B. If you are located in New Zealand

1. Click start select Control panel select "Phone and Modem Options".
2. Double click New Location.
3. Choose "New Zealand" in Country/region pull down menu bar.
4. Select Phone system as “Tone Dialing”.
5. Click OK and Apply.

Note:
The screens and illustrations shown in this examples may slightly vary depending on the operating environment that you have installed.

NOTATION IN THIS DOCUMENT

Warnings

This manual uses a variety of icons as visual marks so that you can use this computer safely and correctly and avoid damage and danger to yourself and to others. These icons and their meanings are as follows. Please learn these icons before reading this manual. Learning these icons will be useful for understanding this manual.

Icon	Meaning
⚠ **WARNING**	Incorrect handling or ignoring this warning can cause a dangerous situation that could result in death or severe injury.
⚠ **CAUTION**	Incorrect handling or ignoring this warning can cause a dangerous situation that could result in moderate or minor injury or could result in equipment damage.

The symbols below are used together with the icons above to indicate what type of danger or damage is involved.

Symbol	Meaning
	The symbol indicates a w arning or caution. The symbol inside the indicates the concrete nature of the warning. (The example on the left is a caution for electric shock.)
	The circle and slash indicates prohibited behavior. The symbol inside the circle indicates the concrete nature of the prohibition. (The example on the left indicates that disassembly is prohibited.)
	The ● indicates instructions that must be followed. The symbol inside indicates the concrete nature of those instructions. (The example on the left tells you to unplug the power plug from the socket.)

Key notation and operation methods

Explanations of key operations do not show all the characters on the keyboard. Instead they indicate just the keys necessary to the explanation as follows.

Examples: **[Ctrl]** key, **[Enter]** key, **[→]** key

When multiple keys are to be pressed at the same time, this is indicated by connecting them with **[+]**.

Examples: **[Ctrl]** + **[F3]** keys; **[Shift]** + **[↑]** key

Screen examples

The screens shown in this manual are examples. Please understand that the file names and screens you use may be different.

Notation in text

Here is what symbols in text mean.

Symbol	Meaning
Critical Points	Indicates a point necessary for correctly operating the hardware or software.
Column	Gives the meaning and brief explaination of a term.
→	Indicates the page to see elsewhere in this manual.

Command input (key input)

Within the text of this manual, command input (giving commands to the computer by pressing keys) is indicated as follows.

Example: dir c:
↑

In the position indicated in the example above by the ↑, the space left between the characters indicates that a space needs to be left in the entry by pressing the space bar (the long key with nothing written on it at the center of the front of the keyboard). Commands are written in this manual as lowercase latin letters, but uppercase letters may be used.

Product names

The following product names are abbreviated as follows in this manual.

"Microsoft® Windows XP® operating system" is written as "Windows XP".
"Microsoft® Windows® 98 operating system" is written as "Windows 98".
"Microsoftt® Millennium® Edition operating system" is written as "Windows Me"
"Microsoft® MS-DOS® operating system Version 6.2/V" is written as "MS-DOS".
"Microsoft® Windows® operating system Version 3.1" is written as "Windows 3.1".
"Microsoft® Windows NT® Server network operating system Version 3.5" and "Microsoft® Windows NT® Workstation operating system Version 3.5" are both written as "Windows NT 3.5".
"Microsoft® Windows NT® Server network operating system Version 3.51" and "Microsoft® Windows NT® Workstation and NT Server Version 4.0" are both written as "Windows NT 4.0".
"Windows NT 3.51" and "Windows NT 4.0" are both written as Windows NT.
"Fujitsu LifeBook" is written as "this computer" or "the computer main unit".

Configuration of this Manual

SECTION 1

This section explains basic operations and basic items for using this computer, including the names of the parts and their functions, quick point operation methods and other devices.

SECTION 2

This section explains installation of options for this computer.

SECTION 3

This section explains what to do when trouble occurs with this computer and when messages are displayed. Care and Maintenance. Read this section as the necessity arises.

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SECTION 1

1. Locating the Controls and Connectors

Top and Front Components

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

1 Display Panel Latch
The display panel latch locks and releases the display panel.

2 Display Panel
The display panel is a color LCD panel with back lighting for the display of text and graphics.

3 E-Mail Button
The E-Mail button helps you manage your e-mail.

4 Closed Cover Switch
The closed cover switch turns off the LCD back lighting when the display panel is closed.

5 Stereo Speakers
The built-in dual speakers allow for stereo sound.

❻ Quick Point Pointing Device

The Quick Point pointing device consists of two mouse-like buttons and one cursor control button.

❼ Keyboard

A full-size keyboard with dedicated Windows keys.

❽ Suspend/Resume/Power On Button

The Suspend/Resume/Power On button allows you to suspend notebook activity without powering off, resume your LifeBook notebook from suspend mode, and power on your notebook when it has been shut down from Windows.

❾ Status Indicator Panel

The Status Indicator Panel displays symbols that correspond with a specific component of your LifeBook notebook.

❿ LifeBook Application Panel

The LifeBook Application Panel provides one-touch application launch capability.

Left-Side Panel Components

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

❶ **Flexible Bay (DVD/CD-RW drive installed)**
The Flexible Bay can accommodate either the standard DVD/CD-RW drive, a bay battery (optional) or USB bay floppy disk drive (optional). If neither device is installed, the weight saver should be installed.

❷ **Flexible Bay Eject Lever**
The Flexible Bay eject lever releases the Flexible Bay device.

❸ **Emergency CD Tray Release**
The Emergency CD Tray Release allows you to open the CD tray without powering on your LifeBook notebook.

❹ **DVD/CD-RW Drive Eject Button**
The DVD/CD-RW Drive eject button releasing the drive tray under normal circumstances.

Right-Side Panel Components

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

❶ **Headphone Jack**
The headphone jack allows you to connect headphones or powered external speakers.

❷ **PC Card Slot**
The PC Card Slot allows you to install one Type II PC Card.

❸ **PC Card Eject Button**
The PC Card eject button allows you to remove PC Cards from the PC Card slot.

❹ **IEEE 1394 Jack**
The 1394 jack is used to connect between your LifeBook and a peripheral such as a digital video camera.

❺ **Anti-theft Lock Slot**
The anti-theft lock slot allows you to attach an optional physical lock down device.

❻ **Mini-VGA Jack**
The mini-VGA jack allows you to connect your LifeBook notebook to an external monitor with the supplied cable adapter.

❼ **Air Vents**
The air vents allow for proper cooling of the system while it is operating.

Back Panel Components

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

1 Optical Digital Audio-/Line-Out Jack

The optical digital audio-/line-out jack allows you to download digital audio onto a MiniDisc recorder's SPDIF (Sony Philips Digital Interface) format or to use external speakers with your LifeBook.

2 Microphone Jack

The microphone jack allows you to connect an external mono microphone.

3 S-Video Port

The S-Video output is used to transmit the S-Video signal. The S-Video port is used to connect to a compatible TV or VCR.

4 USB Ports

The USB ports allow you to connect Universal Serial Bus devices.

5 Power Off Button

The power off button allows you to shut down the system in the event that standard methods do not work.

❻ LAN (RJ-45) Jack

The internal LAN (RJ-45) jack is used for an internal Fast Ethernet (10/100 Base-TX) connection.

⚠ CAUTION

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 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.

❼ Modem (RJ-11) Telephone Port

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

❽ 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.

Bottom Components

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

❶ **Battery Bay Release Button**
Slide the release button to release the internal battery.

❷ **Lithium ion Battery Bay**
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 Lithiumion battery.

❸ **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.

2. Status Indicator LCD

The Status Indicator displays symbols that correspond to a specific component of your Fujitsu LifeBook notebook. These symbols tell you how each of those components are operating.

❶ 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 LifeBook notebook and that it is ready for use.
- Flashing: This means that your LifeBook notebook is in Suspend mode.
- Steady Off: This means that your system is either in Hibernation mode, or that your LifeBook notebook has been turned off with the power switch.

If you are charging your battery, the Power indicator symbol will remain on even if your notebook is shut off.

The Power indicator symbol will also remain on if you have either adapter connected and are shut down from Windows, but have not turned off the power switch.

❷ AC Adapter Indicator (⎓)

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

❸ **Battery Level Indicators ( )**

The Battery Level indicators state whether or not the primary Lithium ion battery and/or the optional second Lithiumion battery are installed (Battery 1 refers to the primary Lithiumion battery, while Battery 2 refers to the Flexible Bay optional second battery). In addition, this symbol states how much charge is available within each installed battery. The symbol will only be displayed for a battery that is currently installed in your LifeBook notebook.

⚠ CAUTION

A shorted battery is damaged and must be replaced.

Critical Point

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

❹ **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 operates whether the power switch is in the On or Off position, and will flash if the battery is too hot or cold to charge.

⚠ CAUTION

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

❺ **DVD/CD-RW Drive Access Indicator ( )**

The DVD/CD-RW Access indicator tells you that the DVD/CD-RW combo drive is being accessed. If the Auto Insert Notification function is active, the indicator will flash periodically when your system is checking the DVD/CD-RW drive. If the Auto Insert Notification function is not active, the indicator will only flash when you access the DVD/CD-RW drive. The default setting is the Auto Insert Notification function active.

❻ **Hard Drive or Removable Media Drive Access Indicator ( )**

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

❼ **PC Card Access Indicator ( )**

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.

❽ **Numeric Lock Indicator ( )**

The Numeric Lock indicator states that the internal keyboard is set in ten-key numeric keypad mode.

❾ **Caps Lock Indicator ( )**

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

❿ **Scroll Lock Indicator ( )**

The Scroll Lock indicator states that your scroll lock is active.

3. Keyboard

Using The Keyboard

Your Fujitsu LifeBook notebook has an integral 83-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.

- Numeric keypad: Your notebook allows certain keys to serve dual purposes, both as standard characters and as numeric and mathematical keys. The ability to tog-gle 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.

❶ **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] keys. 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.

❷ **Windows Keys**

Your LifeBook notebook has two Windows keys, consisting of 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.)

❸ **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 Fn Key Windows.

❹ **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.

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 Quick Point feature on and off. Note that the [Fn+F4] combination only works if Manual Setting is selected in the BIOS. (See "Entering the BIOS Setup Utility")

[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 1280 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 note]book.**

[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.

[Fn+F11]

When a television is connected via the S-Video port, pressing [F11] while holding [Fn] will toggle the display on and off.

* There are eight brightness levels.

