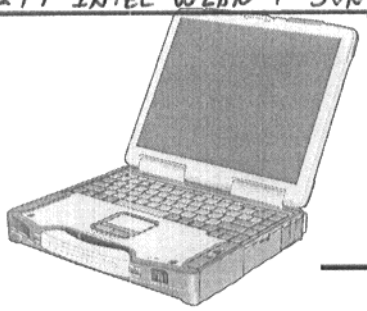
CF-29+ Intel WLAN + Sony GSM PC Card



Panasonic®

Personal Computer

OPERATING INSTRUCTIONS

Model No. **CF-29 Series**

TOUGHBOOK

XP 2000

[Additional Manual]

Reference Manual

This manual can be accessed on your computer.
Refer to page 20 on how to access the Reference Manual.

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Please read these instructions carefully before using this product and save this manual for future use.

Customer's Record

Model No.*	Dealer's Name
Serial No.	
or	
Code No.	Dealer's Address
Date of Purchase	

* For the Model No., insert the 12 digit number (for example, CF-29CTKGZKM) located on the bottom of the computer.

Introduction

Thank you for purchasing the Panasonic computer. Read the operating instructions thoroughly for proper operation of your new computer.

Illustrations and Terminology in this Manual

NOTE:	**NOTE** provides a useful fact or helpful information.
CAUTION:	**CAUTION** indicates a condition that may result in minor or moderate injury.
WARNING:	**WARNING** indicates a hazard that may result in moderate or serious injury.
Windows XP :	Information for Microsoft® Windows® XP Professional users.
Windows 2000 :	Information for Microsoft® Windows® 2000 Professional users.
Enter :	This illustration means to press the [Enter] key.
Fn + F5 :	This illustration means to press and hold the [Fn] key, then press the [F5] key.
[Start] - [Run]:	This illustration means to click [Start], then to click [Run]. For some applications, you may need to double-click.
☞:	Where to go for referred information.
☞ Reference Manual :	This illustration means to refer to the Reference Manual, which is available on your computer. Refer to page 20 on how to access this manual.

- Some of the illustrations in this manual may differ slightly in shape from the actual items in order to make the explanation easier to understand.
- The “CD Drive” is a description about drives, such as DVD-ROM, CD-ROM, CD-R/RW, and DVD-ROM & CD-R/RW drives.
- This manual covers two types of models, as distinguished by the type of LCD screen (models with touchscreen and models without touchscreen).
- If the user has logged on without the administrator authority, some functions may not be executable, and some screens may be not displayed as shown in this manual. If this happens, log on with the administrator authority to enable these functions.
- Confirm the latest information on optional products in catalogs, etc.

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Read Me First

ITPD-04-F023A
FCC ID: ACJ9TGCF-297
CF-29 + INTEL WLAN + SONY GSM PC CARD

For U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. 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 of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Panasonic Service Center or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: To assure continued compliance, use only shielded interface cables when connecting to computer or peripheral devices. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Responsible Party:
Matsushita Electric Corporation of America
One Panasonic Way
Secaucus, NJ 07094
Tel No: 1-800-LAPTOP-5 (1-800-527-8675)

FCC RF Exposure Warning: (if provided with wireless device)

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment has been approved for portable operation, and unless otherwise advised in separate supplemental instructions for individual wireless transmitter(s), requires minimum 1.5 cm spacing be provided between antenna(s) and all person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- This equipment may use multiple installed transmitters, which may be capable of simultaneous transmission.
- This equipment is provided with PC Card slot that could be used with wireless transmitters, which will be specifically recommended when they become available. Other third-party wireless transmitters have not been RF exposure evaluated for use with this computer and may not comply with FCC RF exposure requirements.
- This equipment is provided with external antenna connector(s) for connection to optional Car Mounter or Port Replicator for mobile external mounted antenna(s). External antenna(s) must be professionally installed and cannot exceed recommended maximum antenna gain as described in individual provided supplement instructions for wireless transmitters. Also, user must maintain minimum 20 cm spacing between external antenna(s) and all person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.

10. According to the FCC's electrical safety advisory, we recommend that you may install an AC surge arrestor in the AC outlet to which this equipment is connected. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources and that this is a major nationwide problem.

"Caution: To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord."
"ATTENTION: Pour réduire le risque d'incendie, utiliser uniquement des conducteurs de télécommunications 26 AWG ou de section supérieure."

Notice for the products using LCD

This product uses one or more fluorescent lamps containing a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org/>

For Canada

Industry Canada (IC) Notice for modem

This equipment contains an Industry Canada approved modem unit. The Industry Canada label is affixed on the modem unit.

EQUIPMENT ATTACHMENT LIMITATIONS

"NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate."

"NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5."

REN: See bottom of the computer

Industry Canada

This product complies with RSS210 Industry Canada.
Operation is subject to the following two conditions;
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

RESTRICTIONS CONCERNANT LE RACCORDEMENT DE MATÉRIEL

"AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales. Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas."

"AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de touts les dispositifs n'excède pas 5."

IES: Voir sous le fond de l'ordinateur

Important Safety Instructions / Importantes Mesures De Sécurité

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

1. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS

Certaines mesures de sécurité doivent être prises pendant l'utilisation de matérial téléphonique afin de réduire les risques d'incendie, de choc électrique et de blessures. En voici quelquesunes:

1. Ne pas utiliser l'appareil près de l'eau, p.ex., près d'une baignoire, d'un lavabo, d'un évier de cuisine, d'un bac à laver, dans un sous-sol humide ou près d'une piscine.
2. Éviter d'utiliser le téléphone (sauf s'il s'agit d'un appareil sans fil) pendant un orage électrique. Ceci peut présenter un risque de choc électrique causé par la foudre.
3. Ne pas utiliser l'appareil téléphonique pour signaler une fuite de gaz s'il est situé près de la fuite.
4. Utiliser seulement le cordon d'alimentation et le type de piles indiqués dans ce manual. Ne pas jeter les piles dans le feu: elles peuvent exploser. Se conformer aux règlements pertinents quant à l'élimination des piles.

CONSERVER CES INSTRUCTIONS

Information to the User

This product and your Health

This product, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by this product however is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.
Because this product operates within the guidelines found in radio frequency safety standards and recommendations, we believe this product is safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.
In some situations or environments, the use of this product may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

- Using this product on board of airplanes, or
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization or environment (e.g. airports), you are encouraged to ask for authorization to use this product prior to turning on the product.

Regulatory Information

We are not responsible for any radio or television interference caused by unauthorized modification of this product. The correction of interference caused by such unauthorized modification will be the responsibility of the user. We and its authorized resellers or distributors are not liable for damage or violation of government regulations that may arise from failing to comply with these guidelines.

Lithium Battery

Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored. The battery should only be exchanged by authorized service personnel.
Warning! A risk of explosion from incorrect installation or misapplication may possibly occur.

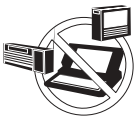
Pile au lithium!

Le micro-ordinateur renferme une pile au lithium qui permet de sauvegarder certaines données comme la date et l'heure notamment. Elle ne devra être remplacée que par un technicien qualifié.
Avertissement! Risque d'explosion en cas de non respect de cette mise en garde!

Precautions

The CF-29 was developed based on thorough research into the real-world portable computing environments. Exhaustive pursuit of usability and reliability under harsh conditions led to innovations such has the magnesium alloy exterior, vibration damped hard disk drive and floppy disk drive, flexible internal connections. The CF-29's outstanding engineering has been tested using the stiff MIL-STD- 810F (for vibration and shock) and IP (for dust and water) based procedures.
As with any portable computer device precautions should be taken to avoid any damage. The following usage and handling procedures are recommended.

Before putting the computer away, be sure to wipe off any moisture.



Avoid Radio Frequency Interference
Do not place the computer near a television or radio receiver.

Avoiding low-temperature burns
Avoid more than casual contact with any heat producing area of the notebook computer, AC adaptor, and any option or accessory you use with it. Even low heat, if warmer than body temperature, can cause a burn, if the skin is exposed to the heat source for a long enough period of time.

Avoid Magnetic Fields
Keep the computer away from magnets.
Data stored on the hard disk may be lost.

Keep Small Objects Away
Do not insert paper clips or other small objects into the computer.

Do Not Disassemble the Computer
Do not attempt to disassemble your computer.

Avoid Excessive Force on the Display
Do not apply excessive downward force on the display when it is completely opened, especially when plugs and/or cables are connected to the rear of the computer.

Precautions (Battery Pack)

- Care should be exercised with regard to the following in order to avoid the possibility of overheating, fire or damage.

Avoid Heat
Do not throw the battery pack into a fire or expose it to excessive heat.

Keep Articles Away
Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.

Do Not Disassemble
Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.

Do Not Short
Do not short the positive (+) and negative (-) contacts.

Avoid Extreme Heat, Cold and Direct Sunlight
Do not charge, use or leave the battery pack for extended periods where it will be exposed to direct sunlight, in a hot place (in an automobile on a sunny day, for example), or in a cold place.

Do Not Use With Any Other Computer
The battery pack is rechargeable and was intended for the specified computer or charger. Do not use it with a computer other than the one for which it was designed.

Do Not Put into a Microwave
Do not put the battery pack into a microwave oven or a pressurized chamber.

Stop Using
Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the computer or charger and stop using it.

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery pack to water, or allow it to become wet.

Precautions (Battery Pack)

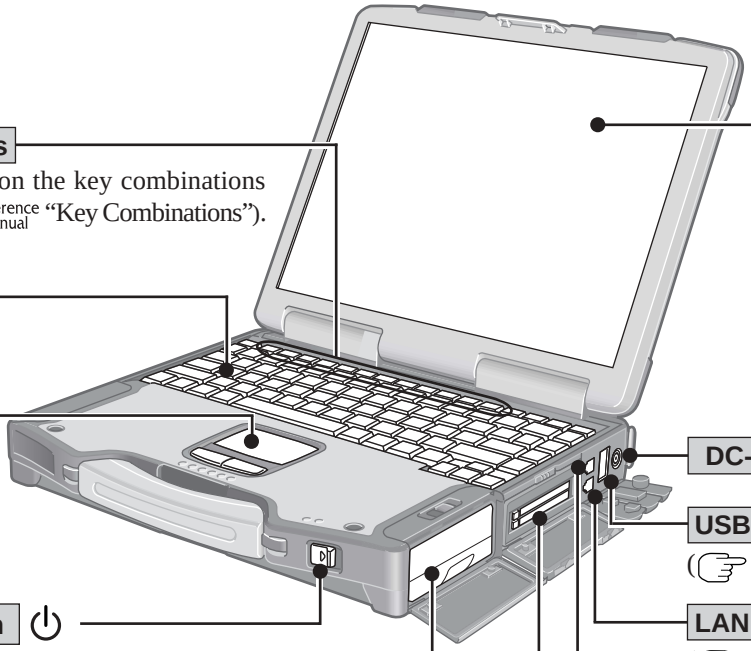
- If the battery pack will not be used for a long period of time (a month or more), charge or discharge (use) the battery pack until the remaining battery level becomes 30% to 40% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adaptor is connected to the computer, charging begins automatically.
- Should the battery leak and the fluid get into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.

NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence outside of the allowable temperature range (0 °C to 50 °C {32°F to 122 °F}) (☞ Reference Manual "Battery Power".) Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C {50 °F} or below.)
- If the temperature is low, the operating time is shortened. Only use the computer within the allowable temperature range.
- This computer has a high temperature mode function that prevents the degradation of the battery in high temperature environments. (☞ Reference Manual "Battery Power") If the high temperature mode is enabled in the Setup Utility (☞ Reference Manual "Setup Utility"), a level of 100% in the [High Temperature] mode is about a level of 80% in the [Normal Temperature] mode.
- The battery pack is a consumable item. If the amount of time the computer can be run off a particular battery pack becomes dramatically shorter and repeated recharging do not restore its performance, the battery pack should be replaced with a new one.
- When transporting a spare battery inside a package, briefcase, etc., it is recommended that it be placed in a plastic bag so that its contacts are protected.
- Always power off the computer when it is not in use. Leaving the computer on when the AC adaptor is not connected will exhaust the remaining battery capacity.

Names and Functions of Parts

The illustrations shown may differ from the actual physical appearances.



Function Keys
For information on the key combinations available (Reference Manual "Key Combinations").

LCD
(Only for models with touchscreen: Reference Manual "Touchscreen")

Keyboard

Touch Pad
(page 18)

DC-IN Jack DC IN 15.6V

USB Port
(Reference Manual "USB Devices")

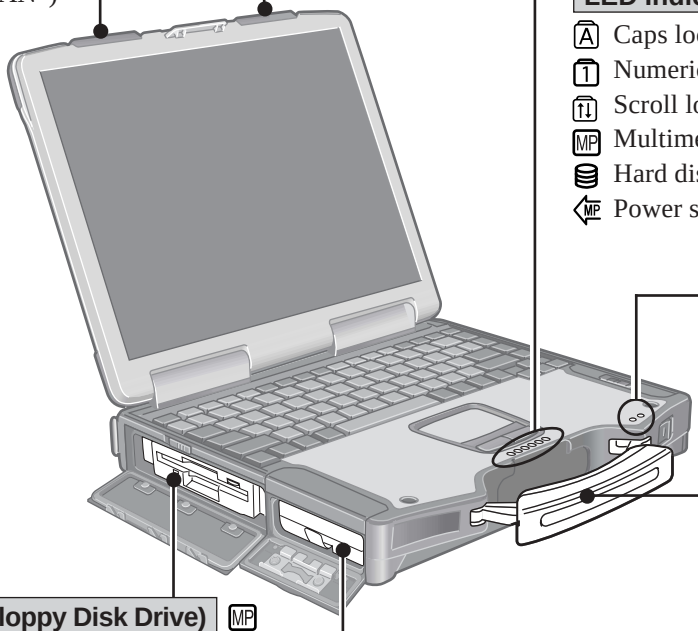
LAN
(Reference Manual "LAN")

Power Switch
Before using the computer for the first time, carefully read the [Limited Use License Agreement]. If you agree to the conditions, remove the seal.

Modem
(Reference Manual "Modem")

Hard Disk Drive
(Reference Manual "Hard Disk Drive")

PC Card slots
(Reference Manual "PC Cards")



Wireless LAN Antenna
(Reference Manual "Wireless LAN")

LED Indicators (Reference Manual "LED Indicators")
- Caps lock
- Numeric key lock (NumLk)
- Scroll lock (ScrLk)
- Multimedia pocket device status
- Hard disk drive status
- Power status of the multimedia pocket

LED Indicators
(Reference Manual "LED Indicators")
- Battery pack status
- Power status

Carrying Handle
For enhanced portability and in-the-field efficiency.

Multimedia Pocket (Floppy Disk Drive)
(Reference Manual "Multimedia Pocket")

Battery Pack
(Reference Manual "Battery Power")

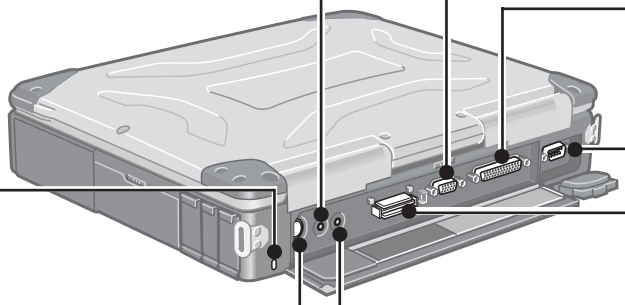
Headphone Jack

Use this connector to connect headphones or amplifier-equipped speakers. Audio output from the internal speaker is disabled when headphones or external speakers are connected.

Security Lock LOCK

A cable can be connected to prevent theft of your computer. For more information, read the manual that comes with the cable.

External Keyboard/Mouse Port



External Display Port

(☞ Reference Manual "External Display")

Parallel Port

Serial Port

Expansion Bus Connector

(☞ Reference Manual "Port Replicator")

Microphone Jack

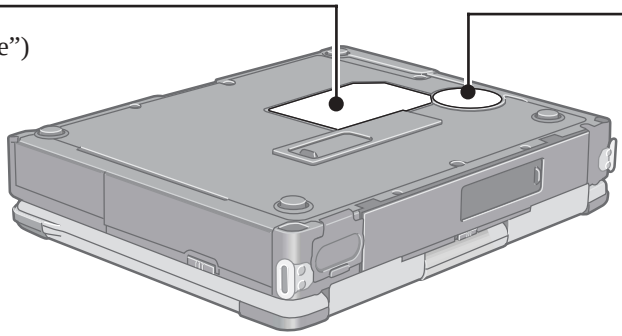
Use only a monaural condenser microphone (miniature jack). Using an input source other than a monaural condenser microphone may not allow audio to be input or may damage the equipment.

NOTE

- When using a external microphone, do not remove the check mark for "Mute" under "Microphone Balance" of the Volume Control dialog box and do not increase the playback volume. Howling may result. Howling may occur in the same way when disconnecting an external microphone. (The microphone of "Volume Control" is in the state of mute at the time of factory shipment. This is not shown at the time of factory shipment.)

RAM Module Slot

(☞ Reference Manual "RAM Module")



Speaker

- To adjust the volume: Fn + F5 / Fn + F6
- Speaker on/off : Fn + F4

A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

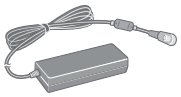
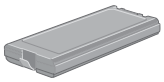
L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

First-time Operation

Read the steps below to help you learn what parts are included, and to gain an understanding of some basic computer-related operations.

1 Confirm the inclusion of all parts

Make sure the parts shown in the figure have been supplied. If any of these items are missing or are not working properly, contact Panasonic Technical Support.

AC Adaptor 1	**AC Cord 1**
 Model No : CF-AA1653A	
Battery Pack..... 1	**Modem Telephone Cable 1**
 Model No : CF-VZSU29	
Operating Instructions (This book)**..... 1** **Windows® Book ..... 1** **Product Recovery CD-ROM** **Windows XP ..... 3** **Windows 2000 ..... 2**	

<Only for models with touchscreen>

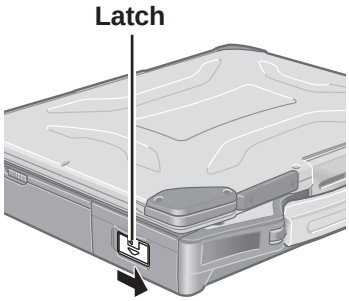
Soft Cloth 1	**Stylus 1**
	(☞ Reference Manual "Touchscreen")

2 Read the LIMITED USE LICENSE AGREEMENT. (☞ page 32)

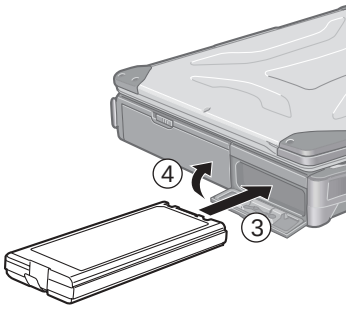
Before removing the seal covering the power switch, read the LIMITED USE LICENSE AGREEMENT.

3 Insert the battery pack.

① Unlock the cover by sliding the latch to the right.



② Slide the latch down, and then without releasing it, open the cover as illustrated.



③ Slide the battery pack inward until it is firmly in place.

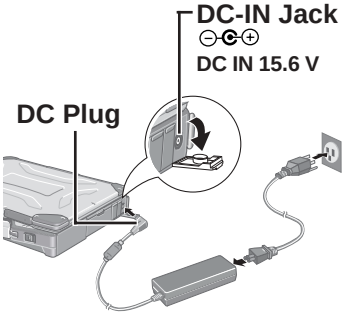
CAUTION

- Do not touch the terminals on the battery pack and the computer. The battery pack may no longer function properly if the contacts are dirty or damaged. Also, the computer may not operate properly.
- Be sure to insert the battery pack as illustrated.

④ Close the cover, then lock it by sliding the latch to the left.

CAUTION

- Confirm that the latch lock is correctly in place. If you carry your computer without the latch lock in place, the battery pack may fall out.
- Before using the battery pack, carefully read "Precautions (Battery Pack)" (☞ page 6-7).



