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### DECLARATION OF CONFORMITY according to FCC Part 15

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

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



## **CAUTION**

Changes or modification not expressly approved by Fujitsu could void this user's authority to operate the equipment.

### **FCC NOTICES**

#### **Notice to Users of Radios and Television**

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet that is on a different circuit than the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device.

#### **Notice to Users of the US Telephone Network**

Your LifeBook notebook may be supplied with an internal modem which complies with Part 68 of the FCC rules. On this notebook is a label that contains the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment among other information. If requested, the user must provide their telephone company with the following information:

1. The telephone number to which the notebook is connected.
2. The Ringer Equivalence Number (REN) for this equipment.
3. That the equipment requires a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant.
4. The FCC Registration Number.

This equipment is designed to be connected to the telephone network or premises wiring using a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant and a line cord between the modem and the telephone network with a minimum of 26AWG.

The REN is used to determine the number of devices that you may connect to your telephone line and still have all of those devices ring when your number is called. Too many devices on one line may result in failure to ring in response to an incoming call. In most, but not all, areas the sum of the RENs of all of the devices should not exceed five (5). To be certain of the number of devices you may connect to your line, as determined by the RENs, contact your local telephone company.

If this equipment causes harm to the telephone network, your telephone company may discontinue your service temporarily. If possible, they will notify you in advance. If advance notice is not practical they will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC.

This fax modem also complies with fax branding requirements per FCC Part 68.

Your telephone company will probably ask you to disconnect this equipment from the telephone network until the problem is corrected and you are sure that the equipment is not malfunctioning. This equipment may not be used on coin-operated telephones provided by your telephone company. Connection to party lines is subject to state tariffs. Contact your state's public utility commission, public service commission or corporation commission for more information.

This equipment includes automatic dialing capability. When programming and/or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in off-peak hours, such as early morning or late evening.

FCC rules prohibit the use of non-hearing aid compatible telephones in the following locations or applications:

- All public or semipublic coin-operated or credit card telephones.
- Elevators, highways, tunnels (automobile, subway, railroad or pedestrian) where a person with impaired hearing might be isolated in an emergency.
- Places where telephones are specifically installed to alert emergency authorities such as fire, police or medical assistance personnel.
- Hospital rooms, residential health care facilities, convalescent homes and prisons.
- Workstations for the hearing impaired.
- Hotel, motel or apartment lobbies.
- Stores where telephones are used by patrons to order merchandise.
- Public transportation terminals where telephones are used to call taxis or to reserve lodging or rental cars.
- In hotel and motel rooms as at least ten percent of the rooms must contain hearing aid compatible telephones or jacks for plug-in hearing aid compatible telephones which will be provided to hearing impaired customers on request.

## **DOC (INDUSTRY CANADA) NOTICES**

### **Notice to Users of Radios and Television**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CET appareil numérique de la class B respecte toutes les exigence du Règlement sur le matériel brouilleur du Canada.

### **Notice to Users of the Canadian Telephone Network**

The Canadian Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

LifeBook notebooks are supplied with an internal modem which complies with the Industry Canada certification standards for telecommunication network protection and safety requirements. Before connecting this equipment to a telephone line the user should ensure that it is permissible to connect this equipment to the local telecommunication facilities. The user should be aware that compliance with the certification standards does not prevent service degradation in some situations.

Repairs to telecommunication equipment should be made by a Canadian authorized maintenance facility. Any repairs or alterations not expressly approved by Fujitsu or any equipment failures may give the telecommunication company cause to request the user to disconnect the equipment from the telephone line.

The connecting arrangement code for this equipment is CA11A.

The Load Number assigned to each telephone terminal device denotes the percentage of the total load to be connected to a telephone loop or circuit which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices such that the total of the load numbers of all devices does not exceed 100.

 **CAUTION**

For safety, users should ensure that the electrical ground of the power utility, the telephone lines and the metallic water pipes are connected together. Users should NOT attempt to make such connections themselves but should contact the appropriate electric inspection authority or electrician. This may be particularly important in rural areas.

**Avis Aux Utilisateurs Du Réseau Téléphonique Canadien**

L'étiquette canadienne Industrie Canada identifie l'équipement certifié. Cette certification signifie que l'équipement satisfait certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le département ne garantit pas le fonctionnement de l'équipement à la satisfaction de l'utilisateur.

La série LifeBook™ notenook e possède un modem interne conforme aux normes de certification d'Industrie Canada pour protéger les réseaux de télécommuni-cations et satisfaire aux normes de sécurité. Avant de connecter cet équipement à une ligne téléphonique, l'utilisateur doit vérifier s'il est permis de connecter cet équipement aux installations de télécommunications locales. L'utilisateur est averti que même la conformité aux normes de certification ne peut dans certains cas empêcher la dégradation du service.

Les réparations de l'équipement de télécommunications doivent être effectuées par un service de maintenance agréé au Canada. Toute réparation ou modification, qui n'est pas expressément approuvée par Fujitsu, ou toute défaillance de l'équipement peut entraîner la compagnie de télécommunications à exiger que l'utilisateur déconnecte l'équipement de la ligne téléphonique.

Le code d'arrangement de connexion de cet équipement est CA11A.

Le numéro de charge assigné à chaque terminal télépho-nique indique le pourcentage de la charge totale pouvant être connecté à une boucle ou à un circuit téléphonique, utilisé par ce périphérique afin de prévenir toute surcharge. La terminaison d'une boucle peut être constituée de n'importe quelle combinaison de périphériques de sorte que le total de numéros de charge de tous les périphériques n'exécède pas 100.

**⚠ AVERTISSEMENT**

Pour assurer la sécurité, les utilisateurs doivent vérifier que la prise de terre du service d'électricité, les lignes téléphoniques et les conduites d'eau métalliques sont connectées ensemble. Les utilisateurs ne doivent pas tenter d'établir ces connexions eux-mêmes, mais doivent contacter les services d'inspection d'installations électriques appropriés ou un électricien. Ceci peut être particulièrement important en régions rurales.

**UL Notice**

This unit requires an AC adapter to operate. Use only UL Listed Class 2 adapter, output rating 19V DC, 4.22A. Refer to the illustration below for the correct AC Adapter output polarity:



**⚠ CAUTION**

To reduce the risk of fire, use only #26 AWG or larger telecommunications line cord.

**For Authorized Repair Technicians Only**

**⚠ CAUTION**

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

**⚠ WARNING**

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

# 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 recommended 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 reaction core 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.

# 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

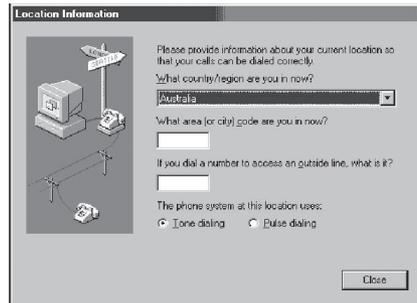
The default modem setting in Windows 98 / Windows Me operating system is United States of America. If you are residing in Australia or New Zealand, please choose the appropriate country where you are located.

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

Please see below instruction for quick modem setup.

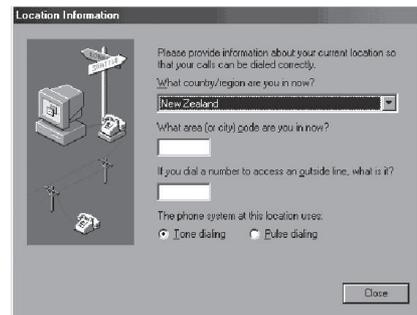
### A. If you are located in Australia

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



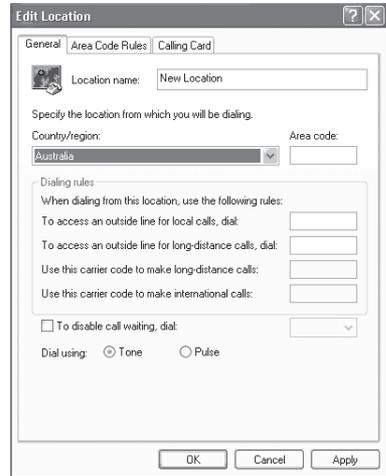
## Note:

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

## Note: Modem setting in Windows XP

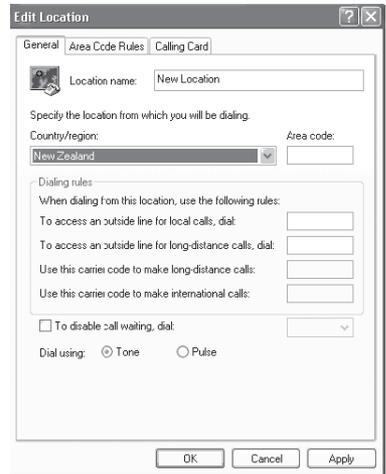
### A. If you are located in Australia

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
 <b>WARNING</b>	Incorrect handling or ignoring this warning can cause a dangerous situation that could result in death or severe injury.
 <b>CAUTION</b>	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 $\Delta$ symbol indicates a warning or caution. The symbol inside the $\Delta$ 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 $\bullet$ 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
<b>Critical Points</b>	Indicates a point necessary for correctly operating the hardware or software.
 <b>Column</b>	Gives the meaning and brief explanation 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”.

“Microsoft® 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

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## SECTION 1

This section explains basic operations and basic items for using this computer, including the names of the parts and their functions, floppy disk unit handling, and battery operation.

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## SECTION 2

This section explains installation of options for this computer.

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## SECTION 3

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

SECTION 1

SECTION 2

SECTION 3

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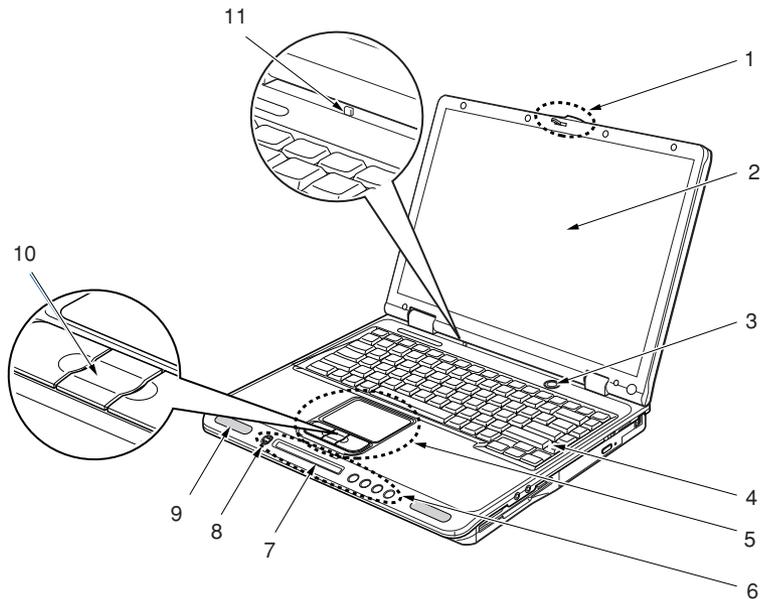
# SECTION

# 1

This section explains basic operations and basic items for using this computer, including the names of the parts and their functions, Flat point operation methods, floppy disk unit handling, and battery operation.

# 1. Names of the Parts and their Functions

## Exterior Features: Front/top View of the Computer



(Your computer or situation may not look exactly like this illustration.)

### 1. Latch

Used to lock the LCD panel to prevent it from opening accidentally.  
To unlock the LCD panel, slide the knob to the right.

### 2. LCD Panel

Displays images output by the computer.

### Critical Point

- About the properties of LCD screens
  - The phenomena below are inherent in the properties of LCD screens and do not indicate that LCD screens are faulty.
    - The TFT color LCD screen of your computer, composed of more than 2,350,000 picture elements or pixels (Number of dots when the screen resolution is set at 1024 by 768 pixels), was manufactured through the use of high technologies. For technical reasons, your LCD screen may have pixels that do not light and pixels that are always lit, which however does not indicate that your LCD screen is faulty.
    - Colors reproduced by LCD screens for computers vary to some extent from product to product for reasons of manufacture. Also, a slight unevenness of density may show up because of changes in temperature.

- 3. Power or Sus/Resume button**  
Used to turn on and off the computer, place it in standby mode and make it resume operation.
- 4. Keyboard**  
Used to type characters and enter commands in your computer.
- 5. Flat Point**  
Used to control the mouse pointer.
- 6. One-touch buttons**  
Used to start programs and control the playback of audio CDs.
- 7. Operating status indicator LCD**  
Indicates the operating status of the computer.  
The backlight is lit in blue when the computer power on with the AC Adapter attached. Power on with battery, the backlight will not lit.
- 8. Mode selector**  
Used to switch the one-touch buttons from one operating mode to another.
- 9. Speakers**  
Sound output devices of the computer.
- 10. Scroll button**  
Used to scroll up or down through the document in the active window.  
(Mouse driver must be install for this function.)

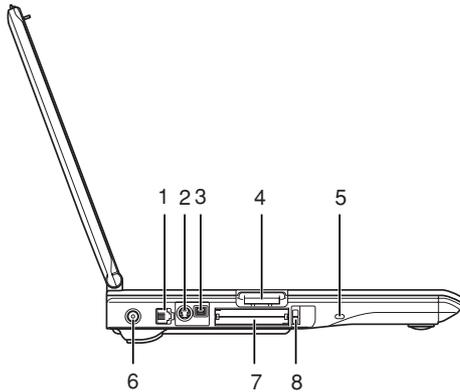
**Critical Point**

- Some applications may not allow you to scroll up and down through a document, using the scroll button.

- 11. Cover close switch**  
Places the computer in standby mode and turns off the backlight of the LCD screen when you close the LCD panel, and makes the computer resume operation when you open the LCD panel.

## Exterior Features: Side Views

### ● Left View of the Computer



**1. Modem port**

Used to connect the computer to a phone line via the supplied modular cable when using a BBS (online service) or navigating the Internet.

**2. Video output terminal (S-terminal)**

Used to send S-video signals to the TV connected.

**3. IEEE 1394 (DV) port**

Used to connect a peripheral device, such as a digital video camera (DVC), to the computer via a DV cable.

**4. SD card/Memory stick slot**

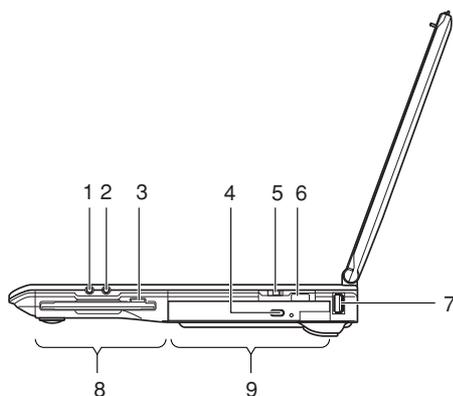
Used to insert an optional memory card.

**5. Antitheft lock**

Used to connect a commercially available antitheft cable.

6. **DC-IN jack**  
Used to connect the AC adapter included with your computer.
7. **PC card slots**  
Used to insert optional PC cards.  
The upper and lower slots are referred to as Slot 2 and Slot 1, respectively.
8. **PC card eject button**  
Press this button to eject the PC card.

● **Right View of the Computer**



**CAUTION**



**HEARING LOSS**

Before connecting headphones or a microphone to your computer, always turn down your computer's master volume to a minimum. Failure to do so could result in damage to the audio unit connected or could adversely affect your hearing.

**1. Headphone jack/Optical digital audio output terminal**

- **Headphone jack**  
Used to connect commercially available headphones with a 3.5 mini plug. This jack is incompatible with some types of cable connectors, so you should consult a salesperson before purchasing headphones.
- **Optical digital audio output terminal**  
Used also to plug in the fiber-optic cable from an audio unit, e.g., an MD recorder, with an optical digital input terminal. (Compatible with optical mini-plugs)

 **CAUTION**



**HEARING LOSS**

When you are listening to music with headphones, do not turn up the volume excessively. Listening to very loud sounds for a long time can adversely affect your hearing.



**HEARING LOSS**

When you are wearing headphones plugged into the computer, do not turn on or off the computer, or very loud sounds may adversely affect your hearing.

**2. Microphone jack**

Used to connect a commercially available monaural microphone with a f3.5 mini plug. This jack does not support some types of microphones (e.g., dynamic microphone), so you should consult a salesperson before purchasing a microphone.

**3. Floppy disk eject button**

Press this button to eject the floppy disk.

**4. CD eject button**

Press this button to eject the CD or DVD from the optical disk drive. This button operates only when the computer is turned on.

**5. Wireless switch (Provided only for wireless LAN device-equipped models)**

Used to turn on and off the wireless LAN device. Always keep this switch in the OFF position where the use of electronic devices is prohibited, e.g., in hospitals and on airplanes.

**6. Infrared Port**

This port enables you to make infrared communication

**7. USB ports**

Used to connect USB-compliant peripheral devices.

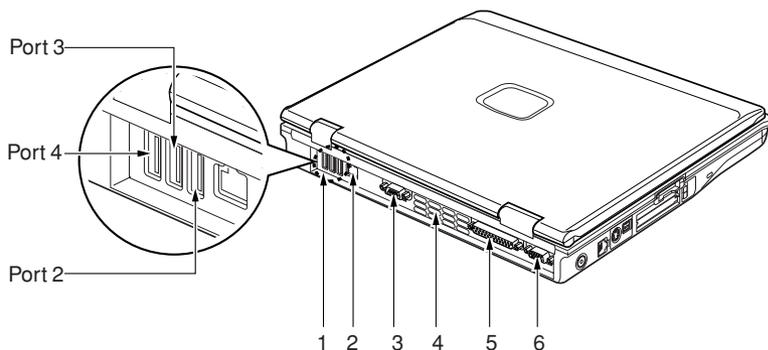
**8. Floppy disk drive**

Reads and writes data on floppy disks.

**9. Optical Disk Drive**

Hold either a CD-ROM, DVD-ROM, CD-RW or CD-RW/DVD-ROM drives. Standard optical drive may vary between countries, please check with your local distributor for actual configuration.

## Exterior Features: Rear/Top View of the Computer



(The illustration varies depending on the model and use conditions.)

1. **USB ports**  
Used to connect USB-compliant devices.
2. **LAN port**  
Used to connect the computer to a LAN (local area network) via an optional LAN cable for using online service or navigating the Internet.
3. **Serial Port**  
The serial port allows you to connect serial (RS232) devices.
4. **Air outlet**  
Provided to discharge heat from the computer. When you turn on the computer, the cooling fan rotates for a few seconds. When the temperature in the computer rises high, it automatically begins to rotate to discharge heat from the computer.