** There are 17 audio levels.

4. Quick Point Pointing Device

The Quick Point is built into your LifeBook notebook. It is used to control the movement of the cursor to select items on your display panel. The Quick Point is composed of a cursor control at the center of the keyboard and three buttons on the palm rest of your notebook. The cursor control works the same way a mouse ball does, and moves the cursor around the display. It only requires light pressure with the tip of your finger, and the more pressure you use, the faster the cursor will move. The left button functions the same as a left mouse button while the right button has the same function as a right mouse button. When used with the cursor control, the middle button allows you to scroll up and down a screen. The actual functionality of the buttons may vary depending on the application that is being used.

- **Clicking**

Clicking means pushing and releasing a button. To left-click, move the cursor to the item you wish to select, press the top button once, and then immediately release it. To right-click, move the cursor to the item you wish to select, press the bottom button once, and then immediately release it.

- **Double click**

Double-clicking means pushing and releasing the top button twice in rapid succession. This procedure does not function with the right button. To double-click, move the cursor to the item you wish to select, press and release the top button twice.

● **Dragging**

Dragging means pressing and holding the top button, while moving the cursor. To drag, move the cursor to the item you wish to move. Press and hold the top button while moving the item to its new location and then release it.

Critical Point

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

Quick Point Device Control Adjustment

The Windows Control Panel allows you to customize your Quick Point with selections made from within the Mouse Properties dialog box. There are three aspects of Quick Point operation, which you can adjust:

- Buttons: This tab lets you set up the buttons for right or left handed operation, in addition to setting up the time interval allowed between clicks in double-clicking.
- Pointers: This tab lets you set up the scheme for the cursor depending on its functionality.
- Motion: This tab lets you set up a relation between the speed of your finger motion and the speed of the cursor. It also allows you to enable a Pointer Trail for the cursor arrow.

5. Volume Control

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

Critical Point

- 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 with the [F8] and [F9] functions 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.

Critical Point

- There are seventeen levels through which the function keys cycle.

- Volume can be controlled by many volume controls that are set within individual applications.
- 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.

6. Flexible Bay Devices

Your Fujitsu LifeBook notebook contains a Flexible Bay. The Flexible Bay can accommodate a modular DVD/ CD-ROM combo drive, a modular Lithium ion battery, a modular USB floppy Disk Drive or a weight saver.
The modular DVD/CD-RW combo drive allows you to access movies, software and audio DVD/CDs, as well as the ability to write to CDs.

The modular Lithium ion battery is a rechargeable battery that can be used to power your LifeBook notebook when an adapter is not connected.
The Weight Saver is used to fill the bay when no device is needed.

Removing and Installing Modular Devices

To remove and install modular devices in the Flexible Bay, you can perform either a cold-swapping or hot-swapping of the device. Cold-swapping means swapping devices while your LifeBook notebook is powered off. Hot-swapping occurs when your system is powered on with a charged main battery or AC Adapter. (while the system is in standby or hibernate mode.)

⚠ CAUTION

You should never leave your Flexible Bay empty when the notebook is in operation. If left empty, dust or foreign matter may accumulate inside the notebook.

Cold-swapping
To cold-swap modular devices in your Flexible Bay follow these easy steps:

1 Close any open files.
2 Shut down your LifeBook notebook.
3 Pull out the Flexible Bay eject lever. This will push your device out slightly, allowing you to remove the device.
4 Slide your device out until it is clear of the bay.
This will require light force.

5 Slide the device you are installing into your notebook until it clicks into place.
6 It is now safe to turn your notebook back on.
7 You can now access and use the device.

Your LifeBook notebook will automatically detect the new device and activate it within your system. The drive betters associated with the device will be created and listed under My Computer and Windows Explorer.

⚠ CAUTION

Be careful when aligning and seating devices in the bay. If the fit is incorrect, you may damage the bay or the device. If the device does not move easily in the bay, remove it, and check for dirt or foreign objects. It will require a firm push to latch the device in place.

Hot-swapping

To hot-swap Flexible Bay devices while the system is powered on, follow these steps:

1 Prior to performing the hot-swap, make sure you have a charged main battery installed, or an AC Adapter is powering the system.
2 If your system is in Suspend mode, press the Suspend/Resume button to resume operation.
3 Click the Unplug or Eject Hardware icon (Windows 2000 Professional) or the Safely Remove Hardware icon (Windows XP Home) in the lower right-hand corner of the screen.
4 From the list that appears, click the device you want to remove.
5 Pull out the Flexible Bay eject lever. This will push your device out slightly, allowing you to remove the device.
6 Slide your device out until it is clear of the bay.
This will require light force.
7 Press the Suspend/Resume button so that the computer goes into suspend state.

CAUTION

Be careful when aligning and seating devices in the bay. If the fit is incorrect, you may damage the bay or the device. If the device does not move easily in the bay, remove it, and check for dirt or foreign objects. It will require a firm push to latch the device in place.

8 Slide the device you are installing into your notebook until it clicks into place.
9 It is now safe to turn your notebook back on.
10 You can now access and use the device.

Your LifeBook notebook will automatically detect the new device and activate it within your system. The drive letters associated with the device will be created and listed under My Computer and Windows Explorer.

7. LifeBook Application Panel

One of the unique features of your LifeBook is the LifeBook Application Panel. This panel allows you to launch applications with the touch of a button when your system is actively running or in suspend mode.

Your LifeBook is pre-installed with software utilities that you use to operate and configure your LifeBook Application Panel. These utilities are found in the Start menu, under Settings -> Control Panel -> Application Panel. (For Windows XP users, it's in Start -> Control Panel -> Application Panel.) They include Application Panel Setup, E-mail LED Setup, and Internet Setup. The LifeBook Application Panel makes your LifeBook more than just another notebook computer.
The panel consists of the following elements:

Application Launch Buttons

There are two application launch buttons. When these are selected, user-defined applications will be launched. You can customize these buttons to open whichever applications you want when they are pressed. Note that although there is an Internet Setup tab in the Application Panel Setup window, there is no Internet-assigned button in this LifeBook model.

E-MAIL Notification LED

By setting up the E-mail LED notification in conjunction with your E-mail button setup, you can connect to your ISP, check for and retrieve new mail, terminate connection, and activate the E-mail LED to notify that new mail has arrived.

Critical Point

- The E-mail button can be configured to launch any application you wish, not just an e-mail program.

To use the E-mail LED notification, you must have access to a POP3 Server with no Security Password Authentication. Contact your service provider to determine if they support POP3 without Security Password Authentication.

Desktop Control Panel

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

1 Click on Start.
2 *(Windows 2000 only)* Click on Settings.
3 Click on Control Panel.
4 Click on Application Panel.

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 applications. For a list of the default applications associated with each button.

Critical Point

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

To change an application associated with the Application A, Application B, or E-mail buttons, click on the tab for the button you would like to reconfigure – for example, Application A. Click on 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.

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

Critical Point

- The E-mail button can be configured to launch any application you wish, not just an e-mail program.

Enabling/disabling Application Launcher button
In the center of each application setup page is a Specify the Button Action field. When you click on the drop-down arrow, you are offered two choices: Start a Program, and Never Use a Button. The first will enable the button, and the second will disable the button. You can enable/disable either of these functions simply by clicking on the option.

At the bottom of each setup page are two check boxes:
- Keep this button active even on Standby
- Keep this button active even on Hard Drive Timeout The first will enable/disable the button when your system is in Standby mode, and the second will enable/ disable the button when your hard drive has timed out.

Critical Point

- If you choose to have the buttons work when the note-book is in standby or off, they will function even if hit accidentally. This will turn on your notebook even if you are not present or using your notebook. This could deplete your battery, and you will need to recharge it before using the notebook. As a precaution, close the lid when you are away from your notebook.

Using The E-MAIL Notification LED

Critical Point

- To use the E-mail LED notification, you must have access to a POP3 Server with no Security Password Authentication. Contact your service provider to determine if they support POP3 without Security Password Authentication.

To configure the E-mail Notification LED:

1 Click on Start.
2 *(Windows 2000 only)* Click on Programs.
3 Click on Control Panel.
4 Click on Application Panel.
5 Click on the E-mail tab.
6 The E-mail Setup screen will appear. Click on the E-Mail Account Settings button. The E-Mail Account Settings window appears.

Based upon the configuration of your system and the method you plan to use for connecting, enter the information in the requested fields. If you are unsure of the information requested, click on the field and press the [F1] button. If you are still unsure, consult your Service provider.

After you have filled in the requested information for each of the E-Mail Account Settings tabs, click OK to return to the Application Panel window.

Configure the E-mail button to launch the mail software you want to use (i.e., Outlook Express, Netscape Messenger, etc.) by either browsing to the application using the Browse button, or opening the Start Menu using the Go to Start Menu button.

After the setup (Dial Up Networking/E-mail/E-mail LED) is completed, you are ready to retrieve mail. When you press the E-mail button, your system will establish connection with your provider, check for and retrieve new mails, terminate the connection, and activate the blinking LED to alert you of new mail.

Using The CD Player

Your LifeBook Application Panel utility includes a desktop media player panel. You may use this panel to operate as a CD Player.

To use the desktop CD player panel:

1 Click on Start.
2 Click on Programs.
3 Click on Lifebook Application Panel.
4 Click on CD Player.

The desktop control panel will appear in the upper left corner of your screen.

To close the panel, click on the “x” button.

To minimize the panel, click on the “-” button.

You can select from four appearances for your desktop control panel. Simply double click on the track display area of the panel, and a menu will appear which will allow you to select from a pull down menu. On the same pop-up are three other options: “Always on top”, “Continuous Play”, and “Disable Stop/Eject button for CD removal”. If you click on “Always on top” the desktop controls will always be seen on your screen, no matter what other application you are running.

If you click on “Continuous Play,” your CD Player will automatically start over at the beginning as soon as it finishes the last track.

If you click “Disable Stop/Eject button for CD removal,” the Stop/Eject button on the CD player toolbar is either enabled or disabled.

You can move the desktop control panel to anywhere on your desktop. Drag it by clicking on the display, holding it down, and dragging the control panel. When you have placed it where you would like, release the mouse button.

Critical Point

- If you have your display set to 256K colors the basic display will appear no matter which one you select. You will need to set your display colors to more than 256K in order to select other display appearances.
- When you close the CD Player’s desktop control panel, it will stop the audio CD Player.

