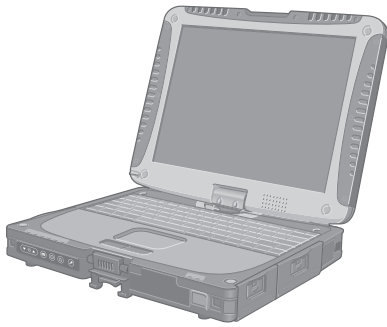


OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-19** series



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Getting Started

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Appendix





For further information about the computer, you can refer to the on-screen manual.

To access the on-screen manual
→ page 20 "On-screen Manual"

Introduction

Thank you for purchasing this Panasonic product. For optimum performance and safety, please read these instructions carefully.

■ Terms and illustrations in these instructions

CAUTION :	Conditions that may result in minor or moderate injury.
NOTE :	Useful and helpful information.
Enter :	Press [Enter] key.
Fn + F5 :	Press and hold [Fn] key, and then press [F5] key.
 (Start) - [All Programs] :	Click  (Start), and then click [All Programs].
 :	Page in these Operating Instructions or in the Reference Manual.
 :	Reference to the on-screen manuals.

- Some illustrations are simplified to help your understanding and may look different from the actual unit.
- If you do not log on as an administrator, you cannot use some functions or cannot display some screens.
- Refer for the latest information about optional products to the catalogs, etc.
- In these instructions, the names and terms are referred as follows.
 - “Genuine Windows® 7 Professional 32-bit Service Pack 1” and “Genuine Windows® 7 Professional 64-bit Service Pack 1” as “Windows” or “Windows 7”
 - DVD MULTI drive as “CD/DVD drive”
 - Circular media including DVD-ROM and CD-ROM as “discs”

■ Disclaimer

Computer specifications and manuals are subject to change without notice. Panasonic Corporation assumes no liability for damage incurred directly or indirectly from errors, omissions or discrepancies between the computer and the manuals.

■ Trademarks

Microsoft®, Windows®, Windows 7 and the Windows logo are registered trademarks of Microsoft Corporation of the United States and/or other countries.

Intel, Core, Centrino and PROSet are either registered trademarks or trademarks of Intel Corporation.

SDXC Logo is a trademark of SD-3C, LLC.



Adobe, the Adobe logo and Adobe Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Bluetooth® is a registered trademark owned by Bluetooth SIG, Inc., U.S.A. and licensed to Panasonic Corporation.

Names of products, brands, etc., appearing in this manual are trademarks or registered trademarks of their respective own companies.

Read Me First

Important Safety Instructions

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

19-E-1

Information to the User

<Only for model with wireless LAN/Bluetooth>

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.

26-M-1

Regulations for Wireless LAN / Bluetooth

Country / Region	802.11a	802.11b/g Bluetooth
Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom	Restricted to indoor use.	
France	Restricted to indoor use.	Restricted to indoor use.
Italy	Restricted to indoor use. General authorization required if used outside.	General authorization required if used outside of own premises.
Turkey	Restricted to indoor use. Prohibited within an 1 km radius from the centre of the runway of the airports.	
Norway	Restricted to indoor use.	Prohibited within a 20 km radius from the centre of Ny-Ålesund.

Read Me First

- The latest version of “ERC RECOMMENDATION 70-03” by European Radiocommunications Committee and the regulation in Turkey.
- Use only the antenna specified by Panasonic.
- Confirm the latest information to the radio regulation authorities.

40-E-1

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.

15-E-1

For Used in Motor Vehicle

Warning: Check the following Commission Recommendation to determine proper installation and usage of this product while operating within a motor vehicle.

“Commission Recommendation on safe and efficient in-vehicle information and communication systems: A European statement of principles on human machine interface.”

Commission Recommendation is available from Official Journal of the European Communities.