### CAUTION



#### **BREAKAGE**

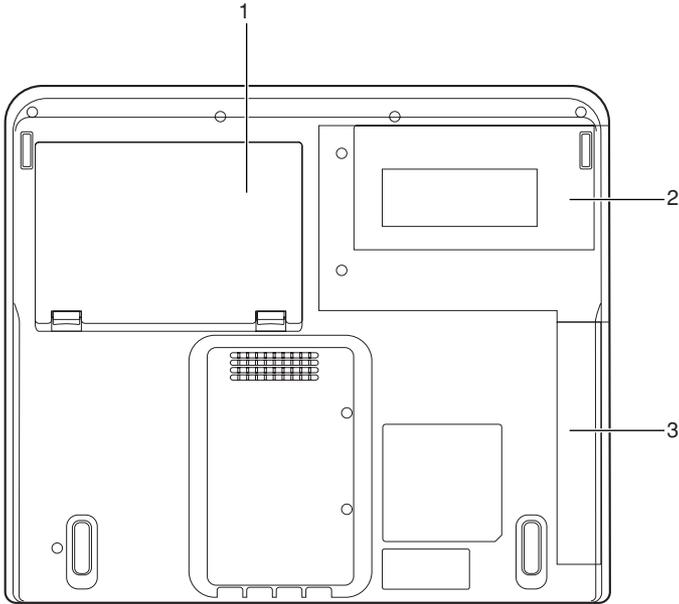
Do not block the air outlet. Doing so prevents heat from being discharged and could result in damage to your computer.

5. **Parallel Port**  
The parallel port allows you to connect parallel devices.
6. **External monitor port**  
Used to connect an optionally available external monitor.

### **IMPORTANT**

- When connecting an external device to your computer, insert its connector straight into the port with the right side up.

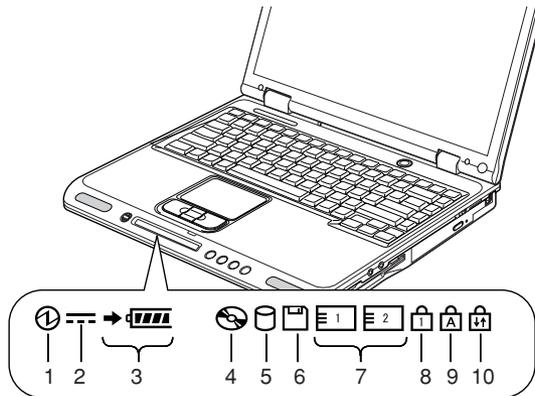
## External Features: Bottom View of the Computer



(Your computer or situation may not look exactly like this illustration.)

- 1. Battery Bay**  
An internal battery pack is installed here.
- 2. Built-in 1.44MB floppy drive**  
An internal floppy drive is installed here.
- 3. Built-in optical disk drive**  
An internal optical disk drive is installed here.

## Exterior Features: Operating Status Indicator LCD



(Your computer or situation may not look exactly like this illustration.)

1. **SUS/RES indicator** (⏻)  
Lights when the computer is in operation and blinks when it is on standby.
2. **AC adapter indicator** (≡)  
Lights when the computer is powered from the AC adapter.
3. • **Battery loading indicator** (🔋)  
Lights when a battery pack is installed in your computer.
  - Charging status indicator (➡)  
Lights when the internal battery is being charged.
  - Battery life indicator (▬▬▬)  
Indicates the remaining life of the internal battery pack.
4. **CD access indicator** (📀)  
Lights when the CD/DVD drive is being accessed.
5. **Hard disk access indicator** (💿)  
Lights when the hard disk is being accessed.

### Critical Point

- To prevent the corruption of data recorded on the hard disk, do not press the power button when the hard disk access indicator is lit.

6. **Floppy disk access indicator** (📁)  
Lights when the floppy disk is being accessed.

## Critical Point

- To prevent the corruption of data recorded on the floppy disk, do not press the power button when the floppy disk access indicator is lit.

## 7. PC card access indicators (E1 or E2)

Light when a PC card is being accessed.

## Critical Point

- E1 lights when the PC card in the lower slot is being accessed, while E2 lights when the PC card in the upper slot is being accessed.

## 8. Num Lock indicator (NL)

Lights when the keyboard is locked in Num Lock mode (in which you can use the keyboard as a ten-digit keypad).

To enter or exit Num Lock mode, press the Num Lk Lock key.

## 9. Caps Lock key (AL)

Lights when the keyboard is locked in Caps Lock mode (in which you can enter uppercase letters without pressing and holding down the Shift key).

To enter or exit Caps Lock mode, press the CapsLock key.

## 10. Scroll Lock indicator (SL)

Lights when the active window is locked to prevent it from being scrolled up or down.

To enter or exit Scroll Lock mode, press the Num Lk Lock key while holding down the Fn key. The reaction of the active window varies from program to program.

## 2. Keyboard

### Keyboard

#### ● Names and functions of the principal keys

Keys that can be used as ten-keys



#### 1 Esc (Escape) key

Used to cancel the current task and return to the previous task.

#### 2 Function keys

Functions assigned to these keys vary from application to application.

#### 3 Num Lk (Numerical Lock) key

Pressing the **[Num Lk]** key activates the ten-key mode. To deactivate the ten-key mode, press it once again.

#### 4 Insert / Prt Sc (Print Screen) key

- Insert key

Used to specify whether to overwrite an existing string or to insert a new string.

- Prt Sc (Print Screen) key

Used to save the currently displayed windows as pictorial data (bitmap file). To do so, press the **[Insert]** key while holding the **[Fn]** key down.

To save only the active window as pictorial data, press the **[Insert]** key while holding the **[Alt]** and **[Fn]** keys down.

Using painting software (e.g., Paint), you can edit, save, and print pictorial data. To do so, you need to import it to the painting software by selecting the Paste command from the Edit menu.

**5 Delete key**

Used to delete the character on the right of the cursor. With this key, you can also delete the file or icon you selected.

By pressing the **[Delete]** key while holding the **[Ctrl]** and **[Alt]** keys down, you can forcibly terminate the out-of-control application or computer.

**6 Pause / Break key**

- Pause key  
Press this key to pause the screen display.
- Break  
Its function depends on the application software.

**7 Caps Lock key**

To use Capital mode, press the **[CapsLock]** key.

To deactivate the English Capital mode, press these key again.

**8 Shift key**

Used in combination with other keys. By pressing a key while holding the **[Shift]** key down, you can enter the character or symbol printed in the upper case of the key.

**9 Back Space key**

Used to delete the character on the left of the cursor.

**10 Home key**

Press this key to move the cursor directly to the first page of the document or to the head of the row.

**11 Pg Up and Pg Dn (Page Up and Down key)**

Used to display the next page. To do so, press the Pg Up or Pg Dn key.

**12 Enter key**

Used to confirm the string entered.

In text processing, pressing this key inserts a hard return in the text. That's why this key is also called the Return key.

**13 End key**

Press this key to move the cursor directly to the end of the row or end of the document.

**14 Ctrl key**

Used in combination with other keys.

## 15 FUNCTION KEYS

Your LifeBook notebook has 12 function keys, F1 through F12. The functions assigned to these keys differ for each application.

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.
- [FN+F6]: Pressing [F6] repeatedly while holding [FN] will lower the brightness of your display.\*
- [FN+F7]: Pressing [F7] repeatedly while holding [FN] will increase the brightness of the display.\*
- [FN+F8]: Pressing [F8] repeatedly while holding [FN] will decrease the volume of your LifeBook notebook.\*\*
- [FN+F9]: Pressing [F9] repeatedly while holding [FN] will increase the volume of your LifeBook notebook.\*\*
- [FN+F10]: Pressing [F10] while holding [FN] allows you to change your selection of where to send your display video. Each time you press the combination of keys you will step to the next choice. The choices, in order, are: built-in display panel only, both built-in display panel and external monitor or external monitor only.

\* There are eight brightness levels.

\*\* There are 27 audio levels.

## 16 Windows key

Used to open the Start menu.

## 17 Alt key

Used in combination with other keys.

## 18 Application key

Used to open the pop-up menu for the item selected.

This key has the same function as the right button of the Flat Point.

## 19 Cursor keys

Used to move the cursor upward, downward, to right and left.

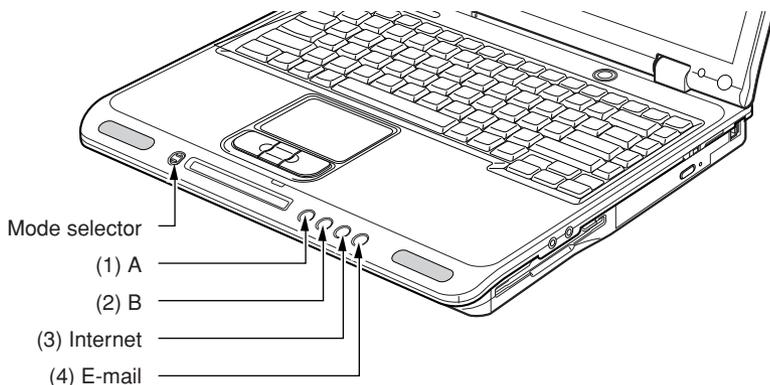
## ● About the ten-key mode

The ten-key mode refers to the mode that enables you to use certain character entry keys as ten-keys (a key arrangement that makes it easy to type in figures). To activate the ten-key mode, simply press the **[Num Lk]** key. In the ten-key mode,  is displayed on the status indicator LCD. The figure you can enter with a ten-key is marked on the front surface of the key. Note that connecting an optional ten-key pad disables the ten keys on your computer.

# 3. Using the One-touch Buttons

## About the One-touch Buttons

The one-touch buttons enable you to easily invoke various features of your computer. Simply by pressing a one-touch button, you can start an application, check for incoming messages, play back an audio CD, and so on.



(Your computer or situation may not look exactly like this illustration.)

- **The mode selector allows you to switch the one-touch buttons from one mode to another, as shown below.**

Position of Mode Selector		Functions of One-touch Buttons
Application (Up)		Starts a program.
Player (Down)		Controls Music Player

## Starting an Application

When the mode selector is in the Application position (Up), you can start one of the applications below, simply by pressing the one-touch button assigned to it.

Buttons	Application Started (Factory default setting)
(1) A-button	Notepad
(2) B-button	Calculator
(3) Internet button ※1	Internet Explorer
(4) E-mail button ※2	Mail Outlook Express

※1 : If you are subscribe to your local Internet service provider(ISP)

※2 : You need to set up @Mail before using this button.

## Controlling Music Player

When the mode selector is in the Player position, you can use the one-touch buttons to control Music Player.

Buttons			
(1)	(2)	(3)	(4)
Stop/Eject ※1 	Play/Pause 	Previous Track ※2 	Next Track ※2 

※1 : By default, the Eject button is set so as not to operate when Windows is running.

※2 : By pressing the Previous Track or Next Track button, you can skip to the previous or next track when you are using Music Player.

When you insert an audio CD into the CD/DVD device while Windows is running, Music Player will automatically start playing the audio CD. To control the playback of the CD you can use the one-touch buttons, Music Player.

### IMPORTANT

- Do not use the one-touch buttons for any type of disc other than audio CDs. Otherwise, the operation of your computer may become unstable.

### Critical Point

- For some copy-protected audio CDs, the one-touch buttons may not operate correctly.

## 4. LifeBook Application Panel

One of the unique features of your LifeBook notebook is the LifeBook Application Panel. This panel allows you to operate the Disc Player (applies only to certain models) or launch applications with the touch of a button. (Pseudo-off mode applies only to certain models of LifeBook notebook. Pseudo-off is the mode when Microsoft® Windows® has been shut down but the power switch on the notebook is still in the ON position.)

On some LifeBook notebook models, the panel also allows you to secure your notebook from unauthorized use. Your notebook is pre-installed with software utilities that you use to operate and configure your LifeBook Application Panel. For the Application Panel, go to Start -> Control Panel. The LifeBook Application Panel makes your LifeBook notebook more than just another notebook computer.

### Critical Point

- For the location of your LifeBook Application Panel please see your User's Guide.
- The Disc Player only works with audio CDs. The Disc Player or launch buttons will work when the Windows operating system is in operation.

The panel consists of the following elements:

### SELECTOR SWITCH

The selector switch allows you to select the function of the one-touch buttons—as an Application Launcher and a Disc Player (if available). The Disc Player is available only on select models; see your LifeBook notebook specifications to determine the configuration of your system.

### Application Launch Disc Player Buttons

When the selector switch is in the Application (upper) position, pressing any of the buttons will launch a user-defined application. When the selector switch is in the Disc Player position, the buttons operate as Disc Player.

### Critical Point

- Certain models may have 4 or 5 buttons. Please refer to your User's Guide for more details.
- The Disc Player features are not available on all models.
- If there is a CD in the player which has finished playing, it will not automatically start playing and will not automatically repeat the CD.

## 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.

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.

### Critical Point

- E-mail Notification LED is available on selected LifeBook notebook models only.

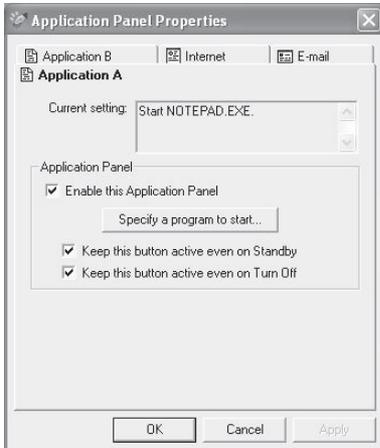
## Configuring your Lifebook Application Panel

When you start Windows, the LifeBook Application Panel is automatically activated.

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

To configure your LifeBook Application Panel with Application Panel Setup:

1. **Click on Start.**
2. **Click on Control Panel.**
3. **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, refer table below.

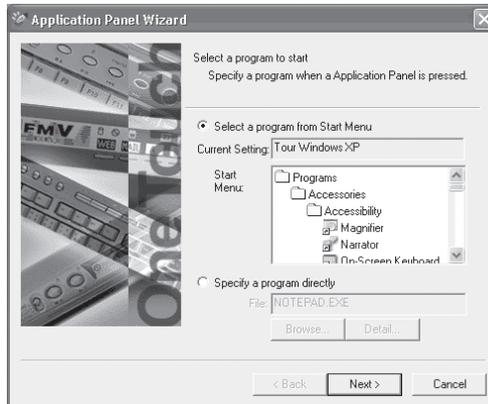
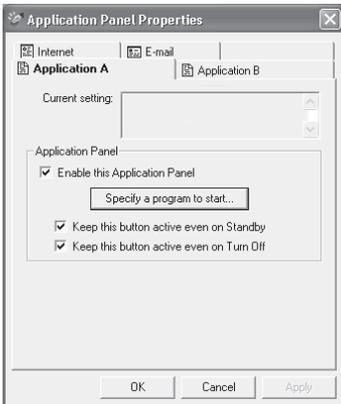
Label	Button Function	Default Application
1	Application A	Notepad
2	Application B	Calculator
3	Internet	Internet Explorer
4	E-Mail	Outlook Express

(This may be different email programs set on the button.)

### Critical Point

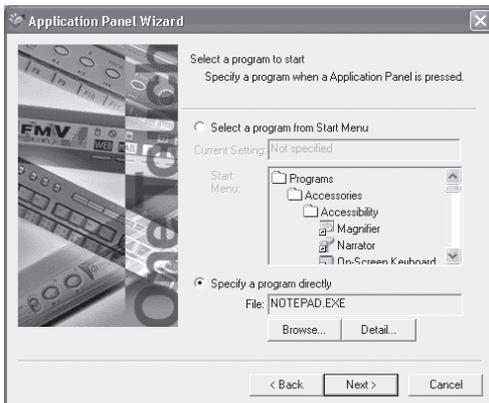
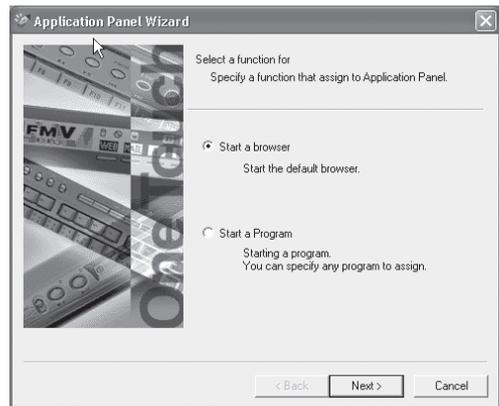
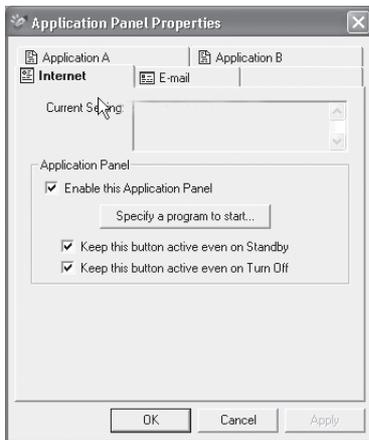
- The tabs in Application Panel Setup may not be in the same order as the buttons on your LifeBook notebook. Please carefully select the tab you wish to change.

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 Specify programs to start and Application panel wizard pop-up on the screen and you can select either Select a program from start Menu or Specify a programs directly you wish to launch with this button.



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

1. **Select Internet and click on Specify a program to start.**
2. **You can select Start a Program.**
3. **Click or Start a browser and click next. Select a programs from Start Menu or Specify a program directly to select the program you wish to change on the Internet button.**



The button will now launch the new application. If you want to return to launching your Windows default Internet browser with this button, you click on start the default browser from the Internet browser box. If you wish to go back to launching the “other application” from this button, you will need to reconfigure it as described above.

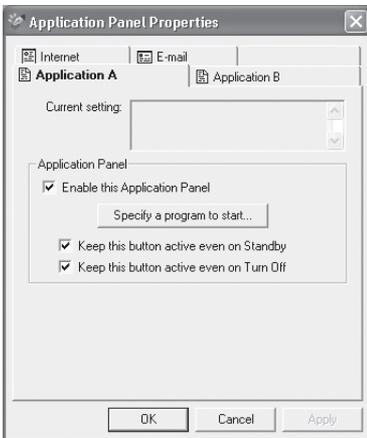
When you have finished with Application Panel Setup click on OK, and the new settings will take effect. You can reconfigure your LifeBook Application Panel as often as you like.