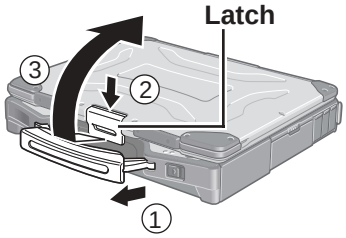
4 Connect your computer to a power outlet.

CAUTION

- Be sure the AC adaptor is connected until completing the first-time use operation.
- When using the computer for the first time, do not connect any peripheral device except the battery pack and AC adaptor to the computer.

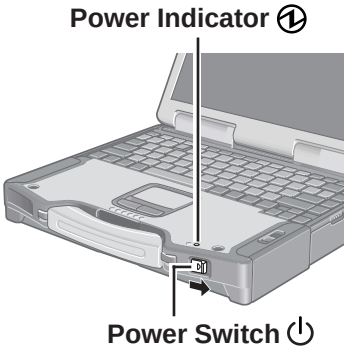
Handling the AC adaptor

- Do not twist or pull the AC power cord forcefully. Doing so may damage the connections.
- Use only the specified AC adaptor with your computer. Using an AC adaptor other than the one supplied might damage the battery and/or the computer.
- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet.
- Problems such as sudden voltage drops may arise during periods of thunder and lightning. Since this could adversely affect your computer, an uninterruptible power source (UPS) is highly recommended unless the battery pack is installed.



5 Open the display.

① Pull the carrying handle forward.
② Press the latch as illustrated to release it from the computer.
③ Lift up the latch and open the display.



6 Turn your computer on.

Slide the power switch and hold it for approximately one second until the power indicator turns on before releasing it.

CAUTION

- Do not slide the power switch and hold it for more than four seconds; this will cause the power to be turned off forcibly.
- Do not slide the power switch repeatedly.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.

7 Setup Windows.

Moving the cursor (↖) or clicking buttons can be performed with the touch pad.

NOTE

- The touchscreen does not work properly during the Windows setup.
- During the Windows setup procedure, the desktop will be displayed as a small screen in the center of the LCD. After the setup procedure is completed and the computer is restarted, the desktop will be displayed as a full screen.

Windows XP

CAUTION

- Do not press any keys or touch the touch pad until [Windows XP Professional Setup] is displayed.

① At [Welcome to the Windows XP Setup Wizard], select [Next].
② After reading the agreement, select [I accept this agreement] or [I don't accept this agreement], then select [Next].

NOTE

- If [I don't accept this agreement] is selected, the Windows setup will be aborted.

③ Select settings for your region, then select [Next].
④ Enter your name and organization and then select [Next].
⑤ Enter your computer name and administrator password and then select [Next].

CAUTION

- Remember this password! If the password is forgotten, Windows cannot be operated.

⑥ Enter the correct date, time and the time zone, then select [Next].

NOTE

- It may take two to three minutes until the next screen is displayed. Wait, and do not press any keys, or touch the touch pad, etc.

⑦ At [Networking Settings], select [Typical settings], then select [Next].
⑧ At [Workgroup or Computer Domain], select [No, this computer is not on a network, or is on a network without a domain], then select [Next].
The computer will restart.

NOTE

- If "Yes, make this computer a member of the following domain" is selected, the following message may be displayed: [An invalid domain was specified. Would you like to proceed for now and try joining a domain later?]. In this case, select [Yes]. After selecting [Yes], the computer will restart automatically, but sometimes the [Starting Windows] message will remain on the screen, and windows will not start up. If this happens, hold Alt down while pressing Tab until [Network Identification Wizard] is displayed on top, and follow the instructions on the screen.

⑨ Enter your administrator password and select .
Wait until the hard disk drive indicator ( ) has turned off.

NOTE

- If [Windows XP is currently configured to manage the Intel(R) PRO/Wireless LAN adaptor.] is displayed, select [Yes].

Windows 2000

CAUTION

- Do not press any keys or touch the touch pad until [Windows 2000 Professional Setup] is displayed.

① At [Welcome to the Windows 2000 Setup Wizard], select [Next].
② After reading the agreement, select [I accept this agreement] or [I don't accept this agreement], then select [Next].

NOTE

- If [I don't accept this agreement] is selected, the Windows setup will be aborted.

③ Select settings for your region, then select [Next].
④ Enter your name and organization and then select [Next].
⑤ Enter your computer name and administrator password and then select [Next].

CAUTION

- Remember this password! If the password is forgotten, Windows cannot be operated.

⑥ Enter the correct date, time and the time zone, then select [Next].
⑦ At [Networking Settings], select [Typical settings], then select [Next].
⑧ At [Workgroup or Computer Domain], select [No, this computer is not on a network, or is on a network without a domain], then select [Next].
The computer will restart.
⑨ At [Welcome to the Network Identification Wizard], select [Next].
⑩ At [Users of This Computer], select [Users must enter a user name and password to use this computer], then select [Next].
⑪ Select [Finish].
⑫ Enter your administrator password and select [OK].
Wait until the hard disk drive indicator ( ) has turned off.

8 <Only for models with touchscreen> Calibrate the touchscreen.

Windows XP

① Select [Start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [TouchScreen] - [Calibration].
② Touch the "+" mark on the calibration screen with the stylus (included) for about one second.
③ After the calibration procedure is executed (e.g., after the nine "+" marks are touched), the procedure ends when **Enter** is pressed.

Windows 2000

① Select [Start] - [Settings] - [Control Panel] - [Mouse] - [TouchScreen] - [Calibration].
② Touch the "+" mark on the calibration screen with the stylus (included) for about one second.
③ After the calibration procedure is executed (e.g., after the nine "+" marks are touched), the procedure ends when **Enter** is pressed.

9 Windows XP

Create a new account.

① Select [Start] - [Control Panel] - [User Accounts] - [Create a new account].
② Follow the instructions on the display to create a user account.
③ Select [Start] - [Turn Off Computer] - [Restart] to restart the computer.

CAUTION

Remember this password! If the password is forgotten, Windows cannot be operated. You can create a password reset disk beforehand (☞ below).

NOTE

When creating a new user account:

- If you make mail settings, create password reset disks (☞ below), or conduct other related operations before creating the user account, you will be unable to use any previous mail history or settings.
- When you create the first new account, you can only select [Computer administrator].
  Once a "Computer Administrator" account has been created, you can create additional limited user accounts.
  Note also that only the added user account will be displayed in the Welcome screen. The account for the administrator created during Windows setup will not be displayed.

NOTE

- If you use the wireless LAN, be sure to refer to the Reference Manual's "Wireless LAN".

This concludes the first-time use operation guidelines.

Information for Windows XP

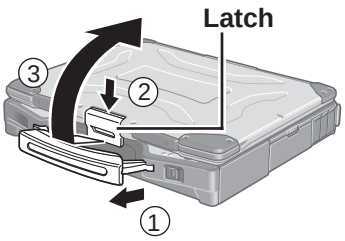
- Depending on the Windows settings, installed applications, and drivers, menus and other displays may differ, or some functions (such as use of the password reset disk) may be inoperable.

- You can select Classic view for the Control Panel or select the Classic Start menu. You can also change the way a user logs on or off.
  The procedure in this manual uses the method of the Windows XP default setting (not Classic Start menu etc.).

- **Resetting the password**
  Windows XP has a function to reset a forgotten password.
  To use this function, you need to create a password reset disk beforehand following the steps below.
  1 Select [Start] - [Control Panel] - [User Accounts].
  2 Select [Prevent a forgotten password] from the [Related Tasks] menu of the account you have logged on to and create a password reset disk following the on-screen instructions. Store the password reset disk in a safe place.
  • Only the logon password for each account can be reset.
  The password set in the Setup Utility cannot be reset.

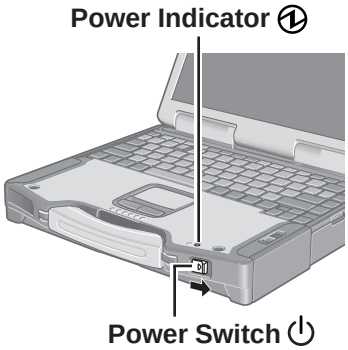
Starting Up/Shutting Down

Starting Up



1 Open the display.

① Pull the carrying handle forward.
② Press the latch as illustrated to release it from the computer.
③ Lift up the latch and open the display.



2 Turn your computer on.

Slide the power switch and hold it for approximately one second until the power indicator turns on before releasing it.

CAUTION

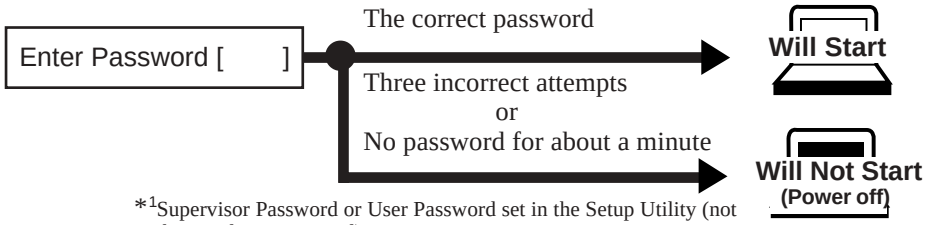
- Under the condition that both the AC adaptor and the port replicator are not connected, the power will not go on if the display is closed.
- While booting, avoid the following until the hard disk drive indicator ( ) has turned off.
  - Connecting or disconnecting the AC adaptor.
  - Touching the power switch.
  - Performing any keyboard, touch pad, touchscreen (only for models with touchscreen), or external mouse operations.
  - Closing the display.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.
- When the CPU temperature rises, the computer may not power on to prevent the CPU from overheating. Should this happen, allow the computer to cool down then switch the power on again.
  If the computer still does not power on, contact Panasonic Technical Support.

NOTE

When the power is turned on, sometimes the message “Warming up the system” is displayed or the battery indicator alternately blinks green and orange, and start-up takes longer than usual (a few minutes or more). This function is designed to prevent hard disk drive malfunctions that may occur at low temperatures. Please wait for the computer to start up.

● If [Enter Password] is displayed

Enter your password*1 and press Enter. (☞ Reference Manual “Security Measures”)



*1 Supervisor Password or User Password set in the Setup Utility (not the Windows password).

● When an application or file that was previously displayed appears on your screen

The standby or hibernation mode has been set (☞ Reference Manual “Standby/Hibernation Functions”).

3 Log on to Windows.

Windows XP

After confirming that the hard disk drive indicator (⛁) has turned off, select the user and input the password, then select →. Until the correct password is entered, the computer will not operate.

Windows 2000

After confirming that the hard disk drive indicator (⛁) has turned off, input the user name and password, then select [OK]. Until the correct user name and password are entered, the computer will not operate.

4 Select your application.

You are able to start working on your computer.

NOTE

- The power saving function is factory set, so if there is no input from a key, the touch pad, the touchscreen (only for models with touchscreen) or an external mouse (when one is connected) for a certain interval of time, the power to the LCD and hard disk may be turned off. The LCD will resume operation when the touch pad, the touchscreen (only for models with touchscreen) or an external mouse (when one is connected) is used or a key is pressed.
  The power to the LCD may be turned off even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, do not press Space or Enter to attempt to resume from this condition as doing so may trigger a selection, but instead, press a key unrelated to the direct triggering of a selection, like Ctrl.
  In addition, when the computer is left alone, it automatically enters the standby or hibernation mode (☞ Reference Manual "Standby/Hibernation Functions"). The computer will resume by sliding the power switch.

Windows XP

- When switching to a different user with the Fast User Switching function, it may not be possible to set the settings of the display. In this case, log off all users, and try the operation once more. If the problem persists, restart the computer.

Shutting Down (power off your computer)

This procedure is for shutting down the computer without using the standby or hibernation function (☞ Reference Manual "Standby/Hibernation Functions").

1 **Save important data and close each application.**

2 Windows XP

Select [Start] - [Turn Off Computer].

Windows 2000

Select [Start] - [Shut Down].

3 Windows XP

Select [Turn Off].

Windows 2000

Select [Shut down], then select [OK].
Your computer will power off automatically.

● Restarting your computer (without shutting down)

Windows XP

Select [Restart].

Windows 2000

Select [Restart], then select [OK].

CAUTION

- Do not do the following during the shutdown/restart procedure.
  - Connecting or disconnecting the AC adaptor.
  - Touching the power switch.
  - Performing any keyboard, touch pad, touchscreen (only for models with touchscreen), or external mouse operations.
  - Closing the display.

NOTE

- **To shut down using the keyboard,**

  Windows XP

  Press (⊞), (U), and select [Turn Off] with (→) (←) (↑) (↓), then press (Enter).

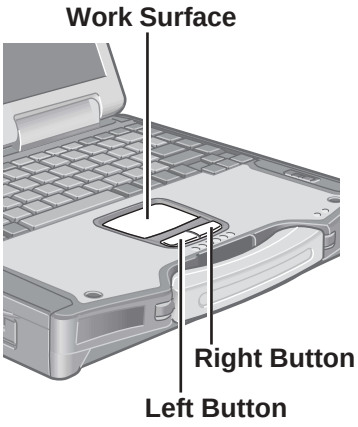
  Windows 2000

  Press (⊞), (U), and select [Shut down] with (→) (←) (↑) (↓), then press (Enter).
- **To quickly resume computer operation after shutting down,**
  The standby or hibernation function is available (☞ Reference Manual "Standby/Hibernation Functions").

4 **Close the display until the latch clicks into place.**

Operation

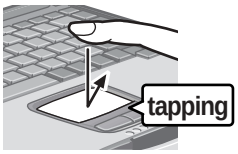
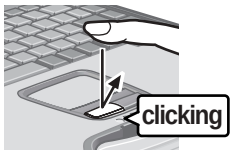
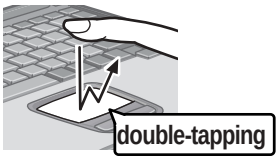
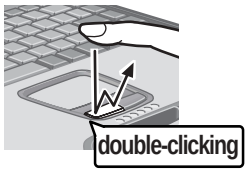
Touch Pad (Basic Operation)



Use the touch pad to move the cursor on the display and perform normal computer operations. For instructions on how to operate, refer to Reference Manual "Touch Pad".

CAUTION

- By design the touch pad is to be used with a finger tip only. Therefore, do not use any implement which causes damage on the work surface.

Function	Touch Pad Operation
Moving the Cursor	Move the tip of your finger lightly over the surface.
Tapping/Clicking	 **or** 
Double-Tapping/ Double-Clicking	 **or** 
Dragging	Two quick taps, but on the second tap leaving your finger down (applying pressure) and moving it on the work surface. **or** While holding down the button, moving your finger on the work surface.

Handling the Touch Pad

- If a key combination such as Fn + F5 is used while the pad is being touched, the function of the key combination will not work. In addition, it is possible that control of the cursor will be lost and the cursor will not show proper movements. In such cases, the computer has to be restarted by using the keyboard (e.g., ⊞).
- Do not place any object on the work surface or press down forcefully with sharp-pointed objects (e.g., nails) or hard objects that can leave marks (e.g., pencils and ball point pen).
- Try to avoid having any harmful substances such as oil, come in contact with the touch pad. The cursor may not work properly in such cases.
- **When the touch pad becomes dirty:**
  Wipe to remove dirt by using a dry soft cloth such as gauze or a soft cloth first applied with detergent diluted with water and then thoroughly wrung.
  Do not use benzene, thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially-available household cleaners and cosmetics, as they may contain components harmful to the surface.

Reference Manual

The Reference Manual and the Important Tips can be accessed on your computer. When a printer is connected, these manuals can also be printed.

- The Reference Manual explains functions for you to make greater use of the computer, such as how to add peripheral devices, how the Setup Utility works, and other useful information. (Refer to the cover of this manual for a list of the main contents included.)
- Important Tips provides information on how to maximize use of the battery pack, which is necessary for computing away from your home or office.
  It also offers helpful explanations on how to use the touchscreen more effectively. (only for models with touchscreen)

Opening the Reference Manual or Important Tips

● Reference Manual

Windows XP

Select [Reference Manual] in [Start].

Windows 2000

Select [Reference Manual] in [Start] - [Programs] - [Panasonic] - [On-Line Manuals].

● Important Tips

Select on the desktop.

Important Tips can also be accessed from the following menu.

Windows XP

Select [Important Tips] in [Start] - [All Programs] - [Panasonic] - [On-Line Manuals].

Windows 2000

Select [Important Tips] in [Start] - [Programs] - [Panasonic] - [On-Line Manuals].

When the Reference Manual or Important Tips is started up for the first time, the License Agreement of the Acrobat Reader may be displayed. If it is displayed, after reading the agreement, select [Accept] to access the Reference Manual or Important Tips.
Refer to Acrobat Reader Help to use the Acrobat Reader.

NOTE

- Illustrations may be difficult to view depending on the magnification. If the illustration is too small, magnify the display.
- The characters in PDF files (such as the Reference Manual) may be difficult to read depending on the Acrobat Reader settings and the Windows Desktop settings. In such cases, change the Acrobat Reader settings with the following procedure.
  1. Start up Acrobat Reader.
  2. Select [Edit] - [Preferences] - [Accessibility], and then set [Color Scheme] to [Use colors specified in document].
- When the taskbar is hidden at the bottom portion of Acrobat Reader, set the maximum display window size.
- If a printer is connected, we recommend printing pages. The illustrations and display samples may not print with a high quality.

Useful Information

Usage Environment

Environment

- In use: Temperature: 5 °C to 35 °C {41 °F to 95 °F}
  Humidity : 30% to 80% RH (No condensation)
  Not in use: Temperature: -20 °C to 60 °C {-4 °F to 140 °F}
  Humidity : 30% to 90% RH (No condensation)

Places not to use your computer

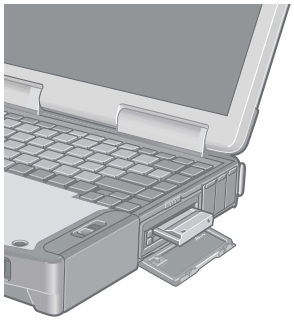
- Such areas may result in damage to the computer.

  Areas with electronic equipment

  These areas may interfere with your display or cause your computer to produce strange sounds.

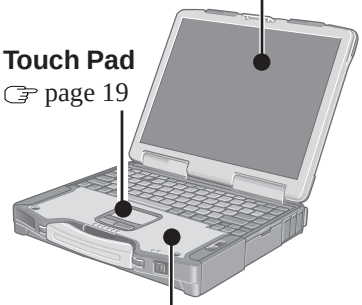
  Areas with extremely high/low temperatures
- Do not leave things near the computer that are sensitive to heat. During operation, the computer may become warm.

Handling



- This computer has been designed so as to minimize shock to the LCD and hard disk drive, the leakage of liquid (e.g., water) on to the keyboard, etc., but no warranty is provided against such trouble. Therefore, as a precision instrument, be extremely careful in the handling.
- Do not drop or hit your computer against solid objects.
- Do not carry your computer when it is on.
- Remove all external devices, cables, and PC Cards sticking out of the computer (see the figure on the left) before transporting the computer.
- We recommend preparing a fully charged battery (and optional charger, if possible). When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
- Do not place the computer upright or allow it to tip over. When the computer receives extremely strong shock after falling, the hard disk or floppy disk drive, etc., may become inoperable.
- Do not carry the computer while the display is open, or carry it by gripping the display.
- Do not put anything (e.g., a piece of paper) between the display and keyboard.
- Always carry your computer with you when traveling. Never check it in with luggage. For use of the computer inside an aircraft, we recommend asking the airlines regarding their policy on this issue.
- It is a good idea to make backup copies on disks and carry them with you.
- Do not leave a disk in the drive while transporting your computer.

Maintenance



Display

<Models with touchscreen>

Use the Soft Cloth included with the computer. (For more information, refer to “Suggestions About Cleaning the LCD Surface” that come with the soft cloth.)

If the Protective Film becomes dirty or damaged, it may be time to replace your Protective Film. The Protective Film is a disposable item. To find out the model number of your Protective Film, contact Panasonic Technical Support. (For more information, refer to the “Operating Instructions” that come with the Protective Film.)