35-E-1

Camera Light

<For model with camera>

CAUTION

Camera Light

- This equipment uses LED (Light Emitting Diode) technology that complies with IEC60825-1:1993+A1:1997+A2:2001
- CLASS 1 LED PRODUCT
- The light from the LED is strong and can injure human eyes. Do not look directly at the LEDs with naked eyes.
- Caution-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Specification

- Max Power 0.873 mW

57-E-1

Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC. By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

53-E-1

Safety Precautions

<Only for model with wireless WAN>

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 wireless WAN 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 wireless WAN 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 wireless WAN 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 wireless WAN modem away from the pacemaker, while it is on.



Switch off Personal Computer or Handheld Computer incorporating wireless WAN 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.

For details on usage of this unit in aircrafts please consult and follow instruction provided by the airline.



Do not operate Personal Computer or Handheld Computer incorporating wireless WAN 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 wireless WAN 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 wireless WAN 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 wireless WAN modem while driving a vehicle. Do not place the computer with wireless WAN 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 wireless WAN 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 wireless WAN modem is placed in the air bag deployment area may be propelled with great force and cause serious injury to occupants of the vehicle.



IMPORTANT!

Personal Computer or Handheld Computer incorporating wireless WAN 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 wireless WAN 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 wireless WAN modem.

Models for U.S.A.

Federal Communications Commission Radio Frequency Interference Statement

Note: 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet 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.

Warning

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

FCC RF Exposure Warning:

- 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.

<Only for model with wireless LAN/wireless WAN/Bluetooth>

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment has been approved for portable operation, and does not require any minimum spacing be provided between antennas and all person's body. If provided with wireless WAN transmitter, requires LCD side panel spacers to provide minimum 1.5 cm spacing between antenna located within the LCD side panel, and all person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- This equipment may not be co-located or operated with any other antenna or transmitter.

<Optional Car Mounter / Port Replicator>

- 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. For WLAN, the Car Mounter should be used with Radial/Larsen WLAN whip antenna, type NMO5E2400BKTNC with 5 dBi antenna gain or less. 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.

25-M-1

<Only for model with wireless LAN>

This product is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and/or damage this product.

25-M-W-1

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.

Responsible Party: Panasonic Corporation of North America
One Panasonic Way
Secaucus, NJ 07094
Tel No: 1-800-LAPTOP5

(1-800-527-8675)

6-M-1

FCC Regulation Notice for modem

This equipment contains a FCC approved modem.

FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

1. This equipment complies with CFR47 Part 68 rules. On the computer is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If required, this information must be provided to the telephone company.
2. An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.
3. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all area, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.
4. If your telephone equipment cause harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
5. The telephone company may take changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
6. If trouble is experienced with this equipment, for repair or warranty information, please contact Panasonic Corporation of North America at DIAL TOLL FREE 1-800-LAPTOP5 (1-800-527-8675). If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.
7. There are no user serviceable parts contained in this equipment.

8. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
9. The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. In order to program this information into your fax software, you should refer to the manual of the Fax software being used.
10. According to the FCC's electrical safety advisory, we recommend that you may install an AC surge arrester 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 (e.g., 24 AWG) UL listed or CSA certified telecommunication line cord."
"ATTENTION : Pour réduire le risque d'incendie, utiliser uniquement des conducteurs de télécommunications 26 AWG ou de section supérieure (p.ex. 24 AWG) UL énumérés ou CSA certifié."

16-M-1

USA Only: Disposal may be regulated in your community due to Environmental considerations. For disposal or recycling information, please visit Panasonic website: <http://www.panasonic.com/environmental> or call 1-888-769-0149