System Requirements and Precautions

System Requirements
- Operating System: Microsoft Windows
- Memory: 32MB or more
- Hard drive: 2MB or more free space

Precautions
- LifeBook Application Panel uses the date and time settings of your LifeBook. If the date and time are off, you can adjust this setting in the Windows Control Panel.
- If you insert an audio CD which has both audio and data tracks into the CD Player, the CD Player may fail to play the first audio track.
- The Volume Up, Volume Down and Mute controls for the CD Player desktop control panel adjusts the volume of the CD audio line only. It does not adjust your notebook’s master software volume control or the manual volume on the LifeBook notebook.
- The CD Player desktop control panel is designed to be displayed in High Color (16-bit) or in True Color (24-bit or more). If you have your notebook’s display set for 256 colors or less, the CD Player control panel will display in a “basic” mode.

SECTION 2

1. Power Sources

Your Fujitsu LifeBook notebook has a few possible power sources: a primary Lithium ion battery, an optional high-capacity Lithium ion battery and AC adapter.

Connecting The Power Adapters

The AC 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 LifeBook notebook.
2 Plug the AC adapter into an AC electrical outlet.

Critical Point

- The Lithium ion battery is not charged upon purchase. Initially, you will need to connect the AC adapter to use your notebook.

2. Display Panel

Your Fujitsu 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 Dlisplay Panel

1 Slide the Display Panel latch to the right. 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 LifeBook notebook, you may want to adjust the brightness level of the screen to a more comfortable viewing level. There are two ways to adjust the brightness, by using the keyboard or the power management utility.

Using the Keyboard

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.

Using the Power Management Utility (Windows 2000 only)

Adjusting the brightness using the Power Management changes the setting permanently.

1 Double-click the Battery icon in the lower right corner of your display. This will open the BatteryAid Properties dialog box.

2 Select the Power Control tab and adjust your LCD Backlighting to the desired level.

3 Click **OK** or **Apply** to permanently change the settings.

You may need to readjust the brightness level periodically depending on your operating environment.

Critical Point

- The higher the brightness level, the more power the 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 LifeBook notebook.

2 Push down until you hear a click. This will engage the locking mechanism and prevent your display panel from opening unexpectedly.

3. Starting Your LifeBook Notebook

Power On

Suspend/Resume/Power On button
The Suspend/Resume/Power On 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.

Critical Point

- When you turn on your LifeBook notebook be sure you have a power source. This means that at least one battery is installed and charged, or that the AC adapter is connected and has power.

Press the Suspend/Resume/Power On button, which is located below the display on the right. When you are done working you can either leave your LifeBook notebook in Suspend mode, or you can turn it off.

Critical Point

- 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 Power 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 displayed. 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.

Critical Point

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

Boot Sequence

The procedure for starting-up your notebook is termed the Bootup sequence and involves your notebook's BIOS. When your LifeBook 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 LifeBook 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 LifeBook 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 LifeBook 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.

Booting the System

We strongly recommend that you not attach any external devices and do not put a DVD/CD in your drive 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.
- Registration: Easy online registration for Windows with Microsoft.
- Windows License Agreement and Final Settings:
  You have the opportunity to review the Windows License Agreement.

Critical Point

- You may click Cancel at any time within this process to shut down Windows. You may restart this process at any time in the future, but you must complete it in order to use your computer.

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.

Critical Point

- 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, even if you shut your notebook down and start it up again.

Windows Product Activation (WINDOWS XP only)

After initial startup of the system, you have thirty days to activate your copy of Windows XP. Product activation ensures that your copy of Windows cannot be used on another system.

Until you activate the product, you will be prompted whenever you turn on the system that activation is required. Follow the on-screen directions to activate your operating system. The product only needs to be activated once, unless significant hardware changes are made to your system.

Note that Product Activation and Registration are not the same thing. Registration is optional, whereas Product Activation is a required procedure.

4. Power Management

Your Fujitsu 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, prebundled 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 battery from running down as quickly. For example, you can create an appropriate power saving profile, put your notebook into Suspend 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.

Suspend/Resume Button

When your LifeBook notebook is active, the Suspend/ Resume button can be used to manually put your notebook into Suspend 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 Suspend mode.

If your LifeBook 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 Suspend mode by looking at the Power indicator. 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 Suspend mode. If the indicator is not visible at all, the power is off or your notebook is in Hibernation mode.

Suspend Mode

Suspend or Standby mode in Windows saves the contents of your LifeBook 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 Suspend mode by:

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

Your LifeBook 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 Suspend mode, your notebook will return to the point where it left off. 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.

Critical Point

- If you are running your LifeBook notebook on battery power, be aware that the battery continues to discharge while your notebook is in Suspend mode, though not as fast as when fully operational.
- Disabling the Suspend/Resume button prevents it from being used to put your LifeBook notebook in Suspend or Hibernation mode. The resume function of the button cannot be disabled.
- If your LifeBook notebook is actively accessing information when you enter the Suspend or Hibernation mode, changes to open files are not lost. The files are left open and memory is kept active during Suspend mode or the memory is transferred to the internal hard drive during Hibernation mode.

⚠ CAUTION

- The Suspend or Hibernation mode should not be used with certain PC Cards. Check your PC Card documentation for more information.
- When PC Cards or external devices are in use, Hibernation mode cannot return to the exact state prior to suspension, because all of the peripheral devices will be reinitialized when the system restarts.

Hibernation Feature

The Hibernation feature saves the contents of your LifeBook notebook's system memory to the hard drive as a part of the Suspend/Resume mode. You can enable or disable this feature.

Enable or Disable the Hibernation Feature
The default settings is not enabled. To enable or disable the Hibernation feature follow these easy steps:

1 From the **Start** menu, select **Settings**, and then select **Control Panel**.
2 From the **Control Panel** select **Power Options**.
3 Select the **Hibernation** tab. Select the box to enable or disable this feature.

Using the Hibernation Feature

1 From the **Start** menu, select **Settings**, and then select **Control Panel**.
2 From the **Control Panel** select **Power Options**.
3 Select the **Advanced** tab. Select **Hibernate** from the pull down menu for Power buttons.

Display Timeout

The Video Timeout is one of the power management parameters. 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 and BIOS setup utility.

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.

Windows Power Management

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.

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 **Shut Down**.
2 Select the **Restart** option from within the Windows Shut Down dialog box.
3 Click **OK** to restart your notebook. Your notebook will shut down and then reboot.

Critical Point

- 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, check that the Hard Drive, DVD, CD-ROM, CD-RW, PC Card and the Floppy Disk Drive Access indicators are all Off. 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.

⚠ CAUTION

Be sure to close all files, exit all applications, and shut down your operating system prior to turning off the power with the power switch. 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 **Shut Down**.
2 Select the **Shut Down** option from within the Windows Shut Down dialog box.
3 Click **OK** to shut down your notebook.
4 Move the power switch to the off position.

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

5. Lithium ion Battery

Your Fujitsu 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 exceeds a low of 5°C (41°F) or a high of 35°C (95°F). 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.
- When using a high current device such as a modem, DVD/CD-RW drive, or the hard drive, using the AC adapter will conserve your battery life.

Critical Point

- Actual battery life will vary based on screen brightness, applications, features, power management settings, battery condition and other customer preferences.DVD, CD-RW, CD-ROM, 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.

⚠ CAUTION

Do not leave a faulty battery in your LifeBook notebook. It may damage your AC adapter or your notebook itself. It may also prevent operation of your notebook by draining all available current into the bad battery.

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. To recharge the battery make sure the battery that needs to be charged is installed in your LifeBook notebook and connect the AC adapter.

Critical Point

- 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 Suspend mode, or turn it off while the adapter is charging the battery.

CAUTION

Using heavy current devices such as Modem or frequent DVD/CD-RW/CD-ROM accesses may prevent charging completely.

Low Battery State

When the battery is running low, a low battery notification message will appear. If you do not respond to the low battery message, the batteries will continue to discharge until they are too low to operate. When this happens, your notebook will go into Suspend mode.
There is no guarantee that your data will be saved once the notebook reaches this point.

CAUTION

- Once the low battery notification message appears, you need to save all your active data and put your LifeBook notebook into Suspend mode until you can provide a new power source. You should provide a charged battery use an AC power adapter as soon as possible.

- When you are in Suspend mode there must always be at least one power source active. If you turn off the power with the power switch, or remove all power sources while your LifeBook notebook is in Suspend 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 Suspend 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. 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 LifeBook notebook.

Replacing the Battery

With the purchase of an additional battery, you can have a fully charged spare to swap with one that is not charged. There are two ways to swap batteries, colds-wapping and warm-swapping:

Cold-swapping Batteries
To cold-swap batteries in your battery bay follow these easy steps:

1 Have a charged battery ready to install.
2 Shut down your notebook and disconnect the AC adapter.
3 Slide the battery bay release buttons to open the bay.
4 Remove the battery from the bay.
5 Slide the new battery into the bay.
6 Close the bay and slide the battery bay release button back.
7 Plug in the AC adapter and turn the power on.

Warm-swapping Batteries
To warm-swap batteries in your battery bay follow these easy steps:

1 Close any open files.
2 Put your notebook into suspend mode
3 Plug in an AC Adapter to ensure power is supplied to the system, or install a fully charged modular battery in the Flexible Bay.
4 Slide the battery bay release buttons to open the bay.
5 Remove the battery from the bay.
6 Slide the new battery into the bay.
7 Close the bay and slide the battery bay release button back.
8 Press the Suspend/Resume button to return your notebook to normal operation.

Critical Point

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

6. DVD/CD-RW Combo Drive

Your Fujitsu LifeBook notebook may contain a DVD/CD-RW combo drive. A DVD player gives you access to movie, software, and audio DVD/CDs. A CD-RW player allows you to access software or audio CDs, and to write data onto recordable CDs.

DVD/CD-RW Combo Drive Software

With the DVD/CD-RW drive and DVD/CD-RW drive software you can play DVD movies on your notebook.
The DVD/CD-RW includes controls which allow you to take full advantage of the features of a DVD movie, as well as standard features such as fast forward, fast reverse, pause, etc. With the CD-RW drive, you can read audio CDs, and write data onto a recordable CD-R or CD-RW disc.

Critical Point

- **Prior to using your DVD/CD-RW Combo Drive, you must install the DVD/CD-RW drive software.** Refer to the applicable readme file on the Applications CD-ROM for instructions on installing you DVD/CD-RW Combo Drive software.

⚠ CAUTION

Do not operate your DVD/CD-RW drive unless your LifeBook notebook is sitting on a flat surface. Using a drive when the system is not level may damage the drive or prevent proper operation.