CAUTION

Do not touch or use a touchscreen before you re-attach a Protective Film, as you may leave a mark or a scratch on the touchscreen.

<Models without touchscreen>

Avoid using water when cleaning the panel. Ingredients included in water may leave residue and reduce readability of the screen.

<When cleaning dust/dirt>

Avoid rubbing off dust/dirt with cloth since it may leave scratch on the screen.

Sweep dust/dirt with fine brush, then wipe it with “dry” soft cloth used for cleaning glasses.

<When cleaning oily surface>

Apply camera lens cleaner on a soft gauze and clean it with gentle force. Then, wipe with dry soft cloth used for cleaning glasses.

Areas excluding the display

Wipe these areas with a soft cloth, after applying water or detergent diluted with water to the soft cloth and firmly wringing out excess water.

CAUTION

- Do not use benzene, thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially-available household cleaners and cosmetics, as they may contain components harmful to the surface.
- Do not directly add or spray water or detergent. If liquid enters the inside of the computer, it may cause it to work improperly or be damaged.

Saving Data on the Hard Disk

- **Do not expose your computer to shock.**
  Use care when handling your computer, shock may damage your hard disk or make your software applications and data unusable.
- **Do not power off your computer while software applications are running or hard disk drive indicator ( ) is on.**
  Properly shut Windows* down to avoid problems.
- **Save all valuable data to floppy disks, etc.**
  Backing up data to floppy disks, etc. will limit damage should trouble occur to your computer or should you inadvertently change or erase data.
- **Use the security function for all important data.** (☞ Reference Manual “Security Measures”)

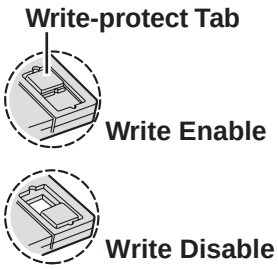
* Windows XP : This computer uses Microsoft® Windows® XP Professional.
Windows 2000 : This computer uses Microsoft® Windows® 2000 Professional.

Hard Disk Lock

When the Hard Disk Lock is set to [Enable], it is impossible to read/write data from/to the hard disk when the hard disk is installed in a different computer, since a password is also set for the hard disk. When the hard disk is returned to the original computer, you can read and write data as before. In this case, however, make the settings in the Setup Utility exactly the same as they were before the hard disk was removed. (Note that this Hard Disk Lock does not guarantee complete protection of data.) (☞ Reference Manual "Security Measures")

Useful Information

Saving Data on Floppy Disks



- **Do not power down your computer or press the disk eject button while the MP indicator (MP) is on.**
  Doing so may damage the data on the floppy disk and render the floppy disk useless.
- **Use care when handling floppy disks.**
  To protect the data on your floppy disks or to prevent a floppy disk from becoming stuck in your computer, avoid the following:
  • Sliding the shutter on the floppy disk manually.
  • Exposing the floppy disk to a magnetic field.
  • Storing the floppy disk in locations prone to high temperatures, low pitched noise, dampness, or dust.
  • Applying more than one label on the floppy disk.
- **Confirm the contents of a floppy disk before formatting it.**
  Confirm that no important data is on the floppy disk, because all data on the floppy disk will be erased.
- **Use the write-protect tab.**
  This is a must for preserving important data. This prevents your data from being erased or overwritten.

Computer Viruses

Users are advised to purchase the latest versions of virus protection software and use them regularly.

We recommend you run the software:
• After booting your computer.
• After receiving data.

We recommend that you check data received on disks or from external sources, such as data downloaded from the Internet, e-mail, etc. (For compressed files, uncompress them before running a check).

When Using Peripheral Devices

Pay strict attention to the following points to avoid damage to the computer, peripheral devices, cables, etc. Also, in addition to following this manual and the Reference Manual, carefully read the instruction manuals for the peripheral devices being used.

- Use only peripheral devices that conform to the computer's specifications.
- Connect the devices properly, paying close attention to the condition and position of the connectors.
- If a connection cannot be made easily, do not apply undue force; check once more to confirm the condition and position of the connector (alignment of pins, etc.) .
- If the connector has holding screws, fasten the screws firmly.
- Do not carry the computer with cables attached, and do not pull on the cables forcefully.

Wireless LAN

- **To prevent theft of data or unauthorized access to the hard disk via a wireless LAN.**
  If you plan to use wireless LAN functions, we recommend that you do so only after making the appropriate security settings, such as for data encryption.

Windows Update

You can use the latest patches and service packs for Windows with the following menus.
Do not apply "Driver Update" even if a message to update a driver appears. If a driver update is required, contact to Panasonic Technical Support.

Windows XP

[Start] - [All programs] - [Windows Update]

Windows 2000

[Start] - [Windows Update]

When Changing Hard Disk Partitions

When using the hard disk backup function (☞ page 34), do not divide up the hard disk before creating a backup region. If you do this, the backup region cannot be created. Divide into the partition when the backup region is created.

When Disposing of or Transferring Ownership of This Device

When disposing of or transferring ownership of this device, erase all data on the hard disk in order to prevent the theft of hard disk data. Even if you delete data or initialize the hard disk through normal Windows commands, data can still be read using special software. In order to erase all data, either have the data erased by a specialist (at a charge) or use the hard disk data erase utility (included) (☞ page 38). (Note that this hard disk data erase utility does not guarantee that data will be completely erased.)

Also, note that if you transfer ownership of this device without deleting commercial software that you have installed to the hard disk, you may be in violation of the licensing agreement for that software.

List of Error Codes

The following is a list of the messages that BIOS can display. Most of them occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured. Following the list are explanations of the messages and remedies for reported problems.
If your system displays any of the below error messages other that the ones marked with an asterisk (*), write down the message and contact Panasonic Technical Support. If your system fails after you make changes in the Setup menus, reset the computer, enter Setup and install Setup defaults or correct the error.

0200 Failure Fixed Disk
Fixed disk in not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.

0211 Keyboard error
Keyboard not working.

0212 Keyboard Controller Failed
Keyboard controller failed test. Requires repair of system board.

0213 Keyboard locked - Unlock key switch
Unlock the system to proceed.

0230 System RAM Failed at offset : *nnnn*
System RAM failed at offset nnnn of in the 64k block at which the error was detected.

0231 Shadow RAM Failed at offset : *nnnn*
Shadow RAM failed at offset nnnn of the 64k block at which the error was detected.

0232 Extended RAM Failed at offset : *nnnn*
Extended RAM Failed at address line : *nnnn*
Extended memory not working or not configured properly at offset or address line nnnn.

0250 System battery is dead - Replace and run SETUP
The CMOS backup battery is dead. Replace the battery and run Setup to reconfigure the system.

***0251 System CMOS checksum bad - Default configuration used**
System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default SETUP Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery or contact Panasonic Technical Support.

0260 System timer error
The timer test failed. Requires repair of system board.

0270 Real time clock error
Real-time clock fails BIOS test. Requires repair of system board.

0271 Check date and time settings
Real-time clock is illegal. Run Setup and set the date and clock.

***0280 Previous boot incomplete - Default configuration used**
Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of **wait states**, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.

02D0 System cache error - Cache disabled
Contact your Panasonic Technical Support.

Failing Bits : *nnnn*
The hex number nnnn is a map of the bits at the RAM address which failed the memory test. Each 1 (one) in the map indicates a failed bit. See error 230,231 or 232 for offset address of the failure in System, Extended or Shadow memory.

Operating System not found
Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.

Press <F1> to resume, <F2> to Setup
Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Write down and follow the information shown on the screen.

0614 Serial Port A config. error - device disabled

0616 Serial Port B config. error - device disabled
Serial Device I/O Address or IRQ are in conflict. Change the I/O Address or IRQ in the Setup Utility.

Dealing with Problems (Summary)

When a problem occurs, refer to this page. The “Reference Manual” also contains detailed information. If a problem appears to be related to a software application, read the software related manual. If you still cannot troubleshoot the problem, contact Panasonic Technical Support. You can use the PC Information Viewer to check the computer’s usage status. (☞ Reference Manual “Dealing with Problems (Advanced)”)

● Starting Up

The power indicator or battery indicator is not lit	● Check the cable connection for the AC adaptor. ● Check to see if a fully charged battery is properly installed. ● Remove the battery pack and disconnect the AC adaptor, then connect them again.
The computer does not operate when a USB device is connected	● The computer may not operate when certain USB devices are connected. Disconnect the USB device, or set [Legacy USB Support] to [Disable] in [Security] menu of the Setup Utility.
[Enter Password] is displayed	Input your Supervisor Password or User Password. If you have forgotten it, contact Panasonic Technical Support.
POST Startup Error(s) is displayed	☞ page 24
Windows startup, or an operation is extremely slow	● Press F9 in the Setup Utility (☞ Reference Manual “Setup Utility”). This will restore the Setup Utility's settings to their default values (except the password settings). Then, the Setup Utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)
The date and time are incorrect	● You can set the date and time using the following menu. Windows XP [Start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time] Windows 2000 [Start] - [Settings] - [Control Panel] - [Date/Time] ● When the computer is connected to a LAN, confirm the date and time of the server. ● If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact Panasonic Technical Support. ● This computer will not correctly recognize the date and time starting from the year 2100 A.D.
When resuming from the standby or hibernation mode, [Enter Password] does not appear even if a password has been set in the Setup Utility	● Even when a password has been set in the Setup Utility, [Enter Password] does not appear when the computer resumes from the standby or hibernation mode. If you want to use the security function when using the standby or hibernation mode, use the Windows password as follows: Windows XP Select the account to change in [Start] - [Control Panel] - [User Accounts] and set the password, then add the check mark for [Prompt for password when computer resumes from standby] in [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced]. Windows 2000 Set the password in [Start] - [Settings] - [Control Panel] - [Users and Passwords], then add the check mark for [Prompt for password when computer goes off standby] in [Control Panel] - [Power Options] - [Advanced].
When “Invalid system disk. Replace the disk, and then press any key.” (or a similar message) is displayed	● This means a floppy disk that does not contain system startup information has been left in the floppy disk drive. Remove the floppy disk, and press any key. ● This message may appear when certain USB devices are connected. Remove the USB device, or set [Legacy USB support] in [Security] menu of the Setup Utility to [Disable]. ● If the message still appears even after trying the above two measures, this may be an indication that some type of hard disk failure has occurred. Contact Panasonic Technical Support.

Dealing with Problems (Summary)

● Starting Up (continued)

When the administrator password is forgotten	● Set the password again in the following procedure. Windows XP If you have created a password reset disk (☞ page 14), a message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again by using the password reset disk. If you have not created a password reset disk, after reinstalling, setup Windows and then set the password again. Windows 2000 After reinstalling, setup Windows and then set the password again.
When the previous item is not the cause	● Press F9 in the Setup Utility (☞ Reference Manual "Setup Utility"). This will restore the Setup Utility's settings to their default values (except the password settings). ● Try removing all peripheral devices. ● Check a disk error using the following procedure. ***1*** Display [Local Disk(C:) Properties]. Windows XP Select [Local Disk(C:)] with the right button in [start] - [My Computer], and select [Properties]. Windows 2000 Select [Local Disk(C:)] with the right button in [My Computer], and select [Properties]. ***2*** Select [Tools] - [Check Now]. ***3*** Select [Start] after selecting required items in [Check disk options]. ● At startup, hold down F8 when [Panasonic] boot screen disappears, and release your finger when the Windows Advanced Option Menu is displayed. Start the computer in Safe Mode, and confirm the details of the error.

Display

No display after powering on	● When there is no display to an external display, • Check your cable connection to the external display. • Confirm your display is powered on. • Check the settings for your external display. ● The display destination may be set to the external display. Try changing the display destination by pressing Fn + F3. If you want to switch the display destination repeatedly by pressing Fn + F3, make sure that the display destination has switched completely each time before pressing Fn + F3 again.
The power has not been turned off, but after a certain period of time, there is no display	● Has the computer been set to the power-saving mode? To resume operation of your computer from the condition the power of the display is off (for energy conservation purposes), press any key unrelated to the direct triggering of a selection, like Ctrl. ● To save power, your computer may have automatically entered the standby mode (power indicator blinks green) or hibernation mode (power indicator turns off). In such cases, slide the power switch.
When the battery pack is used, the screen is darker than when the AC adaptor is connected	● Press Fn + F2 and adjust the brightness. Note, however, that when the brightness is increased, the battery running time will become shorter. Brightness can be set to separate levels for when the AC adaptor is connected and when it is disconnected.
An afterimage appears (e.g., green, red, and blue dots remain on the display) or there are dots not displaying the correct colors	● If an image is displayed for a prolonged period of time, an afterimage may appear. This is not a malfunction. The afterimage will disappear when a different screen is displayed. ● High-precision and advanced technologies are necessary in the production of color liquid crystal displays (color LCDs). Therefore, if 0.002% or less of the picture elements either fail to light or remain constantly lit (that is, more than 99.998% of elements are functioning properly), no defect is considered to exist.
The external display no longer displays properly	● When an external display not compatible with the power saving mode is used with the computer, the display may not function correctly when the computer enters the power saving mode. In such cases, turn off the power to the external display.
During simultaneous display, the screen of the external display becomes disordered	● Try changing the display by pressing Fn + F3. ● If you continue to experience problems, try changing the display in the following menu. Windows XP [Start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics] - [Devices] Windows 2000 [Start] - [Settings] - [Control Panel] - [Intel(R) Extreme Graphics] - [Devices]
When an MPEG file is being played with Media Player, the display destination cannot be switched using Fn + F3	● The display destination cannot be switched while an MPEG file is playing. Stop playing the MPEG file before switching the display destination.

Shutting Down

Windows cannot be shut down or restarted	● If a USB device is connected, try removing it.

Dealing with Problems (Summary)

● Battery Indicator

The red indicator lights.	The battery level is very low (the charge is less than approx. 9% capacity). Connect the AC adaptor. You can use the computer when the indicator light is orange. If you do not have an AC adaptor, save your data and power off your computer. After replacing the battery pack with a fully charged one, turn your computer on.
The red indicator blinks	Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact Panasonic Technical Support. Possible failure in the battery pack or charging circuit.
The orange indicator blinks	Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside of the acceptable temperature range for recharging. Once the allowable range requirement is satisfied, charging begins automatically. Your computer can be used normally in this state.
The green indicator blinks	In high temperature mode, the battery pack is discharging to a level of 80%* in normal temperature mode. (☞ Reference Manual "Battery Power") Do not remove the battery pack while the battery indicator is blinking green. * A level of 80% in normal temperature mode is displayed as [100%] in high temperature mode.
The battery indicator blinks green and orange alternately	Warming up the system to prevent hard disk drive malfunctions at low temperature. Leave your computer as is. Once the allowable temperature range requirement is satisfied, your computer will start automatically.

● Touch Pad/Touchscreen (only for models with touchscreen)

The cursor cannot be controlled properly	● If you are using an external mouse, ensure that the external mouse has been connected correctly. ● Restart the computer by using the keyboard (Press ⊞, U, and select [Restart] with →, ←, ↑, ↓, then press Enter). ● If the computer does not respond to keyboard commands, read "No response" (☞ page 29).
The cursor does not move in scrolling area of the touch pad	● When the Microsoft® IntelliMouse™ Wheel mode or the original mode is set for the touch pad, only scroll operations are possible for the right part or bottom part of the touch pad. In this case, cursor operations are possible by using the work surface excluding the right part or bottom part. When no mode is set, the entire surface of the touch pad can be used for cursor operations.
Unable to input using the touch pad	● Has the Setup Utility been used to set [Touch Pad] to [Enable]? ● When external mouse drivers are installed (e.g., Intellimouse), the touch pad may not be used. ● Has the touch pad driver been properly installed?
Unable to point correctly with the stylus included with the computer	● As a result of the physical characteristics of the Touchscreen, sometimes the position of the stylus does not match the position of the cursor on the screen. This is not a malfunction. Perform [Calibration] (☞ page 13).
Unable to input by touching the display	● Has the Setup Utility been used to set [Touchscreen] to [Enable]? ● When mouse drivers are installed (i.e. IntelliMouse), the touchscreen is unable to be used. ● Has the touchscreen driver been properly installed?

● Reference Manual

The Reference Manual is not displayed	Is Acrobat Reader installed? If Acrobat Reader is not installed, run [c:\util\reader\acroreader51_enu_full.exe] in [Start] - [Run] to reinstall the program. When installing the program, do not change the installation destination folder. If the destination folder is changed, the Reference Manual cannot be opened from the [Start] menu.

● Fast User Switching function Windows XP

Some applications may not work properly	When switching to a different user with the Fast User Switching function, the following problems may occur. • Some applications may not work properly. • Key combinations with the Fn key may not work. • It may not be possible to set the settings of the display. • The wireless LAN cannot be used. • A serial mouse may not work. In this case, log off all users, and try the operation once more. If the problem persists, restart the computer.

● Others

No response	● Press Ctrl + Shift + Esc to open Task Manager and close the software application which is not responding. ● After shutting down by sliding the power switch for more than four seconds, sliding the power switch to power on and open the application again. If the program no longer works normally, delete the program using the following menu. Then reinstall the program. Windows XP : [Start] - [Control Panel] - [Add or Remove Programs] Windows 2000 : [Start] - [Settings] - [Control Panel] - [Add/Remove Programs]

Reinstalling Software

When reinstallation procedure is performed, the contents of the hard disk will be erased. Be sure to back up any critical data on your hard disk to another media or to an external hard disk before running the reinstallation procedure.
The reinstallation procedure will return the computer to its original condition.
Even if a hard disk backup area has been created, this backup area will be erased, and all the backed up data will be lost. (This is not the case when Windows is reinstalled in the first partition.)
• If you have created partitions for data, the data may be erased or become corrupt as a result of the reinstallation procedure.

Before Reinstallation

Preparing

• Product Recovery CD-ROM (included)
• Panasonic CD drive (optional: Confirm the latest information on optional products in catalogs, etc.)

Important

● Before the reinstallation procedure, remove all peripherals (except for the CD drive).
● Be sure the AC adaptor is connected until the reinstallation procedure is completed.

Reinstalling

1 Turn off the computer and insert the CD drive into the multimedia pocket. (☞ Reference Manual "Multimedia Pocket")

2 Turn on the computer, and press **F2** while [Panasonic] boot screen is displayed.
The Setup Utility will start up.
If the password has been set, enter the Supervisor Password.

3 Write down all of the contents of the Setup Utility and then press **F9**.
At the confirmation message, select [Yes] and press **Enter**.

4 Select [Boot] menu, then select [CD Drive] and press **F6** until [CD Drive] is at the top of the [Boot] menu.

5 Place the disc number one of the recovery CDs into the CD drive.

6 Press **F10**.
At the confirmation message, select [Yes] and press **Enter**. The computer will restart.
<When the hard disk backup function has been enabled>
When the message [The Backup function has been enabled. If [Recovery] or [Erase HDD] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears, press **Y**.

This screen should appear.

```
---------------------------------------------------------------------
Select a number
---------------------------------------------------------------------
1. [ Recovery   ] Reinstall Windows.
2. [ Erase HDD ] Erase the whole data on HDD for security.
3. [ Backup     ] Enable the Backup function.

0. [ Cancel     ] Cancel.
---------------------------------------------------------------------
```

7 Press [1.[Recovery]].
The License Agreement screen should appear.

8 Press [1. Yes, I agree to the provisions above and wish to continue!].

This screen should appear.