65-M-2

<For USA-California Only>

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate/

38-M-1

For Used in Motor Vehicle /Pour L'utilisation Dans Un Véhicule Motorisé

Warning: Notebook Computer may be installed in a motor vehicle and visible to the driver only if used to support vehicle related functions such as vehicle information, system control, rear or side observation and navigation. If used for entertainment purpose, such as television reception or video play, it must be installed to the rear of the driver's seat where it will not be visible, directly or indirectly, to the operator of the motor vehicle. Check with individual state/provincial laws to determine lawful use of this product while operating within a motor vehicle.
Avertissement : L'ordinateur bloc-notes peut être installé dans un véhicule motorisé et dans le champ de vision du conducteur uniquement en tant que dispositif d'aide aux fonctions du véhicule, comme par exemple pour fournir des informations sur le véhicule, comme dispositif de contrôle de système, pour l'observation à l'arrière ou sur les côtés du véhicule, ainsi que pour fournir de l'information routière. Pour toute utilisation à fin de divertissement, comme par exemple pour regarder la télévision ou jouer à des jeux vidéo, il doit être installé à l'arrière du siège du conducteur, en un emplacement où il ne sera pas visible, ni directement ni indirectement, pour le conducteur du véhicule motorisé. Vérifiez les lois fédérales et nationales qui régissent l'utilisation légale de cet appareil à l'intérieur d'un véhicule motorisé.

35-M-1

External Antenna

FCC RF Exposure Warning:

- 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. The maximum allowable antenna gain for the external WWAN base whip antenna is 7.5 dBi for the Cellular band, 3 dBi for the PCS band, 5.5 dBi for LTE Band 4, 9 dBi for LTE Band 17, and 10.17 dBi for LTE Band 13. 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.

32-M-1-1

Models 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 ATTACHEMENT 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

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

Read Me First

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 tous les dispositifs n'excède pas 5."
IES: Voir sous le fond de l'ordinateur

17-Ca-1

Canadian ICES-003

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

7-M-2

<Only for model with wireless LAN/Bluetooth>

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.

<Ne s'applique qu'aux modèles avec technologie Bluetooth/LAN sans fil>

Industrie Canada

Cet équipement est conforme à la norme CNR-210 d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes :

- (1) ce dispositif ne peut produire de brouillage, et
- (2) ce dispositif doit accepter le brouillage, y compris le brouillage pouvant entraîner le fonctionnement non désiré de l'appareil.

30-Ca-1-1

<Only for model with wireless LAN>

This product (local network devices) for the band 5150-5250 MHz is only indoor usage to reduce potential for harmful interference to co-channel Mobile Satellite systems.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LELAN devices.

<Ne s'applique qu'aux modèles avec technologie LAN sans fil>

Cet appareil (pour réseaux locaux radioélectriques) dans les bandes de fréquences 5150-5250 MHz est réservé à une utilisation à l'intérieur afin de réduire le risque d'interférence avec les systèmes satellites mobiles bicanaux. Les radars forte puissance sont désignés comme étant les premiers utilisateurs (c'est-à-dire qu'ils ont la priorité) des bandes de fréquences 5250-5350 MHz et 5650-5850 MHz. Ces stations radars peuvent provoquer des interférences et/ou des dommages à ce périphérique.

30-Ca-2-1

This device has been designed to operate with the Radiall/Larsen whip antenna, type NMO5E2400BKTNC WLAN antenna having a maximum gain of 5 dB. A WLAN Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The Required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

Cet appareil est conçu pour opérer avec l'antenne-fouet Radiall/Larsen, type WLAN NMO5E2400BKTNC, ayant un gain maximum de 5 dB. Les règlements d'Industrie Canada interdisent l'utilisation d'une antenne WLAN dont le gain serait supérieur à cette limite. L'antenne doit avoir une impédance de 50 ohms.

Afin de réduire le risque d'interférence radioélectrique aux autres utilisateurs des bandes de fréquences, le type d'antenne et son gain doivent être tels que la puissance isotrope rayonnée équivalente (PIRE) n'est pas plus élevée que le niveau requis pour assurer la communication.

25-Ca-1-1

<Only for model with wireless LAN/wireless WAN/Bluetooth>

- This computer complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.
- This PC with WLAN and/or Bluetooth transmitters installed, has been approved for portable operation and does not require any minimum spacing be provided between antennas and all person's body.