### Critical Point

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

### Enabling/disabling Application Launcher button (Selected Models Only)

At the bottom of each application setup page are two selectable options. The first will “Keep this button active even on Standby”, and the second will “Keep this button active even on Turn Off. You can enable/disable either or both of these functions simply by check or unchecking the check Box.



### Critical Point

- If you choose to have the buttons work when the notebook is in standby or pseudo-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.

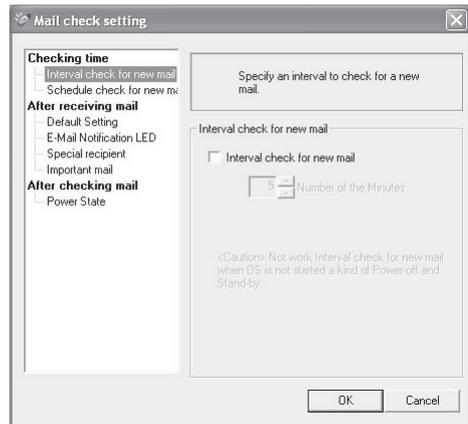
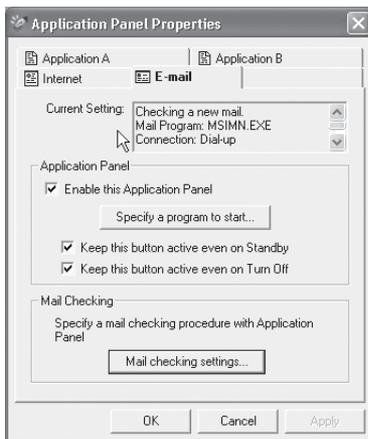
## Configure your E-mail Account Settings

### Critical Point

- The E-mail Notification LED is available on selected LifeBook notebook models only.
- 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 Account Settings:

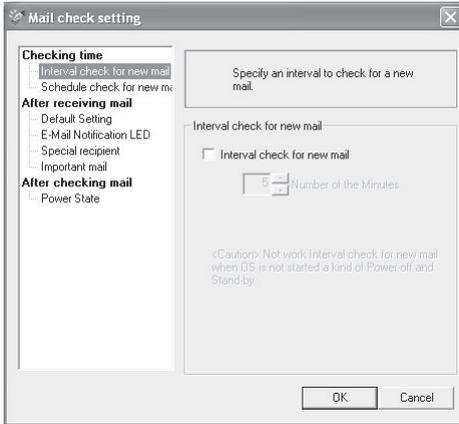
1. Click on **Start**.
2. Click on **Control Panel**.
3. Click on **Application Panel**.
4. Click on the **E-Mail** tab.
5. Click on **Mail checking settings**.
6. The **Mail check setting** screen appears.



The Mail check setting have 3 options for you to configure.

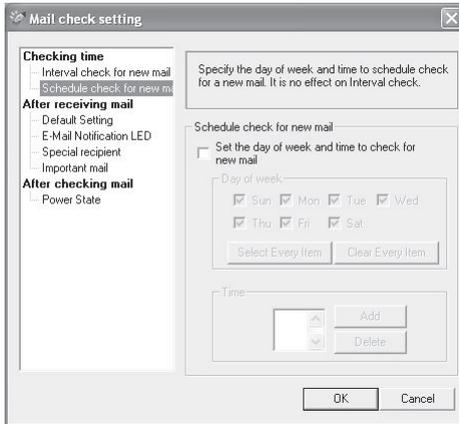
### – Checking time

Interval check for new mail



You can specific an interval to check for new mail.

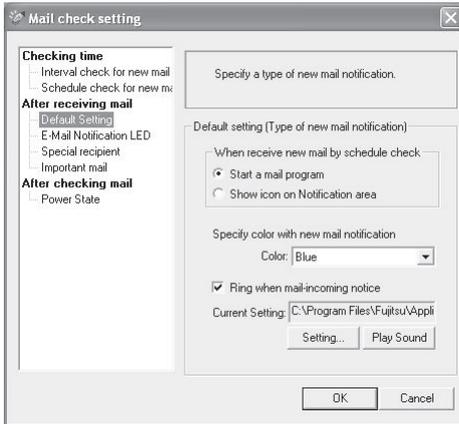
Schedule check for new mail



You can specify the day of week and time to schedule check of new mail. It is no effect on Interval check.

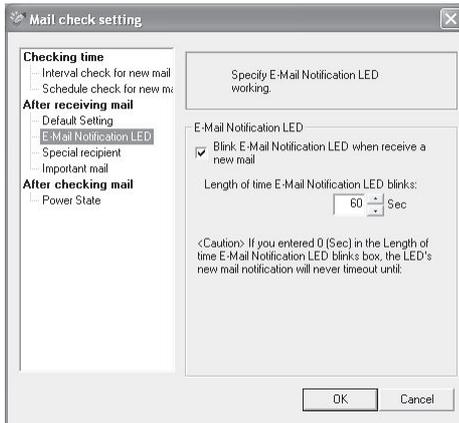
### – After receiving mail.

#### Default setting



You can specify the type of new mail notification by changing the color of the control panel and the Ring when mail-incoming notice.

#### Email Notification LED (Selected Models only)



Specify the E-mail notification LED to blink when received a new mail. You can specify the length of time E-mail notification LED blinks.

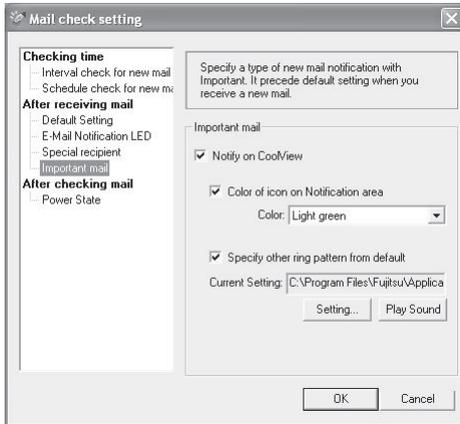
## Special recipient

You can specify the mail from Special recipient from this menu. The special recipient can be added from the menu below ,it also allow you to change the color of the Notification area and the ring pattern of the special recipient you have aded.



## Important mail

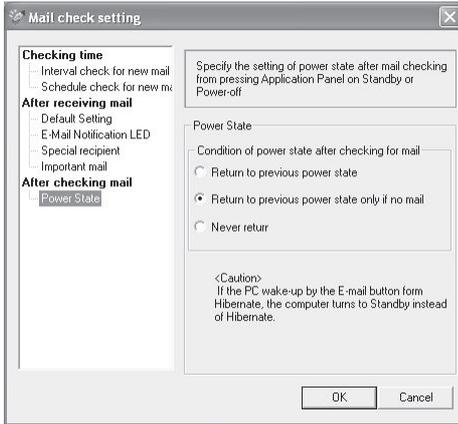
You can specify the important mail with the different color display on the Notification area.



## – After checking mail

### Power state

You can specify the setting of the power state after mail checking from pressing Application Panel on Standby or Power off.



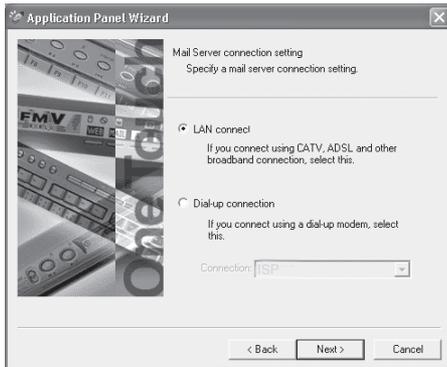
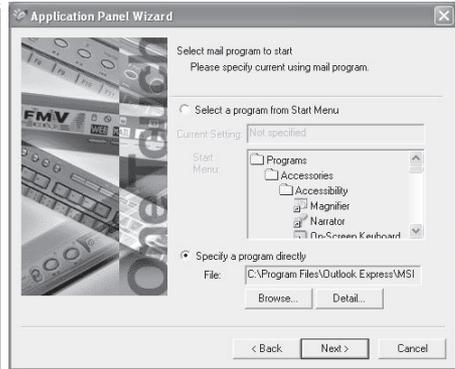
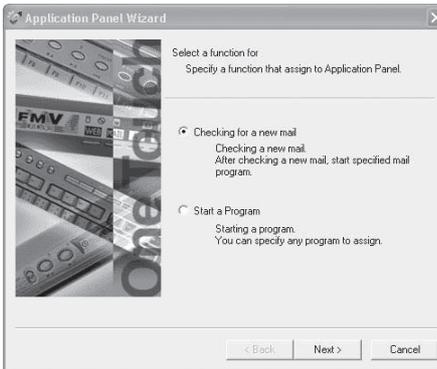
## To configure Email button setting

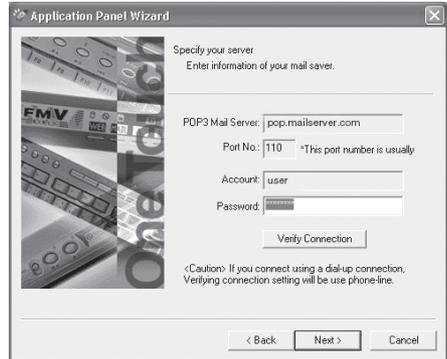
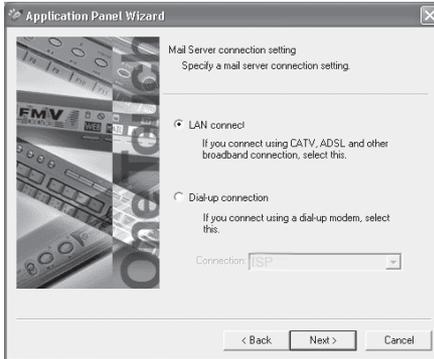
1. Click on All Programs.
2. Click LifeBook Application Panel.
3. Select LifeBook Application Panel.
4. Application Panel properties menu pop-up on the screen.
5. Select Specify program to start.



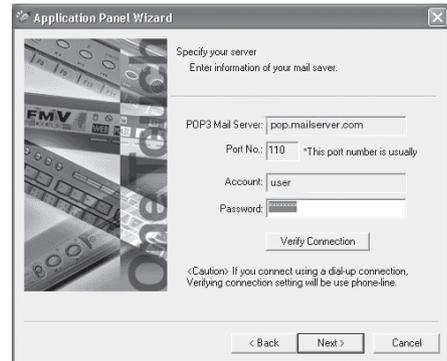
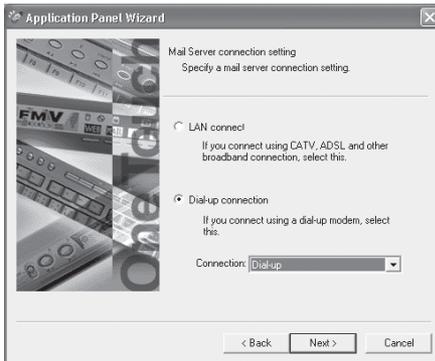
6. Select **Checking for a new mail**.

7. Click **Next** and select **Specify a program directly**. You can specify other Email program to launch on this button.





10. If Dial Up: Click on Dial Up. Choose the Dial up configuration (as previously set in Dial Up Networking) you wish to retrieve mail from. Enter the POP3 Server name, your account name and password for that account. The account name and password should be the same information you entered in the Dial Up configuration. After all the information has been entered, test the connection by clicking on “Verify Connection”. If an error occurs, check the settings and information on Dial Up Network and E-mail setting.



## Using the Disc Player

The Disc Player enables you to use your notebook's disc drive as an audio Disc Player.

### Critical Point

- If you shut down from Windows while the Disc Player is playing an audio CD, it will stop. To continue to use the Disc Player, restart the OS. The OS must be operate inorder to play the audio cd using the disc player. The audio CD will start playing at Track 1.
- When you can go into Suspend Mode or Save-to-Disk Mode while the Disc Player is playing a CD. The Disc Player stop playing the Audio. To continue use the Disc Player, press the sus/res button to wake up the system and press play, the audio cd will start playing track1.

There is no configuration required for Disc Player operation. The buttons are pre-configured to work like a normal Disc Player. When the selector switch is in the bottom position, the buttons will operate as follows:

- Stop/Eject: This is the first button to the right of the selector switch. If you press it once, it will stop an audio CD that is playing. If you press it twice, it will eject the audio CD. (This option should be enable if you wish to use this function from the cd player. By default is disable.)
- Play/Pause: This is the second button to the right of the Stop/Eject button. Press this button to start playing an audio CD starting at Track 1. While the audio CD is playing, press it to pause. Press it again to continue.
- Back: This button is immediately to the right of the LCD display. Press this button once to skip one track back.
- Forward: This is the second button to the right of the LCD. Press this button once to skip forward one track.

### Critical Point

- If you press the play button and nothing happens, you either have the Mode button switch set to the Application or, there is no audio CD in the Disc Player, or you have a CD other than an audio CD in the drive.

## Desktop Control Panel

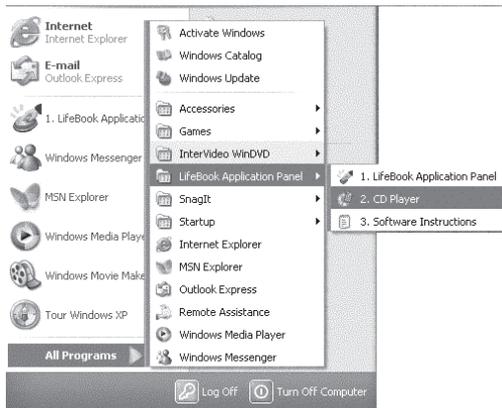
Your LifeBook notebook includes a desktop control panel. You may use this panel to operate the Disc Player when you have the Selector switch to Disc mode.

To use the desktop control panel:

1. **Click on Start.**
2. **Click on All Programs.**
3. **Click on LifeBook Application Panel.**
4. **Click on CD Player.**

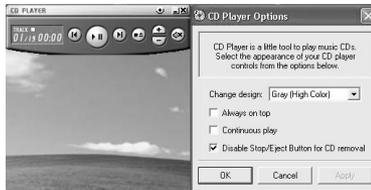
The CD Player will appear in the upper left corner of your screen.

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 CD Player. 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 CD Players Options menu box, you have an options to select : Always on top, Continuous play and Disable Stop/Eject Button from the 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 Disc Player will automatically start over at the beginning as soon as it finishes the last track. By default the Eject Button is disable from the CD Player Options. Once you press the Eject button, the drive will not eject. If you want the Eject Button to be function, uncheck this options.

You can change the CD Player design by selecting the setting from the pull down menu from the CD Player options by double click on the track display.



**Grey (High Color)**



**Circle (High Color)**



**Stick (High Color)**



**Basic (16 colors)**

You can move the CD Player to anywhere on your desktop. Drag it by clicking on the track number 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 Disc Player's desktop control panel, it will stop the audio Disc Player. Simply press the Play button if you would like to continue listening, and the Disc Player will restart at track 1. The Selector switch must be in the Disc Player position.

### Precautions

- LifeBook Application Panel uses the date and time settings of your LifeBook notebook. 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 Disc Player, the Disc Player may fail to play the first audio track.
- The Volume Up, Volume Down and Mute controls for the Disc 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 Disc 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 Disc Player control panel will display in a "basic" mode.

## 5. Running the Computer on its Battery

### Recharging the Battery

#### 1. Connect the AC adapter to your computer.

When you connect the AC adapter to your computer, the AC adapter automatically starts to charge the internal battery pack, and the charging status indicator ( → ) and the battery life remaining at that time are displayed on the operating status indicator LCD.

#### 2. After the charging status indicator has gone off, disconnect the AC adapter from your computer.

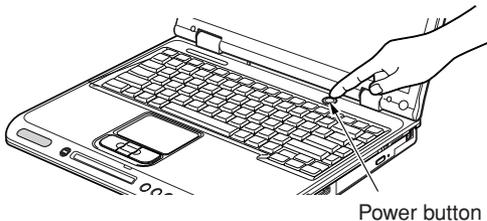
#### Critical Point

- Recharge the supplied battery pack prior to first using it after purchase or if it is not recharged for more than one month.
- Once the battery has been fully charged, the charging status indicator goes off and the battery life indicator at the left end stops blinking ( → ) and goes on ( ████ ). Allow sufficient time for the battery to be fully charged.
- When the battery is 90% or more charged, it cannot be recharged even if the AC adapter is connected. The battery can be recharged when its remaining life is 89% or less.
- The chargeability of the battery degrades when it is used in an extremely hot or cold place.
- When the battery is very hot, for example, immediately after the use of the computer, the battery protection function may be activated to prevent the battery from being recharged. (The charging status indicator blinks.) In such a case, stop charging the battery and wait for a while until the battery temperature comes down.

### Running the Computer on its Battery

To run your computer on its internal battery pack, perform these steps.

#### 1. Disconnect the AC adapter from your computer and press the power button.



Power button

(Your computer or situation may not look exactly like this illustration.)

## Critical Point

- The battery runs down in a relatively short time when it is used in a cold place.
- The chargeability of the battery degrades over time and its life shortens accordingly after it has been used over an extended period of time. If the battery goes dead soon, replace it with a new battery.
- A rise in battery temperature may slow down the operation of your computer. If this happens, connect the AC adapter to your computer.

## Checking the Remaining Battery Life

The remaining battery life is displayed on the operating status indicator LCD when the battery is being charged or your computer is turned on.

### ● Indication of the remaining battery life



The remaining battery life is approximately between 100% and 76%.



The remaining battery life is approximately between 75% and 51%.



The remaining battery life is approximately between 50% and 26%.



The remaining battery life is approximately between 25% and 13%.

(During charging, it indicates that the remaining battery life is approximately between 0% and 25%.)



Indicates that the battery is weak (remaining life: 12% or less).  blinks.



Indicates that the battery is completely exhausted (remaining life: 0%).

## Critical Point

- For reasons of lithium-ion battery properties, the battery life indicator may not correctly indicate the remaining battery life under some circumstances (temperature conditions, number of times the battery has been recharged, and so on).
- When the battery is still 90% or more charged, it cannot be recharged even if you connect the AC adapter to your computer. The battery can be recharged when its remaining life is 89% or less.

## ● Indication of a battery problem

 Indicates that the battery cannot be charged for some reason or other.

### Critical Point

- If  is displayed, turn off your computer, remove and install the battery all over again. If this persists, you might have to replace the battery pack with a new one because it is most likely defective.

## ● Low battery condition

When the battery is discharged to a critically low level, the battery life indicator on the operating status indicator LCD blinks (  ). If it blinks, connect the AC adapter to your computer to recharge the battery.