Windows XP

```
---------------------------------------------------------------------
Select a number
---------------------------------------------------------------------
                        Reinstalling : Windows(R) XP Professional

1. Reinstall Windows to the whole HDD to factory default.
2. Make two partitions, for the operating system and data. And reinstall
   Windows to the operating system partition.
   (All existing partitions on HDD will be lost.)
3. Reinstall Windows to the first partition.

0. Cancel
---------------------------------------------------------------------
```

Windows 2000

```
---------------------------------------------------------------------
Select a number
---------------------------------------------------------------------
                        Reinstalling : Windows(R) 2000 Professional

1. Reinstall Windows to the whole HDD to factory default.
2. Make two partitions, for the operating system and data. And reinstall
   Windows to the operating system partition.
   (All existing partitions on HDD will be lost.)
3. Reinstall Windows to the first partition.

0. Cancel
---------------------------------------------------------------------
```

9 Make a selection from the menu.
● When selecting [2], enter the basic partition size for the operating system installation and press **Enter**.
(The data partition size is the remainder after subtracting the basic partition size.)
● To select [3], the initial partition size must be 6 GB or more of the hard disk size. Reinstallation cannot be performed with a small partition size.
<When the hard disk backup function has been enabled>
If you select [1] or [2], the message [The Backup function has been enabled. If [Recovery] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears. In this case, press **Y**.
However, when [2] is selected, the hard disk backup function cannot be re-enabled because the hard disk has been divided into partitions.

10 At the confirmation message , press (Y).
The operation of reinstallation for the hard disk starts automatically. (The operations take about an hour.)

CAUTION

- Do not interrupt the reinstallation procedure before completion, for example by turning off the computer or pressing (Ctrl) + (Alt) + (Del), as this may prevent Windows from starting up, or may cause data to be lost so that the reinstallation procedure cannot be executed.
- When a message appears instructing you to insert the next CD, insert the recovery CD showing the next number in the sequence, and then select [OK]. If the message [The media does not contain the correct file] appears, select [OK]. A message will appear instructing you to insert the next CD. Confirm that the proper recovery CD has been inserted by opening the cover of the CD drive and then close the cover, then select [OK].

11 After the reinstallation procedure completes, this screen should appear.
Remove the recovery CD.

Windows XP

```
[Recovery] is complete.
Windows(R) XP Professional install wizard will start after reboot.
Please Remove the Product Recovery CD-ROM, and press
Ctrl + Alt + Del (Delete) to reboot.
```

Windows 2000

```
[Recovery] is complete.
Windows(R) 2000 Professional install wizard will start after reboot.
Please Remove the Product Recovery CD-ROM, and press
Ctrl + Alt + Del (Delete) to reboot.
```

12 Restart the computer by pressing (Ctrl) + (Alt) + (Del) and press (F2) while [Panasonic] boot screen is displayed.
The Setup Utility will start up.
If the password has been set, enter the Supervisor Password.

13 Press (F9).
At the confirmation message, select [Yes] and press (Enter). (The Setup Utility settings will return to their default values. Even the security settings with the exception of the password(s) will return to their default values.)

14 Press (F10).
At the confirmation message, select [Yes] and press (Enter).

15 Perform the setup procedure for Windows by following the instructions on the screen (☞ page 12-14).

16 Run the Setup Utility and change the settings where necessary.

<Changing the drive letter>
You can change the drive letter for the CD drive or hard disk drive by the following steps.

- Drive letters can only be changed when two or more partitions have been created on the hard disk drive. The name of the C: drive cannot be changed.
- We recommend that you make these changes before installing applications.

Windows XP

1. Select [Start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] - [Computer Management].
2. Select [Disk Management] from [Storage].
3. Right click on the partition of the hard disk or the name of the CD drive and select [Change Drive Letter and Paths...].
4. Select [Change].
5. Select [Assign the following drive letter] and select the new drive letter, and then select [OK].
6. At the confirmation message, select [Yes].

Windows 2000

1. Select [Start] - [Settings] - [Control Panel] - [Administrative Tools] - [Computer Management].
2. Select [Disk Management] from [Storage].
3. Right click on the partition of the hard disk or the name of the CD drive and select [Change Drive Letter and Path...].
4. Select [Edit].
5. Select [Assign a drive letter] and select the new drive letter, and then select [OK].
6. At the confirmation message, select [Yes].

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Hard Disk Backup Function

The hard disk backup function creates a backup area (storage area) on the hard disk. This area is to back up (store) hard disk contents or restore backed up contents to their original locations.
By backing up the data on your hard disk to a backup area, you can protect your data from loss or damage resulting from operational errors or other factors. Also, you can back up or restore hard disk contents using this computer alone, without having to use other media or peripheral devices.
At the time of purchase, the hard disk backup function is disabled. If you follow the procedure below to create a backup area, the hard disk backup function will be enabled, and you will be able to back up your data. Note, that once the backup function has been enabled, you will have to perform the reinstallation procedure to disable it again (☞ page 30).

The hard disk backup function cannot back up or restore data properly if there is a problem with the hard disk when the data is backed up or restored. Note that if an error occurs while data is being restored, whether as a result of an unexpected malfunction, incorrect operation, or other reason, the data in the hard disk (data before restoration) may be lost.
Matsushita Electric Industrial Co., Ltd. will bear no responsibility for any damages suffered by the user (including loss of data) as a result of the use of this function.

Preparing

- Product Recovery CD-ROM (included)
- Panasonic CD drive (optional: Confirm the latest information on optional products in catalogs, etc.)

Before Using a Hard Disk Backup Function

- Disconnect or remove all peripheral devices (except for the CD drive), as the backup area may not be created properly while these devices are connected.
- Be sure the AC adaptor is connected to the computer.
- A backup area cannot be created if the hard disk is already divided into several partitions. Return the computer to its condition at the time of purchase (one partition only), and create the backup area.
- To divide the partition, make the selection when the backup area is created (☞ page 33 step ***8***).
- If the partition configuration is changed (partitions created, size changed, etc.) after the backup area has been created, it will no longer be possible to execute the backup function. To change the configuration, it is necessary to return the computer to its condition at the time of purchase, and then create the backup area again.
- The hard disk backup function will only work for the internal hard disk. This function does not work with an external hard disk.
- Backup and restore functions will not operate if the hard disk has been damaged.
- Do not use the NTFS file system compression function, as this may result in insufficient capacity of the backup area.
- If the hard disk malfunction occurs, it will be impossible to read the data stored hard disk. We recommend that you also back up important data to a location other than the hard disk (an external hard disk or other media).
- Execute a disk error check using the following procedure.
  1 Display the [Local Disk(C:) properties].
  Windows XP
  Select [Local Disk(C:)] with the right button in [Start] - [My Computer], and select [Properties].
  Windows 2000
  Select [Local Disk(C:)] with the right button in [My Computer], and select [Properties].
  2 Select [Check Now] from [Tools].
  3 In [Check Disk], select [Start] without adding a check mark beside any of the items.
  If a message is displayed indicating that there is an error in the disk, display [Check Disk], and add a check mark for [Automatically fix file system errors] and [Scan for and attempt recovery of bad sectors], select [Start], and check for disk errors again.
- The hard disk backup function does not accommodate dynamic disks. Do not convert the hard disk to a dynamic disk.

(To next page)

NOTE

- Regarding backup area
  - Requires availability of at least half of the entire hard disk. Without sufficient space available, the backup area cannot be created.
  - When the backup area is created, the usable hard disk capacity will be reduced to less than half.
  - The backup area cannot be accessed from Windows. For this reason, backed up data cannot be copied to CD-R or other removable disk media.
  - When the hard disk backup function is executed, data in the backup area will be overwritten. If newly created or edited data is backed up later, data stored previously in the backup area will be lost.

Create a Backup Area

1 Turn off the computer and insert the CD drive into the multimedia pocket. (☞ Reference Manual "Multimedia Pocket")

2 Turn the computer on, and press **F2** while [Panasonic] boot screen is displayed.
The Setup Utility will then start.
If a password has been set, enter the Supervisor Password. You cannot register [Boot] menu with a User Password.

3 Select [Boot] menu, then select [CD Drive] and press **F6** until [CD Drive] is at the top of the [Boot] menu.

4 Place disk number one of the recovery CDs into the CD drive.

5 Press **F10**.
At the confirmation message, select [Yes] and press **Enter**.
The computer will restart. If [Input the password] is displayed during the following procedures, input the Supervisor Password or the User Password.
This screen should appear.

```
------------------------------------------------------------------------
Select a number
------------------------------------------------------------------------
1. [  Recovery   ]  Reinstall Windows.
2. [  Erase HDD ]  Erase the whole data on HDD for security.
3. [  Backup     ]  Enable the Backup function.

0. [  Cancel     ]  Cancel.
------------------------------------------------------------------------
```

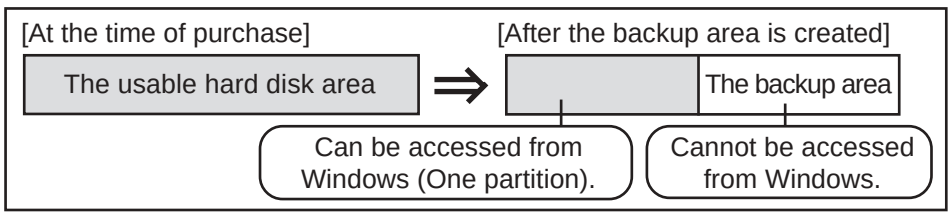
6 Press **3** to execute [3.Backup].

CAUTION

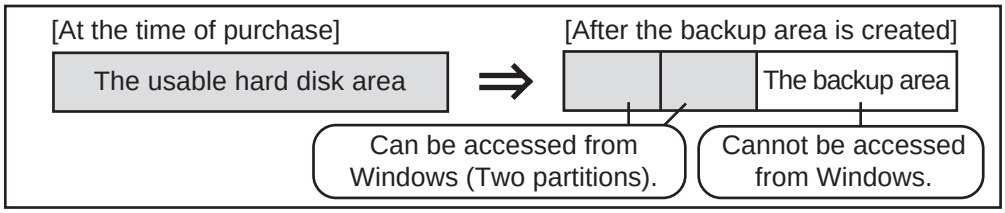
- When dividing the hard disk into partitions
  Do not execute [1. Recovery] to divide the hard disk into partitions. The hard disk backup function cannot be enabled after the hard disk has been partitioned. Use procedure ***8*** to devide the hard disk.

7 At the confirmation message, press **Y**.

8 Select how to divide the hard disk from the menu.
<To create a backup area and enable the backup function without dividing the hard disk>
Select [1].



<To create a backup area and divide hard disk into two partitions, for OS and data>
Select [2], enter the partition size (GB), and press Enter.
• You can cancel this operation by pressing 0.
• The data partition size will be the maximum settable size less the number entered above. The maximum settable size will differ depending on models.



9 When the confirmation message is displayed, press Y.
The backup area is then created.

10 When the message [You must reboot in order to enable the Backup function] appears, remove the recovery CD, and press any key to restart the computer. The computer is restarted, then the backup process will begin.

11 When the message [[Backup] is complete] appears, press Ctrl + Alt + Del to restart the computer.

CAUTION

- Do not press Ctrl + Alt + Del until the message is displayed.

12 A message will appear advising that a new device has been installed and that the computer must be rebooted to enable the settings. Select [Yes] to restart the computer.

NOTE

- The [Boot] menu in the setup utility is set to start up from the CD drive. Change this setting if necessary.
- The next time the backup or restore functions are executed, follow the procedure for [Backing Up and Restoring Data] (☞ below).

Backing Up and Restoring Data

CAUTION

- Before executing the backup function, execute a disk error check (☞ page 34).
- Do not interrupt the backup or restore functions before completion, for example by turning off the power or pressing Ctrl + Alt + Del, as this may prevent Windows from starting up, or may cause data to be lost so that the backup and restore functions cannot be executed.

1 Turn the computer on, and press F2 while [Panasonic] boot screen is displayed.
The Setup Utility will start up.
If a password has been set, enter the Supervisor Password or the User Password.

2 Select ← and → to move to the [Exit] menu, then select ↑ and ↓ to select [Hard Disk Backup / Restore] and press Enter.
At the confirmation message, select Y, and press Enter.

3 Select the operation to be executed from the menu.
<To back up hard disk contents to the backup area>
① Press (1) to execute [1. [Backup]].
(When dividing the hard disk into two partitions, select the backup method at next screen.)
② At the confirmation message, press (Y).
The backup process will begin.
<To restore backed up contents to the hard disk>
① Press (2) to execute [2. [Restore]].
(When data is backed up in two partitions, select the restore method at next screen.)
② At the confirmation message, press (Y).
The restore process will begin.

NOTE

- The time required to complete the backup or restore process differs depending on the data volume.

4 When the message [[Backup] is complete] or [[Restore] is complete] is displayed, press (Ctrl) + (Alt) + (Del) to restart the computer.
- If the backup or restore process was interrupted before completion, for example if the power was turned off, execute the process again.
- When a new device is installed and a message appears advising that the computer must be restarted to enable the settings, select [Yes] to restart the computer.

CAUTION

- When the hard disk backup function has been enabled, even if a commercial data erasing utility or similar software is used to erase all data from user-accessible area, the backed up data will not be erased. You can use the hard disk data erase utility included in this computer (☞ page 36) to erase all data on the hard disk, including backed up data. Use this hard disk data erase utility before disposing of or transferring ownership of this computer.
- Occasionally, the message [#1805 cannot write image file] will be displayed, and the backup function will be interrupted. If this error occurs, execute the backup function again. After this, if the backup function is completed properly, then there is no problem in the hard disk.

- **To disable the hard disk backup function**
Perform the reinstallation procedure. All data in the backup area and the hard disk will be erased.
Conduct steps ***1***-***7*** for [Reinstalling Software] (☞ page 30). Select [1] or [2] to execute the reinstallation at the screen for executing the reinstallation.
  - When [1] is selected, the hard disk backup function can be disabled.
  - When [2] is selected, the hard disk backup function can be disabled, but in this case, because the hard disk has been divided into partitions, the hard disk backup function cannot be re-enabled (☞ page 23).
  - When [3] is selected, the hard disk backup function cannot be disabled.

Hard Disk Data Erase Utility

This computer is equipped with a utility for erasing hard disk data.
When disposing of or transferring ownership of this device, erase all data on the hard disk in order to prevent the theft of hard disk data following the steps below.

The hard disk data erase utility erases data using an “overwriting” method, but there is a possibility that due to malfunctions or other operational errors, data may not be completely erased. There are also specialized devices that may be able to read data that has been erased using this method. If you need to erase highly confidential data, we recommend that you contact a company that specializes in this process. Matsushita Electric Industrial Co., Ltd. will bear no responsibility for losses or damages suffered as a result of the use of this utility.

Preparing

- Product Recovery CD-ROM (included)
- Panasonic CD drive (optional: Confirm the latest information on optional products in catalogs, etc.)

NOTE

- Be sure the AC adaptor is connected until the procedure is completed.
- This utility can only be used for internal hard disk. It cannot be used to erase data from external hard disks.
- This utility cannot erase data from damaged disk.
- This utility cannot erase data for specific partitions.
- After executing this utility, the computer cannot be booted from the hard disk.

Procedure

1 Turn off the computer.

2 Insert the CD drive into the multimedia pocket. (☞ Reference Manual “Multimedia Pocket”)

3 Turn the computer on, and press **F2** while [Panasonic] boot screen is displayed.
The Setup Utility will start up.
If the password has been set, enter the Supervisor Password.

4 Select [Boot] menu, then select [CD Drive] and press **F6** until [CD Drive] is at the top of [Boot] menu.

5 Place the disc number one of the recovery CDs into the CD drive.

6 Press **F10**.
At the confirmation message, select [Yes] and press **Enter**. The computer will restart.
<When the hard disk backup function has been enabled>
When the message [The Backup function has been enabled. If [Recovery] or [Erase HDD] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears, press **Y**.

This screen should appear.

```
Select a number
1. [ Recovery  ] Reinstall Windows.
2. [ Erase HDD ] Erase the whole data on HDD for security.
3. [ Backup    ] Enable the Backup function.

0. [ Cancel    ] Cancel.
```

7 Press **2** to execute [2. [Erase HDD]].
<When the hard disk backup function has been enabled>
When the message [The Backup function has been enabled. If [Erase HDD] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears, press **Y**.

8 When the message [Computer must be rebooted in order to execute [Erase HDD]] appears, press **R**.

9 At the confirmation message, press **Y**.

10 When [<<<Start Menu>>>] is displayed, press **Enter**.

11 The approximate time required for erasing data will be displayed.
Press **Space**.

12 At the confirmation message, press **Enter**. The operation of erasing the hard disk starts.
(If necessary, the “hard disk data erase” operation can be cancelled after it has begun by pressing **Ctrl** + **C**.
If the operation is cancelled before being completed, a part of data will not be erased.)

13 After the operation is complete:
Under normal conditions, the message [Hard disk data has been deleted.] will be displayed.
If a problem occurred during the operation, an error message will be displayed.

14 Remove the recovery CD, then turn off the computer by sliding the power switch.

Specifications

Main Specifications

Model No.			CF-29CTKGZKM CF-29CTKGZDM	CF-29C3KGZKM CF-29C3KGZDM
CPU			Intel® Pentium® M Processor 1.2 GHz LV	
L2 (Second) Cache Memory			1 MB	
Memory (Expandable to)			256 MB (768 MB Max.)	
Video Memory			UMA (64 MB Max.)*1	
LCD	**Type**		13.3 XGA type (TFT) with Touchscreen	13.3 XGA type (TFT)
	Displayed Colors*2		256/65536/16M colors (640 x 480 dots/ 800 x 600 dots/1024 x 768 dots)	256/65536/16M colors (640 x 480 dots/ 800 x 600 dots/1024 x 768 dots)
External Display			256/65536/16M colors (640 x 480 dots/800 x 600 dots/1024 x 768 dots/1280 x 1024 dots/1600 x 1200 dots)*3	
Hard Disk Drive			40 GB*4	
Keyboard			87 keys	
Floppy Disk Drive			720 KB/1.44 MB (two-mode)	
Slots	**PC Card Slots**		Two Type I or Type II, or one Type III	
		Allowable current (total for two slots)	3.3 V: 400 mA 5 V: 400 mA	
	RAM Module Slot*5		200 pin, 2.5 V, SO-DIMM, DDR SDRAM, PC2100 Compliant	
Interface	**Parallel Port**		Dsub 25-pin female	
	External Display Port		Mini Dsub 15-pin female	
	Serial Port		Dsub 9-pin male	
	Microphone Jack*6		Miniature jack, 3.5 DIA	
	Headphone Jack		Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW x 2	
	External Keyboard/Mouse Port		Mini DIN 6-pin female	
	Expansion Bus Connector		Dedicated 80-pin female	
	USB Port		4-pin, USB 2.0	
	Modem		RJ-11 jack, Data: 56 kbps (V.92 & K56flex*7) FAX:14.4 kbps	
	LAN		RJ-45 jack, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX	
	Wireless LAN		IEEE 802.11b compliant Frequency 2.4 GHz band	
Pointing Device			Touch Pad, Touchscreen (Anti-Reflection, Stylus (included) touch capable)	Touch Pad
Sound			WAVE and MIDI playback, Monaural Speaker (built in)	

*1 A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user.

*2 A 16M color display is achieved by using the dithering function. Windows XP : 256 color depth and the resolution of 640x480 are not supported.

*3 Maximum resolution depends on the specifications of the external display. Windows XP : 256 color depth and the resolution of 640x480 are not supported.

*4 1GB = 10^9 bytes

*5 Only a RAM card designed for PC2100 can be added.

*6 Use only a monaural condenser microphone.

*7 The settings for the K56flex modem need to be changed according to the AT command.