<Ne s'applique qu'aux modèles avec technologie Bluetooth/LAN sans fil/WAN sans fil>

- Cet équipement est conforme aux limites d'exposition aux rayonnements d'Industrie Canada établies pour un environnement non contrôlé.
- Ce PC avec émetteurs WLAN et/ou Bluetooth a été approuvé à des fins d'opération mobile; aucun espace minimum entre les antennes et le corps de l'utilisateur n'est requis.

FOR USE WITH MODEL NO. : CF-AA6503A2 or
CF-AA5713A
POUR UTILISER AVEC MODÈLE : CF-AA6503A2 ou
CF-AA5713A

20-Ca-1

Models for Europe



<Only for model with a “CE Ⓢ” mark on the bottom of the computer>

Declaration of Conformity (DoC)

“Hereby, Panasonic 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 above mentioned products, please contact our web address: <http://www.doc.panasonic.de>

Authorised Representative:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

Network connection of Wired Modem.

The terminal equipment is intended for connection to the following public network;
In all the countries of European Economical Area and Turkey;
- Public Switched Telephony Networks

Technical Features of Wired Modem.

The terminal equipment includes the following features;

- DTMF dialing
- Maximum bitrate receiving mode: 56 kbit/s
- Maximum bitrate sending mode: 33.6 kbit/s

Indication of the countries where WLAN is intended to be used:

AT BE BG CH CY CZ DE DK EE ES
FI FR GB GR HU IE IS IT LT LU
LV MT NL NO PL PT RO SE SI SK TR

18-25-E-1

This equipment requires minimum 20 cm spacing from all person's body (excluding extremities of hands, wrist and feet) in directions of the back and both sides of the LCD display during wireless modes of operation.
If you use this equipment in tablet mode when utilizing the wireless functionality, it requires a minimum 10 mm spacing from the body (excluding extremities such as hands, wrist and feet) around the left and right hand sides of the LCD display.

60-E-1

<Only for model with a “CE” mark on the bottom of the computer>



Declaration of Conformity (DoC)

“Hereby, Panasonic Corporation 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 above mentioned products, please contact our web address: <http://www.doc.panasonic.de>

Authorised Representative:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

Network connection of Wired Modem.

The terminal equipment is intended for connection to the following public network;
In all the countries of European Economical Area and Turkey;
- Public Switched Telephony Networks

Technical Features of Wired Modem.

The terminal equipment includes the following features;

- DTMF dialing
- Maximum bitrate receiving mode: 56 kbit/s
- Maximum bitrate sending mode: 33.6 kbit/s

18-E-1

Read Me First

Models for UK

For your safety, please read the following text carefully.

This appliance is supplied with a molded three pin mains plug for your safety and convenience.

A 3 ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

If the fitted molded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely.

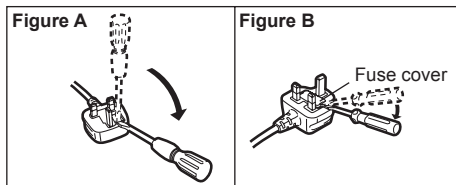
There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

How to replace the fuse

The location of the fuse differs according to the type of AC mains plug (figures A and B).

Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

Open the fuse cover with a screwdriver and replace the fuse and close or attach the fuse cover.



8-E-1

Models for India



For the purpose of recycling to facilitate effective utilization of resources, please return this product to a nearby authorized collection center, registered dismantler or recycler, or Panasonic service center when disposing of this product.

Please see the Panasonic website for further information on collection centers, etc.
<http://www.panasonic.co.in/wps/portal/home>

68-M-1

Precautions

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS¹, MEDICAL DEVICES OR ACCESSORIES², LIFE SUPPORT SYSTEMS OR OTHER EQUIPMENTS/DEVICES/SYSTEMS THAT ARE INVOLVED WITH ENSURING HUMAN LIFE OR SAFETY. PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

¹ AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS include Class2 Electrical Flight Bag (EFB) Systems and Class1 EFB Systems when used during critical phases of flight (e.g., during take-off and landing) and/or mounted on to the aircraft. Class1 EFB Systems and 2 EFB Systems are defined by FAA: AC (Advisory Circular) 120-76A or JAA: JAA TGL (Temporary Guidance Leaflets) No.36.