### Critical Point

- The use of a weak battery could result in the lost of data you are currently working with or saving. When the battery runs low, connect the AC adapter to your computer as soon as possible, or if no AC adapter is available, immediately save the data you are working with, exit all programs and turn off your computer.
- Reading or writing data on the hard disk requires a large amount of electrical power. Therefore, when the battery is weak, connect the AC adapter to your computer before reading or writing data on the hard disk.
- Leaving the battery weak for a certain period of time causes the computer to automatically go into standby mode. When data is being read or written on the hard disk, however, the computer will not go into standby mode before the data reading or writing process is complete.
- By default, your computer is set so that it will go into standby mode when the battery life reaches about 3%.  
To change this setting, follow these steps: Open the Power Options Properties dialog box, click the Alarms tab, and then click "Set off low battery alarm when power level reaches" in the Low battery alarm section to activate this option (  changes to  ).  
Note that changing this setting causes your computer to shut down as soon as the battery goes dead, and could result in the lost of data not saved or could make your computer unstable.

## Cautions in Using the Battery Pack

### WARNING



#### ELECTRIC SHOCK

- The battery pack is shock-sensitive. To avoid damage due to shock, be careful not to drop the battery pack when installing or removing it. For safety's sake, do not use a battery once it has been shocked. The use of a damaged battery could result in an electric shock or explosion.

● **Do not take the battery apart.**

Taking the battery apart or touching its internal components could result in an electric shock or fire.

● **Electrical discharge**

- It is good practice to always recharge the battery before use since it is discharged spontaneously.
- When you know you will not use the computer for a long period of time (for one month or more), remove the battery pack from your computer and keep it in a cool place. Leaving the battery in the computer without recharging for a long period of time causes it to be discharged excessively and shortens its useful life.

● **Useful life of the battery**

- The battery runs down and deteriorates over time even if it is not used. To check the battery condition, therefore, you should run your computer on its internal battery at least once a month.
- Leaving the battery in a hot place causes it to go dead and deteriorate in a short time.
- The battery pack is consumable and its chargeability degrades gradually over time. When the battery has reached the end of its useful life, replace it with a new one.
- When the battery is approaching the end of its useful life, it goes dead in a very short time.
- When the battery has reached the end of its useful life, remove it from the computer. Leaving it in the computer could result in an electric shock or fire.

● **Disposal of the battery pack**

- Before disposing of the battery pack, take measures to prevent it from shorting, for example, sealing its connector with an insulating tape. After removing the internal battery pack, do not mix it with other batteries.

The internal battery pack (lithium-ion battery) contains precious resources. Therefore, you should dispose of the disused battery pack as a recyclable material whenever possible.

For the recycling of batteries, see Recycling of batteries. (To see Recycling of batteries, select Setting up the computer, Appendixes, and Recycling of batteries.)

● **Battery life**

- The energy-saving features of your computer help you conserve battery power.
- Battery life greatly varies according to the ambient temperature. The life of a battery may shorten when it is used in a cold place.

● **You should power your computer from the AC adapter when:**

- Using an online service or navigating the Internet,
- Using the hard disk or DVD/CD drive frequently,
- Connecting to a LAN,
- Restoring the computer to its original state,
- Connecting two or more external devices, such as PC cards and USB devices, to your computer at the same time.

## Changing the Internal Battery Pack

### WARNING



#### **ELECTRIC SHOCK**

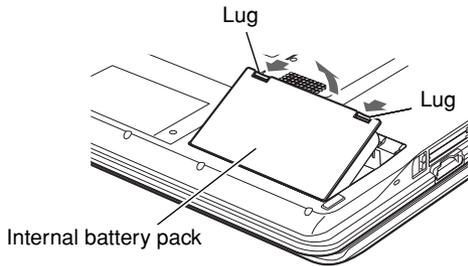
Be sure to turn off your computer before changing the internal battery pack. To avoid shock hazards and damage to your computer, be careful not to touch internal components of the computer, including the battery connector.

1. Turn off your computer.
2. Close the LCD panel, and place your computer upside down.

### **IMPORTANT**

- Close the LCD panel gently to avoid damage due to shock. Failure to do so could result in damage to the LCD panel.

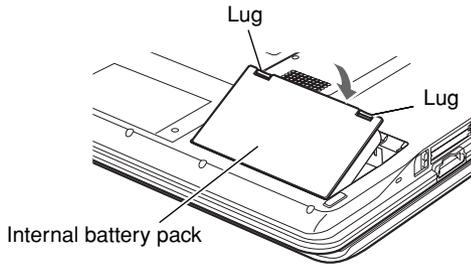
3. Remove the battery pack while pressing the lugs in the direction of the arrow.  
The internal battery pack is disengaged from the connector.



(Your computer or situation may not look exactly like this illustration.)

#### 4. Install a new battery pack.

With the slits in the battery pack aligned with the projections on the computer, place the battery pack in the battery bay and push it down until it clicks into place.



#### Critical Point

- After removing the internal battery pack, take measures to prevent it from shorting, for example, sealing its connector with an insulating tape. After removing the battery pack, do not mix it with other batteries.
- The internal battery pack (lithium-ion battery) contains precious resources. Therefore, you should dispose of the disused battery pack as a recyclable material whenever possible.

## 6. Using the Optical Disk Drive

In this manual, CD-ROMs, audio CDs and CD-R/RW discs are collectively referred to as CDs, and DVD-ROMs and DVD-Videos as DVDs. Also, CDs and DVDs are sometimes referred to simply as discs.

### CAUTION



#### INJURY

When inserting or removing a CD or DVD, be careful not to catch your finger in the tray to avoid possible injury to your finger.

### Cautions in Using CD/DVDs

Take the following precautions when handling CDs and DVDs.

- Handle discs with care so that they are free from fingerprints, dust and flaws.  
Fingerprints, dust and flaws on a disc could prevent information from being read from it or being written/rewritten on it correctly. Also, they could prevent audio CDs and DVD-Videos from being played back normally.
- Do not stick any label to a disc or do not write anything on it with a pencil or ballpoint pen.
- Be careful not to spill coffee or any other liquid on a disc.
- When a disc is dirty or wet, wipe it outward from the center with a slightly moistened cloth, and then with a dry cloth.  
Do not dry it with a hairdryer or do not let it dry itself.
- Do not use benzene, thinner, water, record cleaner, antistatic agent, or a silicone cloth to clean discs.
- Keep discs in their cases whenever they are not in use.
- Do not bend a disc or do not put a heavy object on top of it.
- Do not keep discs in a hot or cold place.

### IMPORTANT

- Most publications, including music and videos, are protected by copyright. You are not allowed to record or copy such publications (including the conversion of data formats) for any purpose. If you want to use sound and video files for any purpose other than the above, e.g., delivering them over a network, you have to obtain prior consent from the copyright holder.

## Supported discs

	CD-ROM, Audio CD, Video CD, Photo CD	CD-R	CD-RW	DVD-ROM DVD-VIDEO
Reading (playback) ※1	O	O	O	O ※2
Writing	X	O	O	X
Rewriting	X	X	O	X

※1 : Some discs may be incompatible with your drive or may require a playback program.

※2 : DVD-ROMs refer to DVDs containing information intended for use with a computer, such as programs.  
DVD-Videos refer to DVDs containing audio and video files.  
DVD-RAM, DVD-RW, DVD+RW and DVD-Audio discs cannot be used with your CD/DVD drive.

## Critical Point

- Use round CD/DVDs but not CD/DVDs of any irregular form (e.g., star-shaped or card type CD/DVDs).  
CD/DVDs of irregular form could prevent your CD/DVD drive from reading or writing data correctly, or could result in damage to your drive.
- Some copy-protected audio CDs may not be played back on your CD/DVD drive.
- Dropouts may occur during the playback of an audio CD. If they occur, follow the steps below to switch to analog play mode. Note that, in analog play mode, no audio files can be recorded directly on the MD recorder connected to the optical digital output terminal on your computer.

1. Click the Start button and select Control Panel.
2. Click Performance and Maintenance, and then System.
3. Click the Hardware tab and select Device manager.
4. Click the plus sign **+** beside DVD/CD-ROM drive, and then double-click the CD/DVD drive that is displayed under it.
5. On the Properties page, click “Enable this CD-ROM device to play digital audio CDs” to deactivate it ( changes to ), and then click OK.

When you are using Media Player to play audio CDs, perform the steps below, too.

6. Start Media Player.
7. Click Tools, then Options.
8. On the Devices page, make sure that the DVD/CD-RW drive is selected, and then click Properties.
9. Click the option button for Analog under Playback and then click OK.
10. Click OK in the Options window.
11. Restart your computer.

### Critical Point

- The region code of your computer is [3] by default. Region codes are assigned to DVD-Videos on a country-by-country basis. DVD-Videos with a region code other than [3] may not be played back on your CD/DVD drive.
- Some DVDs are protected from unauthorized copying. For copyright protection, your computer has descramble and authentication functions. So, if attempt is made to play an audio or video file copied from a copy-protected disc, an authentication error will occur to stop it from being played back.

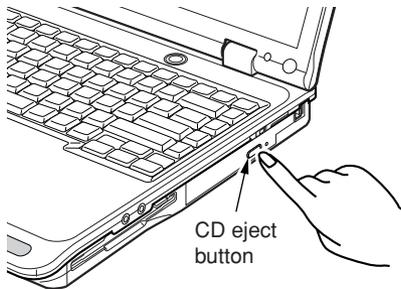
## Inserting a Disc

### IMPORTANT

- When accessing the CD/DVD drive frequently or playing a DVD-Video, you should power your computer from the AC adapter.
- When inserting a disc, fit the hole in the disc on the stopper at the center of the tray, and push it down until it clicks into place.  
Failure to do so may cause the disc to come off and damage the tray or the disc itself.
- When a self-starting disc is loaded in the CD/DVD drive, do not place the computer into standby (pause) mode.  
Otherwise, the disk will start twice when the computer resumes operation, and may cause the computer to malfunction. If the disc starts twice, exit all programs started from it, and eject and load the disc again.
- CDs and DVDs sometimes vibrate and whistle, because they rotate at very high speeds when data is being read from them.

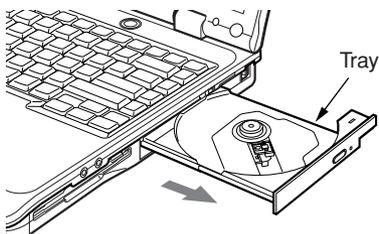
#### 1. Press the CD eject button.

The tray springs out a little.



(Your computer or situation may not look exactly like this illustration.)

#### 2. Pull out the tray gently.

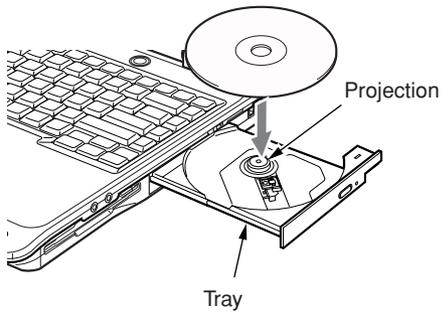


**Critical Point**

- If the tray will not come out  
If the computer is turned off, turn it on, and then press the CD eject button.
- You can press the eject button at any time, even when the  on the operating status indicator LED blinks.

**3. Place a disc on the tray while holding the tray with a hand.**

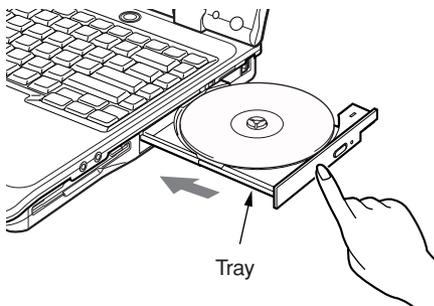
Fit the hole in the disc on the stopper at the center of the tray with the title-printed face up, and push it down until it clicks into place. Failure to do so may make it impossible to play or eject the CD.

**Critical Point**

- When inserting a disc, fit the hole in the disc on the stopper at the center of the tray to prevent the disc from coming off and hitting against the computer main unit.

**4. Push the tray gently into the drive.**

It is about 10 seconds before the CD gets ready for use.

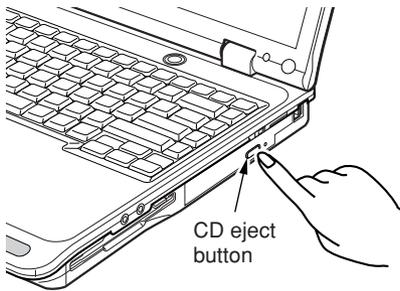


## Critical Point

- Multi-session discs may take a little longer to start than other types of discs.
- When you insert an audio CD while Windows is running, Windows Media Player may automatically start and play the CD. You can use either Media Player or the one-touch buttons to control the playback of the CD.

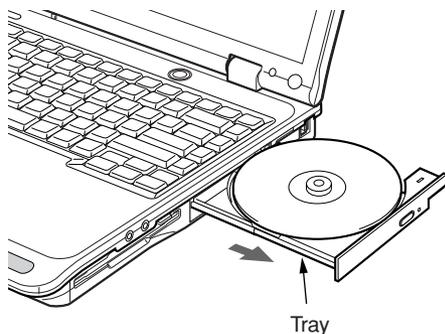
## Removing a Disc

1. **Exit all programs started from the disc, if any.**
2. **Press the CD eject button.**  
The tray springs out a little.



(Your computer or situation may not look exactly like this illustration.)

**3. Pull out the tray gently.**

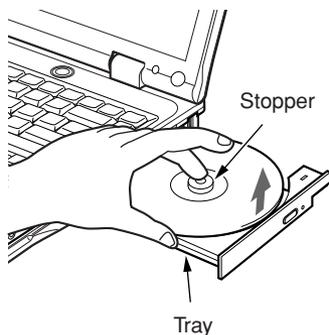


**Critical Point**

- If the tray will not come out  
If the computer is turned off, turn it on, and then press the CD eject button.
- You can press the eject button at any time, even when  on the operating status indicator LED blinks.

**4. Remove the disk while holding the tray with a hand.**

Lift the edge of the disc while pressing down the stopper at the center of the tray. At that time, be careful not to hit the disc against the computer main unit.



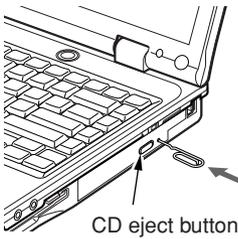
**5. Push the tray gently into the drive.**

## Critical Point

- If the disc cannot be ejected
  1. Click the Start button and select My Computer.
  2. In the My Computer window, right-click CD/DVD drive in the Drives with Removable Storage area.
  3. Click Eject.

The tray springs out a little.
  4. Pull out the tray gently and remove the disc.
- If this does not work well, perform these steps.
  1. Turn off your computer.
  2. Insert a straightened paperclip, and the like, into the pinhole by the side of the CD eject button.

The tray springs out.
  3. Pull out the tray gently and remove the disc.



(Your computer or situation may not look exactly like this illustration.)

## 7. Internal Modem

### About the Built-in Modem

Your computer came with a V.90-compliant built-in fax modem.

#### ⚠ CAUTION



##### **ELECTRIC SHOCK**

To avoid shock hazards, do not put your finger into a phone jack (for modular cables) on the wall.

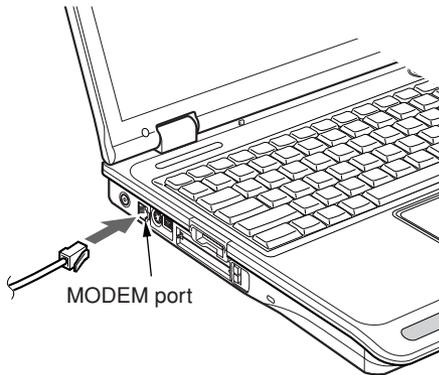


##### **BREAKAGE**

To avoid damage to your computer, do not plug a modular cable in any port other than the modem port.

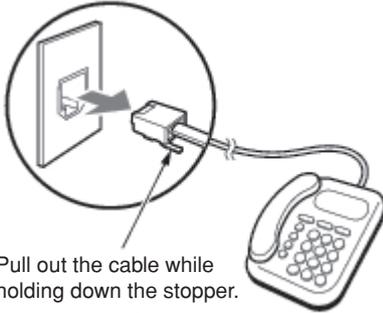
### Plugging in a Modular Cable

1. **Plug the supplied modular cable in the modem port on the left-hand side of your computer.** Insert the connector until it clicks into place.



(Your computer or situation may not look exactly like this illustration.)

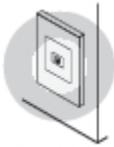
2. **Unplug the telephone's modular cable from the phone jack on the wall.**



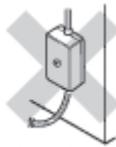
Pull out the cable while holding down the stopper.

### IMPORTANT

- If a rosette type phone jack is used, it needs be changed to a modular type. Changing a phone jack from rosette type to modular type must be done by an authorized technician or under his or her supervision. So, if you need to change the phone jack, you will have to ask your local office or branch.

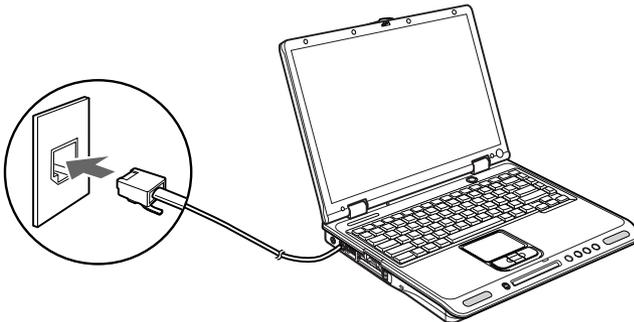


Modular type



Rosette type

3. **Plug the modular cable from your computer in the phone jack on the wall.**  
Insert the other end of the modular cable from your computer into the modular type phone jack.



**Critical Point**

- Your telephone cannot be used when its modular cable is disconnected. So, do not forget to plug it again after using the built-in modem.
- If you run the modular cable close to a household electrical appliance or tie it in a bundle, a communications error could occur.
- If the supplied modular cable is too short to connect your computer to the phone jack on the wall, use a commercially available modular cable instead. Note that the use of a long modular cable could result in a reduction in the data transfer rate or a communication error.

**IMPORTANT**

- If you navigate the Internet for a long time while leaving programs active, a heavy load is applied to the CPU of your computer and communications via the built-in modem may be broken unexpectedly. If this happens, exit all running programs other than the Web browser and e-mail program before connecting to the Internet again.