Specifications

Main Specifications

Model No.				CF-29CTKGZKM/CF-29CTKGZDM	CF-29C3KGZKM/CF-29C3KGZDM
Battery Pack				Li-ion 11.1 V, 6.6 Ah	
	Operating Time*8			Main battery: Approx. 3.5 hours - 5.5 hours Main battery + Second battery: Approx. 6.5 hours - 10 hours	
	Charging Time*8		Power On	Main battery: Approx. 5.5 hours Main battery + Second battery: Approx. 9.5 hours	
			Power Off	Main battery: Approx. 3 hours Main battery + Second battery: Approx. 5.5 hours	
	Clock Battery			Coin type lithium battery 3.0 V	
AC Adaptor*9	Input			100 V - 240 V AC, 50 Hz/60 Hz	
	Output			15.6 V DC, 5.0 A	
Power Consumption*10				Approx. 35 W*11 / Approx. 55 W (maximum when recharging in the ON state)	
Environment	In use		Temperature	5 °C to 35°C {41 °F to 95 °F}	
			Humidity	30% to 80% RH (No condensation)	
	Not in use		Temperature	-20 °C to 60 °C {-4 °F to 140 °F}	
			Humidity	30% to 90% RH (No condensation)	
Physical Dimensions (W x H x D)				302 mm x 63.5 mm(at the rear)/65.5 mm(at the front) x 275 mm {11.9 " x 2.5 "/2.6 " x 10.8 "} (excluding protrusion)	
Weight (including the carrying handle)				Approx. 4.2 kg {Approx. 9.3 lb.}	Approx. 4.1 kg {Approx. 9.0 lb.}

*8 Varies depending on the usage conditions, CPU speed, etc.
*9 The AC adaptor is compatible with power sources up to 240 V AC adaptor. The computer is supplied with a 125 V AC compatible AC cord.
*10 Approx. 0.9 W when the battery pack is fully charged (or not being charged) and the computer is off.
*11 Rated power consumption.

Software

Model No.	CF-29CTKGZKM/CF-29CRKGZKM CF-29C3KGZKM	CF-29CTKGZDM/CF-29CRKGZDM CF-29C3KGZDM
Operating System	Microsoft® Windows® XP Professional with Service Pack1 (NTFS File System)	Microsoft® Windows® 2000 Professional with Service Pack3 (NTFS File System)
Utility Programs	Setup Utility DMI Viewer Adobe® Acrobat® Reader Panasonic Hand Writing PC Information Viewer Hard Disk Backup Utility*12 Hard Disk Data Erase Utility*12 Intel PROSet WLAN Security Client	Setup Utility DMI Viewer Adobe® Acrobat® Reader Panasonic Hand Writing PC Information Viewer Hard Disk Backup Utility*12 Hard Disk Data Erase Utility*12 Intel® PROSet WLAN Security Client Intel® SpeedStep™ technology Applet

*12 The Product Recovery CD-ROM is required.

LIMITED WARRANTY

For U.S.A.

PANASONIC PERSONAL COMPUTER AND PERIPHERALS LIMITED WARRANTY

Panasonic Computer Solutions Company (referred to as “Panasonic”) will repair this product (other than software, which is covered by a separate warranty) with new or rebuilt parts, free of charge in the U.S.A. for three (3) years from the date of original purchase in the event of a defect in materials or workmanship. This warranty includes the AC adaptor but excludes the batteries and all other options and accessories which are covered for a period of one (1) year from the date of purchase.

This warranty is extended solely to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use. It does not cover damage which occurs in shipment or failures which are caused by products not supplied by Panasonic, or failures which result from alteration, accident, misuse, introduction of liquid or other foreign matter into the unit, abuse, neglect, installation, maladjustment of consumer controls, improper maintenance, modification or service by anyone other than a Factory Service Center or authorized Panasonic Service Dealer, or damage that is attributable to acts of God.

Limits and Exclusions:

There are no other express warranties except as listed below.

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This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. If a problem with your product develops during or after the warranty period, you may contact our representatives at 1-800-LAPTOP5. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Division at the address indicated below.

SOFTWARE LIMITED WARRANTY

Panasonic Computer Solutions Company (referred to as “Panasonic”) warrants to you only that the disk(s) or other media on which the Programs are furnished will be free from defects in materials and workmanship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

This is the only warranty Panasonic makes to you. Panasonic does not warrant that the functions contained in the Programs will meet your requirements or that the operation of the Programs will be uninterrupted or error free.

Panasonic’s entire liability, and your exclusive remedy under this warranty shall be limited to the replacement, in the United States, of any defective disk or other media which is returned to Panasonic’s Authorized Service Center, together with a copy of the purchase receipt, within the aforesaid warranty period.

Anything in the foregoing to the contrary notwithstanding, Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media otherwise than on the Product or in environmental conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mishandling, misapplication, installation, maladjustment of consumer controls, improper maintenance, modification of damage that is attributable to acts of God. In addition, Panasonic shall have no obligation for any defects in the disk(s) or other media if you have modified, or attempted to modify any Program.

DURATION OF IMPLIED WARRANTIES, IF ANY, IS LIMITED TO SIXTY (60) DAYS.

PANASONIC ASSUMES NO RISK OF AND SHALL NOT IN ANY CASE BE LIABLE FOR ANY DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES ARISING FROM BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE OR ANY OTHER LEGAL THEORY, INCLUDING, WITHOUT LIMITATION LOSS OF GOODWILL, PROFITS OR REVENUE, LOSS OF USE OF THE PROGRAMS OR PRODUCTS OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES, SERVICES, DOWNTIME COSTS, OR CLAIMS OF ANY PARTY DEALING WITH YOU FOR SUCH DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This Limited Warranty will be governed by the laws the State of New York, without regard to its conflict-of-laws rules.

* * *

To obtain service or technical assistance within the continental U.S.A. and Alaska.

DIAL TOLL FREE: 1-800-LAPTOP5

Correspondence requesting product information should be sent
to: Panasonic Computer Solutions Company,
50 Meadowlands Parkway, Panazip 2F-5, Secaucus, NJ 07094

LIMITED WARRANTY

For Canada

PANASONIC COMPUTER AND PERIPHERALS LIMITED WARRANTY

Coverage – Panasonic Canada Inc. ("PCI") warrants to you, the first end user customer, this computer product (excluding software media), when purchased from PCI or from a PCI authorized reseller, to be free from defects in materials and workmanship under normal use, subject to the terms set forth below, during the period of warranty coverage specified.

Scope of Coverage	Period of Coverage	Type of Failure Coverage
Whole Product (except Batteries), AC adaptor and CD-ROM (if factory installed)	Three (3) Years from Date of Original End User Customer Purchase	Defective Materials or Workmanship
Batteries, CD-ROM (unless factory installed), Port Replicator, Extra Memory Modules and all other Peripherals, Options and Accessories	One (1) Year from Date of Original End User Customer Purchase	Defective Materials or Workmanship

Remedy – In the event of a warranty claim, contact PCI's representatives within the applicable warranty period, identifying the nature of the defect claimed, at 1-800-668-8386 between 9:00 A.M. and 5:00 P.M., Eastern Time Zone, Mon. – Fri. (excluding holidays) for instructions on how to obtain service. A purchase receipt or other proof of date of original purchase is required before warranty service is performed. Defective parts covered by this Limited Warranty will be repaired or replaced with new or comparable rebuilt parts on an exchange basis. Warranty replacement or repair is subject to the terms of this Limited Warranty for the balance of the original period of warranty coverage.

No Coverage – This Limited Warranty does not cover products purchased outside Canada. Neither does it cover damage to, failure of, or defects in a product or accessory through mishandling, improper installation, abnormal use, misuse, neglect, accident, introduction of liquid or other foreign matter into the product, alteration or servicing by anyone not authorized by PCI, or act of God.

IF YOU SHIP THE PRODUCT FOR WARRANTY SERVICE

Carefully pack the product, preferably in the original carton. Include details of defect claimed and proof of date of original purchase. No liability is assumed for loss or damage to the product while in transit, if you chose your own transportation carrier.

SOFTWARE MEDIA LIMITED WARRANTY

Coverage – Panasonic Canada Inc. ("PCI") warrants to you, the first end user customer, that the disk(s) or other media on which software program(s) is/are supplied will be free from defects in materials and workmanship under normal use in Canada for a period of sixty (60) days from date of receipt as evidenced by your purchase receipt for your Panasonic Computer product.

THIS IS THE ONLY WARRANTY THAT PCI MAKES RESPECTING THE SOFTWARE MEDIA. PCI does not warrant the software. Please refer to the software licensor's written warranty (accompanying the copy of the software) for any software warranty claim.

Claim Procedure – In the event of a defect in material or workmanship in the media during the sixty (60) day warranty period, and you return it, transportation costs prepaid, to Panasonic Canada Inc., Computer Products Marketing, at the above address, within the warranty period, together with a copy of your purchase receipt, and an explanation of the suspected defect, PCI will replace in Canada the defective disk(s) or other media.

Remedy – PCI's entire liability, and your only remedy for any breach of this software media warranty is limited to replacement of the media only. It does not cover any other damages, including, but not limited to, loss of use or profit loss, or special, indirect or consequential damages, or other claims, whether or not of similar character.

No Coverage – This limited warranty does not apply if the disk(s) or other media has been used in other than a Panasonic product, or in environmental conditions other than those specified by PCI or the manufacturer, or if subjected to misuse, neglect, mishandling, modification or attempted modification of the program, or if damaged by accident or act of God. PCI is not responsible for damage to or loss of any program, data or removable storage media.

GENERAL

NO OTHER WARRANTIES – PCI DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SOFTWARE, SOFTWARE MEDIA, COMPUTER PRODUCT, OPTIONS AND ACCESSORIES.

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IN ANY EVENT, PCI'S MAXIMUM LIABILITY FOR ANY BREACH SHALL NOT EXCEED THE AMOUNT ACTUALLY PAID BY YOU FOR THE COMPUTER PRODUCT.

NO ACTION, REGARDLESS OF ITS BASIS, MAY BE BEGUN AGAINST PCI MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION AROSE.

Statutory Warranties – Some jurisdictions do not allow these limitations or exclusions, so they may not apply to you.

Memo

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Outline of the International ENERGY STAR® Office Equipment Program

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Panasonic®

Supplementary Instructions
for GSM/GPRS

This manual contains supplementary instructions regarding the use of the computer. It explains the cases where the operation of the computer differs from that in the Operating Instructions.
Your computer is equipped with GSM/GPRS enabling you to communicate using radio frequencies.

Contents

Precautions 2
Names and Functions of Parts 5
Installing/Removing a SIM Card 7
Installing the Software 8
Appendix 13
Specifications 14

Illustrations and Terminology in this Manual

NOTE: **NOTE** provides a useful fact or helpful information.
CAUTION: **CAUTION** indicates a condition that may result in minor or moderate injury.
Windows 2000 : Information for Microsoft® Windows® 2000 Professional users.
Windows XP : Information for Microsoft® Windows® XP Professional users.
[Start] - [Run]: This illustration means to click [Start], then to click [Run]. (For some applications, you may need to double-click.)

- About the abbreviations in this manual, refer to the table on page 13.
- Windows 2000 screens are used in this manual when no specific OS notes are required.

Precautions

Safety Precautions

The following safety precautions must be observed during all phases of the operation, usage, service or repair of any Personal Computer or Handheld Computer incorporating GSM/GPRS modem. Manufacturers of the cellular terminal are advised to convey the following safety information to users and operating personnel and to incorporate these guidelines into all manuals supplied with the product. Failure to comply with these precautions violates safety standards of design, manufacture and intended use of the product. Panasonic assumes no liability for customer failure to comply with these precautions.

When in a hospital or other health care facility, observe the restrictions on the use of mobiles. Switch Personal Computer or Handheld Computer incorporating GSM/GPRS modem off, if instructed to do so by the guidelines posted in sensitive areas. Medical equipment may be sensitive to RF energy.

The operation of cardiac pacemakers, other implanted medical equipment and hearing aids can be affected by interference from Personal Computer or Handheld Computer incorporating GSM/GPRS modem placed close to the device. If in doubt about potential danger, contact the physician or the manufacturer of the device to verify that the equipment is properly shielded. Pacemaker patients are advised to keep their Personal Computer or Handheld Computer incorporating GSM/GPRS modem away from the pacemaker, while it is on.

Switch off Personal Computer or Handheld Computer incorporating GSM/GPRS modem before boarding an aircraft. Make sure it cannot be switched on inadvertently. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communications systems. Failure to observe these instructions may lead to the suspension or denial of cellular services to the offender, legal action, or both.

Do not operate Personal Computer or Handheld Computer incorporating GSM/GPRS modem in the presence of flammable gases or fumes. Switch off the cellular terminal when you are near petrol stations, fuel depots, chemical plants or where blasting operations are in progress. Operation of any electrical equipment in potentially explosive atmospheres can constitute a safety hazard.

Your Personal Computer or Handheld Computer incorporating GSM/GPRS modem receives and transmits radio frequency energy while switched on. Remember that interference can occur if it is used close to TV sets, radios, computers or inadequately shielded equipment. Follow any special regulations and always switch off Personal Computer or Handheld Computer incorporating GSM/GPRS modem wherever forbidden, or when you suspect that it may cause interference or danger.

Road safety comes first! Do not use a Personal Computer or Handheld Computer incorporating GSM/GPRS modem while driving a vehicle. Do not place the computer with GSM/GPRS modem in an area where it could cause personal injury to the driver or passengers. It is recommended to stow the unit in the boot or secure stowage area while driving.

Do not place the computer with GSM/GPRS modem in an area over an air bag or in the vicinity where an air bag may deploy.
Air bags inflate with great force and if the computer with GSM/GPRS modem is placed in the air bag deployment area may be propelled with great force and cause serious injury to occupants of the vehicle.

SOS

IMPORTANT!
Personal Computer or Handheld Computer incorporating GSM/GPRS modem operate using radio signals and cellular networks cannot be guaranteed to connect in all conditions. Therefore, you should never rely solely upon any wireless device for essential communications, for example emergency calls.

Remember, in order to make or receive calls, Personal Computer or Handheld Computer incorporating GSM/GPRS modem must be switched on and in a service area with adequate cellular signal strength.

Some networks do not allow for emergency calls if certain network services or phone features are in use (e.g. lock functions, fixed dialing etc.). You may need to deactivate those features before you can make an emergency call.

Some networks require that a valid SIM card be properly inserted in Personal Computer or Handheld Computer incorporating GSM/GPRS modem.

For Europe

Declaration of Conformity (DoC)

CE0682 "Hereby, we and Panasonic Testing Centre (Europe) GmbH (PTC), declares that this Personal Computer is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.

Hint:
If you want to get a copy of the original DoC of our products which relates to the R&TTE, please contact to our web address: http://doc.panasonic-tc.de

Compliance Notice - CE Mark
This equipment is in conformance with the requirements of the European Council Directive listed below:

73/23/EEC Low Voltage Directive with amendment 93/68/EEC
89/336/EEC EMC Directive with amendments 92/31/EEC and 93/68/EEC

This Notice is based upon compliance of the product to the following standards:
EN60950
EN55022
EN61000-3-2
EN61000-3-3
EN55024
3GPP TS51.010-1: v4.9.0
EN 301 511: v7.0.1
EN 301 489 -1, -7
EN50385

Interface Cable
Use of an interface cable longer than 3 m (9.84 feet) is not recommended.

For U.S.A.

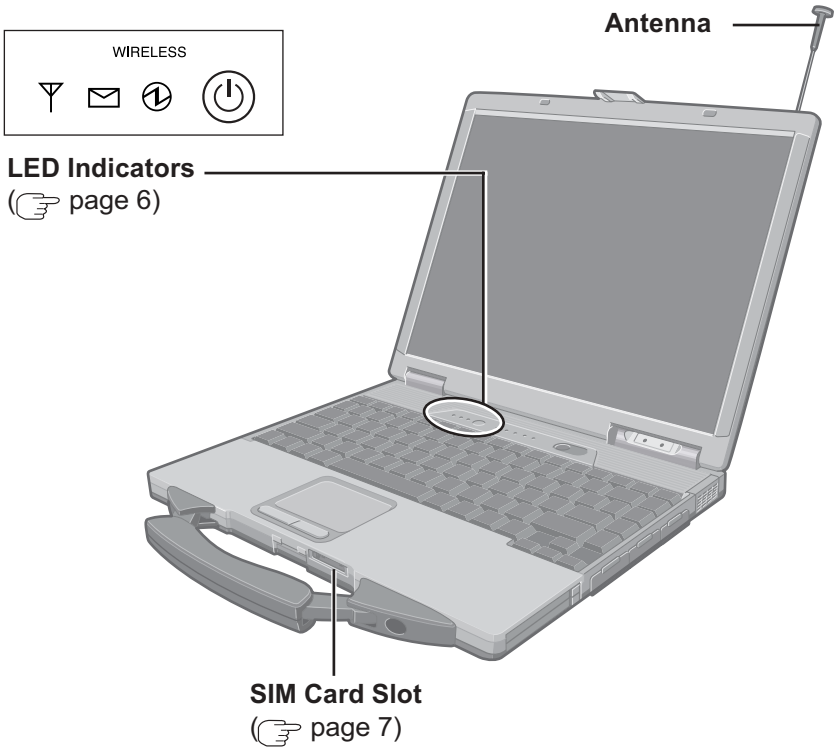
Radio frequency exposure information

In August 1996, the Federal Communications Commission (FCC) of the U.S. adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. The design of this device complies with the FCC guidelines and those standards.

To maintain compliance with FCC RF exposure guidelines, ensure the antenna is at least 1.5 cm from your body when transmitting. Use of non-approved accessories may violate FCC RF exposure guidelines.

Names and Functions of Parts

Except the followings, refer to the Operating Instructions.



(Appearance may differ depending on specifications.)

Names and Functions of Parts

● LED Description

GSM/GPRS Switch

The GSM/GPRS modem powers up independently from the computer regardless of the computer power status and will remain on when the computer's power is off. This function depends on the setting of the Setup Utility.

Power On Indication - Green:

A green LED will be used to signal when the GSM/GPRS modem has been powered on.

Ring Indication - Amber:

The LED will flash when the GSM/GPRS modem has received a ring.

Status Indication - Green:

The LED will light while communicating.

Mode	Function
Off	GSM/GPRS modem is off or running in SLEEP or Alarm.
600 ms On/ 600 ms Off	No SIM card inserted or no PIN entered, or network search in progress, or ongoing user authentication, or network login in progress.
75 ms On/3 s Off	Logged to network (monitoring control channels and user interactions). No call in progress.
75 ms On/75 ms Off/ 75 ms On/3 s Off	One or more GPRS contexts activated.
Flashing	Indicates GPRS data transfer: When a GPRS transfer is in progress, the LED goes on within 1 second after data packets were exchanged. Flash duration is approximately 0.5 s.
On	Depending on type of call: Voice call: Connected to remote party. Data call: Connected to remote party or exchange of parameters while setting up or disconnecting a call.

Installing/Removing a SIM Card

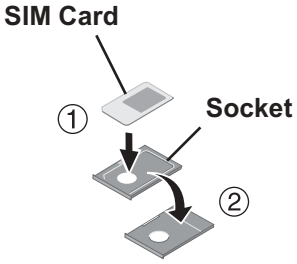
Before using GSM/GPRS, set a SIM card to the SIM card slot.

CAUTION

Do not install/remove the SIM card when the GSM/GPRS modem's power is on.

1 Power off your computer and GSM/GPRS modem

2 ● Installing a SIM card

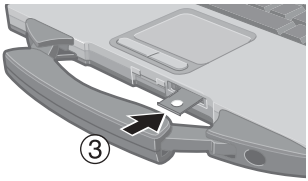


① Set the SIM card into the socket.

CAUTION

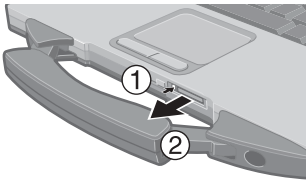
Do not insert the SIM card upside down.

② Turn the socket over.



③ Insert the socket to the SIM card slot.

● Removing a SIM card



① Press the button.

② Remove the socket.

③ Remove the SIM card from the socket.

Installing the Software

1 Turn on or restart the computer.
Press F2 while [Panasonic] screen is displayed soon after the computer begins the startup procedure.
If [Enter Password] is displayed, enter your password.

2 Select the [Advanced] menu and confirm the followings.
(☞ page 13)
- The serial port's setting is optimal.
- [On & Off] is selected at [Power SYNC with PC].
  If [On & Off] is not set, confirm the power to the GSM/GPRS modem is on.

3 Save the settings and exit the Setup Utility.

4 Set the software disc in the drive, then input [x:\util\drivers\gprs\setup.exe]*1 in [Start] - [Run] and select [OK].
Follow the on-screen instructions.

*1 "x" is the drive letter. You can change the letter to suit your preference.

When the message on the right is displayed, select [OK].