Critical Point

- Prolonged use of the DVD/CD-RW drive, such as watching a DVD movie, will substantially reduce your battery life.

Loading a DVD, CD, CD-R, or CD-RW (“MEDIA”)

To load a disc into your DVD/CD-RW drive, follow these steps:

1 Push and release the eject button on the front of the DVD/CD-RW drive to open the holder tray. The tray will come out of the notebook a short distance.
2 Gently pull the tray out until a media disc can easily be placed in the tray.

CAUTION

There may be a protective sheet in the tray from when it was shipped; make sure it is removed before operating the drive, otherwise you may damage the drive.

3 Place the media into the tray, label side up, with the hole in the center of the disc. Snap the disc onto the raised circle in the center of the tray.
4 Gently push the holder tray back in until you hear a click.

Critical Point

- If you have disabled the Auto Insert Notification Function, you will have to start the drive from your desktop, since your notebook will not automatically recognize that media has been loaded.

Removing Media

1 Push and release the eject button on the front of the DVD/CD-RW drive. This will stop the drive and the holder tray will come out of the notebook a short distance.
2 Gently pull the tray out until the disc can easily be removed from the tray.
3 Carefully remove the media disc from the holder tray.
4 Gently push the holder tray back in until you hear a click.

Using the DVD/CD-RW Drive Software

Critical Point

- **Prior to using your DVD/CD-RW Combo Drive, you must install the DVD/CD-RW drive software.** Refer to the applicable readme file on the Applications CD-ROM for instructions on installing you DVD/CD-RW Combo Drive software.
- For details on using your DVD/CD-RW drive, refer to the Help file that comes with the application.

Starting a DVD Movie

1 Insert the DVD movie into the DVD/CD-RW drive of your notebook. If the CD AutoRun feature activates, skip Step 2.

2a *Windows 2000 only*: From the **Start** menu, select **Programs**, then select **InterVideo WINDVD** and click **InterVideo WINDVD** or double-click on the **InterVideo WINDVD** icon on the desktop. This will launch the DVD movie.

2b *Windows XP Home only*: The first time you insert a movie into the DVD/CD-RW tray, you will be prompted to select what you want the system to do when discs are inserted (e.g., start automatically or wait for a prompt). Until you make a selection, you will receive the same prompt whenever you insert a disc.

3 Click **OK** to close the About DVD Player Performance dialog box and the movie will begin.

Opening the DVD/CD-RW Drive Control Panel

With most DVD-ROMs, you have the option of altering how the movie should play and what you wish to view.

You can do this by using the DVD/CD-RW Combo Drive control panel and the mouse.

1 Right-click on the movie screen to open a dropdown menu for options.
2 Select **View**, then **Player** for all the controls available. This will open the control panel into the bottom of the screen.

Using the DVD/CD-RW Drive Control Panel
The DVD/CD-RW Combo Drive software allows you to watch the movie much like a VCR player. You have the option to pause, rewind, fast-forward and stop the movie at any point.

1 To Pause the movie, click the ❚❚ button.
2 To Rewind the movie, click the ◄◄ button to rewind to a specific portion of the movie, or the ❙◄◄ button to return to the opening screen.
3 To Fast-forward the movie, click the ►► button to forward to a specific portion of the movie, or the ►►❙ button to jump to the ending credits.
4 To Stop the movie, click the ■ button.

Exiting the DVD/CD-RW Application
1 Click on the × located in the upper right corner of the title bar. This will open a DVD/CD-RW drive dialog box.
2 Click Yes to stop and exit the movie, or No to close the DVD/CD-RW drive dialog box and return to the movie.

Using the DVD/CD-RW Drive on Battery Power

Since a DVD/CD-RW drive consumes a lot of power, your overall battery life will be shorter when operating the drive continuously (such as watching a DVD movie) than during standard operation. Many movies run-times are longer than your LifeBook notebook can support on a single battery. If you are watching a DVD movie on battery power you may need to swap in an additional, charged battery or attach AC power during the movie to view it in its entirety.

Critical Point

- Prolonged use of the DVD/CD-RW drive, such as when watching a DVD movie, will substantially reduce your notebook's battery life. Many movie run-times are longer than your system can support on a single battery. If you are watching a DVD movie on battery power you may need to swap in an additional, charged battery or attach AC power during the movie to view it in its entirety.
- An additional fullycharged battery is highly recommended if you will be watching DVD movies on battery power. If you don't have an additional battery, you may purchase one.

To Watch a Movie on Battery Power:

1 Have an additional full-charged battery or your AC adapter ready for use.
2 Start watching your DVD movie.
3 When the low battery warning occurs, immediately stop the movie and exit the DVD/CD-RW drive.

⚠ CAUTION

If you do not stop the DVD/CD-RW drive quickly and the LifeBook notebook attempts to auto-suspend (critical battery low state) the notebook will shut down improperly. If this occurs, you will need to install a fresh power source (either a battery or AC Adapter).

4 Connect an AC Adapter to your system, or install a fully charged battery in the Flexible Bay prior to removing the main battery.
5. Manually place your notebook into suspend mode by depressing the Suspend button and replace the discharged battery with an additional fully-charged battery.
6 Resume your notebook by pressing the Suspend button again. This step is not required if you attached AC power without entering suspend mode.
7 Restart your DVD/CD-RW drive, locate and skip to the chapter of the movie you were last watching.
8 Continue watching your DVD movie.

Critical Point

- Some shorter DVD movies may not require you to swap batteries or attach AC power to complete them.
  However, it is best to be prepared since actual battery life while operating the DVD/CD-RW drive cannot be guaranteed.

Auto Insert Notification Function

The Auto Insert Notification function allows your LifeBook notebook to automatically start a DVD/CD as soon as it is inserted in the DVD/CD-RW drive and the tray is closed. Your notebook will begin playing an audio DVD/ CD or will start an application if the DVD/CD includes an auto run file.

To prevent a CD from playing automatically as soon as it is inserted, refer to the related help file for your specific operating system.

7. PC Cards

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

Some available PC Cards:

- Fax/data modem cards
- Local area network (LAN) cards
- SCSI cards
- Wireless LAN (802.11b) cards
- Other PC Cards that conform to PCMCIA 2.1 or CardBus standards

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:

⚠ WARNINGS

- Installing or removing a PC Card during your LifeBook 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 LifeBook 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. You will hear a click and the Eject button will pop away from your notebook.

Removing PC Cards

To remove a PC Card, follow these easy steps:

⚠ CAUTION

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

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

Critical Point

- 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. Once your notebook has been shut down, you must turn Off the power using the power switch.

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

⚠ CAUTION

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

8. Memory Upgrade Module

Your Fujitsu LifeBook notebook comes with 256 MB of on-board high speed Synchronous Dynamic RAM (SDRAM) factory installed. To increase your LifeBook notebook's memory capacity, you may install an additional of 128 MB memory upgrade module. The memory upgrade must be Micro dual-in-line (uDIMM) SDRAM module. To ensure 100% compatibility, purchase the SDRAM module only from Fujitsu.

CAUTION

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

Installing a Memory Upgrade Module

To install a memory upgrade module follow these steps:

WARNING

You must turn off power and remove any modem connection before installing the memory upgrade module.

1 Turn off power to your LifeBook notebook, and remove any power adapter, battery pack, and modem connection.
2 Place your LifeBook notebook with the bottom facing up on a clean work surface.
3 Using a Phillips screwdriver, remove the screw from the hole indicated.

4 Turn the system over and open the top cover all the way, so that it is lying flat on the work surface.

5 Pry the spacer panel in front of the keyboard away from the system.

6 Slide the keyboard forward slightly until it disengages and can be lifted freely.

⚠ CAUTION

Be very careful when pivoting the keyboard below. The keyboard is connected with fragile flat cables.

7 Carefully pivot the front of the keyboard away from the laptop until it is lying on the display.

8 Align the connector edge of the memory upgrade module, chip side up, with the connector slot in the compartment.

9 Insert the memory upgrade module at a 45° angle and press it firmly onto the connector.

10 Press the memory upgrade module down into the compartment until it locks underneath the retaining clip. You will hear a click when it is properly in place.

11 Carefully flip the keyboard back into its original position, and slide it towards the front of the unit until it is seated.

12 Replace the spacer panel you removed in step 4.
Installation of the new memory module is now complete.

13 Replace the screw you removed in step 3.

Critical Point

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

Removing a Memory Upgrade Module

1 Perform steps 1 through 7 of Installing a Memory Upgrade Module.

2 Pull the clips sideways away from each side of the memory upgrade module at the same time.

3 While holding the clips out, remove the module from the slot by lifting it up and pulling towards the back of your LifeBook notebook.

4 Store the memory upgrade module in a static guarded sleeve.

5 Replace the keyboard by following steps 10 and 11 of Installing a Memory Upgrade Module.

Checking the Computer Recognition of New Memory Capacity

Once you have changed the system memory capacity by either adding or removing a memory upgrade module, be sure to check that your LifeBook 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 LifeBook notebook using the power switch.
2 Allow the system to start booting and press the F2 key once the Fujitsu logo appears on the screen. This will open the main menu of the BIOS setup with the current settings displayed. Use the right arrow key to select **Info** in the BIOS Setup menu.

The System Memory and the Extended Memory capacity, as detected by your LifeBook notebook during the Power On Self Test (POST), are displayed at the bottom of the Info menu screen. The chart below shows you the possible displays that can be shown on the main menu screen.

Critical Point

- 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 the Troubleshooting section.)

Installed			Displayed	
On Board	**Slot 1**	**Total RAM Installed**	**System Memory**	**Extended Memory***
256MB	0	256MB	640K	240MB
256MB	128MB	384MB	640K	368MB

* Transmeta CPU uses 16MB of RAM for Code Morphing Software (CMS). For more information on CMS, click on the Technology link on the refer to the Transmeta web site at: www.transmeta.com.

9. Device Ports

Your Fujitsu LifeBook notebook comes equipped with multiple ports to which you can connect external devices including: disk drives, keyboards, modems, printers, etc.

Modem (RJ-11) Telephone Jack

The modem (RJ-11) telephone jack is used for an internal modem. To connect the telephone cable follow these easy steps:

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

The modem sound is deactivated by default, to activate modem sound follow these easy steps:

1 Right click on the Speaker icon in your system tray.
2 Select **Open Volume**.
3 Select **Option**/**Properties**.
4 Under “Show the following volume controls”, click on **Phone** and click **OK**.
5 Uncheck the Mute box under Phone Balance.