## 8. Using a LAN

### Using a LAN

#### Preparing necessary items

LAN cable	There are two types of LAN cables: straight type and cross type. Select a cable appropriate to the data transfer rate of the network you want to use.
Network connection device	Prepare a device that serves your purpose of connecting to a LAN. Here are some examples of network connection devices. <ul style="list-style-type: none"> <li>• Dialup router</li> <li>• Cable modem</li> <li>• ADSL modem</li> <li>• Hub</li> </ul>
Instruction manual for network connection device	Methods of connection vary among network connection devices. So, read the instruction manual for your network connection device, too.

### Connecting a LAN Cable

#### WARNING



##### **ELECTRIC SHOCK**

Before connecting a LAN cable to your computer, always turn off the computer and disconnect the AC adapter from it to avoid shock hazards.



##### **ELECTRIC SHOCK**

When it thunders, turn off the computer and disconnect the AC adapter and the LAN cable from it as soon as possible. Failure to do so could result in damage to your computer or a fire due to a thunderbolt.

#### CAUTION



##### **ELECTRIC SHOCK**

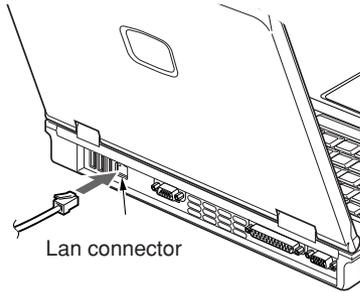
Do not put your finger into the LAN port, or you might get an electric shock.



##### **BREAKAGE**

To avoid damage to your computer, do not plug a LAN cable in any port other than the LAN port.

1. Turn off the computer and disconnect the AC adapter from it.
2. Plug a LAN cable in the LAN port on the back of the computer.



(Your computer or situation may not look exactly like this illustration.)

3. Connect the LAN cable to the network connection device.
4. Plug the LAN cable in the network device.  
Plug the other end of the cable connected in step 2 in the port on the network connection device, and turn on the network connection device.
5. Connect the AC adapter to the computer and turn on the computer.
6. Click the Start button and select Control Panel.
7. Click Performance and Maintenance, then Power Options.
8. On the Power Schemes page, set the items below, and click OK when you are through.
  - System standby: Never
  - System hibernates: NeverThese settings prevent Windows from automatically placing your computer into standby or hibernation mode.

## IMPORTANT

- When you are connected to a network (such as the Internet), do not place your computer into standby or hibernation mode, otherwise your computer may not maintain connection with the network.  
Whenever your computer is not in use, it should be turned off.
- When you want to connect to an existing network, ask the network administrator what and how you should set up.

## Critical Point

- When disconnecting the LAN cable from your computer, pull out the connector while holding down the stopper on it, otherwise the connector could be broken.
- When connecting to a LAN, you should power your computer from the AC adapter whenever possible, since data transfer over a network requires a large amount of electrical power.

## 9. About the Integrated Wireless Lan (For selected model)

### Before Using This Device

Thank you for purchasing a Fujitsu LifeBook with an Integrated Wireless LAN. This manual describes the basic operating procedures for the Wireless LAN (referred to as the “device” in this manual) and how to set up a wireless LAN network. Before using this device, read this manual carefully to ensure correct operation of the device. Keep this manual in a safe place for reference while using the device.

#### ● Characteristics of the Device

This device consists of a wireless LAN card that is attached to the computer via a mini-PCI slot. The main characteristics are as follows:

- It uses the power saving communications system in the 2.4 GHz band, and does not require any license for radio communication.
- It uses Direct Sequence Spread Spectrum (DS-SS), which is resistant to noise.
- The Wireless LAN Mini-PCI module complies with Wi-Fi, and is able to communicate at the maximum transfer rate of 11 Mbps.
- The maximum communication range is approximately 80 feet (25 meters) inside a building. The range may be shorter depending upon the installation factors, such as walls and columns.
- Unauthorized access can be prevented with the use of SSID and encryption key.

### Wireless Lan Modes

#### ● Using This Device

##### AdHoc Mode

The “AdHoc Mode” refers to the network connecting two computers using wireless LAN cards. This connection is called an “AdHoc network.”

Using an AdHoc network, you can obtain a network connection easily and at a low cost.

In the AdHoc mode, you can use the function supported by Microsoft Network, such as File and Print Sharing to exchange files and share a printer or other peripheral devices.

To use the AdHoc Mode, you must set the same SSID and the same encryption key for all the computers that are connected. All connected computers can communicate.

#### ● Infrastructure Mode

If a number of computers are connected simultaneously in the AdHoc mode, the transfer rate may be reduced, communications may become unstable, or the network connection could fail. This is because all wireless LAN cards are using the same radio frequency in the network.

To improve this situation, you can use a wireless LAN access point, which is sold separately. The wireless LAN network is in the “Infrastructure mode” when it uses an access point, and such a connection is called the “Infrastructure Network.”

By using an access point, you can set and use a different communication channel for each network group. Each channel is given a different radio frequency, and it eliminates the collision of communications and provides a more stable communications environment.

Infrastructure mode is most suitable when you are configuring multiple wireless LAN networks on the same floor. To connect a wireless LAN network to a wired LAN, you need an access point.

#### ● How to Handle This Device

The Integrated Wireless LAN device is already installed in your LifeBook computer. Under normal circumstances, it should not be necessary for you to remove or re-install it. The LAN has been configured to support the operating system with which your system shipped.

# Connecting Windows 2000 Systems

This chapter describes how to set the wireless LAN connection for computers running Windows 2000.

## Critical Point

- When you receive your LifeBook, the integrated wireless LAN device and drivers have already been installed. This procedure outlines the steps for setting the device parameters.

## Workflow

The proper setup of the wireless LAN requires several steps which must be performed in the proper order. Following is a general outline of the steps that must be performed. Each step is detailed later in this procedure.

1. Setting parameters
  - Setting the profile
  - Setting the encryption
2. Network settings
  - Setting the protocol and checking the network
  - Setting file and printer sharing
  - Checking the connection

## Setting Parameters

- 1 Click [Start] → [Settings] → [Control Panel].
- 2 Double-click the [PRISM Settings] icon. The [PRISM Wireless Settings] appears.
- 3 Set the profile as specified in Table 1. Ask your network administrators to check the setting.
- 4 When you finish your entry, click [Apply].

Item	Description
Profile	Enter the system file name in which the parameter information is to be saved.
Mode	<i>Ad Hoc Network:</i> Click the down arrow and select "802.11 AdHoc". <i>Infrastructure Network:</i> Click the down arrow and select "Infrastructure".
SSID	Enter the network name to which you want to connect.
Transmit Rate	Obtain the information from your network administrator. If you do not have a network administrator, select "Fully Automatic".
Power Save Enabled	Not supported.
AdHoc Channel	<i>AdHoc Network:</i> Select the same channel, 1-13, for all connected computers. If there is more than one wireless LAN nearby (such as on the same floor), we recommend that the channels for each LAN be 5 numbers apart (e.g., if there are two other LANs nearby, the channels used should be 1, 6, and 11). <i>Infrastructure Network:</i> Not an option.

Table 1: Profile Parameters

- 5 Click the [Encryption] tab.

## 6 Set the encryption items in accordance with Table 2.

- AdHoc Network: Specify the same value for all the computers for which the encryption key is used for connection.
- Infrastructure Network: Specify the identical encryption keys to the encryption keys set for the access point. For instructions on how to check the encryption keys set for the access point, refer to the access point manual.

### Critical Point

- Make sure that you specify the encryption keys. If you do not specify the keys, any computer with a wireless LAN card can be connected. This presents a risk that your data may be stolen or destroyed.

Item	Description
Encryption (WEP)	<p>Click the down arrow and select an encryption option.</p> <ul style="list-style-type: none"> <li>• <i>Disable</i>: Disables the encryption. In this case, “Create keys with Passphrase” and subsequent items are greyed out, and you cannot enter anything.</li> <li>• <i>64 bit</i>: The encryption is set. Select either “Create keys with Passphrase”, “Create keys manually”, or “ASCII Input”, and enter the encryption keys.</li> <li>• <i>128 bit</i>: The encryption is set. Select either “Create keys with Passphrase”, “Create keys manually”, or “ASCII Input”, and enter the encryption keys.</li> </ul>
Create Keys with Passphrase	Not supported.
Passphrase	Not supported.
Create Keys Manually	Select this to use hexadecimal character codes to set the encryption keys (Keys 1 - 4).
(Hexadecimal Input)	Enter a 10-digit value when you have selected [64 bit] for the encryption. Enter a 26-digit value when you have selected [128 bit] for the encryption.
ASCII Input	<p>Select to use the ASCII codes to set encryption keys (Keys 1 - 4). Select this if network does not contain other wireless LAN cards that are set with encryption key using character codes.</p> <p>Enter a 5-digit value when you have selected [64 bit] for the encryption.</p> <p>Enter a 13-digit value when you have selected [128 bit] for the encryption.</p> <p>You can use the following characters: 0 - 9, A - Z, a - z, _ (underscore).</p> <p>For example, to set “ABC12” for the encryption key, enter “ABC12.”</p>
Default Key	Click the down arrow, and select a key from Keys 1 - 4.

**Table 2: Encryption Key Setup**

- 7 **When you finish your entry, click [Apply].**
- 8 **Click [OK]. [PRISM Wireless Settings] closes.**  
You have completed the parameter settings.

### Critical Point

- When you are using ADSL (PPPoE) with the infrastructure network to connect to the Internet, you need to change the MTU size set for the computer. To change the MTU size, refer to the manual that comes with the access point.

## Network Connection

The section describes how to set the network connection for a computer with Windows 2000.

### ● Network Settings

In this section, you set “TCP/IP Settings,” and complete

- 1 **Double-click the [Network and Dial-up Connections] icon. The [Network and Dial-up Connections] window appears.**
- 2 **Right click the [Local Area Connection], then click [Properties] from the menu that appears. The [Local Area Connection Properties] window appears.**

### Critical Point

- More than one network adapter is installed in your system if more than one [Local Area Connection] entry is displayed. In this case, select the [Local Area Connection] entry with [Intersil PRISM Wireless LAN PCI Card] displayed under [Device Name].

### 3 Perform the following steps.

- Click [Internet Protocol (TCP/IP)].
- Click [Properties]. The [Internet Protocol (TCP/IP) Properties] window appears.

- 4 **Set an IP address as indicated in Table 7. Ask your network administrator to check the setting.**

Item	Description
For AdHoc Network	Set the IP address and subnet mask: Click [Use the following IP address], and enter a value for [IP address] and [Subnet mask].
For Infrastructure Network	Select [Obtain an IP address automatically]: For the DNS server, select [Obtain DNS server address automatically]. For the IP address, DNS server, and default gateway, follow the network administrator's instructions, if any.

**Table 7: Setting an IP Address**

- 5 **Click [OK]. The [Local Area Connection Properties] window appears again.**
- 6 **Click [OK]. When a message appears prompting you to restart the computer, click [Yes].**
- **Checking the full computer name and workgroup**
- 1 **Click [Start] → 2 [Settings] → 3 [Control Panel].**
- 4 **Check [Full computer name] and [Workgroup]. Ask your network administrator and check the setting.**

Item	Description
Full Computer Name	A name to identify the computer on the network. You can specify any name to each computer. For easier identification, use the model name or user name.
Workgroup	A name for the network group: <ul style="list-style-type: none"> <li>• <i>AdHoc Network</i>: Specify the same name to all computers within the same network.</li> <li>• <i>Infrastructure Network</i>: Specify a workgroup name to connect to.</li> </ul> To change the setting, click [Properties], and follow the instructions on the screen. [System Properties] appears again.

**Table 8: Checking computer name and workgroup**

- 5 **Click [OK]. When a message appears prompting you to restart the computer, click [Yes].**

## Sharing

In this section, you set sharing of the drive, folder, and printer.

You only need to set this when you are sharing files or a printer with other computers on the network.

When you share a drive, folder, or printer, you can use them from any computer on the network.

### ● **Setting [File and Printer Sharing for Microsoft Networks]**

- 1 Click [Start] → [Settings] → [Control Panel].
- 2 Double-click the [Network and Dial-up Connections] icon. The [Network and Dial-up Connections] windows appears.
- 3 Right click the [Local Area Connection], then click [Properties] from the menu that appears. [Local Area Connection Properties] appears.

### **Critical Point**

- More than one network adapter is installed in your system if more than one [Local Area Connection] entry.
- 4 If [File and Printer Sharing for Microsoft Networks] is displayed in the list, make sure that it is checked. If it is not checked, check it and click [OK]. You do not have to perform the following steps. Go to the next section, entitled “Sharing Files.”  
If [File and Printer Sharing for Microsoft Networks] is not found in the list, click [Install], and perform Step 5 and subsequent steps. When you click [Install], the [Select Network Component Type] window appears.
  - 5 Perform the following steps.
    - Click [Service].
    - Click [Add]. The [Select Network Service] window appears.
  - 6 Perform the following steps.
    - Click [File and Printer Sharing for Microsoft Networks].
    - Click [OK]. You will go back to [Local Area Connection Properties], and [File and Printer Sharing for Microsoft Networks] is added to the list.
  - 7 Click [OK].

### **Critical Point**

- If you have changed the setting, [Close] is shown instead. Click [Close].

## ● Sharing Files

The following example shows how to set sharing the “Work” folder on the c: drive.

- 1 On the desktop, double-click [My Computer] → C: drive.
- 2 Right-click the “Work” folder, then click [Sharing] from the menu. The [Work Properties] window appears.
- 3 Click [Share this folder] and set necessary items, as indicated in the following table.

Item	Description
Share Name	You can specify a share name for the drive or folder that you want to share.
Comment	You can enter the description for the drive or folder that you want to share.
User limit	Specifies the limit for the number of sharing users.

**Table 9: Sharing Files**

- 4 Click [OK]. The folder is set shared, and the “Work” folder icon changes.

## ● Printer Sharing

- 1 Click [Start] → [Settings] → [Printers]. The Printers window appears, showing the printers that are connected.
- 2 Right click the printer that you want to share, then click [Sharing] from the menu that appears.
- 3 Click [Sharing], and select necessary items.

Item	Description
Not Shared	Disables printer sharing.
Shared As	Enables printer sharing.
Share Name	Specifies a share name of the printer to be shared.
Comment	Enter the description of the printer to be shared.
Passwords	If you specify a password, you need to enter it when using the printer.

**Table 10: Printer Sharing**

- 4 Click [OK]. The printer sharing is set, and the icon changes.

## Checking the Connection

After the network setting is completed, access the shared drive on another computer to check the connectivity of the wireless LAN network.

### ● Accessing Another Computer

- 1 Double-click the [My Network Places] icon on the desktop. [My Network Places] appears.
- 2 Double-click [Computers near me]. The computers that are connected to the network are displayed.
- 3 Double-click the computer that you want to access. The drive that you set with “Sharing” are displayed.
- 4 Double-click the drive that you want to access. The drive is displayed showing its contents and made available to you.

### ● Checking the Connectivity

- 1 Click [Start] → [Settings] → [Control Panel].
- 2 Double-click the [PRISM Settings] icon.
- 3 Check the connectivity on the [Link] tab. The current condition of connection is displayed.

Item	Description
State	Shows the current condition of connection. The MAC address of the other computer to which you are connected is displayed when the connection is successful. If you are connected to more than one computer, the computer that has the best connectivity is displayed.
Current Channel	Shows the current channel used for the connection.
Current Tx Rate	Shows the current transfer rate in Mbits/sec.
[Radio Off]/ [Radio On]	Click [Radio Off] to disconnect. Click [Radio On] to connect to the network.
[Rescan] button	Click this button to search for others to connect to.
Throughput (Bytes/sec)	Shows the actual transfer rate of the data transfer for send (Tx) and receive (Rx).
Link Quality	Shows either [Excellent], [Good], [Fair], [Poor], or [Not Connected], depending on the link quality. Not shown for AdHoc connection.
Signal Strength	Shows either [Excellent], [Good], [Fair], [Poor], or [Not Connected], depending on the signal strength. Not shown for AdHoc connection.

Table 11: Checking the Connectivity

# Connecting Windows XP Systems

This chapter describes how to set up the wireless LAN connection for computers that are running Windows XP.

## Critical Point

- When you receive your LifeBook, the integrated wireless LAN device and drivers have already been installed. This procedure outlines the steps for setting the device parameters.

## Workflow

The proper setup of the wireless LAN connection requires that several steps be performed in the proper order. Following is a general outline of the steps to be performed. Each step is detailed later in this procedure.

- 1 Setting parameters**
  - Setting the profile
  - Setting the encryption
- 2 Network settings**
  - Setting the protocol and checking the network
  - Setting file and printer sharing
  - Checking the connection

## Setting Parameters

- 1 Click [Start] → [Control Panel].**
- 2 Click [Network and Internet connection].**
- 3 Click [Network connection]. A list of networks that are currently installed is displayed.**
- 4 Right click [Intersil PRISM Wireless LAN PCI Card] in the list, and click [Properties] from the menu that is displayed. [Wireless Network Connection 2 Properties] appears.**
- 5 Click the [Wireless Networks] tab. The [Wireless Networks] tab appears.**
- 6 Perform the following steps.**
  - Make sure that [Use Windows to configure my wireless network settings] is checked.
  - Click [Add] under [Preferred networks]. [Wireless Network Properties] appears.
- 7 Set parameters.**
  - For the AdHoc network, specify the same value to all the computers, for which the encryption key is used for connection.
  - For the infrastructure network, specify the encryption key (network key) with the same value to the encryption key of the access point. For how to check the encryption keys set for the access point, refer to the manual supplied with the access point.

## Critical Point

- Be sure to specify the encryption keys. If you do not specify the keys, any computer with a wireless LAN card can be connected. This presents a risk that other users may steal or destroy your data.