² As defined by the European Medical Device Directive (MDD) 93/42/EEC.

Panasonic cannot guarantee any specifications, technologies, reliability, safety (e.g. Flammability/Smoke/Toxicity/Radio Frequency Emission, etc) requirements related to aviation standards and medical equipment standards that differ from the specifications of our COTS (Commercial-Off-The-Shelf) products.

This computer is not intended for use in medical equipment including life-support systems, air traffic control systems, or other equipment, devices or systems that are involved with ensuring human life or safety. Panasonic cannot be held responsible in any way for any damages or loss resulting from the use of this unit in these types of equipment, devices or systems, etc.

The CF-19 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 as the magnesium alloy exterior, vibration damped hard disk drive and floppy disk drive, flexible internal connections. The CF-19's outstanding engineering has been tested using the strict 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.

If a Malfunction or Trouble Occurs, Immediately Stop Use

If a Malfunction Occurs, Immediately Unplug the AC Plug and the Battery Pack

- This product is damaged
- Foreign object inside this product
- Smoke emitted

- Unusual smell emitted
- Unusually hot

Continuing to use this product while any of the above conditions are present may result in fire or electric shock.

- If a malfunction or trouble occurs, immediately turn the power off and unplug the AC plug, and then remove the battery pack. Then contact your technical support office for repair.

Do Not Touch This Product In a Thunderstorm If Connected with the AC Cable or Any Other Cables

Electric shock may result.

Do Not Connect the AC Adaptor to a Power Source Other Than a Standard Household AC Outlet

Otherwise, a fire due to overheating may result. Connecting to a DC/AC converter (inverter) may damage the AC adaptor. On an airplane, only connect the AC adaptor/charger to an AC outlet specifically approved for such use.

Do Not Do Anything That May Damage the AC Cord, the AC Plug, or the AC Adaptor

Do not damage or modify the cord, place it near hot tools, bend, twist, or pull it forcefully, place heavy objects on it, or bundle it tightly.

Continuing to use a damaged cord may result in fire, short circuit, or electric shock.

Do Not Pull or Insert the AC Plug If Your Hands Are Wet

Electric shock may result.

Clean Dust and Other Debris of the AC Plug Regularly

If dust or other debris accumulates on the plug, humidity, etc. may cause a defect in the insulation, which may result in a fire.

- Pull the plug, and wipe it with a dry cloth.

Pull the plug if the computer is not being used for a long period of time.

Insert the AC Plug Completely

If the plug is not inserted completely, fire due to overheating or electric shock may result.

- Do not use a damaged plug or loose AC outlet.

Close the Connector Cover Tightly When Using This Product Where Is a Lot of Water, Moisture, Steam, Dust, Oily Vapors, etc.

The entry of foreign matter may cause a fire or electric shocks.

- If foreign matter has found its way inside, immediately turn the power off and unplug the AC cord, and then remove the battery pack. Then contact your technical support office.

Do Not Disassemble This Product

You may receive an electric shock, or foreign matter may enter and result in a fire.

Keep SD Memory Cards Away from Infants and Small Children

Accidental swallowing will result in bodily injury.

- In the event of accidental swallowing, see a doctor immediately.

Do Not Place This Product on Unstable Surface

If balance is lost, this product may fall over or drop, resulting in an injury.

Avoid Stacking

If balance is lost, this product may fall over or drop, resulting in an injury.

Do Not Leave This Product in High Temperature Environment for a Long Period of Time

Leaving this product where it will be exposed to extremely high temperatures such as near fire or in direct sunlight may deform the cabinet and/or cause trouble in the internal parts. Continued use in such a resulting condition may lead to short-circuiting or insulation defects, etc. which may in turn lead to a fire or electric shocks.

Hold the Plug When Unplugging the AC Plug

Pulling on the cord may damage the cord, resulting in a fire or electric shock.

Do Not Move This Product While the AC Plug Is Connected

The AC cord may be damaged, resulting in fire or electric shock.