WARNING

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 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 easy steps:

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

IEEE 1394 Jack

The 1394 port allows you to connect devices that are compliant with IEEE standard 1394. This port is effectively a very fast communications port. In order to connect a 1394 device, follow these steps:

1 Align the connector with the port opening.

2 Push the connector into the port until it is seated.

* Some digital devices - such as digital cameras use IEEE 1394 ports for fast transfer of digital files and data.

S-Video Out Port

The S-Video port allows you to connect and use directly any S-Video device, such as a VCR or television. The S-Video standard provides for a higher quality picture than NTSC or PAL. In order to connect an S-Video device, follow these easy steps:

1 Align the connector with the port opening.

2 Push the connector into the port until it is seated.

When S-Video is connected, you can toggle the S-Video device on and off by pressing the [F11] key while holding down the [Fn] key.

Universal Serial Bus Ports

The Universal Serial Bus ports (USB) allow you to connect USB devices such as external game pads, pointing devices, keyboards and/or speakers. In order to connect a USB device follow these easy steps:

1 Align the connector with the port opening.

2 Push the connector into the port until it is seated.

Headphone Jack

The headphone jack allows you to connect 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:

1 Align the connector with the port opening.

2 Push the connector into the port until it is seated.

Critical Point

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

Microphone Jack

The microphone jack allows you to connect an external mono 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:

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

Mini-VGA Port

The mini-VGA port allows you to connect an external monitor. In order to connect an external monitor follow these easy steps:

1 Take the mini-VGA cable out of the accessory package that came with your system.
2 Align the connector with the port opening.
3 Push the connector into the port until it is seated.

Critical Point

- 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.

Optical Digital Audio-Out Connector

The optical digital audio-out connector allows you to download digital audio to MiniDisc recorders. It uses SPDIF (Sony Philips Digital Interface) format. Use the following setting when using the digital audio-out connector.

Critical Point

- Before using the SPDIF function, make sure that WinDVD software is installed on your system.
- Certain older CDs and DVDs will not work in conjunction with the SPDIF connector.

1 Connect the MiniDisc recorder or external speaker to the Optical Digital Audio-Out Connector.

2 Insert the disk you want to play in the DVD/CD-RW tray.

3 Click on **Start** —> **Programs** —> **InterVideo WinDVD.** (In Windows XP systems, you can go directly from **Start** to **InterVideo WinDVD.**)

4 When the WinDVD interface appears, click on the Properties icon in the bottom of the display (it looks like a wrench).

5 Click on the Audio tab and select Enable S/PDIF output.

6 Click on the Apply button.

⚠ WARNING

Do not look into the connector. There may be a beam coming out from the SPDIF connector, so do not look into the connector when inserting the cable, or you can damage your eyesight.

Critical Point

- The frequency of the digital sound output from the SPDIF output connector is fixed to 48KHz. If a sampling rate convertor is not installed in your connecting digital electronic device (e.g., MD player), recording is not possible. Please see the user manuals for the electronic devices for further details.
- The sound recorded through connecting a digital electronic device (e.g., MD player) to the SPDIF output connector cannot be used as digital output.
  All output data from the SPDIF output connector has copyright protection information included.
- Please be careful, as there are several types of cables for connecting a digital electronic device (e.g., MD player) to the digital audio-out connector, depending on the connector type. The connector on your computer is an Optical Mini Plug (3.5mm diameter mini plug)

SECTION 3

1. Troubleshooting

Your Fujitsu LifeBook notebook is sturdy and subject to few problems in the field. However, you may encounter simple setup or operating problems that you can solve on the spot, or problems with peripheral devices, that you can solve by replacing the device. The information in this section helps you isolate and resolve some of these straightforward problems and identify failures that require service.

Identifying the Problem

If you encounter a problem, go through the following procedure before pursuing complex troubleshooting:

1 Turn off your LifeBook notebook.
2 Make sure the AC adapter is plugged into your notebook and to an active AC power source.
3 Make sure that any card installed in the PC Card slot is seated properly. You can also remove the card from the slot, thus eliminating it as a possible cause of failure.
4 Make sure that any devices connected to the external connectors are plugged in properly. You can also disconnect such devices, thus eliminating them as possible causes of failure.
5 Turn on your notebook. Make sure it has been off at least 10 seconds before you turn it back on.
6 Go through the boot sequence.
7 If the problem has not been resolved, refer to the Troubleshooting Table, that follows, for more detailed troubleshooting information.

Specific Problems

Using the Troubleshooting Table
When you have problems with your LifeBook notebook, try to find the symptoms under the Problem column of the troubleshooting table for the feature giving you difficulty. You will find a description of common causes for that symptom under the column Possible Cause and what, if anything, you can do to correct the condition under Possible Solutions. All possible causes or solutions may not apply to your notebook.

Troubleshooting Table

Problem	Page
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Power Failures	page 64
Shutdown and Startup Problems	page 66
Video Problems	page 67
Miscellaneous Problems	page 69

Problem	Possible Cause	Possible Solutions
Audio Problems		
There is no sound coming from the built-in speakers.	The volume is turned too low.	Adjust the volume control on your notebook.
	The software volume control is set too low.	Adjust the sound volume control settings in your software, operating system and applications.
	Headphones are plugged into your notebook.	Plugging in headphones disables the built-in speakers, remove the headphones.
	BIOS audio settings are incorrect.	Set the BIOS setup utility to the default values within the Multimedia Device Configuration menu.
	Software driver is not configured correctly.	Refer to your application and operating system documentation for help.
DVD/CD-RW Drive Problems		
LifeBook notebook fails to recognize DVD/CD-RW drive	Protective sheet is still in the DVD/CD-RW drive tray.	Replace DVD/CD-RW disc in tray.
	DVD/CD-RW disc is not pushed down onto raised center circle of the drive.	Open DVD/CD-RW tray and re-install DVD/CD-RW disc properly.
	DVD/CD-RW drive tray is not latched shut.	Push on the front of the DVD/CD-RW drive tray until it latches.
	Incorrect DVD Player or no DVD Player software is installed.	Install DVD Player software.
	Wrong drive designator was used for DVD/CD-RW drive in the application.	Verify the drive designator used by the application is the same as the one used by the operating system. When the operating system is booted from a DVD/ CD, drive designations are automatically adjusted.
	Windows DVD/CD-RW auto insertion function is disabled.	Start the DVD/CD-RW drive from the desktop or application software or re-enable the Windows DVD/CD-RW auto insertion function.
	DVD/CD-RW disc is dirty or defective.	Wipe disc with a non-abrasive CD cleaning cloth and reinsert. If it still will not work try another disc in the drive.

Problem	Possible Cause	Possible Solutions
The DVD/CD-RW Access indicator on the Status Indicator Panel blinks at regular intervals when no DVD/CD-RW disc is in the tray or the drive is not installed.	The Windows DVD/CD-RW auto insertion function is active and is checking to see if a DVD/CD-RW disc is ready to run.	This is normal. However, you may disable this feature.
Floppy Disk Drive Problems		
You cannot access your floppy disk.	You tried to write to a write protected floppy disk.	Eject the floppy disk and set it to write enable.
	Floppy disk is not loaded correctly.	Eject floppy disk, check orientation and re-insert.
	BIOS setup utility states `Diskette Controller: Disabled.`	Revise the setup utility Main menu settings to enable Diskette Controller.
	The floppy disk drive may not be properly installed.	Remove and re-install your floppy disk drive.
	Security is set to protect access to floppy disk data.	Verify your password and security settings.
Hard Drive Problems		
You cannot access your hard drive.	The setup utility is incorrectly set for your internal (Primary Master) or optional second hard drive (Primary Slave).	Revise BIOS settings to set both Primary Master and Primary Slave correctly.
	The wrong drive designator was used by an application when a bootable CD-ROM was used to start the notebook.	Verify drive designator used by application is in use by the operating system. When the operating system is booted from a CD, drive designations are automatically adjusted.
	Security is set so your operating system cannot be started without a password.	Verify your password and security settings.
Keyboard or Mouse Problems		
The built-in keyboard does not seem to work.	The notebook has gone into Suspend mode.	Push the **Suspend**/**Resume**/**Power On** button.
	Your application has locked out your keyboard.	Try to use your integrated pointing device to restart your system. If this fails, turn your notebook off using the Power Off button located on the back of the system. Wait 10 seconds or more, and then turn the system back on.
You have installed an external keyboard or mouse, and it does not seem to work.	Your external device is not properly installed.	Re-install your device.
	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.

Problem	Possible Cause	Possible Solutions
You have connected an external keyboard or a mouse and it seems to be locking up the system.	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.
	Your system has crashed.	Try to restart your notebook. If that fails, turn off the power using the Power Off button located on the back of the system. Wait 10 seconds or more, and then turn the system back on.
When the system is slightly inclined and the QuickPoint device has been worked with slowly for several seconds, the cursor slowly moves across the screen when you are not using it.	This happens due to the design specifications of the Quick Point device.	If this occurs, wait until the cursor stops moving; it should then work properly.
Memory Problems		
Your Power On screen, or Main menu of the BIOS setup utility information, does not show the correct amount of installed memory.	Your memory upgrade module is not properly installed.	Remove and re-install your memory upgrade module.
	You have a memory failure.	Check for Power On Self Test (POST) messages.
Modem Problems		
Messages about modem operation.	Messages about modem operation are generated by whichever modem application is in use.	See your application software documentation for additional information.
USB Device Problems		
You have installed a USB device but your LifeBook notebook does not recognize the device, or the device does not seem to work properly.	The device is not properly installed.	Remove and re-install the device.
	The device may have been installed while an application was running, so your notebook is not aware of its installation.	Close the application and restart your notebook.
	Your software may not have the correct software driver active.	See your software documentation and activate the correct driver.
	You may have the wrong I/O address selected for your device.	See your device documentation and software documentation to determine the required I/O address. Change the settings in the BIOS setup utility.
	Your device and another device are assigned the same I/O address.	Check all I/O addresses located within the BIOS setup utility and any other installed hardware or software to make sure there are no duplications.