Item	Description
Network Name SSID	<p>Enter the network name to which you want to connect. This is a required item. For the network name, ask your LAN administrator.</p> <p><i>AdHoc network:</i> Set the same name for all of the computers that are to be connected.</p> <p>Infrastructure network: Specify the same name as that specified on the access point that is to be connected. For access point instructions, refer to the manual that comes with the access point.</p>
Key Format	<p>Click the down arrow and select the input for the Network key.</p> <p><i>ASCII characters</i></p> <p>Select this when using ASCII characters for the Network Key. Characters that can be used follow: 0-9, A-Z, a-z, and _ (underscore) <i>Example:</i> To set the key to "ABC12", input "ABC12".</p> <p><i>Hexa-decimal characters</i></p> <p>Select this when using hexadecimal characters for the Network Key.</p> <p>Use this if there is a wireless LAN card in the network that has the Network Key set to a character code. In 'Network Key', input the same value as the other wireless LAN card.</p>

Table 12: Setting parameters

- 8 When you finish your entry, click [OK]. [Wireless Network Connection 2 Properties] appears again.
- 9 Make sure the network name you specified for the.....

## Network Connection

The section describes how to set the network connection for a computer running Windows XP.

### ● Network Settings

In this section, you set "TCP/IP Settings," and complete "Checking Computer Name and Workgroup" required for the network connection.

#### TCP/IP Settings

- 1 On [Wireless Network Connection Properties], click [General].

**Critical Point**

- If [Wireless Network Connection 2 Properties] is not displayed, click [Start] → [Settings] → [Control Panel], and double-click the [Network Connection] icon. Right click the [Wireless Network Connection], and then click [Properties] from the menu that appears.

**2 Perform the following steps.**

- Click [Internet Protocol (TCP/IP)].
- Click [Properties]. [Internet Protocol (TCP/IP) Properties] appears.

**3-4 Set an IP address. Ask your network administrator and check the setting.**

Item	Description
AdHoc Network	Set the IP address and subnet mask. Click [Use the following IP address]. Enter a value for [IP address] and [Subnet mask].
For Infrastructure Network	Select [Obtain an IP address automatically]. For the DNS server, select [Obtain DNS server address automatically]. For the IP address, DNS server, and default gateway, follow the network administrator's instructions, if any.

**Table 13: Setting an IP address****5 Click [OK].****Critical Point**

- If you have changed the setting, [Close] is shown...

**● Checking the Full Computer Name and Workgroup**

- 1 Click [Start] → [Control Panel]. Make sure the Classic View is selected.
- 2 Double-click the [System] icon. [System Properties] appears.
- 3 Click the [Computer Name] tab.
- 4 Check [Full computer name] and [Workgroup]. Ask your network administrator and check the setting.

Item	Description
Computer Name	A name to identify the computer on the network. You can specify any name to each computer. Use up to 15 single-byte characters. For easier identification, use the model name or user name.
Workgroup	A name of the network group. Use up to 15 single-byte characters. <i>AdHoc Network:</i> Specify the same name to all computers within the same network. <i>Infrastructure Network:</i> Specify workgroup name to connect to.

**Table 14: Setting computer name and workgroup**

To change the setting, click [Change], and follow the instructions on the screen. [System Properties] appears again.

**5 Click [OK]. When a message appears prompting you to restart the computer, click [Yes].**

## Sharing

In this section, you set sharing of the drive, folder, and printer.

You need to set this only when you are sharing files or a printer with other computers on the network.

When you share a drive, folder, or printer, you can use these from any computer on the network.

### ● Setting [File and Printer Sharing for Microsoft Networks]

- 1 Click [Start] → [Control Panel]. Make sure the Classic View is selected.**
- 2 Double-click the [Network Connection] icon. Make sure that it is checked. If it is not checked, check it, and click [OK]. You do not have to perform the following steps. Go to the next section, “Sharing Files.”**
- 3 If [File and Printer Sharing for Microsoft Networks] is not found in the list, click [Install], and perform Step 5 and the subsequent steps.**
- 4 When you click [Install], [Select Network Component Type] appears.**
- 5 Perform the following steps.**
  - Click [Service].
  - Click [Add]. [Select Network Service] appears.
- 6 Perform the following steps.**
  - Click [File and Printer Sharing for Microsoft Networks].
  - Click [OK]. You will go back to [Wireless Network Connection 2 Properties], and [File and Printer Sharing for Microsoft Networks] is added to the list.
- 7 Click [Close].**

### ● Sharing Files

The following example shows how to set sharing the “Work” folder on the c: drive.

- 1 Click [Start] → [My Computer].
- 2 Double-click the [Local Disk (c:)] icon.
- 3 Right click the “Work” folder, and then click [Sharing and Security] from the menu that appears. [Work Properties] appears.
- 4 Click [If you understand the security risks but want to share files without running the wizard, click here].

### Critical Point

- If you have already clicked [If you understand the security risks but want to share files without running the wizard, click here], this window does not appear.

In the [Work Properties] window, the description under [Network Sharing and security] changes.

- 5 Check [Share this folder on the network].  
Uncheck [Allow network users to change my files], if the shared folder is for read only.
- 6 Click [OK]. The folder is set shared, and the “Work” folder icon changes.

### ● Printer Sharing

- 1 Right-click the printer to be shared, and click [Sharing] from the menu that appears. The properties of the printer to be shared will be displayed. Set printer sharing.  
On the display, the printer sharing setting is recommended by the Network Setup Wizard, but for the wireless LAN network, security is maintained by network name (SSID) or network key. The following steps allow you to set up printer sharing without using the Network Setup Wizard.
- 2 Click OK. If you understand the security risks but want to share printers without running the wizard, click here. ‘Enable Printer Sharing’ will be displayed.
- 3 Select ‘Just enable printer sharing’.
- 4 Click ‘OK’. The printer properties will be indicated.
- 5 Select ‘Share this printer’.
- 6 Enter the sharing printer name in ‘Share name’.
- 7 Click OK. The printer will be shared, and the printer icon will become a sharing icon.

## Checking the Connection

After the network setting is completed, access the shared drive on another computer to check the connectivity of the wireless LAN network.

### ● Accessing Another Computer

- 1 Click [Start] → [My Computer].
- 2 From the left menu in [Other Places], click [My Network Places].
- 3 From the left menu in [Network Tasks], click [View workgroup computers]. The workgroup in which you are participating will appear.
- 4 Double click the computer to which you want to connect. The drive that you set in [Computer Sharing] appears.
- 5 Double click the drive to which you want to connect. The contents of the drive will appear, and is available for use.

### ● Checking the Connectivity

- 1 Click [Start] → [Control Panel].
- 2 Double-click the [PRISM Settings] icon. [PRISM Wireless Setting] appears.
- 3 Check the connectivity on the [Link] tab. The current condition of connection is displayed

Item	Description
State	Shows the current condition of connection. The MAC address of the other computer that you are connected to is displayed, when the connection is successfully made. If you are connected to more than one computer, the computer that has the best connectivity is displayed.
Current Channel	Shows the current channel used for the connection.
Current Tx Rate	Shows the current transfer rate in Mbits/sec.
Radio Off/ Radio On	Click [Radio OFF] to disconnect. Click [Radio On] to connect to the network.
Rescan	Click this button to search for others to connect to.
Throughput (Bytes/sec)	Shows the actual transfer rate of the transfer data for send (Tx) and receive (Rx).
Link Quality	Shows the link quality. This is not shown for the AdHoc connection.
Signal Strength	Shows the signal strength. This is not shown for the AdHoc connection.

Table 15: Checking connectivity

# Troubleshooting

This chapter contains troubleshooting information, including causes and actions, for problems you may find while using this device.

## ● Troubleshooting Table

Problem	Possible Cause	Possible Solution
An exclamation mark (!) or cross (x) is attached to [Intersil PRISM Wireless LAN PCI Card].	A failure to recognize the device.	Restart the computer.
	A failure in installing the driver.	Restart the computer.
Other computers are not displayed when the [Network Computer] icon is double-clicked.	You did not enter the password when Windows started. You clicked [Cancel] or [ESC] when User Name/ Password window was shown.	Make sure that you enter user name and password and click [OK] when starting Windows. If you forget your password, enter another user name. A new user name and password is registered in the computer.
	The network has not been set up correctly.	Check the setting for the protocol, workgroup, and sharing.  To check this, you need a different procedure, depending upon the operating system that you use. Refer to the appropriate section of this manual.
	It takes time before the network is searched and the computer connected is displayed.	Perform the following steps to search for the computer. <ul style="list-style-type: none"> <li>• Click [Start] → [Search] → [Other Computers].</li> <li>• Enter the computer name that you are connecting to in [Name], and click [Search].</li> <li>• Double-click the icon of the computer that has been searched.</li> </ul>
	A failure in installing the driver.	Make sure that the driver is correctly installed.
	The TCP/IP protocol is not installed, or, the IP address is not set correctly.	Make sure that the TCP/IP protocol is installed. To check this, you need a different procedure, depending on the operating system that you use. Refer to the appropriate section of this manual.

Problem	Possible Cause	Possible Solution
Other computers are not displayed when the [Network Computer] icon is double-clicked.	The TCP/IP protocol is not installed, or, the IP address is not set correctly.	<p>If the TCP/IP protocol is installed, do the following to check the IP address:</p> <ol style="list-style-type: none"> <li>1. Windows 2000: Click [Start] → [Programs] → [Accessories] → [Command Prompt]. Windows XP: Click [Start] → [All Programs] → [Accessories] → [Command Prompt].</li> <li>2. Enter "IPCONFIG" command, and press [Enter]. (If your hard disk is C drive, enter C:\&gt;ipconfig)</li> </ol> <p>Check that the IP address is correctly displayed under the IP Address. Example: IP address: 10.0.1.3 Subnet Mask: 255.255.255.0 Default Gateway: 10.0.1.1</p>
	No communication due to poor radio signal.	Shorten the distance between computers or remove visible obstacles between them, and retry the connection.

Problem	Possible Cause	Possible Solution
IP packet isn't reaching its destination	Run the PING command to check the connection	<p>Perform the following steps to run the PING command to check if the IP packet is correctly delivered to the destination.</p> <p>To run the PING command, the TCP/IP protocol must be installed. First you will determine your IP address, then you will make sure your IP address can respond, and then you will make sure other computers can be addressed.</p> <ol style="list-style-type: none"> <li>1. Windows 2000: Click [Start] → [Programs] → [Accessories] → [Command Prompt]. Windows XP: Click [Start] → [All Programs] → [Accessories] → [Command Prompt].</li> <li>2. Type: <code>ipconfig &gt; directory/filename</code> where <i>directory</i> and <i>filename</i> represent the location at which you want to find the IP address.</li> <li>3. Click [Enter], then go to the location you specified above. The IP address for your system will be contained in the file.</li> <li>4. To check that your IP address is functioning properly, go back to the DOS prompt and type: <code>ping &lt;IP address&gt;</code>, then press [Enter]. You will receive several replies, followed by the PING statistics (similar to below).</li> <li>5. To check that your system is communicating with other systems, go to the DOS prompt and type: <code>\&gt;ping XXX.XXX.XXX.XXX</code>. (With the destination IP address in place of XXX.XXX.XXX.XXX).</li> </ol> <p>Example: if the destination IP address is 10.0.1.3: <code>C:\&gt;ping 10.0.1.3</code></p> <p>A message similar to the following appears if the connection is successful.</p> <p>Pinging 10.0.1.3 with 32 bytes of data:</p> <p>Reply from 10.0.1.3: bytes=32 time=1ms TTL=32</p> <p>Reply from 10.0.1.3: bytes=32 time&lt;10ms TTL=32</p> <p>Reply from 10.0.1.3: bytes=32 time=4ms TTL=32</p> <p>Reply from 10.0.1.3: bytes=32 time&lt;10ms TTL=32</p> <p>If the connection fails, [Request timed out], [Destination host unreachable], or a similar message appears. In this case, refer to the "Other computers are not displayed" portion of this chapter.</p>

<b>Problem</b>	<b>Possible Cause</b>	<b>Possible Solution</b>
Cannot connect to the network	There are several possible causes, as listed to the right. Refer to the specific section of this manual or your user's manual.	The following causes are possible. Check each one of them. <ul style="list-style-type: none"><li>• The network name or encryption key is not right.</li><li>• The driver has not correctly started.</li><li>• The destination computer is not turned on.</li><li>• You do not have the access privilege to the destination computer.</li><li>• The card has failed.</li><li>• Hardware conflict.</li></ul>

Problem	Possible Cause	Possible Solution
<p>I want to remove the driver (Windows 2000)</p>		<p><b>Windows 2000:</b></p> <p>When removing the driver, make sure that the device is attached to the computer. If you try to remove the driver while the device is detached from the computer, the driver is not removed.</p> <ol style="list-style-type: none"> <li>1. Right click the [My Computer] icon on the desktop, and then click [Properties] from the menu that appears. [System Properties] appears.</li> <li>2. Click the [Hardware] tab.</li> <li>3. Click [Device Manager...]. The [Device Manager] window appears.</li> <li>4. Click [+] beside [Network adapters].</li> <li>5. Right click [Intersil PRISM Wireless LAN PCI Card], and click [Uninstall] from the menu that is displayed. [Confirm Device Removal] appears.</li> <li>6. Click [OK].</li> <li>7. Close [System Properties].</li> <li>8. Make sure that the icon has disappeared from the task tray in the lower right corner of the screen.</li> <li>9. Click [Start] → [Settings] → [Control Panel].</li> <li>10. Double-click [Add/Remove Programs]. [Add/Remove Programs] appears.</li> <li>11. Perform the following steps. <ul style="list-style-type: none"> <li>• Click [PRISM 11Mbps Wireless LAN for Windows].</li> <li>• Click [Change/Remove].</li> </ul> </li> </ol> <p>A window appears asking you if you really want to remove the driver.</p> <ol style="list-style-type: none"> <li>12. Click [Yes].</li> </ol> <p>When the driver is removed, a window appears showing that the driver has been removed.</p> <ol style="list-style-type: none"> <li>13. Click [OK].</li> <li>14. Close [Add/Remove Programs] and [Control Panel].</li> <li>15. Shut down Windows, and turn off the computer.</li> </ol>

Problem	Possible Cause	Possible Solution
<p>I want to remove the driver (Windows XP)</p>		<p><b>Windows XP:</b></p> <p>When removing the driver, make sure that the device is attached to the computer. If you try to remove the driver while the device is detached from the computer, the driver is not removed.</p> <ol style="list-style-type: none"> <li>1. Click [Start], right click [My Computer], and then click [Properties] from the menu that appears. [System Properties] appears.</li> <li>2. Click the [Hardware] tab.</li> <li>3. Click [Device Manager].</li> <li>4. Click [-] beside [Network adapters].</li> <li>5. Right click [Intersil PRISM Wireless LAN PCI Card], and click [Uninstall] from the menu that is displayed. [Confirm Device Removal] appears.</li> <li>6. Click [OK].</li> <li>7. Close [System Properties].</li> <li>8. Make sure that the icon has disappeared from the task tray in the lower right corner of the screen.</li> <li>9. Click [Start] → [Control Panel]. [Control Panel] appears.</li> <li>10. Double-click [Add/Remove Programs]. [Add/Remove Programs] appears.</li> <li>11. Perform the following steps. <ul style="list-style-type: none"> <li>• Click [PRISM 11Mbps Wireless LAN for Windows].</li> <li>• Click [Change/Remove].</li> </ul> </li> </ol> <p>A window appears asking you if you really want to remove the driver.</p> <ol style="list-style-type: none"> <li>12. Click [Yes]. <p>When the driver is removed, a window appears showing that the driver has been removed.</p> </li> <li>13. Click [OK].</li> <li>14. Close [Add/Remove Programs] and [Control Panel].</li> <li>15. Shut down Windows, and turn off the computer.</li> </ol>

# About IP Addresses

## ● SETTING IP ADDRESSES

If you are not sure how to set the IP address, refer to the following procedure.

If you have an access point (DHCP server) on the network, set the IP address as follows:

Windows 2000: [Obtain an IP address automatically]

Windows XP: [Obtain an IP address automatically]

### Critical Point

- A DHCP server is a server that automatically assigns IP addresses to computers or other devices in the network.
- There is no DHCP server for the AdHoc network.

If the IP address is already assigned to the computer in the network, ask the network administrator to check the IP address to be set for the computer.

If no access point is found in the network:

An IP address is expressed with four values in the range between 1 and 255. Set the each computer as follows: The value in parentheses is a subnet mask.

<Example>

Computer A: 192.168.100.2 (255.255.255.0)

Computer B: 192.168.100.3 (255.255.255.0)

Computer C: 192.168.100.4 (255.255.255.0)

:

:

Computer X: 192.168.100.254 (255.255.255.0)

# Specifications

## ● Technical Specifications for Integrated Wireless Lan Device

Item	Description
Network Type	IEEE 802.11b
Transfer Rate	11/5.5/2/1Mbps (auto change)
Frequency Range	2,400 - 2,483 MHz
Channels	One of 13 channels is used
Card Type	Non-intelligent
VCC	Class B
Security	Network name, encryption key
Supported Operating Systems	Windows 2000, Windows XP
Power Current	Max: 350mA
Maximum number of units recommended for wireless LAN (AdHoc network)	10 or less

# SECTION

# 2

This section explains installation of options for this computer.

# 1. Using a PC Card

## Cautions in Using a PC Card

### CAUTION



#### BREAKAGE

A PC card is composed of static-sensitive parts, and it is easily broken by static discharged from a human body. Before touching a PC card, always touch an appropriate metal object to discharge static from your body.

To avoid damage, take the following precautions when using PC cards.

- Do not place PC cards in a hot place or where they will be exposed to direct sunlight.
- Be careful not to shock PC cards
- Do not put a heavy object on top of a PC card.
- Be careful not to spill coffee or any other liquid on a PC card.
- Keep PC cards in their cases whenever they are not in use.

## Supported PC Cards

Your computer supports PC Card Standard-compliant Type I, Type II and Type III PC cards, which include, for example, the following:

- **SCSI Card**

This type of PC card is needed to connect a storage device, such as an SCSI-compliant hard disk or MO (magneto-optical) drive, to your computer.

### Critical Point

- Two PC cards may not be used at the same time with your computer, depending on the type of PC card used. For more information, refer to the documentation supplied with your PC card.
- Your computer does not support PC cards with a rated voltage of 12V.
- Some types of PC cards cannot be inserted in the upper PC card slot.

## Preparing Necessary Items

PC Card	Prepare a PC card that meets your needs.
PC Card driver	Some PC cards come with a CD or floppy disk that contains their respective drivers.
Instruction Manual for PC card	Setup procedures vary from PC card to PC card. So, read the documentation supplied with your PC card before starting its setup.