- If the AC cord is damaged, unplug the AC plug immediately.

Use Only the Specified AC Adaptor With This Product

Using an AC adaptor other than the one supplied (supplied with the unit or one sold separately as an accessory) may result in a fire.

Do Not Subject the AC Adaptor to Any Strong Impact

Using the AC adaptor after a strong impact such as being dropped may result in electric shock, short circuit, or fire.

Take a Break of 10-15 Minutes Every Hour

Using this product for long periods of time may have detrimental health effects on the eyes or hands.

Do Not Turn the Volume Up to Loud When Using Headphones

Listening at high volumes that overstimulate the ear for long periods of time may result in loss of hearing.

Use the Modem with a Regular Telephone Line

Connection to an internal phone line (on-premise switches) of a company or business office, etc. or to a digital public phone or use in a country or area not supported by the computer may result in a fire or electric shocks.

Do Not Connect a Telephone Line, or a Network Cable Other Than the One Specified, into the LAN Port

If the LAN port is connected to a network such as the ones listed below, a fire or electric shock may result.

- Networks other than 1000BASE-T, 100BASE-TX, or 10BASE-T
- Phone lines (IP phone (Internet Protocol Telephone), Telephone lines, internal phone lines (on-premise switches), digital public phones, etc.)

Do Not Expose the Skin to This Product When Using the Product In a Hot or Cold Environment

Burns, low-temperature burns or frostbite may result.

- When it is necessary to expose the skin to this product such as to scan a fingerprint, perform the operation in the shortest time possible.

- Do not place the computer near a television or radio receiver.
- Keep the computer away from magnets. Data stored on the hard disk may be lost.
- This computer is not intended for the display of images for use in medical diagnosis.
- This computer is not intended for a use with connection of medical equipment for the purpose of medical diagnosis.
- When it is necessary to expose the skin to this product such as to scan a fingerprint, perform the operation in the shortest time possible.

Interface Cable

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

11-E-1

Precautions (Battery Pack)

Do Not Use with Any Other Product

The battery pack is rechargeable and was intended for the specified product. If it is used with a product other than the one for which it was designed, electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Charge the Battery Using Methods Other Than Those Specified

If the battery is not charged using one of the specified methods, electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Throw the Battery Pack into a Fire or Expose It to Excessive Heat

Generation of heat, ignition or rupture may result.

Avoid Extreme Heat (Near the Fire, in Direct Sunlight, for Example)

Electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Insert Sharp Objects into the Battery Pack, Expose It to Bumps or Shocks, Disassemble, or Modify It

Electrolyte leakage, generation of heat, ignition or rupture may result.

- If this product is subjected to a strong impact, stop using it immediately.

Do Not Short the Positive (+) and Negative (-) Contacts

Generation of heat, ignition or rupture may result.

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

Do Not Use This Product with a Battery Pack Other Than the One Specified

Use only the specified battery pack (→ page 13) with your product. Use of battery packs other than those manufactured and supplied by Panasonic may present a safety hazard (generation of heat, ignition or rupture).

When the battery pack has deteriorated, replace it with a new one

Continued use of a damaged battery pack may result in heat generation, ignition or battery rupture.

- 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.
- 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.



CAUTION

Risk of Explosion if Battery is replaced by an Incorrect Type.

Dispose of Used Batteries According to the Instructions.

58-E-1

NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence if internal temperature of the battery pack is outside of the allowable temperature range (0 °C to 50 °C).
(→  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 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") A level corresponding to a 100% charge for high temperature mode is approximately equivalent to an 80% charge level for normal temperature mode.
- The battery pack is a consumable item. If the amount of time the computer can be run by using a particular battery pack becomes dramatically shorter and repeated recharging does 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.



A lithium ion battery that is recyclable powers the product you have purchased.