Problem	Possible Cause	Possible Solutions
PC Card Problems		
A card inserted in the PC Card slot does not work or is locking up the system.	The card is not properly installed.	Remove and re-install the card.
	The card may have been installed while an application was running, so your notebook is not aware of its installation.	Close the application and restart your notebook.
	Your software may not have the correct software driver active.	See your software documentation and activate the correct driver.
	You may have the wrong I/O address selected for your PC Card device.	See your PC Card documentation to determine the required I/O address. Change the settings in the BIOS.
	Your PC Card device and another device are assigned the same I/O address.	Check all I/O addresses located within the BIOS setup utility and any other installed hardware or software to make sure there are no duplications.
Power Failures		
You turn on your LifeBook notebook and nothing seems to happen.	The installed primary battery is completely discharged, there is no optional second battery installed or there is no Power adapter installed.	Check the Status Indicator Panel to determine the presence and condition of the batteries. Install a charged battery or a Power adapter.
	The primary battery is installed but is faulty.	Use the Status Indicator panel to verify the presence and condition of the batteries. If a battery is indicating a short, remove that battery and operate from another power source or replace that battery.
	The battery or batteries are low.	Check the Status Indicator Panel to determine the presence and condition of the batteries. Use a Power adapter to operate until a battery is charged or install a charged battery.
	The power adapter is not plugged in properly.	Verify that your adapter is connected correctly.
	The Power adapter has no power from the AC outlet.	Move the AC cord to a different outlet, check for a line switch or tripped circuit breaker for the AC outlet.
	The Power adapter is faulty.	Try a different Power adapter or install a charged optional second battery.

Problem	Possible Cause	Possible Solutions
Your LifeBook notebook turns off all by itself.	The power management parameters are set for auto timeouts which are too short for your operating needs.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/Resume button. Check your power management settings, or close your applications and go to the Power Savings menu of the setup utility to adjust the timeout values to better suit your operation needs.
	You are operating on battery power only and have ignored a low battery alarm until the batteries are all at the dead battery state and your machine has gone into Dead Battery Suspend mode.	Install a power adapter and then push the Suspend/Resume button.
	You have a battery failure.	Verify the condition of the batteries using the Status Indicator panel, and replace or remove any batteries that are shorted.
	Your power adapter has failed or lost its power source.	Make sure the adapter is plugged in and the outlet has power.
Your LifeBook notebook will not work on battery alone.	The installed batteries are dead.	Replace the battery with a charged one or install a Power adapter.
	No batteries are installed.	Install a charged battery.
	The batteries are improperly installed.	Verify that the batteries are properly connected by re-installing them.
	Your installed batteries are faulty.	Verify the condition of the batteries using the Status Indicator panel and replace or remove any batteries that are shorted.

Problem	Possible Cause	Possible Solutions
The batteries seem to discharge too quickly.	You are running an application that uses a great deal of power due to frequent hard drive access or DVD/CD-RW drive access, use of a modem card or a LAN PC card.	Use both the primary battery and an optional second battery and/or use a power adapter for this application when at all possible.
	The power savings features may be disabled.	Check the power management and/or setup utility settings in the Power Savings menu and adjust according to your operating needs.
	The brightness is turned all the way up.	Turn down the brightness adjustment. The higher the brightness the more power your display uses.
	The batteries are very old.	Replace the batteries.
	The batteries have been exposed to high temperatures.	Replace the batteries.
	The batteries are too hot or too cold.	Restore the notebook to normal operating temperature. The Charging icon on the Status Indicator panel will flash when the battery is outside its operating range.
Shutdown and Startup Problems		
The Suspend/Resume/ Power On button does not work.	The Suspend/Resume/Power On button is disabled from the Advanced submenu of the Power menu of the setup utility.	Enable the button from the setup utility.
	You did not hold the button in long enough.	Hold the button longer. This may need to be a few seconds if your application is preventing the CPU from checking for button pushes.
	There may be a conflict with the application software.	Close all applications and try the button again.
The system powers up, and displays power on information, but fails to load the operating system.	The boot sequence settings of the setup utility are not compatible with your configuration.	Set the operating source by pressing the [ESC] key while the Fujitsu logo is on screen or use the [F2] key and enter the setup utility and adjust the source settings from the Boot menu.
	You have a secured system requiring a password to load your operating system.	Make sure you have the right password. Enter the setup utility and verify the Security settings and modify them as accordingly.
	Internal hard drive was not detected.	Use the BIOS setup utility or Primary Master submenu, located within the Main menu, to try to auto detect the internal hard drive.
An error message is displayed on the screen during the notebook (boot) sequence.	Power On Self Test (POST) has detected a problem.	See the Power On Self Test (POST) messages to determine the meaning and severity of the problem. Not all messages are errors; some are simply status indicators.

Problem	Possible Cause	Possible Solutions
Your notebook appears to change setup parameters when you start it.	BIOS setup changes were not saved when you made them and exited the BIOS setup utility returning it to previous settings.	Make sure you select **Save Changes And Exit** when exiting the BIOS setup utility.
	The BIOS CMOS hold-up battery has failed.	Contact you support representative for repairs. This is not a user serviceable part.
Video Problems		
The built-in display is blank when you turn on your LifeBook notebook.	Something is pushing on the Closed Cover switch.	Clear the Closed Cover switch.
	The notebook is set for an external monitor only.	Pressing [F10] while holding down the [Fn] key 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 only, external monitor only, both built-in display and external monitor.
The built-in display is blank when you turn on your LifeBook notebook. (continued)	The angle of the display and the brightness settings are not adequate for your lighting conditions.	Move the display and the brightness control until you have adequate visibility.
	The power management timeouts may be set for very short intervals and you failed to notice the display come on and go off again.	Press any button the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/ Resume button. (The display may be shut off by Standby mode, Auto Suspend or Video Timeout)
	The notebook is set for S-Video display only.	While holding down the [Fn] key, click on the [F11] key to toggle the S-Video display off.
The LifeBook notebook turned on with a series of beeps and your built-in display is blank.	Power On Self Test (POST) has detected a failure which does not allow the display to operate.	Contact your support representative.

Problem	Possible Cause	Possible Solutions
The display goes blank by itself after you have been using it.	The notebook has gone into Video timeout, Standby mode, Suspend mode or Hibernation mode because you have not used it for a period of time.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/Resume button. Check your power management settings, or close your applications and go to the Power Savings menu of the setup utility to adjust the timeout values to better suit your operation needs.
	Something is pushing on the Closed Cover switch.	Check the Closed Cover switch.
	The power management timeouts may be set for very short intervals and you failed to notice the display come on and go off again.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/ Resume button. (The display may be shut off by Standby Mode, Auto Suspend or Video Timeout)
The Built-in Display does not close.	A foreign object, such as a paper clip, is stuck between the display and the keyboard.	Remove all foreign objects from the keyboard.
The Built-in Display has bright or dark spots.	If the spots are very tiny and few in number, this is normal for a large LCD display.	This is normal; do nothing.
	If the spots are numerous or large enough to interfere with your operation needs.	Display is faulty; contact your support representative.
The application display uses only a portion of your screen and is surrounded by a dark frame.	You are running an application that does not support 800 × 600/1024 × 768 pixel resolution display and display compression is enabled.	Display compression gives a clearer but smaller display for applications that do not support 800 × 600/1024 × 768 pixel resolution. You can fill the screen but have less resolution by changing your display compression setting, (See the Video Features submenu, located within the Advanced menu of the BIOS.)
The Display is dark when on battery power.	The default is set on low brightness to conserve power.	Press [Fn] + [F7] to increase brightness and adjust Power Control under battery settings.
You have connected an external monitor and it does not display any information.	Your BIOS setup is not set to enable your external monitor.	Try toggling the video destination by pressing [Fn] and [F10] together, or check your BIOS setup and enable your external monitor. (See the Video Features submenu, located within the Advanced Menu of the BIOS.)
	Your external monitor is not properly installed.	Reinstall your device.
	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.

Problem	Possible Cause	Possible Solutions
You have connected an external monitor and it does not come on.	Your external monitor is not compatible with your LifeBook notebook.	See your monitor documentation and the External Monitor Support portions of the Specifications section.
Miscellaneous Problems		
An error message is displayed on the screen during the operation of an application.	Application software often has its own set of error message displays.	See your application manual and help displays screens for more information. Not all messages are errors some may simply be status.

Power On Self Test Messages

The following is an alphabetic list of error-and-status messages that the Phoenix BIOS and/or your operating system can generate and an explanation of each message. Error messages are marked with an *. If an error message is displayed that is not in this list, write it down and check your operating system documentation both on screen and in the manual. If you can find no reference to the message and its meaning is not clear, contact your support representative for assistance.

nnnn Cache SRAM Passed
Where nnnn is the amount of system cache in kilobytes successfully tested by the Power On Self Test. (This can only appear if you have an SRAM PC Card installed.)

***Diskette drive A error or Diskette drive B error**
Drive A: or B: is present but fails the BIOS Power On Self Test diskette tests. Check to see that the drive is defined with the proper diskette type in the Setup Utility, and that the diskette drive is installed correctly. If the disk drive is properly defined and installed, avoid using it and contact your support representative.

***Extended RAM Failed at offset: nnnn**
Extended memory not working or not configured properly. If you have an installed memory upgrade module, verify that the module is properly installed. If it is properly installed, you may want to check your Windows Setup to be sure it is not using unavailable memory until you can contact your support representative.

nnnn Extended RAM Passed
Where nnnn is the amount of memory in kilobytes successfully tested.

***Failing Bits: nnnn The hex number nnnn**
This is a map of the bits at the memory address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit. This is a serious fault that may cause you to lose data if you continue. Contact your support representative.
*Fixed Disk × Failure or Fixed Disk Controller

Failure (where × = 1-4)
The fixed disk is not working or not configured properly. This may mean that the hard drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to check for the hard drive type settings and correct them if necessary. If the settings are OK and the message appears when you restart the system, there may be a serious fault which might cause you to lose data if you continue. Contact your support representative.

***Incorrect Drive A type–run SETUP**
Type of floppy drive A: not correctly identified in Setup. This means that the floppy disk drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to correct the inconsistency.

***Incorrect Drive B type–run SETUP**
Type of floppy drive B: not correctly identified in Setup. This means that the floppy disk drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to correct the inconsistency.

***Invalid NVRAM media type**
Problem with NVRAM access. In the unlikely case that you see this message you may have some display problems. You can continue operating but should contact your support representative for more information.

***Keyboard controller error**
The keyboard controller test failed. You may have to replace your keyboard or keyboard controller but may be able to use an external keyboard until then. Contact your support representative.

***Keyboard error**
Keyboard not working. You may have to replace your keyboard or keyboard controller but may be able to use an external keyboard until then. Contact your support representative.