5 At [Winmux Driver Setup] screen, select [Start Scan].
All GSM/GPRS modems installed in the computer will be listed in [Modem List].

6 Confirm that the check mark is added for the serial port you use and select [Install Driver].

Installation will start.
(If the message “Digital Signature Not Found” is displayed, select [Yes].)
When the installation is complete, select [OK].

7 Select [Finish] to restart the computer.

After the computer is restarted, CheckNet runs automatically.

8 Windows 2000

Select [Start] - [Settings] - [Control Panel] - [Phone and Modem Options] - [Modems].

Windows XP

Select [Start] - [Control Panel] - [Printers and Other Hardware] - [Phone and Modem Options] - [Modems].

9 Select [Add].

10 Add the check mark for [Don't detect my modem; I will select it from a list], then select [Next].

11 Select [Have Disk].

12 Input [c:\program files\panasonic\checknet*1\modem] and select [OK].

*1 This indicates the folder where CheckNet is installed in step ***4***. This will vary depending on your computer's setup.

13 Select your GSM/GPRS modem in the list and select [Next].

To confirm the model number of your GSM/GPRS modem, run CheckNet and select [About]. (☞ checknet.pdf "Operating Instructions for using GSM/GPRS")

14 Select "Selected ports" and select the com port for Virtual Port 1.

You can confirm the port number in [Device Manager]*1 - [Multi-port serial adapters] - [Serial Multiplexer] - [Port Settings].

*1 Windows 2000 :
in [Start] - [Settings] - [Control Panel] - [System] - [Hardware]
Windows XP :
in [Start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware]

15 Select [Next].

If the message “Digital Signature Not Found” is displayed, select [Yes].

16 Select [Finish].

17 Making extra settings for GPRS modem.

① Select your GSM/GPRS modem and select [Properties] in [Phone and Modem Options] - [Modems].

② In [Advanced], enter the extra initialization commands as follows. (☞ checknet.pdf “Operating Instructions for using GSM/GPRS”)
AT+CGDCONT=<cid>,<pdp type>,<apn>
<RETURN>
Example: <cid>:1, <pdp type>:ip, <apn>:internet.t-d1.de

AT+CGDCONT=1,ip,internet.t-d1.de
<RETURN>

(Note that the APN shown here represents the German network provider T-D1 and needs to be replaced with the APN address supplied by your own network provider.)

③ Select [OK].

Uninstalling the Software

CheckNet

Use the following menu.

Windows 2000 : [Start] - [Settings] - [Control Panel] - [Add/Remove Programs]

Windows XP : [Start] - [Control Panel] - [Add or Remove Programs]

Wireless module multiplex driver

Select [Device Manager]*1-[Multi-port serial adapters]-[Serial Multiplexer] and uninstall the driver.

*1 Windows 2000 : in [Start] - [Settings] - [Control Panel] - [System] - [Hardware]

Windows XP : in [Start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware]

Appendix

Setup Utility

The following parameters have been added in [Advanced] menu of the Setup Utility.

Wireless Modem	Disable	Enable	Auto	
I/O IRQ 1*1	3F8/IRQ4 338/IRQ10*2	2F8/IRQ3	3E8/IRQ7	2E8/IRQ5
I/O IRQ 2*1	3F8/IRQ4 338/IRQ10*2	2F8/IRQ3	3E8/IRQ7	2E8/IRQ5
Power SYNC with PC	Independent	On & Off	Off Only	

*1 This item is displayed only when [Wireless Modem] is set to [Enable].

*2 This item is displayed only for the model with a smart card slot.

Abbreviations

APN	Access Point Name
CID	Context Identity
GPRS	General Packet Radio Service
GSM	Global System of Mobile Communication
IP	Internet Protocol
PDP	Packet Data Protocol
PIN	Personal Identification Number
PLMN	Public Land Mobile Network
PPP	Point to Point Protocol
QoS	Quality of Service
SIM	Subscriber Identity Module
TCP	Traffic Control Protocol

Specifications

Type		Compliant with ETSI GSM phase 2/2+ standard
Class		PCS1900 Class 1 (1 W)
SIM		Internal SIM card (3 V only)
RF Specification	**Transmit**	PCS1900 (1850 MHz to 1910 MHz)
	Receive	PCS1900 (1930 MHz to 1990 MHz)
Data Features	**Data**	asynchronous transparent & non-transparent 300 bps/ 1200 bps / 1200/75 bps / 2400 bps/ 4800 bps / 9600 bps / 14400 bps
	Fax	facsimile group 3, Class 2
	SMS	MT/PP(Mobile Terminating Short Message Service, Point to Point) MO/PP(Mobile Originating Short Message Service, Point to Point) CB (Cell Broadcast Short Message Service)
Voice Feature		HR (Half rate) FR (Full rate) EFR (Enhanced full rate)
Interface		AT Commands (GSM 07.07)
GPRS	**Multi-Slot**	Class 10
	Mobile Station	Class B

Memo

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AT&T Wireless

Communication Manager Software User Guide

for Windows

Version 2.0

Supporting Microsoft Windows 98, Windows Me, Windows 2000 Professional, Windows XP Home, and Professional

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This document refers to the “AT&T Wireless Communication Manager Software” as “Communication Manager.”

AT&T Wireless Communication Manager Software User Guide for Windows, Version 2.0.
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Preface

Welcome to the AT&T Wireless Communication Manager User Guide for Windows. This manual serves as the user guide for both enterprise and professional users. The software was created for use on the Global System for Mobile/General Packet Radio Service (GSM™/EDGE/GPRS).

The purpose of this guide is to introduce you to each of the features, tools, and services that complete your new wireless solution, and to help you get up and running quickly, efficiently, and effectively.

In addition to getting to know the AT&T Wireless Communication Manager application, you may also be learning about your new PC card or Next Generation phone. If you are using either of these devices but are not familiar with them, please read their accompanying user guides and documentation.

Technical Support

If you have any questions or comments about the AT&T Wireless Communication Manager application, please contact your AT&T Wireless Technical Support Team.

Account and Technical Inquiries	1-866-293-4634
URL	attwireless.com

Specifications & Requirements

General Client Requirements

Wireless access is enabled using a Global System for Mobile/General Packet Radio Service (GSM™/EDGE/GPRS) network with Next Generation phone or PC card. To use the AT&T Wireless GSM/EDGE/GPRS service, you must have a GSM/EDGE/GPRS device (phone or PC card), an AT&T Wireless Mobile Internet plan, and AT&T Wireless Communication Manager software.

Note: AT&T Wireless Communication Manager must be installed before inserting the PC card as the software includes the latest drivers necessary for the PC card, which your Microsoft operating system may not include.

Minimum System Requirements

Operating System

- Notebook computer with one of the following Microsoft operating systems:
  - Windows® XP Professional or Windows® XP Home
  - Microsoft® Windows® 2000 with Service Pack 3.0 or higher
  - Microsoft® Windows® Me
  - Microsoft® Windows® 98 with Internet Explorer (IE) 5.0 or higher

Storage & Drives	▪ Hard disk storage of about 12 MB of available space for the Communication Manager software and User Guide ▪ CD-ROM drive
Communication Interface-Support	▪ One of the communication port to enable connectivity to wireless device: ▪ Nine pin RS-232 communication port to interface with handset via cable ▪ PC Card communication port to interface with a GPRS/EDGE PC Card ▪ Infrared communication port to interface with handset using infrared ▪ Bluetooth communication port to interface with handset device us ing Bluetooth.
Memory	• NO additional memory (RAM) requirements beyond that of the specific memory requirement of the version of the operation system (Windows)
Software	▪ AT&T Wireless Communication Manager software

Software Versions

AT&T Wireless Software	AT&T Wireless Communication Manager client software version 2.0. The software includes the following two components: ▪ Connection Manager version 1.9 or higher ▪ Optimization Manager

EDGE/GPRS Service Support

EDGE/GPRS Service supports the following protocols:

HTTP	LDAP	IMAP4	DNS
HTTPS	WAP	Telnet	NTP
NNTP	POP3	SSH	SNTP
FTP	SMTP	IRC	Ping (ICMP)

Connection Devices

Your PC card or Next Generation phone will provide you with wireless access to the AT&T Wireless GSM/EDGE/GPRS network, allowing you to easily navigate the Web, and your corporate intranet.

Supported Devices

You can use your Next Generation phone in conjunction with your laptop as a way to connect to the Internet though AT&T Wireless Communication Manager. Alternatively, you can connect to the EDGE/GPRS network using a EDGE/GPRS PC card installed in your notebook computer. The table below identifies the phones and PC cards supported by AT&T Wireless Communication Manager.

To use your phone or PC card as a connection device, however, you must first ensure that your phone or PC card has an AT&T Wireless SIM card installed to provide you with wireless activity. See *Using Your AT&T Wireless Mobile Internet SIM Card* on page 4 for more information on SIM cards.

Supported Devices

PC Cards

- **SonyEricsson GC82 PC Card**
- **Sierra Wireless AirCard™ 710, 750**
- **Novatel Merlin™ G100**

Next Generation Phones

- **Motorola C333, T720, V.60**
- **Nokia 3650, 5100, 6200, 6310, 6310i, 6800, 7210**
- **Panasonic GU87**
- **Samsung V206**
- **Siemens S46, M56, SL56**
- **SonyEricsson P800, T306, T616, T68i**

Communication Manager Cables

Note: Communication Manager cables are used to connect wireless phones with the laptop — supported wireless phones can be used to establish a connection in place of a PC card. Additional accessory information can be found at attwsaccessories.com.

PC Card Safety

PC Card	*Safety Information*
Novatel G100™ PC card	The Novatel G100™ PC card is required to comply with the Federal Communications Commission (FCC) radio frequency (RF) exposure requirements for mobile transmitting devices. A separation distance of 17 cm or more must be maintained between the antenna and all persons during device operations to satisfy RF exposure compliance. The Novatel G100™ PC card has been certified to comply within the limits of a class B digital device pursuant to part 15c of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential situations. This equipment generates, uses, and can radiate radio frequency energy, and, if not properly installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off. You are

	encouraged to try to correct the interference by one or more of the following measures: ▪ Re-orient or relocate the receiving antenna of the television, radio, or cordless telephone. ▪ Increase the separation distance between the equipment and the receiver. ▪ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. ▪ Consult the dealer or an experienced radio/television technician.
Sierra Wireless AirCard® 710 & AirCard® 750 PC card	In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this wireless network card complies with the FCC guidelines and these international standards. Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the phone, or result in violation of FCC regulations. The AirCard 710 and 750 PC cards have been tested for FCC RF exposure requirements in a laptop. To comply with FCC RF exposure requirements, the AirCard must be operated with a minimum separation distance of 2.0 cm (0.8 inch) between the user/nearby persons and the antenna. For more information about RF exposure, please visit the FCC Web site at http://www.fcc.gov.

Using Your AT&T Wireless Mobile Internet SIM Card

The AT&T Wireless Mobile Internet SIM card is a small card with an embedded microchip in it, which provides you with secure access to the AT&T Wireless GSM/EDGE/GPRS network once it's installed in your modem or network PC card or Next Generation phone (the Bluetooth PC card does not require a SIM).

AT&T Wireless Services programs the microchip for you with your account specifications including your U.S. wireless number, optional features, and billing information.

Notes About SIM Cards:

- Keep all SIM cards out of reach of children.
- The orientation notch on the card is used as a reference for inserting the card into the phone (see Figure 1).
- Contact points on the card are used to make a connection with the device (see Figure 1).
- The SIM card and its contact points are easily damaged by scratches or bending, so use care when handling, inserting, and removing the card.
- Because battery removal may be required to access the SIM card, always ensure that the phone is turned off before removing the battery.

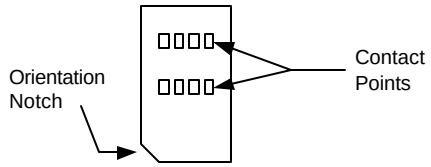

Figure 1. AT&T Wireless Mobile Internet Plan SIM Card

Getting Started with the AT&T Wireless Communication Manager

This section describes how to configure and install the AT&T Wireless Communication Manager software on your laptop equipped with Microsoft® Windows 98, Windows® Me, Windows® XP Professional, or Windows® 2000 Professional.

Software Installation for Windows

Your first step in getting started with AT&T Wireless Communication Manager for Windows is installing and configuring the software. The steps below will guide you through this process.

To install the software on your computer:

1. Insert the AT&T Wireless Communication Manager CD-ROM into the CD-ROM drive on your laptop. The **Communication Manager Installation** window opens automatically.
2. Select the **Windows** installation option.
3. Follow the instructions on the screen to complete the installation.

Installing the software on Windows XP:

The Communication Manager software includes EDGE/GPRS communication drivers for the supported EDGE/GPRS devices. In Windows XP Microsoft added a warning screen for driver it doesn't recognize. Since some of the EDGE/GPRS drivers are newer than Windows XP you may receive the warning message. Please select **Continue Anyway** as the drivers are safe and truly tested by the device manufacture and by AT&T Wireless.

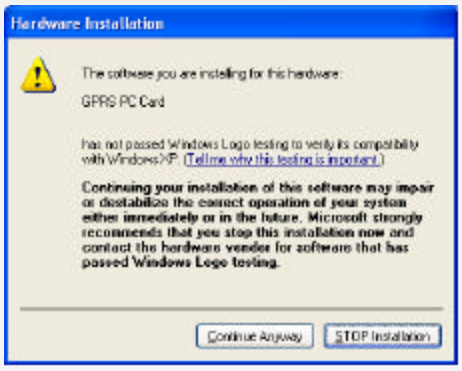

Figure 2. Continue Installation

Uninstalling the Application

On the occasion you need to uninstall the application from your laptop, follow the steps below.

To uninstall the software application from your laptop:

1. On your **Windows** toolbar, click **Start** to open the **Start** menu.
2. Click **Settings** > **Control Panel** to open the **Control Panel** window.
3. Click **Add/Remove Programs** to open the **Add/Remove Programs Properties** dialog box, and then click the **Install/Uninstall** tab (if it is not already selected).
4. In the **Programs** list box, select **AT&T Wireless Communication Manager** from the list of installed programs on your computer (you may need to scroll), and select it.
5. Click **Add/Remove** to start the uninstall process.
6. You will be asked to verify that you wish to completely remove the selected application and all of its components. Click **OK** to confirm the deletion and begin the uninstall process, or click **Cancel** to cancel the process and return to the **Add/Remove Programs Properties** dialog box.

Starting the Application

Getting started with the application can be done in a click:

- Clicking the AT&T Wireless Globe icon in the system tray.

  – OR –

- Selecting AT&T from the **Start** > **Programs** menu.

  – OR –

- Clicking the shortcut on your desktop (if created during the install process).

Any of the options above will open the AT&T Wireless Communication Manager tool and display the **Communication Manager** main screen (see Figure 3). The tool you need to use first in order to configure your EDGE/GPRS device is the **Connection Manager**.

Figure 3. Communication Manager Main Screen

Note: The first time you start the application, the Connection Manager **Device Selection Wizard** starts automatically and walks you through the process of detecting a port and establishing your connection preferences (see Figure 4).

Device Selection Wizard

The first time you start Communication Manager, the Device Selection Wizard (Figure 4) will display over the top of the application. The wizard is short step-by-step process used to help you configure your wireless connection device — select the connection type you wish to use and then click Next. The wizard will begin searching for a EDGE/GPRS device.

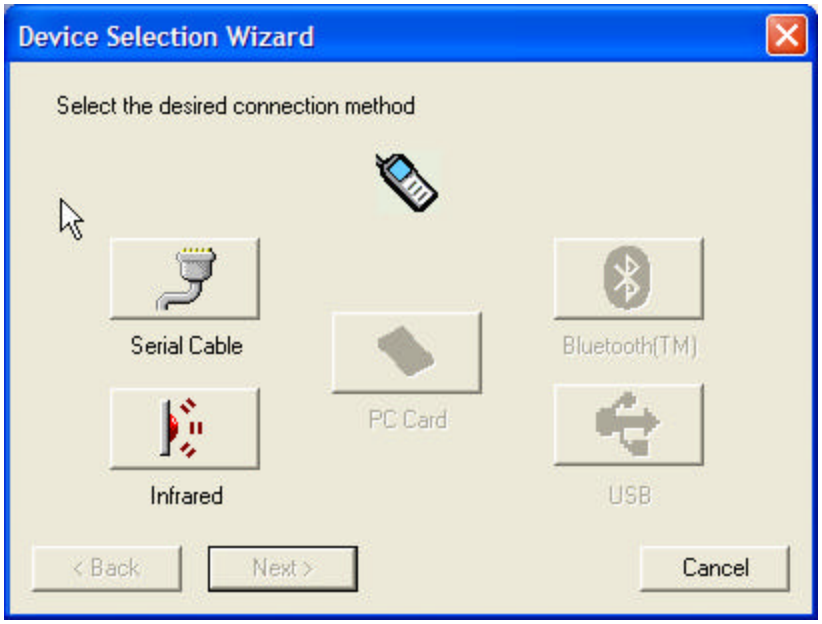

Figure 4. Device Selection Wizard

Continue clicking Next on each screen to advance through the wizard. You will know you are finished when you are prompted to click Finish to exit and close the wizard.

Device Selection Wizard Couldn't Find Your EDGE/GPRS Device?

If the Device Selection Wizard is unable to locate the EDGE/GPRS hardware required to establish a wireless connection (EDGE/GPRS hardware includes your PC card, Communication Manager (serial) cable, infrared, or Bluetooth ports on your phone and laptop), the following screen will display:

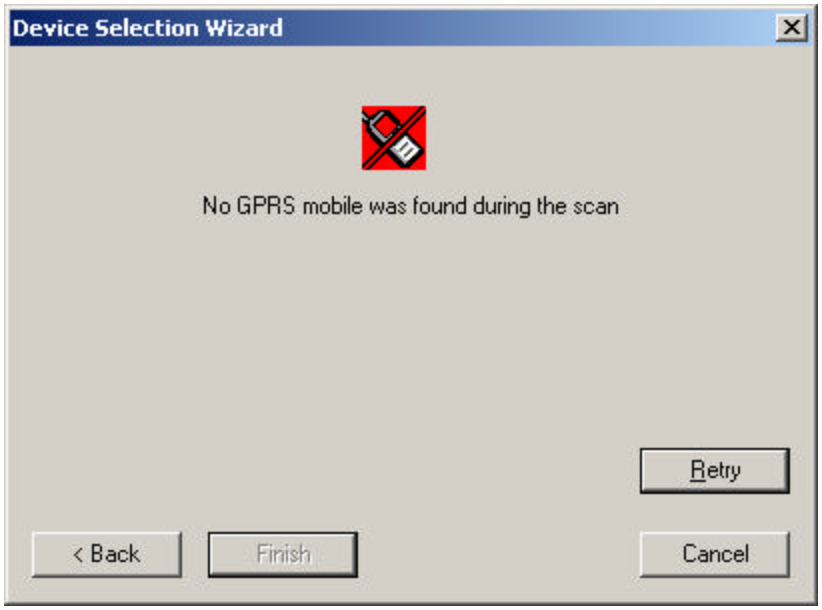

Figure 5. Device Selection Wizard (No EDGE/GPRS Device Found)

If no device was found, the list below may help you troubleshoot the issue:

- **Modem/network card users** — Verify that your PC card is properly inserted into your laptop.
- **Communication Manager cable users** — Verify that both ends of the Communication Manager (serial) cable are properly and firmly attached.
- **Infrared users** — Verify that the infrared port on your phone and laptop are activated and that the two infrared ports are aligned (12 inches apart or less).
- **Bluetooth users** — Verify that your PC card is properly inserted in your laptop and that your phone is in "Dis coverable" mode. Also, verify that the Bluetooth drivers on your laptop are version 1.2.1.12 GR15 R4 or later. Drivers can be downloaded for free from IBM.com.

You can always run the Device Selection Wizard from the **Connection Manager** main screen, by clicking **File > Device Selection Wizard**. For more information about the Connection Manager tool, see *Managing Connections* on page 14.