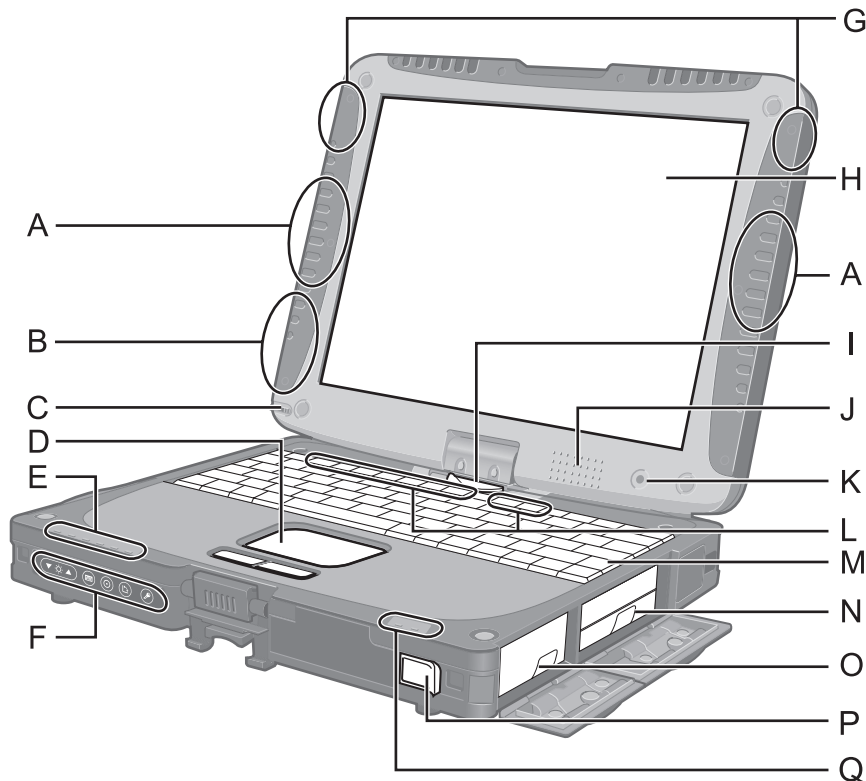
Please call 1-800-8-BATTERY for information on how to recycle this battery.

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.

48-M-1

Description of Parts



A: Wireless LAN Antenna

<Only for model with wireless LAN>

→ *Reference Manual* "Wireless LAN"

The wireless LAN switch may turn off depending on the reception.

B: Bluetooth Antenna

<Only for model with Bluetooth>

→ *Reference Manual* "Bluetooth"

C: Stylus Holder

D: Touch Pad

E: LED Indicator

⚡ : Wireless ready

This indicator lights when Wireless LAN, Bluetooth, and/or Wireless WAN are connected and ready. It does not necessarily indicate the On/Off condition of the wireless connection.

📶 : Wireless WAN status

<Only for model with wireless WAN>

→ Refer to the instruction manual of the wireless device.

⏏ : Caps lock

1 : Numeric key (NumLk)

🔒 : Scroll lock (ScrLk)

📀 : Hard disk drive status

F: Tablet Buttons

→ *Reference Manual* "Tablet Buttons"

G: Wireless WAN Antenna

<Only for model with Wireless WAN>

→ *Reference Manual* "Wireless WAN"

H: LCD

→ *Reference Manual* "Screen Input Operation"

I: Display Release Latch

→ page 15 "Switching to the Tablet mode"

J: Speaker

→ *Reference Manual* "Key Combinations"

K: Ambient Light Sensor

Backlight will be turned off with a bright environment so the battery operation time becomes long. It doesn't function when concealing.