***Keyboard error nn**
BIOS discovered a stuck key and displays the scan code for the stuck key. You may have to replace your keyboard but may be able to use an external keyboard until then.
Contact your support representative.

***Monitor type does not match CMOS–Run SETUP**
Monitor type not correctly identified in Setup. This error probably means your BIOS is corrupted, run the setup utility and set all settings to the default conditions. If you still get this error, contact your support representative.

***Operating system not found**
Operating system cannot be located on either drive A: or drive C: Enter the setup utility and see if both the fixed disk, and drive A: are properly identified and that the boot sequence is set correctly. Unless you have changed your installation greatly, the operating system should be on drive C:. If the setup utility is correctly set, your hard drive may be corrupted and your system may have to be reinstalled from your back up media.

***Parity Check 1 nnnn**
Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. This is a potentially data destroying failure. Contact your support representative.

***Parity Check 2 nnnn**
Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. This is a potentially data-destroying failure. Contact your support representative.

***Press <F1> to resume, <F2> to SETUP**
Displayed after any recoverable error message. Press the [F1] key to continue the boot process or the [F2] key to enter Setup and change any settings.

***Previous boot incomplete – Default configuration used**
Previous Power On Self Test did not complete successfully. The Power On Self Test will load default values and offer to run Setup. If the previous failure was caused by incorrect values and they are not corrected, the next boot will likely fail also. If using the default settings does not allow you to complete a successful boot sequence, you should turn off the power with the Power Switch and contact your support representative.

***Real time clock error**
Real-time clock fails BIOS test. May require board repair. Contact your support representative.

***Shadow RAM Failed at offset: nnnn**
Shadow RAM failed at offset nnnn of the 64k block at which the error was detected. You are risking data corruption if you continue. Contact your support representative.

nnnn Shadow RAM Passed
Where nnnn is the amount of shadow RAM in kilobytes successfully tested.

***System battery is dead–Replace and run SETUP**
The BIOS CMOS RAM memory hold up battery is dead. This is part of your BIOS and is a board mounted battery which requires a support representative to change. You can continue operating but you will have to use setup utility default values or reconfigure your setup utility every time you turn off your notebook. This battery has an expected life of 2 to 3 years.

System BIOS shadowed
System BIOS copied to shadow RAM.

***System CMOS checksum bad – run SETUP**
BIOS CMOS RAM has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in BIOS memory. Run Setup and reconfigure the system.

***System RAM Failed at offset: nnnn**
System memory failed at offset nnnn of in the 64k block at which the error was detected. This means that there is a fault in your built-in memory. If you continue to operate, you risk corrupting your data. Contact your support representative for repairs.

nnnn System RAM Passed
Where nnnn is the amount of system memory in kilobytes successfully tested.

***System timer error**
The timer test failed. The main clock that operates the computer is faulty. Requires repair of system board. Contact your support representative for repairs.

UMB upper limit segment address: nnnn
Displays the address of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS memory which may be reclaimed by a virtual memory manager.

Video BIOS shadowed
Video BIOS successfully copied to shadow RAM.

Emergency DVD Tray Release

If for some reason the eject button fails, you can open the DVD/CD-RW tray with a paper clip or similar tool inserted into the eject hole in the far right side of the front of the tray. Straighten one side of a paper clip and push it gently into the hole. The tray will pop out a short distance.

Modem Result Codes

The operating system and application software that is factory installed detects the modem characteristics and provides the necessary command strings to operate the modem. The internal modem operation is controlled by generic AT commands from the operating system and application software. The standard long form result codes may, in some cases, be displayed on your screen to keep you informed of the actions of your modem. The operating system and application software may suppress display of the result codes.

Examples of result codes are:

- OK
- NO CARRIER
- NO DIALTONE
- CONNECT 53000 (Connection complete at 53,000 bps.)
- ERROR
- FAX
- RING (This means an incoming call.)
- BUSY
- NO ANSWER

When using the internal modem with applications that are not factory installed refer to the application documentation.

2. Care and Maintenance

If you use your Fujitsu LifeBook notebook carefully, you will increase its life and reliability. This section provides some tips for looking after the notebook and its devices.

⚠ CAUTION

Electrical equipment may be hazardous if misused. Operations of this product or similar products, must always be supervised by an adult. Do not allow children access to the interior of any electrical products and do not permit them to handle any cables.

Caring for your LifeBook Notebook

- Your LifeBook notebook is a durable but sensitive electronic device. Treat it with respect and care.
- Make a habit of transporting it in a suitable carrying case.
- Do not attempt to service the computer yourself.
  Always follow installation instructions closely.
- Keep it away from food and beverages.
- If you accidentally spill liquid on your LifeBook notebook:
  1. Turn it off.
  2. Position it so that the liquid can run out.
  3. Let it dry out for 24 hours, or longer if needed.
  4. If your notebook will not boot after it has dried out, call your support representative.
- Do not use your Fujitsu LifeBook notebook in a wet environment (near a bathtub, swimming pool).
- Always use the AC adapter and batteries that are approved for your notebook.
- Avoid exposure to sand, dust and other environmental hazards.
- Do not expose your notebook to direct sunlight for long periods of time as temperatures above 140° F (60° C) may damage your notebook.
- Keep the covers closed on the connectors and slots when they are not in use.
- Do not put heavy or sharp objects on the computer.
- If you are carrying your LifeBook notebook in a brief-case, or any other carrying case, make sure that there are no objects in the case pressing on the lid.
- Never position your notebook such that the DVD/CD-RW drive is supporting the weight of the notebook.
- Do not drop your notebook.
- Do not touch the screen with any sharp objects.

Cleaning your LifeBook notebook

- Always disconnect the power plug. (Pull the plug, not the cord.)
- Clean your LifeBook notebook with a damp, lint-free cloth. Do not use abrasives or solvents.
- Use a soft cloth to remove dust from the screen.
  Never use glass cleaners.

Storing your LifeBook notebook

- If storing your notebook for a month or longer, turn your LifeBook notebook off and remove all Lithium ion batteries.
- Store your notebook and batteries separately. If you store your LifeBook with a battery installed, the battery will discharge, and battery life will be reduced. In addition, a faulty battery might damage your LifeBook.
- Store your Fujitsu LifeBook in a cool, dry location. Temperatures should remain between 13°F (-25°C) and 140°F (60°C).

Traveling with your LifeBook notebook

- Do not transport your notebook while it is turned on.
- Do not check your notebook as baggage. Carry it with you.
- Always bring your backup disk and Drivers and Applications CD that came with your notebook when you travel. If you experience system software problems while traveling, you may need it to correct any problems.
- Never put your notebook through a metal detector. Have your notebook hand-inspected by security personnel. You can however, put your notebook through a properly tuned X-ray machine. To avoid problems, place your notebook close to the entrance of the machine and remove it as soon as possible or have your notebook hand-inspected by security personnel. Security officials may require you to turn your notebook On. Make sure you have a charged battery on hand.
- When traveling with the hard drive removed, wrap the drive in a non-conducting materials (cloth or paper). If you have the drive checked by hand, be ready to install the drive if needed. Never put your hard drive through a metal detector. Have your hard drive hand-inspected by security personnel. You can however, put your hard drive through a properly tuned X-ray machine.
- Take the necessary plug adapters if you're traveling overseas. Check the following diagram to determine which plug adapter you'll need or ask your travel agent.

Outlet type	Location
	United States, Canada, parts of Latin America, Japan, Korea, the Philippines, Taiwan
	Russia and the Commonwealth of Independent States (CIS), most of Europe, parts of Latin America, the Middle East, parts of Africa, Hong Kong, India, most of South Asia
	Mexico, United Kingdom, Ireland, Malaysia, Singapore, parts of Africa
	China, Australia, New Zealand

Batteries

Caring for your Batteries

- Always handle batteries carefully.
- Do not short-circuit the battery terminals (that is, do not touch both terminals with a metal object). Do not carry lose batteries in a pocket or purse where they may mix with coins, keys, or other metal objects. Doing so may cause an explosion or fire.
- Do not drop, puncture, disassemble, mutilate or incinerate the battery.
- Recharge batteries only as described in this manual and only in ventilated areas.
- Do not leave batteries in hot locations for more than a day or two. Intense heat can shorten battery life.
- Do not leave a battery in storage for longer than 6 months without recharging it.

Increasing Battery Life

- Power your LifeBook notebook through the AC adapater.
- If your LifeBook notebook is running on battery power all day, connect it to the AC adapater overnight to recharge the battery.
- Keep brightness to the lowest level comfortable.
- Set the power management for maximum battery life.
- Put your LifeBook notebook in Suspend mode when it is turned on and you are not actually using it.
- Limit your Media drive access.
- Disable the DVD/CD-RW Combo Drive auto insert notification function.
- Always use fully charged batteries.
- Eject PCMCIA™ cards when not in use.

Floppy Disks and Drives

Caring for your Floppy Disks

- Avoid using the floppy disks in damp and dusty locations.
- Never store a floppy disk near a magnet or magnetic field.
- Do not use a pencil or an eraser on a disk or disk label.
- Avoid storing the floppy disks in extremely hot or cold locations, or in locations subject to severe temperature changes. Store at temperatures between 50°F (10°C) and 125°F (52°C)
- Do not touch the exposed part of the disk behind the metal shutter.

Caring for your Floppy Disk Drive

- To clean, wipe the floppy disk drive clean with a dry soft cloth, or with a soft cloth dampened with water or a solution of neutral detergent. Never use benzene, paint thinner or other volatile material.
- Avoid storing the floppy disk drive in extremely hot or cold locations, or in locations subject to severe temperature changes. Store at temperatures between 50°F (10°C) and 125°F (52°C)
- Keep the floppy disk drive out of direct sunlight and away from hating equipment.
- Avoid storing the floppy disk drive in locations subject to shock and vibration.
- Never use the floppy disk drive with any liquid, metal, or other foreign matter inside the floppy disk drive or disk.
- Never disassemble or dismantle your floppy disk drive.

Media Care

Caring for your Media (DVD/CD-RW/CD-ROM)

Media discs are precision devices and will function reliably if given reasonable care.

- Always store your media disc in its case when it is not in use.
- Always handle discs by the edges and avoid touching the surface.
- Avoid storing any media discs in extreme temperatures.
- Do not bend media discs or set heavy objects on them.
- Do not spill liquids on media discs.
- Do not scratch media discs.
- Do not get dust on media discs.
- Never write on the label surface with a ballpoint pen or pencil. Always use a felt pen.
- If a media disc is subjected to a sudden change in temperature, cold to warm condensation may form on the surface. Wipe the moisture off with a clean, soft, lint free cloth and let it dry at room temperature. DO NOT use a hair dryer or heater to dry media discs.
- If a disc is dirty, use only a DVD/CD cleaner or wipe it with a clean, soft, lint free cloth starting from the inner edge and wiping to the outer edge.