Need Help? For AT&T Wireless Customer Service, please call 1-866-293-4634.

Using AT&T Wireless Communication Manager

Once you've established a wireless connection, you'll want to familiarize yourself with each of the tools and services within AT&T Wireless Communication Manager. The following information will guide you through the application and answer basic questions about each tool and service.

Introducing AT&T Wireless Communication Manager

Getting to know the basic layout of the AT&T Wireless Communication Manager application will help you locate the various tools and services more quickly.

Communication Manager main screen is your central location point to access the tools, the Internet, and other applications available from the main screen.

The main screen provides access to the following:

- **Connection Manager** — Enables you to set your EDGE/GPRS device quickly and easily in addition to providing many tools and services to inform and diagnose your current and past connectivity sessions.
- **Optimization Manager** — Optimizes your wireless connection throughput through compression and acceleration of downloaded traffic.
- **Office Online** -Takes you to www.startofficeonline.com to log into your Office Online Account

Figure 6. Communication Manager Main Screen

- **Connection Status** — Identifies whether the device is connected or disconnected from the EDGE/GPRS network.
- **Optimization Status** — Indicates whether the Optimization feature is enabled or disabled.

Connection Manager

The Connection Manager provides connectivity to the AT&T Wireless EDGE/GPRS network. It includes tools used to detect and configure your device, as well as monitoring and troubleshooting connection issues.

Figure 7. Communication Manager Main Screen (Configured with PC Card EDGE/GPRS Device)

The main status window contains general connection controls, the functions menu, and indicators showing the status of the wireless connection.

- **Connect** — Used to establish a connection to the AT&T Wireless EDGE/GPRS network. This button is grayed out if a connection exists.
- **Other connections** — Allows you to select another connection type. Connection types include EDGE/GPRS data services (gateways) as well as more traditional dial-up connections (e.g. when in GSM coverage only).
- **Connection type** — Next to the buttons within the Connection group box is an icon that represents the current connection type (e.g. serial cable, infrared, PC card, Bluetooth™ etc.).
- **Progress** — The graphical Progress button allows a set of progress bars/data counters that indicate data transmitted and received from the network using your EDGE/GPRS phone (during a connection). The mode of these indicators can be toggled between data rate and data transferred.
- **Graphical indicators** — The graphical indicators at the far right of the screen (see Figure 7) show the signal strength and connection readiness. These icons are not available for all connection or network types and may not always display.
- **File, Tools, and Help menus** — Connection Manager contains a menu structure that allows access to the various functions of the software. A reduced form of this menu also appears by clicking the phone icon in the system tray.
  - **File** — The File menu provides another way to connect or disconnect, and provides access to the Device Selection Wizard.
  - **Tools** — The Tools menu provide access to several tools, such as, creating new connections, reviewing connection log, viewing device/phone information, and modifying the Connection Manager options.
  - **Help** — Connects you to the help system within the software.

- **Closing and exiting** — To close the Connection Manager, click the close box in the upper-right corner of the program window. Note that closing the Connection Manager will only close the windows, but the program will continue to run until you exit it. You can access the program directly by clicking the phone icon in the system tray. To exit Connection Manager, click File > Exit. Or, click the phone icon in your taskbar and select Exit from the menu.

Connecting/Disconnecting from the EDGE/GPRS Network

To connect:

There are multiple ways you can connect to AT&T Wireless EDGE/GPRS network:

- In Communication Manager main screen, click **File** > **Connect**.

  – OR –

- Right-click the **AT&T Wireless Globe icon** in the system tray, then click **Connect**.

  – OR –

- On the Connection Manager main screen, click the **Connect** button.

To disconnect:

To disconnect or to end the EDGE/GPRS session, you can use any of the above ways to connect. The menu options or buttons will automatically display **Disconnect** to disconnect and end the session.

Pre-Call Check

The pre-call check is a set of tests used to determine that Communication Manager can communicate with your EDGE/GPRS device, that the device is EDGE/GPRS ready, and that it can communicate with the EDGE/GPRS network. The pre-call check occurs if a device is unable to connect in order to attempt to diagnose the problem.

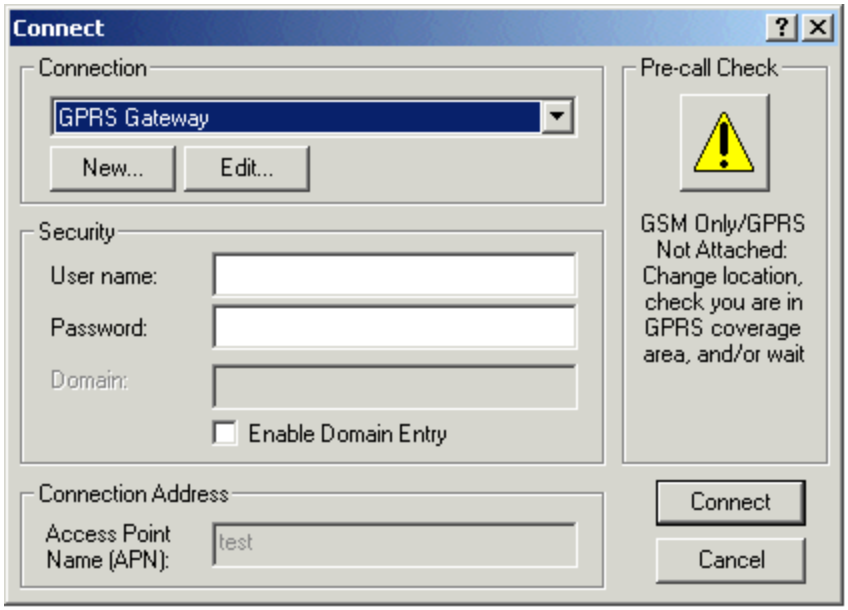

Figure 8. Other Manual Connect Options

You can run it manually by clicking the pre-call check icon using the Other Connection button (instead of the Connect button) in the Connection Manager main window (see Figure 7).

Managing Connections

Connections to data services can be managed (e.g. added, edited, deleted) by clicking **Tools** > **Manage Connections**.

The Manage Connections window (see Figure 9) presents a list of dial-up and EDGE/GPRS connections in the **Existing Connections** list box that can be edited or deleted. New connections can be created here as well. The default setup can be restored to the original settings in the event of a serious error or device malfunction.

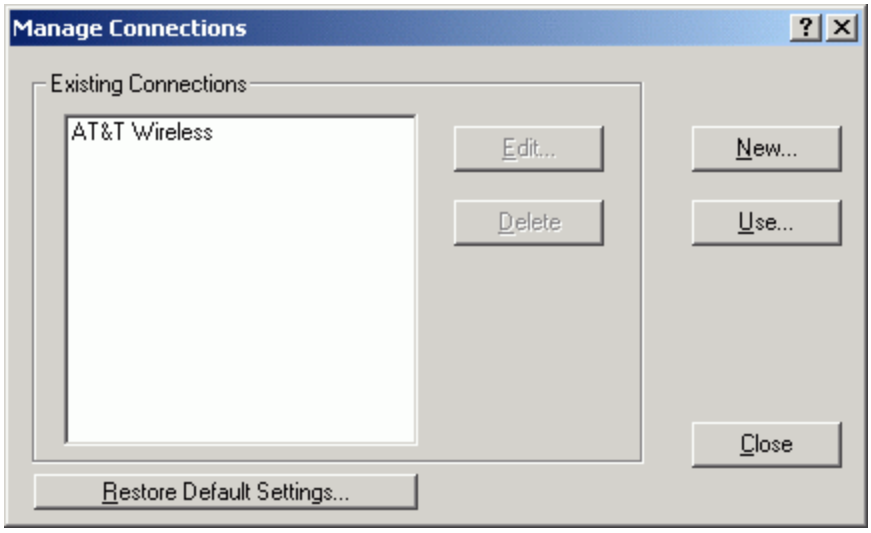

Figure 9. Manage Connections

To manage your connection preferences:

In the Existing Connections window, select your existing connection (network) preference, and then:

- **Edit** — Click this button to access the Connection Wizard and edit the settings for the selected connection.
- **Delete** — Click this button to delete this preference (you will be asked to confirm the deletion before it is deleted).
- **New** — Click this button to add a new connection preference using the Connection Wizard.
- **Use** — Click this button to select one or more existing Dial-Up Networking connections (for dial-up mode)
- **Close** — Click this button to close the Existing Connections tool and return to the Connection Manager main screen.
- **Restore Default Settings** — Click this button to restore the preconfigured software settings. This function is useful for disaster recovery where original connections have been edited, deleted, or overwritten and have resulted in loss of connection capability to the original data services supplied with the software.

Creating New Connection

You can create your own connections by clicking **Manage Connections** > **New**. Creating a new connection starts the new connection wizard that steps you through the settings process (see Figure 10).

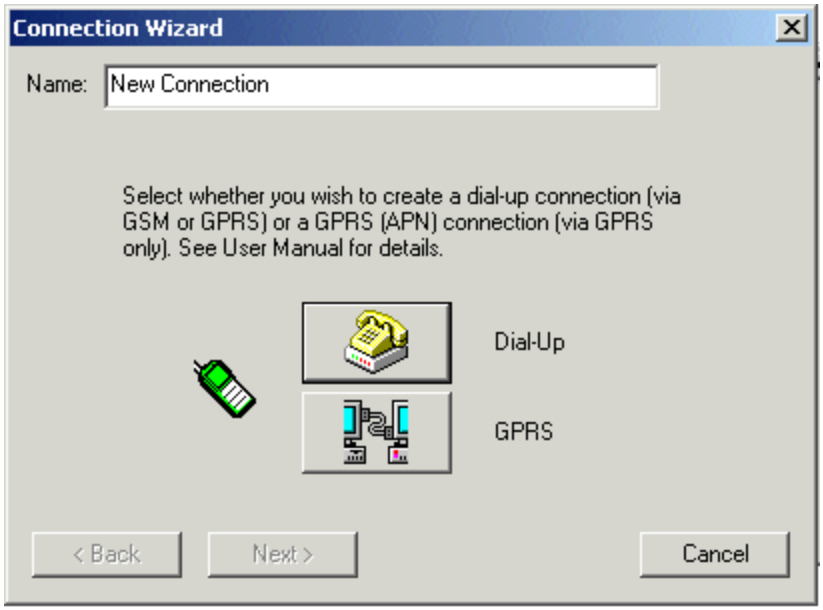

Figure 10. Creating New Connection Wizard (first screen)

Note: For AT&T Wireless Customer Service, please call 1-866-293-4634.

Performing a Diagnostic Test

The Diagnostics function (available by clicking Tools > Diagnostics) is helpful in troubleshooting issues with the EDGE/GPRS device or computer that are prohibiting connectivity.

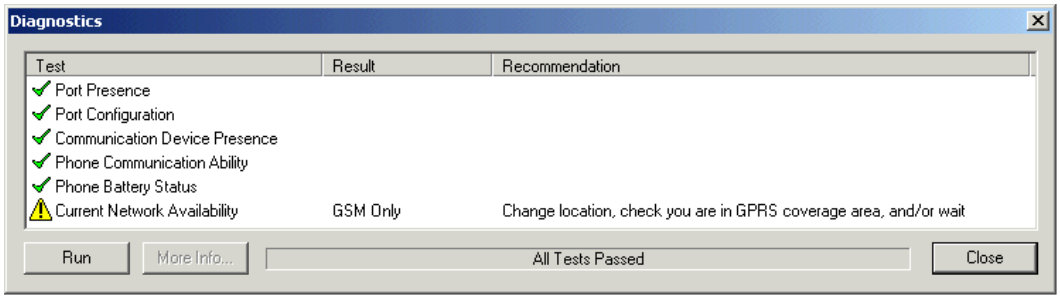

Figure 11. Diagnostics

The names of the diagnostic tests appear in the left column along with an icon representing the result of the test. The next column indicates any abnormal result. The last column indicates any recommended way of resolving the problem. At the bottom of the screen is an area for overall diagnostic status. Additional functions include:

- **Run** — Re-runs the diagnostic tests and displays the new results.
- **More Info** — Provides additional information about a selected diagnostic test. To receive more info about a particular test, highlight it, and then click More Info.
- **Close** — Closes the Diagnostics window

Diagnostic Test Definition

The following is a list of each diagnostic test with details of what it does and what to do if it fails:

- **Port Presence** —Ensures that the communication port, which the computer is using to communicate with the phone, is properly configured on the computer's operating system. A failure generally indicates a serious operating system problem where the port that the phone was originally configured on no longer exists (i.e. the operating system on the computer can no longer access the port because it is not configured).
- **Port Configuration** — Ensures that the computer can access the communication port used to communicate with the phone. A failure generally indicates that the communications port is in use by another application (e.g. synchronization software, fax software etc.). Investigate what other software is running on your computer and disable anything that ordinarily uses communication ports, then re-run the diagnostic.
- **Communication Device Presence** — Determines whether the device is present on the communications port is capable of responding to "AT" commands. This device could be for which the test is searching, or another type of modem or device. Failure of this test tends to indicate that the phone is not powered on, the cable is not connected properly (if serial), the infrared port is not enabled on the phone, or the phone is not pointing correctly for infrared use (if infrared). Check your setup carefully to ensure all cabling is connected properly or infrared is setup and visible (as appropriate).
- **Phone Communication Ability** — Determines whether the device present is actually a EDGE/GPRS phone that can be used with this software. Failure of this test generally occurs when the attached device is an unsupported modem (e.g. a wireline modem) or other kind of device. It can also indicate that the attached phone is not supported by this software version. In this case, try to obtain an updated version of this software.
- **Phone Battery Status** — Determines whether there is sufficient battery strength for a connection to proceed. Battery strength of less than 15% is considered low and a warning would be displayed.
- **Current Network Availability** — Determines whether there is a digital network present and that there is sufficient signal strength to use it — it also tests if EDGE/GPRS is available in this area and at this time. Signal strength of less than 20% is considered low and a warning would be displayed. If the available network is GSM only or EDGE/GPRS is not yet attached, a warning is displayed (**Note:** EDGE/GPRS calls are not possible on GSM-only networks).

Device/Phone Information

The phone information function (**Tools** > **Phone Information**) is helpful in extracting information from the EDGE/GPRS phone (or other EDGE/GPRS device). This information is particularly useful during a call with AT&T Wireless Customer Care. It contains information including the manufacturer, model and software versions of the phone (or other device) being used.

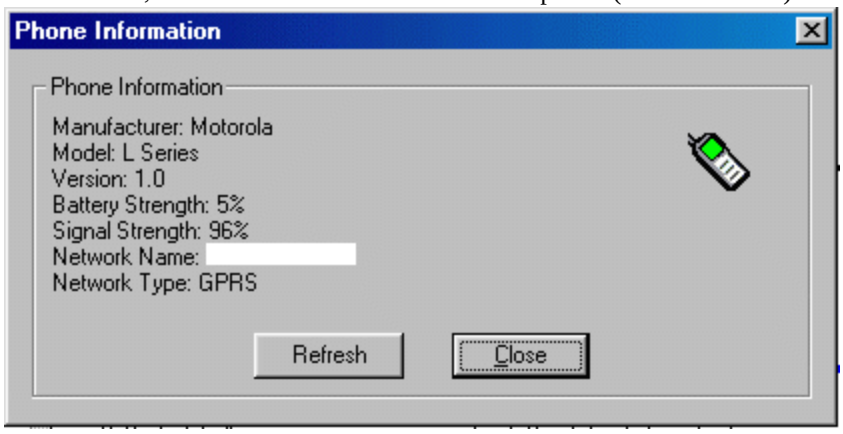

Figure 12. Device/Phone Information

Optimization Manager

The Optimization Manager allows you to select the efficiency settings on your laptop. Optimizing your laptop allows you to download Web pages and images more quickly. You can also verify the status of the optimization feature, and enable and disable it at your discretion.

The Optimization feature also allows you to activate additional tools, including content blocking and image quality settings, and set various protocols used to access your POP3 e-mail accounts.

Use Optimization is a global setting and is enabled by default.

Figure 13. Optimization Global Settings

Optimization Status

The optimization status settings include:

- **Enabled** — Indicates that the Optimization feature is enabled (default setting)
- **Idle** or **Optimizing** — Indicates that the optimization is active and optimizing data traffic
- **Disabled**— Indicates that the Optimization feature is disabled
- **Bypass** — Indicates that optimization is enabled but failed to optimize the current data transfer

Understanding Optimization Manager Setting in Microsoft Internet Explorer

The Optimization Manager uses proxy setting in Microsoft Internet Explorer (IE) to optimize traffic through its engine. Although we do not recommend manually setting the proxy in your browser, the following identifies the default settings.

- HTTP: Set to “localhost,” port “9090”
- Secure: Set to “localhost,” port “9092”
- FTP: Set to “localhost,” port “9093”

IMPORTANT! Optimization Manager requires IE 5.0 or above to function. To upgrade to IE 5.0 or above, visit Microsoft.com for more information and free browser downloads.

Setting the Image Quality

The Image Quality feature determines the quality of images you view while browsing as well as the performance of your laptop where:

- **Lowest image quality, highest speed** reduces image clarity, so images are less vibrant and detailed. Because there is less detail to load, you’ll see shorter screen-loading times.
- **Medium-image quality, medium speed** loads generally clear images. Screen-loading times may take some time when browsing wirelessly. This is the default setting.
- **Highest image quality, lowest speed** provides you with crisp, clear images when wirelessly browsing the Internet although screen-loading times may be lengthy.

Tip: Clear the cache directory in your browser by opening the browser window and clicking **Tools** > **Internet Options** > **Delete Files**.

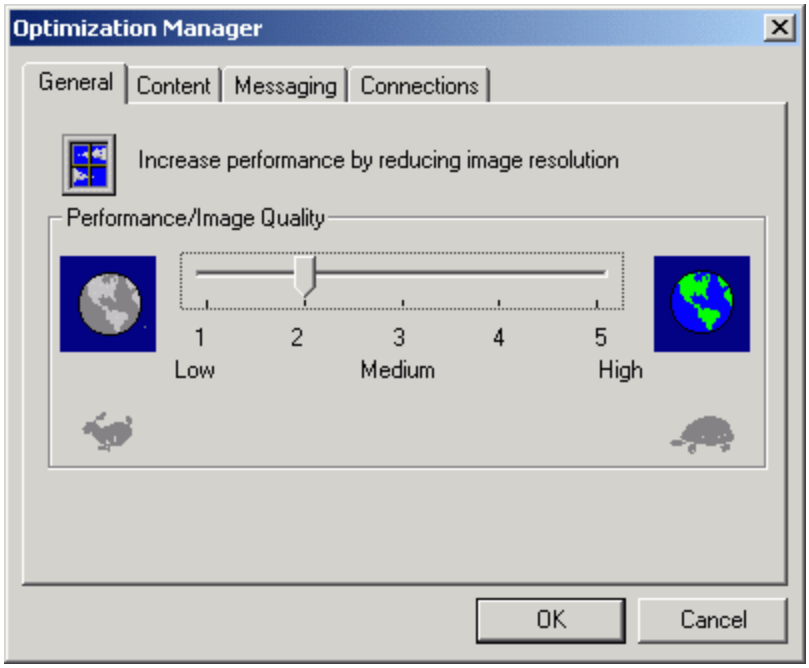

Figure 14. Optimization Manager — General Tab

Blocking Content

Blocking particular types of content is useful when trying to maximize the performance of your laptop while browsing. Animation, applets, audio, and video heavily tax the speed at which your laptop can download information. Preventing these types of content from loading can speed up download times and improve overall performance.