## Inserting a PC Card

### CAUTION



#### INJURY

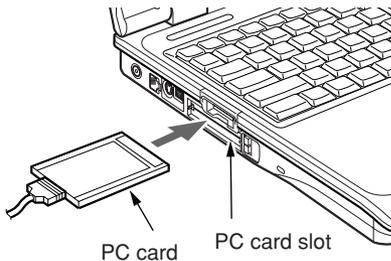
When inserting a PC card into a PC card slot, be careful not to put your finger into the slot, otherwise you could injure your finger.

### Critical Point

- Before using a PC card, you might need to turn off your computer or to install the device driver, depending on the type of PC card used.
- When your computer is loaded with two PC cards, it should be powered from the AC adapter to prevent the deterioration of the internal battery pack.

#### 1. Install a PC card.

Insert the PC card as far as it will go with the labeled face up.



(Your computer or situation may not look exactly like this illustration.)

#### 2. If necessary, install the driver before inserting the card for the first time.

Some PC cards require no driver to be installed. If necessary, however, install the driver for your PC card according to the instructions in its manual.

To install a driver, you might need a CD or floppy disk that contains it.

#### 3. Make sure that (remove hardware safely) is displayed in the notification area in the bottom-right corner of the screen.

If this icon is not displayed, eject the PC card by performing steps 3 and 4 in the Removing a PC card section, and then insert it again.

### Critical Point

- For PC cards with a cord, do not put an object on top of the connector connecting the cord to the PC card to avoid damage to the connector.

## Removing a PC Card

Here is the explanation of how to remove a PC card.

### Critical Point

- When removing a PC card with a cord, do not pull its cord to avoid damage to it.
- To remove a PC card when your computer is turned on, always follow the steps below. Failure to do so could damage your computer or PC card.
- Some PC cards cannot be removed when the computer is running. To check whether your PC card is of this type or not, read your PC card manual carefully before use.

### ⚠ CAUTION



#### HOT

A PC card may be hot immediately after use. When removing a PC card, do not pull out the PC card immediately after use but wait for a while after you are through step 3, otherwise you could burn your fingers.



#### INJURY

When removing a PC card, be careful not to put your finger into the PC card slot, otherwise you could injure your finger.

1. **Click (remove hardware safely) in the notification area in the bottom-right corner of the screen.**

### Critical Point

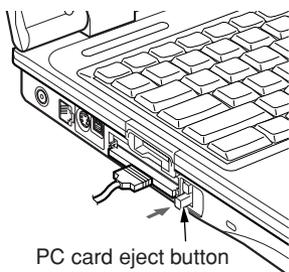
- Remove a PC card by performing these steps: double-click (remove hardware safely) in the notification area in the bottom-right corner of the screen and click Stop in the Remove Hardware  dialog box that appears. Otherwise, the operation of your computer may become unstable.

2. **Click “Remove the XXX safely”**  
XXX denotes the name of the PC card used.

### Critical Point

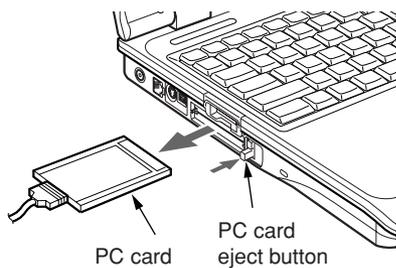
- If a message appears, telling you that the device should be stopped later because the device general-purpose volume is not ready to stop, click OK, check to be sure that the PC card you want to remove is not being accessed, and then perform steps 1 and 2 over again.

- 3. **When the Remove Hardware dialog box appears, press the PC card eject button.**  
The PC card eject button springs out.



(Your computer or situation may not look exactly like this illustration.)

- 4. **Remove the PC card.**  
Press the PC card eject button again and pull out the PC card that came out a little.



## 2. Adding Memory

### Critical Point

- Here are the size of the memory that came standard with your computer, and the maximum size of the memory that can be installed on your computer.

Memory installed	Max.Memory expandable to
256MB	768MB

### Preparing Necessary Items

Memory (Expanded RAM module)	You can purchase the memory module from your supplier.
Philips screwdriver (Size: #1)	Used to remove screws from the computer. To avoid damage to screw heads, use a screwdriver appropriate to the size of the screws (M2.5).

### Installing Memory

#### ⚠ WARNING



#### **ELECTRIC SHOCK**

When installing or removing memory, be sure to turn off your computer and disconnect the AC adapter from it to avoid shock hazards.



#### **SWALLOWING**

Keep small objects, such as a cover, caps and screws, out of the reach of babies and children to avoid the danger of suffocation.

In case a baby or child has swallowed such an object, consult the doctor immediately.

**CAUTION****HOT**

Some components around the memory slot are very hot immediately after use. To avoid burns, do not install or remove memory immediately after turning off the computer but wait for a while until its internal components cool down.

**BREAKAGE**

When installing or removing memory, hold its edge so as not to touch any terminal or IC. Also, be careful not to touch internal components or terminals of the computer. Touching these parts with oily fingers could result in poor electrical contact.

**BREAKAGE**

Memory is composed of static-sensitive parts, and it is easily broken by static discharged from a human body. Before touching memory, always touch an appropriate metal object to discharge static from your body.

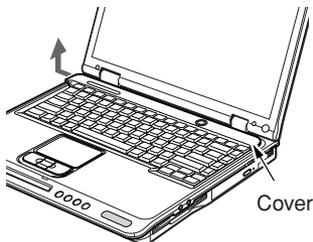
**BREAKAGE**

When installing or removing memory, be sure to turn off your computer. If you install or remove memory with the computer placed in standby or hibernation mode, data not saved could be lost or the computer or memory could be broken.

**Critical Point**

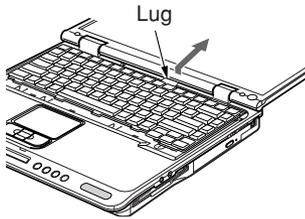
- To avoid damage, do not touch internal components unnecessarily.
- To avoid damage, be careful not to drop small objects removed, such as screws, into the computer.

1. Turn off your computer and disconnect the AC adapter from it.
2. Slide the cover to the left to remove it.

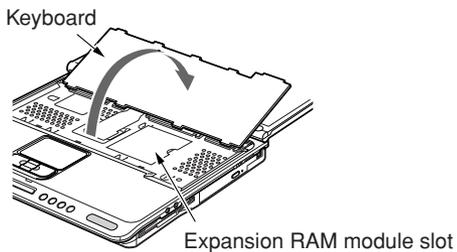


(Your computer or situation may not look exactly like this illustration.)

3. Lift the lugs on the keyboard in the direction of the arrow, and pull it gently toward the LCD panel.



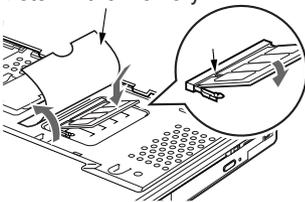
4. Lift the keyboard gently to open it.



5. Install memory.

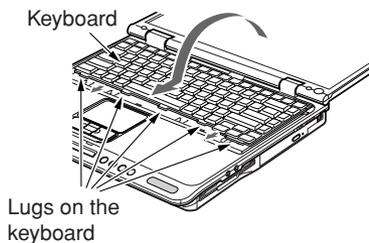
Remove the memory slot cover, insert the memory diagonally into the slot with the notch in the memory aligned with the projection on the connector, and then turn the memory down until it clicks into place.

Notch in the memory



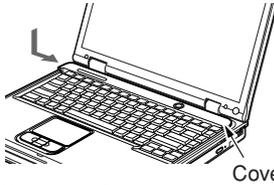
6. Close the keyboard gently.

Close the keyboard with the lugs on it aligned with the lugs on the computer main unit. At that time, be careful that no cable gets caught between the keyboard and the computer main unit.



## 7. Attach the cover removed in step 2.

Remove the memory

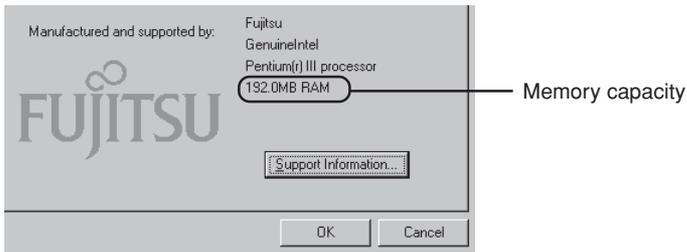


### ● Checking the memory capacity

#### IMPORTANT

- In case memory is not installed properly, the error message “Expansion memory error” or another message will be displayed in English when you first turn on the computer after installing the memory. If such a message appears, press the power button to shut down the computer, and reinstall the memory.

1. **Turn on the computer.**
2. **Click the Start button and select Control Panel.**  
The Control Panel window is displayed.
3. **Click Performance and Maintenance, and then System.**  
The System Properties dialog box is displayed.
4. **Check whether the circled numeric value in the figure below has increased by the size of the memory you have added.**  
The System Properties dialog box appears.



In this example, 256 MB of memory on the system.

The memory capacity displayed may be 64 MB less than the actual memory capacity, depend how much memory you allocate from the BIOS for the Video memory. You either can select 16MB,32MB or 64MB for the Video memory.

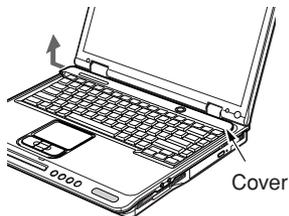
5. **Click OK.**  
The Performance and Maintenance window appears again.

#### Critical Point

- If the numeric value displayed does not agree with the memory capacity of your computer, check to see if the memory is installed properly.

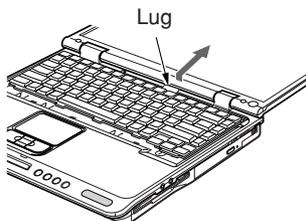
## Changing Memory

1. Turn off your computer and disconnect the AC adapter from it.
2. Slide the cover to the left to remove it.

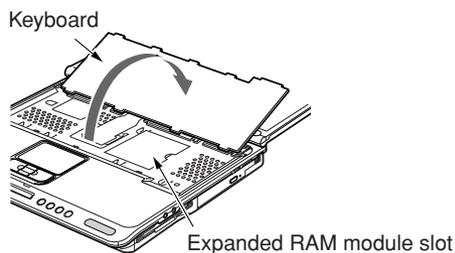


(Your computer or situation may not look exactly like this illustration.)

3. Lift the lugs on the keyboard in the direction of the arrow, then pull it gently toward the LCD panel.

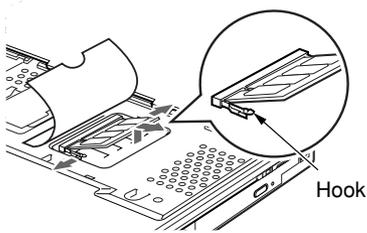


4. Lift the keyboard gently to open it.

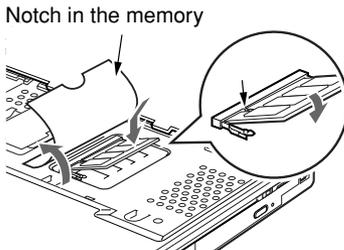


**5. Remove the memory.**

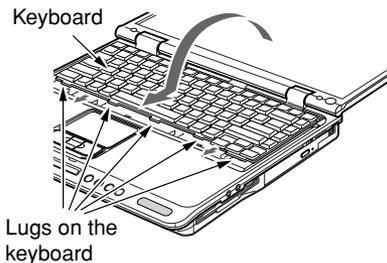
Remove the cover of the memory slot and remove the hook on each side from the memory module. The memory comes up slightly. Then, pull the memory diagonally up to remove it from the slot.

**6. Install a new memory module.**

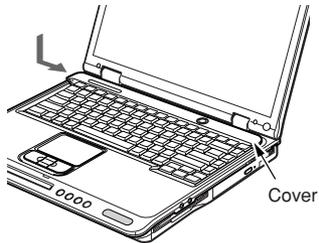
Insert the memory diagonally into the slot with the notch in the memory aligned with the projection on the connector, and then turn the memory down until it clicks into place.

**7. Close the keyboard gently.**

Close the keyboard with the lugs on it aligned with the lugs on the computer main unit. At that time, be careful that no cable gets caught between the keyboard and the computer main unit.



**8. Attach the cover removed in step 2.**



**Critical Point**

- After you have changed memory, check the memory capacity of your computer to be sure that the memory is installed properly.

## 3. Using a Memory Card

### Supported Memory Cards

The SD card/Memory stick slot directly reads and writes data recorded on memory cards designed for portable digital devices, such as digital cameras.

The SD card/Memory stick slot of your computer supports two types of memory cards (only one card can be used at a time), so that you do not need to purchase an adapter for each type of memory card.

### Inserting a Memory Card

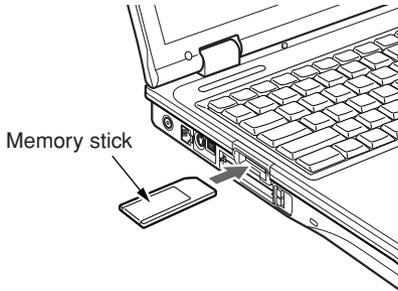
#### IMPORTANT

- For the handling of your memory card and data recorded on it, refer to the documentation supplied with your memory card and the peripheral device used with it.
- Do not use Windows XP to format memory cards that are used with a digital camera, and so on. Formatting such memory cards, using Windows XP, make it impossible for them to be used with the digital camera.

If you have formatted such memory cards, using Windows XP, reformat them using your digital camera. For the method of formatting memory cards, refer to the documentation supplied with your digital camera.

**1. Inset a memory card into the SD card/Memory stick slot.**

Push it in until it clicks into place.



If a message appears, asking "What do you want Windows to do?" each time you insert the SD card/Memory stick into the slot, there is a few options for you to select: Play using Media Player, Open folder to view files using Windows Explorer or Take no action. Just select which options you prefer.

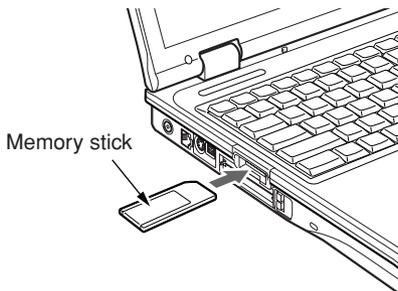
## Removing a Memory Card

### IMPORTANT

- For the handling of your memory card and data recorded on it, refer to the documentation supplied with your memory card and the peripheral device used with it.

**1. Remove the memory card from your computer.**

Push in the memory card once to have it spring out, then pull it out of the slot.



### IMPORTANT

- When removing the memory card from the SD card/Memory card slot, do not twist or pull it diagonally to avoid applying unnecessary force to the card.

## 4. Connecting a USB Device

### Preparing Necessary Items

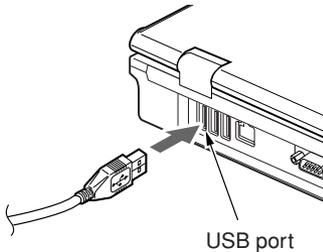
USB device	<p>Devices that can be plugged in USB ports on your computer. Prepare USB devices that meet your needs.</p> <ul style="list-style-type: none"> <li>• Digital camera</li> <li>• Mouse</li> <li>• Printer</li> <li>• Scanner</li> <li>• Keyboard</li> </ul>
USB cable	<p>Used to connect a USB device to your computer. Some USB devices come standard with a cable as separate part, and others come with a cable already connected like a mouse. For more information, refer to the documentation supplied with the your USB device.</p>
USB device driver	<p>Some USB devices come with a CD or floppy disk containing their respective drivers. If necessary, install a Windows-compatible driver according to the instructions in your USB device manual.</p>
Manual for USB device	<p>Ways of connecting cables vary from USB device to USB device. Before connecting a USB device for the first time, read its manual carefully.</p>

### Critical Point

- Each USB port on your computer is capable of supplying the USB device connected with power of up to 500 mA. For more information, refer to the documentation supplied with your USB device.
- When connecting two or more USB devices to your computer at the same time, you should power the computer from the AC adapter to prevent degradation in battery performance.

## Connecting a USB Device

1. Plug a USB cable in the connector of your USB device.
2. Plug the cable from the USB device in a USB port on the computer.  
Insert the connector with the face marked with  facing to the right.



(Your computer or situation may not look exactly like this illustration.)

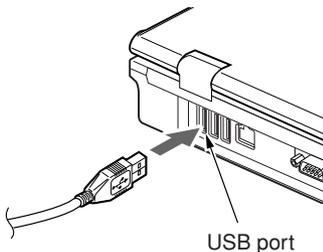
3. **Install the driver.**  
Some USB devices require no driver to be installed. For information about this, refer to the documentation supplied with your USB device.

### Critical Point

- If the Install Hardware dialog box appears when you connect the USB cable, click Continue to continue the installation of the driver.

## Connecting a USB Mouse

1. Plug the USB mouse in the mouse port on the back of your computer.  
Insert the connector with the face  marked with facing to the right.



(Your computer or situation may not look exactly like this illustration.)

### Critical Point

- A USB mouse can be connected to and disconnected from your computer at any time without shutting down the computer.
- Connecting a USB mouse does not automatically disable Flat Point. If you want to disable Flat Point, see “Disabling Flat Point.”

## Disabling Flat Point

Connecting a USB mouse enables you to use two pointing devices at the same time: USB mouse and Flat Point. However, if you want to use only the mouse, follow these steps to disable Flat Point.

1. Press the **F4** key while holding down the **Fn** key.

Each time you press the F4 key, Flat Point is switched back and forth between on and off.

The message “Internet pointing device: Enable” is displayed when Flat Point is enabled, while the message “Internet pointing device: Disable” is displayed when it is disabled.

### IMPORTANT

- Before disabling Flat Point, be sure to connect a USB mouse to your computer.

### Critical Point

- Even though Flat Point is disabled by pressing the **Fn** and **F4** keys at the same time, it will be enabled automatically when your computer is restarted or when it resumes operation. If you want to disable Flat Point again, press the **F4** key again while holding down the **Fn** key.

## 5. Connecting an External Monitor

### Preparing Necessary Items

External monitor	Your computer supports PC/AT-compatible and DOS/V-compatible monitors.
Monitor cable	Used to connect an external monitor to your computer. Most external monitors come with this cable, as a separate part for some monitors and already connected for others. If this cable is not included with your monitor or it cannot be plugged in the external monitor port of your computer, prepare a PC/AT-compatible or DOS/V-compatible monitor cable with a connector that fits the external monitor port of your computer.
Instruction manual for your external monitor	Ways of connecting cables vary from monitor to monitor. For the way of connecting your monitor, therefore, refer to the documentation supplied with it.