Caring for your DVD/CD-RW/CD-ROM Drive

Your DVD/CD-RW/CD-ROM drive is durable but you must treat it with care. Please pay attention to the following points:

- The drive rotates the compact disk at a very high speed. Do not carry it around or subject it to shock or vibration with the power on.
- Avoid using or storing the drive where it will be exposed to extreme temperatures.
- Avoid using or storing the drive where it is damp or dusty.
- Avoid using or storing the drive near magnets or devices that generate strong magnetic fields.
- Avoid using or storing the drive where it will be subjected to shock or vibration.
- Do not disassemble or dismantle the DVD/CD-RW/D-ROM drive.
- Occasional use of a commercially available lens cleaner kit is recommended to maintain your drive.

PC Cards

Caring for your PC Cards
PC Cards are durable, but you must treat them with care. The documentation supplied with your PC Card will provide specific information, but you should pay attention to the following points:

- To keep out dust and dirt, store PC Cards in their protective sleeves when they are not installed in your notebook.
- Avoid prolonged exposure to direct sunlight or excessive heat.
- Keep the cards dry.
- Do not flex or bend the cards, and do not place heavy objects on top of them.
- Do not force cards into the slot.
- Avoid dropping cards, or subjecting them to excessive vibration.

3. Glossary

AC Adapter
A device which converts the AC voltage from a wall outlet to the DC voltage needed to power your notebook.

ACPI
Advanced Configuration and Power Interface.
An industry specification for the efficient handling of power consumption in mobile computers. ACPI determines how a computer's BIOS, operating system, and peripherals communicate with each other about power management.

Active-Matrix Display
A type of technology for making flat-panel displays which has a transistor or similar device for every pixel on the screen.

APM
Advanced Power Management.

BIOS
Basic Input-Output System. A program and set of default parameters stored in ROM which tests and operates your notebook when you turn it on until it loads your installed operating system from disk. Information from the BIOS is transferred to the installed operating system to provide it with information on the configuration and status of the hardware.

Bit
An abbreviation for binary digit. A single piece of information which is either a one (1) or a zero (0).

bps
An abbreviation for bits per second. Used to describe data transfer rates.

Boot
To start-up a computer and load its operating system from disk, ROM or other storage media into RAM.

Bus
An electrical circuit which passes data between the CPU and the sub-assemblies inside your notebook.

Byte
8 bits of parallel binary information.

Cache Memory
A block of memory built into the micro-processor which ins much faster to access than your system RAM and used in specially structured ways to make your overall data handling tine faster.

CardBus
A faster, 32-bit version of the PC Card interface which offers performance similar to the 32-bit PCI architecture.

CD-ROM
Compact disc read only memory. This is a form of digital data storage which is read optically with a laser rather than a magnetic head. A typical CD-ROM can contain about 600MB of data and is not subject to be crashing into the surface and destroying the data when there is a failure nor to wear from reading.

CMS
Code Morphing Software.
Crusoe processor software architecture that results in longer battery life. For more information on CMS, click on the Technology link on the refer to the Transmeta web site at: www.transmeta.com.

Command
An instruction which you give your operating system. Example: run a particular application or format a floppy disk.

Configuration
The combination of hardware and software that make up your system and how it is allocated for use.

Data
The information a system stores and processes.

DC
Direct current. A voltage or current that does not fluctuate periodically with time.

Default Value
A pre programmed value to be used if you fail to set your own.

DIMM
Dual-in-line memory module.

Disk
A spinning platter of magnetic data storage media. If the platter is very stiff it is a hard drive, if it is highly flexible it is a floppy disk, if it is a floppy disk in a hard housing with a shutter it is commonly called a diskette.

Disk Drive
The hardware which spins the disk and has the heads and control circuitry for reading and writing the data on the disk.

Diskette
A floppy disk in a hard housing with a shutter.

DMA
Direct Memory Access. Special circuitry for memory to memory transfers of data which do not require CPU action.

DMI
Desktop Management Interface. A standard that provides PC management applications with a common method of locally or remotely querying and configuring PC computer systems, hardware and software components, and peripherals.

DOS
Disk Operating System (MS-DOS is a Microsoft Disk Operating System).

Driver
A computer program which converts application and operating system commands to external devices into the exact form required by a specific brand and model of device in order to produce the desired results from that particular equipment.

ESD
Electro-Static Discharge. The sudden discharge of electricity from a static charge which has built-up slowly.
Example: the shock you get from a doorknob on a dry day or the sparks you get from brushing hair on a dry day.

Extended Memory
All memory more than the 640KB recognized by MS-DOS as system memory.

FCC
Federal Communication Commission.

Floppy Disk
A spinning platter of magnetic data storage media which is highly flexible.

GB
Gigabyte.

Hard drive
A spinning platter of magnetic data storage media where the platter is very stiff.

Hexadecimal
A decimal notation for the value of a 4 bit binary number. (0-9, A, B, C, D, E, F) Example: 2F in hexadecimal = 00101111 in binary = 47 in decimal.

I/O
Input/Output. Data entering and leaving your LifeBook notebook in electronic form.

I/O Port
The connector and associated control circuits for data entering and leaving your LifeBook notebook in electronic form.

IDE
Intelligent Drive Electronics. A type of control interface for a hard drive which is inside the hard drive unit.

IEEE 1394
A type of data transfer protocol that allows for fast transfer of digital files and data with devices such as digital cameras.

IRQ
Interrupt Request. An acronym for the hardware signal to the CPU that an external event has occurred which needs to be processed.

KB
Kilobyte.

LAN
Local Area Network. An interconnection of computers and peripherals within a single limited geographic location which can pass programs and data amongst themselves.

LCD
Liquid Crystal Display. A type of display which makes images by controlling the orientation of crystals in a crystalline liquid.

Lithium ion Battery
A type of rechargeable battery which has a high power-time life for its size and is not subject to the memory effect as Nickel Cadmium batteries.

MB
Megabyte.

Megahertz
1,000,000 cycles per second.

Memory
A repository for data and applications which is readily accessible to your notebook CPU.

MHz
Megahertz.

Modem
A contraction for MOdulator-DEModulator. The equipment which connects a computer or other data terminal to a communication line.

Monaural
A system using one channel to process sound form all sources.

NTSC
National TV Standards Commission. The standard for TV broadcast and reception for the USA.

Operating System
A group of control programs that convert application commands, including driver programs, into the exact form required by a specific brand and model of microprocessor in order to produce the desired results from that particular equipment.

Partition
A block of space on a hard drive which is set aside and made to appear to the operating system as if it were a separate disk, and addressed by the operating system accordingly.

PCMCIA
PCMCIA is trademark of the Personal Computer Memory Card International Association. The Personal Computer Memory Card International Association is an organization that sets standards for add-in cards for personal computers.

Peripheral Device
A piece or equipment which performs a specific function associated with but not integral to a computer. Examples: a printer, a mode, a CD-ROM.

Pitch (keyboard)
The distance between the centers of the letter keys of a keyboard.

Pixel
The smallest element of a display, a dot of color on your display screen. The more pixels screen. The more pixels per area the clearer your image will appear.

POST
Power On Self Test. A program which part of the BIOS which checks the configuration and operating condition of your hardware whenever power is applied to your notebook. Status and error messages may be displayed before the operating system is loaded. If the self test detects failures that are so serious that operation can not continue, the operating system will not be loaded.

Program
An integrated set of coded commands to your computers telling your hardware what to do and how and when to do it.

PS/2
An IBM series of personal computers which established a number of standards for connecting external devices such as keyboards and monitors.

RAM
Random Access Memory. A hardware component of your LifeBook notebook that holds binary information (both program and data) as long as it has the proper power applied to it.

RAM Module
A printed circuit card with memory and associated circuitry which allows the user to add additional memory to the computer without special tools.

Reset
The act of reloading the operating system. A reset erases all information stored in RAM.

Restart
See Reset.

Resume
To proceed after interruption. In your LifeBook notebook, this refers to returning to active operation after having been in one of the suspension states.

ROM
Read Only Memory. A form of memory in which information is stored by physically altering the material. Data stored in this way can not be changed by your LifeBook notebook and does not require power to maintain it.

SDRAM
Synchronous Dynamic Random Access Memory.

Shadow RAM
A technique of copying data or applications stored in ROM (Read Only Memory) into RAM (Random Access Memory) for access during actual operation. RAM is much faster to access than ROM, however ROM contents are not lost when power is removed.
Shadowing allows permanently stored information to be rapidly accessed.

SPDIF
Sony Philips Digital Interface.
Technology that allows you to download digital audio data onto a MiniDisc recorder.

Status Indicator
A display which reports the condition of some portion of your hardware. On your LifeBook notebook this is an LCD screen just above the keyboard.

Stereo (audio)
A system using two channels to process sound from two different sources.

Stroke (keyboard)
The amount of travel of a key when it is pressed from resting to fully depressed.

Suspend
To make inoperative for a period of time. Your LifeBook notebook uses various suspension states to reduce power
consumption and prolong the charge of your battery.

SVGA
Super VGA.

S-Video
Super Video. A component video system for driving a TV or computer monitor.

System Clock
An oscillator of fixed precise frequency which synchronizes the operation of the system and is counted to provide time of day and date.

TFT
Thin Film Transistor - A technology for flat display panels which uses a thin film matrix of transistors to control each pixel of the display screen individually.

UL
Underwriters Laboratories - An independent organization that tests and certifies the electrical safety of devices.

USB
Universal Serial Bus. An external bus standard that allows for fast data transfer. USB port can be used to connect peripheral devices, such as mice, modems, and scanners.

VGA
Video Graphics Array. A video display standard originally introduced by IBM with the PS/2 series of personal computers.

VRAM
Video Random Access Memory. A memory dedicated to video display data and control.

WFM
Wired for Management is Intel's broad-based initiative to reduce the total cost of ownership (TCO) of business computing without sacrificing power and flexibility.

Write Protect
Prevent alteration of the binary state of all bits in a storage media. Example: all information on a device such as a floppy diskette; a block of space in a storage media such as partition of a hard drive; a file or directory of floppy diskette or hard drive.

XGA
Extended VGA.