The blocking features are:

- **Animation** — Blocks animated files, such as animated GIF files
- **Applets** — Blocks applets, such as Java applets
- **Audio** — Blocks audio files, such as WAV files
- **Images** — Blocks image files, such as GIF, JPG, and BMP files
- **Video** — Blocks video content, such as AVI or MPEG files

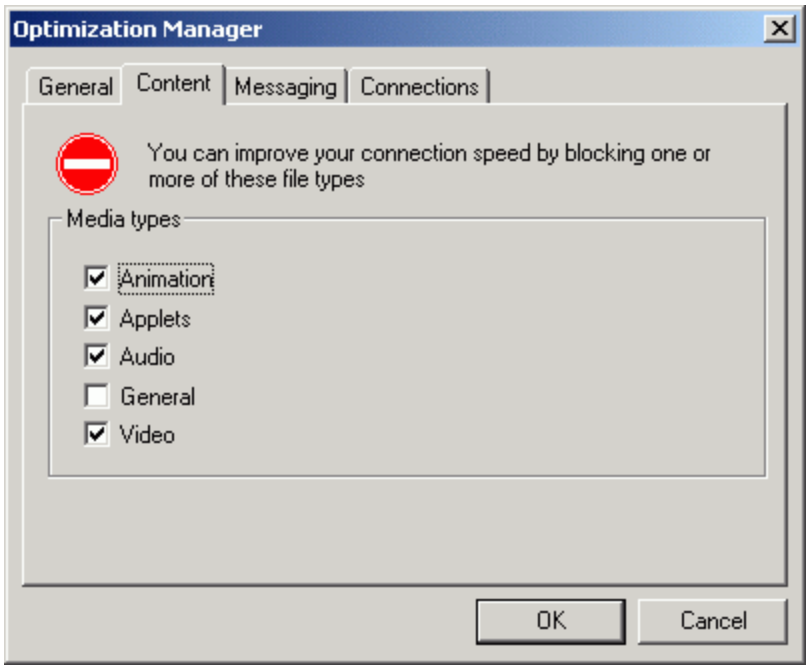

Figure 15. Optimization — Blocking Tab

To set the Blocking feature:

1. From the Communication Manager main screen, click **Optimization Manager** > **Content**.
2. Select the check boxes next to the content types that you want to block while wirelessly browsing the Internet. These options include: **Animation**, **Applets**, **Audio, Images**, and **Video**. The default is set so that none are selected (i.e., all download and display).
3. Click **OK** to save your settings and return the Communication Manager main screen, or click **Cancel** to return to the main screen without saving your changes.

   Tip: Clear the cache directory in your browser by opening the browser window and clicking **Tools** > **Internet Options** > **Delete Files**.

Setting Personal E-Mail Messaging Protocols

Setting or configuring your personal Internet protocols enables you to optimize the newsgroup information and e-mail you receive, as well as the e-mail you send through your personal e-mail client program (e.g., Outlook, MSN).

For each protocol you wish to use, you will need to include an associated port number. Your message traffic will be compressed and forwarded based on the settings you provide. The default values for port fields are:

- POP3 — 110
- IMAP — 143
- SMTP — 25

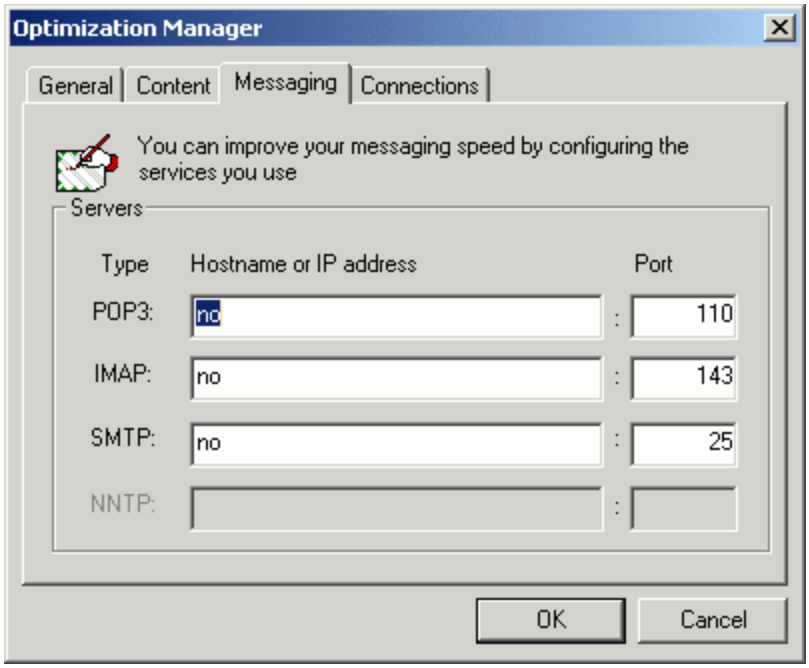

Figure 16. Optimization — Messaging Tab

The email client (Outlook, Outlook Express, etc.) must be configured so that input and output settings are set to "localhost" or "127.0.0.1".

Note: This feature is only enabled if Optimization is set to Enabled. To enable the Optimization feature, see *Optimization Manager* on page 17.

To set up POP3:

1. From the Communication Manager main screen, click **Optimization Manager** > **Messaging**.
2. If you wish to connect to a POP3 server, type the server's IP address or hostname in the **POP3** text field, and then type the server's port number in the corresponding **Port** text field.

   If you do not wish to connect to a POP3 server, type "no" in the **POP3** text field, and leave the **Port** text field set to the default value.
3. If you wish to connect to an IMAP server, type the server's IP address or hostname in the **IMAP** text field, and then type the server's port number in the corresponding **Port** text field.

   If you do not wish to connect to an IMAP server, type "no" in the **IMAP** text field, and leave the **Port** text field set to the default value.
4. If you wish to connect to an SMTP server, type the server's IP address or hostname in the SMTP text field, and then type the server's port number in the corresponding **Port** text field.

   If you do not wish to connect to an SMTP server, type "no" in the **SMTP** text field, and leave the **Port** text field set to the default value.
5. Click **OK** to save the new settings, or click **Cancel** to close the dialog box without saving the new information.

Maintaining Your Connection

The Communication Manager software is automatically configured to search for a EDGE/GPRS connection each time you connect to the Internet. If you are having trouble establishing a connection, verify that the software is still configured to look for EDGE/GPRS.

Network Selection Tool

The network selection tool is designed to work with PC cards like the Sierra AirCard 750 and the Sony Ericsson GC-82. This document explains how to use the Network Selection Tool provided with Connection Manager.

1. On the Tools menu, click **Select Network**.

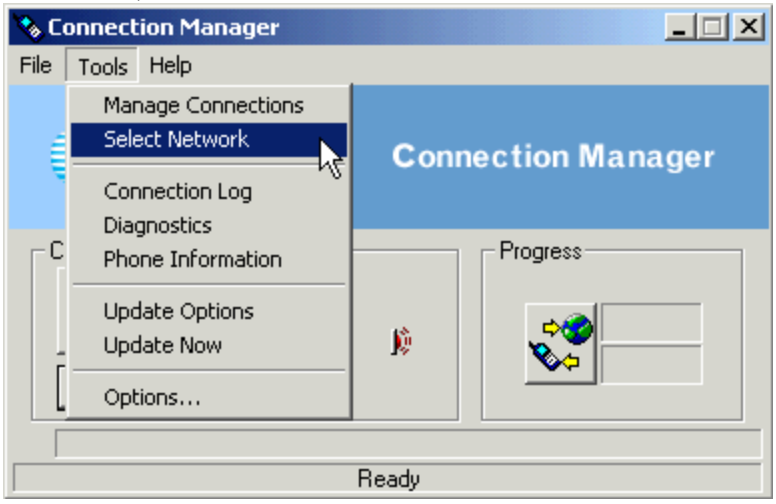

Figure 17 Select Network

Note: A network name will not be displayed in the **Network Status Box** until a connection is made, network is selected or the phone information test is run.

2. The **Network Selection** screen opens and it automatically starts scanning for available networks. The scrolling phone icon is displayed while scanning for networks.

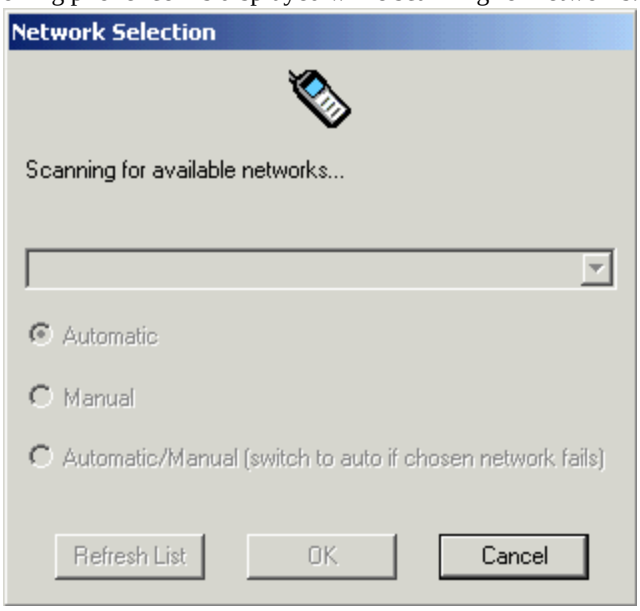

Figure 18 Network Selection Scan

3. Once the network scan is complete, the **Network Selection** screen is displayed.

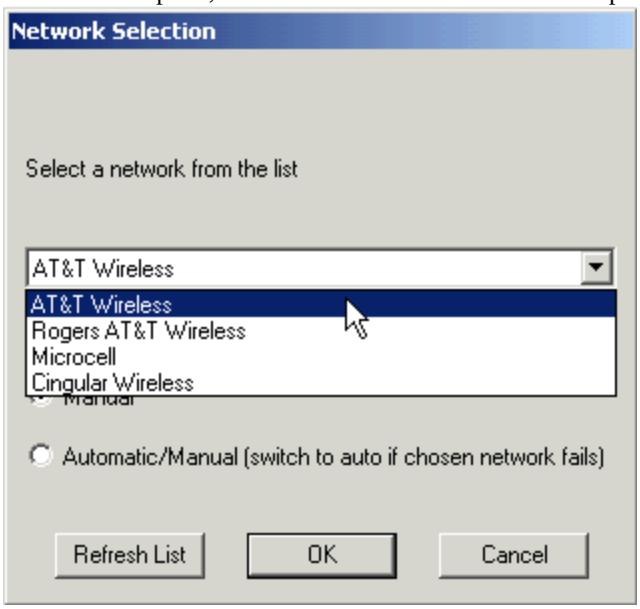

Figure 19 Choosing a Network

Note: the first network name displayed may not be the active network. The network name is displayed in the same order that the device gives the information and different devices may do different things.

4. In the **Network Selection** screen, click **Manual** or **Automatic/Manual** to change networks.

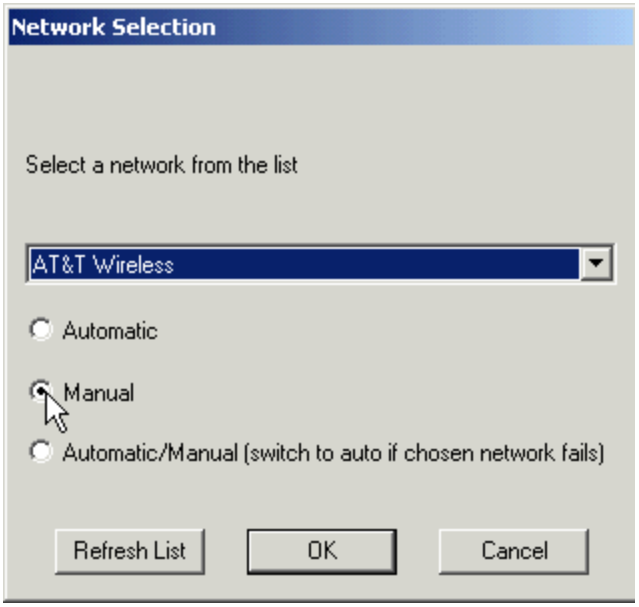

Figure 20 Selecting Manual Network Selection

5. In the **Network** list, click the network you want to use.

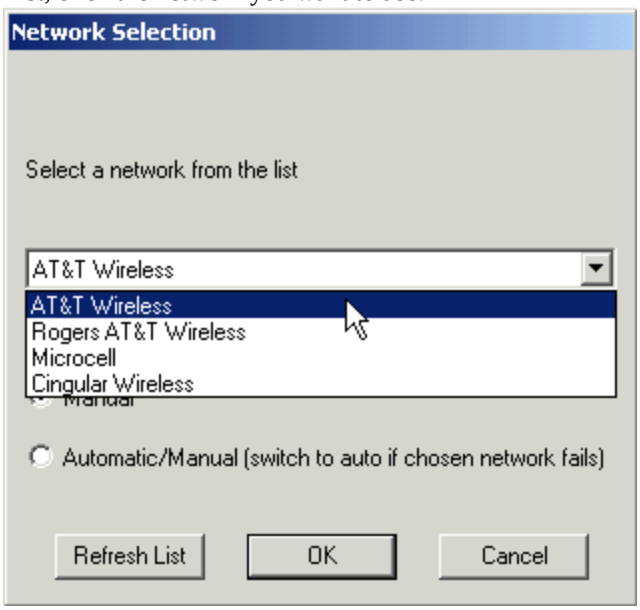

Figure 21 Choose Network

5. In the **Network Selection** screen, click **OK** to use the selected network.

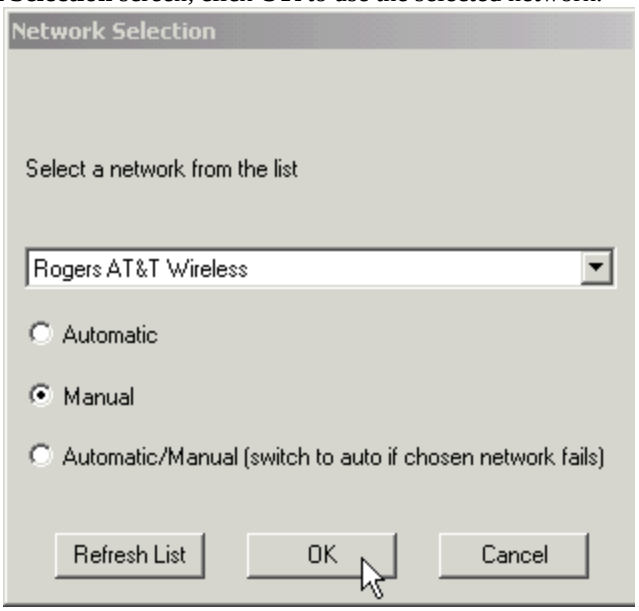

Figure 22 Network Selection

6. The selected network is displayed on the **Main Window**.

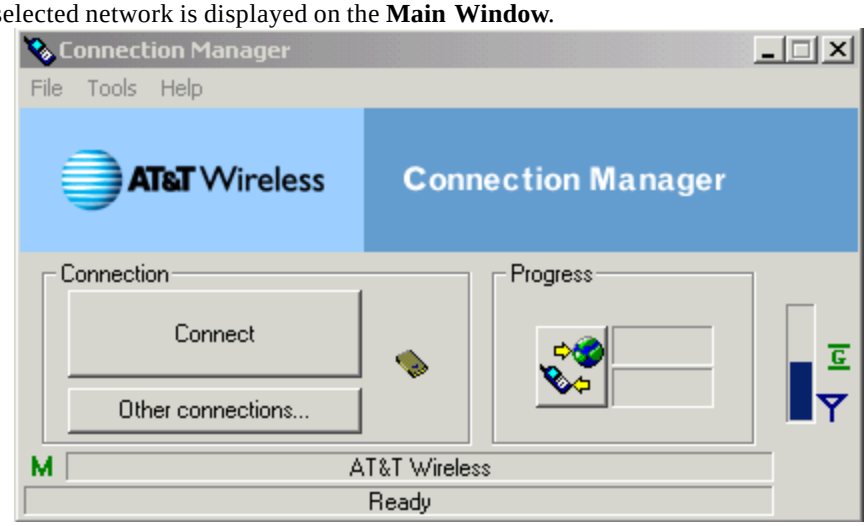

Figure 23 Display Network Selection

7. Click **Refresh List** to re-scan for networks.

8. Click **Cancel** at any time to exit the **Network Selection**.

Glossary

Cache Memory	Cache memory is random access memory (RAM) that a computer microprocessor can access more quickly than it can access regular RAM.
Driver	A software routine that links a peripheral device to the operating system. It acts like a translator between a device and the applications that use it. Each device has its own set of specialized commands known only to its driver. In contrast, most applications access devices by using high-level, generic commands. The driver accepts these generic commands and translates them into the low-level specialized commands required by the device.
Federal Communications Commission (FCC)	A U.S. government agency responsible for regulating communications industries; it was established by the Communications Act of 1934. The Act, which has been amended over the years, charges the Commission with establishing policies to govern interstate and international communications by television, radio, wire, satellite, and cable.
General Packet Radio Service (GPRS)	GPRS is a popular 2.5G technology that is being implemented in GSM networks. This IP-based packet-data switching system more closely resembles the Internet than a direct line. It is ideal for sending "bursty" packets of data through an open channel and only uses the network when sending data. All standard Internet protocols can operate over GPRS — TCP, UDP, HTTP, SSL, and IPSec.
Global System for Mobile (GSM) Communication	A digital communication technology used by some carriers to provide PCS service. Other technologies used are CDMA and TDMA. GSM is a digital circuit-switched protocol that moves data at rates up to 14.4 Kbps. As the name declares, it is used globally; however, roaming is not always possible because GSM currently runs on different frequencies in different countries.
Handset	Wireless phones that have data capability: ▪ Class A handsets can do both voice and data simultaneously. ▪ Class B handsets are voice and packet data capable, but not at the same time. ▪ Class C handsets can handle packet data only (or they can be set manually to handle one or the other).
Infrared	A method of transmitting data via infrared light waves. Increasingly, computers and other devices (such as printers) come with Infrared Data Association (IrDA) ports. This enables you to transfer data from one device to another without any cables. IrDA ports support roughly the same transmission rates as traditional parallel ports; however, the two devices must be within a few feet of each other and there must be a clear line of sight between them.
Infrared Port	Enables you to exchange data with other Windows-powered devices.
Internet	The global computer network, which is composed of thousands of WANs and LANs that uses TCP/IP to provide worldwide communications to homes, schools, businesses, and governments. The WWW runs on the Internet.

Internet Protocol (IP)	The protocol, or set of rules, that performs the addressing function of the Internet. Every packet of data traveling over Internet networks includes an IP address of its destination and of its sender. Routers and other devices to direct Internet traffic to its proper destination use this IP address.
Kilohertz (kHz)	One thousand cycles per second; a unit of measure for frequency.
Local-Area Network (LAN)	A computer network technology designed to connect computers separated by a short distance. The local group of linked computers is generally connected to a single, shared server.
Megahertz (MHz)	One million cycles per second; a unit of measure for frequency.
PC Card (Modem)	A device that you connect to your computer and to a phone line, that allows the computer to talk to other computers through the phone system. Basically, PC cards do for computers what a telephone does for humans.
Operating System (OS)	The software controlling the overall operation of a multipurpose computer system, including such tasks as memory allocation, input, and output distribution, interrupt processing, and job scheduling.
Optimization	A feature that is an advanced performance accelerator for TCP/IP-based wireless applications such as e-mail, vertical enterprise applications, and Web browsing. The AT&T Wireless Communication Manager Optimization feature offers unique compression, acceleration and content adaptation techniques to dramatically improve bandwidth utilization for wireless data applications. It allows the user to retain total "on-the-fly" control of the type and quality of content they receive. It also provides performance improvement over native wireless services that increases productivity, decreases airtime/per packet charges, and enables three times the number of users on the wireless data infrastructure.
Protocol	A set of rules or standards that enable computers to connect with each other to exchange information.
Random-Access Memory (RAM)	The PC's primary storage area, used to write, store and retrieve information and program instructions, which are then passed to the CPU for processing. The type of RAM used affects performance, as the information stored here has to be refreshed many times per second by the processor. Manufacturers are continually coming up with new designs to provide the fastest possible access times at the lowest possible cost.
Read-Only Memory (ROM)	An integrated circuit chip containing programs and data that can be accessed and read but cannot be modified.
Transmission Control Protocol/Internet Protocol (TCP/IP)	The communications protocol used by UNIX systems and the Internet. TCP checks for lost packets, puts the data from multiple packets into the correct order and requests that missing or damaged packets be resent.