### Connecting an External Monitor

This section explains how to connect a CRT monitor to your computer via the external monitor port on its back.

#### WARNING



#### **ELECTRIC SHOCK**

Before connecting or disconnecting an external monitor, always turn off your computer and disconnect the AC adapter from it to avoid shock hazards.

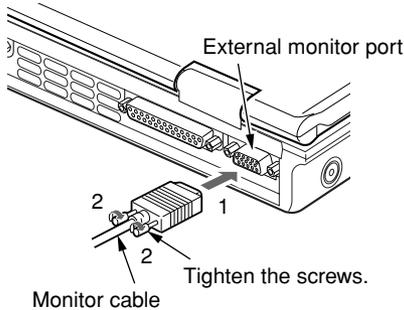
#### CAUTION



#### **BREAKAGE**

Connect cables correctly according to the instructions in this manual. Incorrect connection of the cable could result in damage to your computer and monitor.

1. **Turn off the computer and disconnect the AC adapter from it.**
2. **Plug the monitor cable in the external monitor port on the back of the computer.**  
The external monitor port has a trapezoidal cross-section.  
(1) Insert the connector straight into the external monitor port with the right side up, and (2) secure it with the screws on both sides of the connector.



(Your computer or situation may not look exactly like this illustration.)

3. **Connect the other end of the cable to the CRT monitor.**  
For the way of connecting the cable to your monitor, refer to its manual.
4. **Plug the power cable of the CRT monitor in a wall outlet, and then turn on the monitor.**
5. **Connect the AC adapter to your computer, and turn on the computer.**  
After that, switch from the LCD monitor to the external CRT monitor if you like.

**If the Add New Hardware Wizard appears after you have connected the external display, perform these steps.**

- Some external monitors come with a CD or floppy disk containing files necessary for using them. If a CD or floppy disk is included with your monitor, install all necessary files according to the instructions in your monitor manual.

### Critical Point

- Images may be displayed on both the LCD screen of your computer and the external monitor connected. If you like, you can switch to the monitor you want to use.

# SECTION

# 3

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

# 1. When This Happens

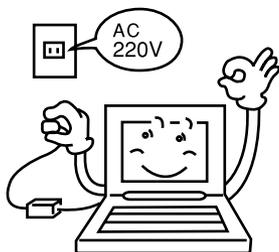
When you are having trouble with this computer, there is something you think is strange, or there is something you want to do, but do not know how. This section is divided into related items.

## ● The power does not come on.

Checkpoint	Cause and Solution
Is the AC adaptor connected?	When using this computer for the first time after purchase, the battery is not yet charged, so you must connect the AC adaptor and switch on the main switch.
Is the main switch switched on?	If the main switch is not switched on, the power will not come on even if the SUS/RES switch is pressed.
Is the battery charged?	If a beep is heard when the main switch is turned on, then the battery is running low (LOW BATTERY). Connect the AC adaptor.
Has the computer been left unused for a long time?	When using the computer for the first time after leaving it unused for a long time, connect the AC adaptor and switch on the main switch to switch on the power.

## ● Nothing displayed on the LCD panel

Checkpoint	Cause and Solution
Is anything displayed on the status indicator LCD?	Connect the AC adaptor and switch on the main switch.
Is  displayed on the LCD panel?	<ul style="list-style-type: none"> <li>• <b>Displayed</b> Adjust the brightness and darkness with the brightness and contrast controls.</li> <li>• <b>Flashing</b> Press the SUS/RES switch to put the computer into operating mode.</li> <li>• <b>When the icon is off on the status indicator LCD.</b> When the computer runs by the battery power, check the battery status if it is sufficiently charged for operation or not. If it is not charged, connect the AC adaptor and charge it. If you are already using this computer with the AC adaptor connected, check that it is correctly plugged into the power socket and into the computer.</li> </ul>



Checkpoint	Cause and Solution
Have you been pressing any of the keys?	On this computer, if the power management functions are set and no key is pressed for a certain period of time, the CPU stops and the LCD panel backlight goes out. (In this state, pressing any key lights up the backlight again.) If the computer stops too frequently, change the BIOS setup settings.
Is it set to output to the CRT?	Switch over to the LCD display with the <b>[Fn] + [F10]</b> keys.

### ● LCD panel hard to read.

Checkpoint	Cause and Solution
Did you adjust the brightness?	Adjust the luminance of the LCD's backlight with the <b>[Fn] + [F6]</b> keys or <b>[Fn] + [F7]</b> keys on the keyboard.

### ● Battery is not charged.

Checkpoint	Cause and Solution
Is the AC adaptor connected?	Check that the AC adaptor is correctly plugged into the power socket and into the computer.
Is the battery overheated (The <b>→</b> on the LCD display flashes.)?	If the ambient temperature is high and the battery temperature becomes too high during use, the battery protection function may be triggered to stop the charging.
Is the computer too cold (The <b>→</b> on the LCD display flashes.)?	If the battery temperature falls too low, the battery protection function may be triggered to stop the charging.
Was the charging stopped midway?	If you use the computer and disconnect the AC adaptor between the start of charging and the time the <b>→</b> LCD turns off, the battery will not become fully charged. Once you start charging do not remove the AC adaptor until the <b>→</b> LCD turns off.

### ● The remaining battery charge indicator does not stop flashing.

Checkpoint	Cause and Solution
Is the battery connected correctly?	Check that the battery is connected correctly. If it is connected correctly, there is an abnormality in the battery pack, so replace the battery pack.
Is the battery low?	Attach the AC adaptor and charge the battery.

● **Floppy disk or LS-120 disk can not be used.**

Checkpoint	Cause and Solution
Is the floppy disk loaded into the floppy disk drive correctly?	Insert the floppy disk with its label facing up, into the drive shutter and keep inserting firmly until you hear a clicking sound.
Is the floppy disk formatted?	New floppy disks can not be used until they are formatted (initialized). Format the floppy disk.
Is the floppy disk unit securely installed?	Firmly install the floppy disk drive unit, port replicator or LS-120 disk unit.
Are both items of "Floppy disk A" and "Floppy controller" of the BIOS Setup menu set properly?	In the case a floppy disk is used, select "1.44/1.2MB 3.5" for the item "Floppy disk A" and "Use" for the item "Floppy controller".
Is "Administrator only" selected for the item "Floppy disk access" of the BIOS Setup menu?	In the case a floppy disk is used, select "Accessible at any time" for this item. When a super disk is used, accessibility cannot be controlled by this item.
Is the floppy disk write inhibited?	Set the write protect tab on the floppy disk to the write enable position.
Does it work with a different floppy disk?	If it works with a different floppy disk then the problem floppy disk may be damaged.

● **No sound or minimal sound from speaker.**

Checkpoint	Cause and Solution
Is the volume control correctly adjusted?	Turn the volume control to adjust the volume to a proper level. If volume adjustment with the volume control results in failure, check to see if the sound driver is correctly installed.

● **Can not record from Mic or Line In jack.**

Checkpoint	Cause and Solution
Is the volume adjusted properly?	Turn the volume control to obtain the correct volume. If the line jack is connected to the sound source, then check that connection. If recording still results in failure after the above-mentioned operation and check, activate the item "Recording" of the "Volume Control" and again adjust the volume with it.

● **LCD panel does not close.**

Checkpoint	Cause and Solution
Is something caught in the LCD panel?	Forcing the LCD panel closed can damage it. Check for something caught in the LCD panel. Also, a metal object such as a paper clip can cause a breakdown if it gets caught in between the keys.

● **The power management function is not executed.**

Checkpoint	Cause and Solution
Is Power Savings set to off in the BIOS setup?	Reset the BIOS setup.

● **Data cannot be read from the CD-ROM drive.**

Checkpoint	Cause and Solution
Is the CD-ROM correctly set?	Set the CD-ROM correctly with its label facing upwards.
Is there any dirt, condensation or water on the CD-ROM?	Wipe it from the center outwards with a dry, soft cloth.
Is the CD-ROM scratched or extremely warped?	Replace the CD-ROM.
Are you using a non-standard CD-ROM?	Use a CD-ROM which conforms to the standards.
Is the CD-ROM drive unit securely installed?	Securely install the CD-ROM drive unit.

● **The CD cannot be ejected from the CD-ROM.**

Checkpoint	Cause and Solution
Is it in operating mode?	The CD can only be ejected when the personal computer main unit is in operating mode because its CD-ROM drive has an electronic lock. Check that the personal computer main unit is in operating mode and press the EJECT button. If for some reason the CD tray does not come out even when you press the EJECT button, insert a clip or something into the hole to the right of the EJECT button and pull the tray out. If the tray doesn't still come out, click the CD-ROM icon in the "My Computer" window with the right button of the mouse and then click "EJECT".

● **Super disk cannot be ejected.**

Checkpoint	Cause and Solution
Is the computer in operation?	Since the super disk drive secures the super disk by the electronic lock, the disk can be ejected only when the computer is in the operation status. If the super disk cannot be ejected for some reason, insert a thin linear wire such as a straightened paper clip or the like into the emergency disk ejecting hole and push it into the depth. The disk will be resultingly ejected from the drive.

## 2. Maintenance of your Computer

### WARNING



#### **ELECTRIC SHOCK**

To avoid electric shock and injury, always perform these steps before proceeding to maintenance.

- Turn off the computer, disconnect the AC adapter and remove the battery from it.
- Turn off all peripherals connected, including the printer, and disconnect them from the computer.

If the computer is soiled, wipe it gently with a soft dry cloth.

If the computer is badly soiled, wipe it with a cloth slightly dampened with water or detergent diluted with water. After using detergent, wipe remaining detergent off with a cloth slightly dampened with water. When wiping the computer, be extremely careful to prevent water from getting in it. Never use any volatile chemical such as thinner or benzene, nor any cloth containing chemicals.

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.

### **LIFEBOOK NOTEBOOK**

#### **Caring for your LifeBook Notebook**

- Your LifeBook notebook is a durable but sensitive electronic device. Treat it with 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 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 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 LifeBook 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 briefcase, or any other carrying case, make sure that there are no objects in the case pressing on the lid.
- Do not drop your LifeBook notebook.
- Do not touch the screen with any sharp objects.

### **Cleaning your LifeBook Notebook**

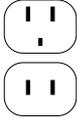
- Always disconnect the power plug. (Pull the plug, not the cord.)
- Clean your LifeBook notebook with a damp, lint-free cloth. Do not use abrasives or solvents.
- Use a soft cloth to remove dust from the screen. Never use glass cleaners.

### **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 LifeBook notebook and batteries separately. If you store your notebook with a battery installed, the battery will discharge, and battery life will be reduced. In addition, a faulty battery might damage your notebook.
- Store your LifeBook notebook in a cool, dry location. Temperatures should remain between -25°C (13°F) and 60°C (140°F).

### **Travelling with your LifeBook Notebook**

- Do not transport your LifeBook notebook while it is turned on.
- Do not check your LifeBook notebook as baggage. Carry it with you.
- Always bring your System Recovery CD that came with your LifeBook notebook when you travel. If you experience system software problems while travelling you may need it to correct any problems.
- Never put your LifeBook notebook through a metal detector. Have your notebook hand-inspected by security personnel. You can, however, put your LifeBook 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 travelling 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 travelling 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 loose 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 or optional auto/airline adapter whenever possible.
- If your LifeBook notebook is running on battery power all day, connect it to the AC adapter 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 DVD/CD-RW/CD-ROM access.
- Disable the Windows CD automatic insertion 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 heating 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.

## DVD/CD-RW/CDs

### Caring for your DVD/CD-RW/CDs

- DVD/CD-RW/CDs are precision devices and will function reliably if given reasonable care.
- Always store your DVD/CD-RW/CDs in its case when it is not in use.
- Always handle DVD/CD-RW/CDs by the edges and avoid touching the surface.
- Avoid storing any DVD/CD-RW/CDs in extreme temperatures.
- Do not bend DVD/CD-RW/CDs or set heavy objects on them.
- Do not spill liquids on DVD/CD-RW/CDs.
- Do not scratch DVD/CD-RW/CDs.
- Do not put a label on DVD/CD-RW/CDs.
- Do not get dust on DVD/CD-RW/CDs.
- Never write on the label surface with a ballpoint pen or pencil. Always use a felt pen.

- If a DVD/CD-RW/CD 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 DVD/CD-RW/CDs.
- If a DVD/CD-RW/CD is dirty, use only a DVD/CD-RW/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.

## **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.

**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.

**AdHoc**

A name of a wireless LAN configuration.

It is a type of communication using wireless cards only.

Another type of communication is called Infrastructure (using a wireless card and an access point).

**ADSL**

Asymmetric Digital Subscriber Line Technology for transporting high bit-rate services over ordinary phone lines.

**APM**

Advanced Power Management.

**Auto/Airline Adapter**

A device which converts the DC voltage from an automobile cigarette lighter or aircraft DC power outlet to the DC voltage needed to power your notebook.

**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 is much faster to access than your system RAM and used in specially structured ways to make your overall data handling time 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.

**Channel**

A radio frequency band used for communication between wireless cards and access points.

**CMOS RAM**

Complementary metal oxide semiconductor random access memory. This is a technology for manufacturing random access memory which requires very low level power to operate.

**COMM Port**

Abbreviation for communication port. This is your serial interface connection.

**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.

**CRT**

Cathode Ray Tube. A display device which uses a beam of electronic particles striking a luminescent screen. It produces a visual image by varying the position and intensity of the beam.

**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.

**DHCP**

Dynamic Host Configuration Protocol A protocol used to automatically acquire parameters required for the communication, such as IP address.

The sender of IP address is called a DHCP server, and the receiver is called a DHCP client.

**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 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 transfer 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.

**DNS****Domain Name System**

A function to control the association between the IP address and the name assigned to the computer. If you do not know the IP address but if you know the computer name, you can still communicate to that computer.

**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.

**ECP**

Extended Capability Port. A set of standards for high speed data communication and interconnection between electronic devices.

**Encryption Key (Network Key)**

Key information used to encode data for data transfer.

This device uses the same encryption key to encode and decode the data, and the identical encryption key is required between the sender and receiver.

**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 = 47 in decimal.

**I/O**

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

**I/O Port**

The connector and associated control circuits for data entering and leaving your 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 802.11b**

The U.S. IEEE (Institute of Electrical and Electronic Engineers) promotes standardization of LAN, and its standards committee (IEEE 802.11) has promoted 1-Mbps and 2-Mbps wireless LAN. Currently, another standards committee (IEEE 802.11b) is working for standardization of the faster 11-Mbps wireless LAN.

**Infrared**

Light just beyond the red portion of the visible light spectrum which is invisible to humans.

**Infrastructure**

A name of a wireless LAN configuration. This type of communication uses an access point. Another type of communication is called AdHoc.

**IP Address**

An address used for computers to communicate in the TCP/IP environment. Current IPv4 (version 4) uses four values in the range between 1 and 255. (Example: 192.168.100.123).

There are two types of IP address: global address and private address.

The global address is an only address in the world.

A private address is an only address in the closed network.

**IR**

An abbreviation for infrared.

**IrDA**

Infrared Data Association. An organization which produces standards for communication using infrared as the carrier.

**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.

**LAN****Local Area Network**

A connection of computers within a relatively limited area, such as the same floor, or the same building.

**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.

**LPT Port**

Line Printer Port. A way of referring to parallel interface ports because historically line printers were the first and latter the most common device connected to parallel ports.

**MAC Address****Media Access Control Address**

A unique physical address of a network card.

For Ethernet, the first three bytes are used as the vendor code, controlled and assigned by IEEE. The remaining three bytes are controlled by each vendor (preventing overlap), therefore, every Ethernet card is given a unique physical address in the world, being assigned with a different address from other cards. For Ethernet, frames are sent and received based on this address.

**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.

**MIDI**

Musical Instrument Digital Interface. A standard communication protocol for exchange of information between computers and sound producers such as synthesizers.

**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.

**MPU-401**

A standard for MIDI interfaces and connectors.

**MTU****Maximum Transmission Unit**

The maximum data size that can be transferred at a time through the Internet or other networks. You can set a smaller MTU size to obtain successful communication, if you have difficulty transferring data due to the fact that the maximum size is too large.

**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.

**Parallel Port**

A connection to another device through which data is transferred as a block of bits simultaneously with a wire for each bit in the block and with other wires only for control of the device not for transfer of data.

**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.

**PPPoE****Point to Point Protocol over Ethernet**

A protocol for Ethernet, using a Point-to-Point Protocol (PPP), which is used for connection on the phone line.

**Program**

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

**Protocol**

Procedures and rules use to send and receive data between computers.

- Method of sending and receiving data
- Process used to handle communication errors

Conditions required for communication are organized in procedures for correct transfer of information.

**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 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 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 notebook and does not require power to maintain it.

**SDRAM**

Synchronous Dynamic Random Access Memory.

**Serial Port**

A connection to another device through which data is transferred one bit at a time on a single wire with any other wires only for control of the device not for transfer of data.

**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.

**SMART**

Self-Monitoring, Analysis and Reporting Technology (SMART) is an emerging technology that provides near-term failure predictions for hard drives. When SMART is enabled the hard drive monitors predetermined drive attributes that are susceptible to degradation over time. If a failure is likely to occur, SMART makes a status report available so that the LifeBook can prompt the user to back up the data on the drive. Naturally not all failures are predictable. SMART predictability is limited to those attributes which the drive can self-monitor. In those cases where SMART can give advance warning, a considerable amount of precious data can be saved.

**SRAM**

Static random access memory. A specific technology of making RAM which does not require periodic data refreshing.

**SSID****Service Set Identifier**

Specifies which network you are joining. Some systems allow you to specify any SSID as an option so you can join any network.

**Status Indicator**

A display which reports the condition of some portion of your hardware. On your 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 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.

**TCP/IP**

Transmission Control Protocol/Internet Protocol

A standard Internet protocol that is most widely used

**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.

**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.

**Wi-Fi Compatible**

Wi-Fi (Wireless Fidelity) Identifies that the product has passed the interoperability test, supplied by the WECA (Wireless Ethernet Compatibility Alliance), which guarantees the interoperability of wireless IEEE 802.11 LAN products. For more information on the Wi-Fi standard, go to the WECA website at: [www.wirelessethernet.com](http://www.wirelessethernet.com).

**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.

**Zip Drive**

A 100MB read/rite removable media disk drive.

**Zoomed Video**

A PC Card port which allows notebook PCs to deliver full screen broadcast quality video through third party PC Cards, including TV tuners, video capture, and MPEG full-motion video.