→ *Reference Manual* "Setup Utility"

L: Function Key

→ *Reference Manual* "Key Combinations"

M: Keyboard

N: Hard Disk Drive

→ *Reference Manual* "Hard Disk Drive"

O: Battery Pack

Specified Battery pack: CF-VZSU48U

P: Power Switch

Q: LED Indicator

🔋 : Battery status

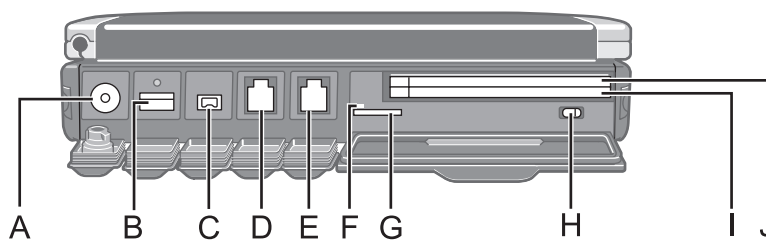
→ *Reference Manual* "Battery Power"

🔌 : Power status

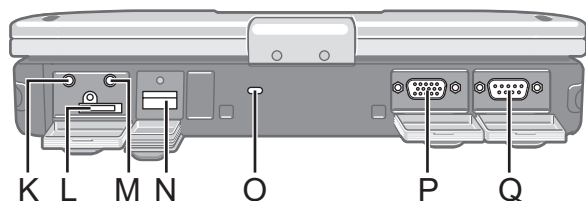
(Off: Power off/Hibernation, Green: Power on, Blinking green: Sleep.)

Description of Parts

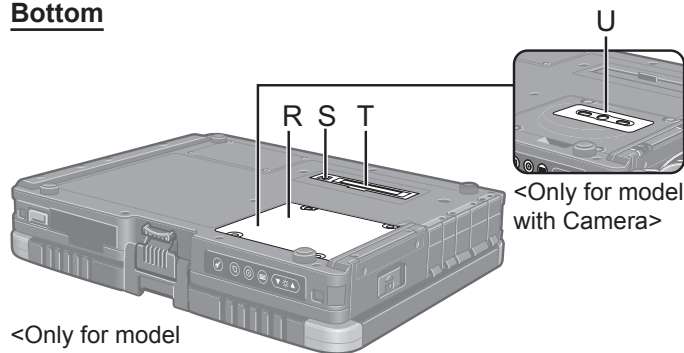
Left side



Rear side



Bottom



A: DC-IN Jack

B: USB Port (3.0)

→ Reference Manual "USB Devices"

C: IEEE 1394 Interface Connector

→ Reference Manual "IEEE 1394 Devices"

D: Modem Port

→ Reference Manual "Modem"

E: LAN Port

→ Reference Manual "LAN"

F: SD Memory Card Indicator

(Blinking: During access)

→ Reference Manual "SD Memory Card"

G: SD Memory Card Slot

→ Reference Manual "SD Memory Card"

H: Wireless Switch

→ Reference Manual "Disabling/Enabling Wireless Communication"

I: <For model without Smart Card Slot>

PC Card Slot (PC)

→ Reference Manual "PC Card / ExpressCard"

<For model with Smart Card Slot>

Smart Card Slot (SCR)

→ Reference Manual "Smart Card"

J: <For model without Smart Card Slot>

ExpressCard Slot (EX)

→ Reference Manual "PC Card / ExpressCard"

<For model with Smart Card Slot>

PC Card Slot (PC)

→ Reference Manual "PC Card / ExpressCard"

K: Headphone Jack

You can connect headphones or amplified speakers. When they are connected, audio from the internal speakers is not heard.

L: SIM Card Slot

<Only for model with wireless WAN>

Insert the SIM card into the SIM card slot with the contact side facing down and the cut corner facing forward.

→ Reference Manual "Wireless WAN"

M: Microphone Jack

A condenser microphone can be used. If other types of microphones are used, audio input may not be possible, or malfunctions may occur as a result.

N: USB Port (2.0)

→ Reference Manual "USB Devices"

O: Security Lock

A Kensington cable can be connected.

For further information, read the manual that comes with the cable.

P: External Display Port (VGA)

→ Reference Manual "External Display"

Q: Serial Port

R: RAM Module Slot

<For model without Camera>

→ Reference Manual "RAM Module"

S: External Antenna Connector

T: Expansion Bus Connector^{*1}

→ Reference Manual "Port Replicator / Car Mounter"

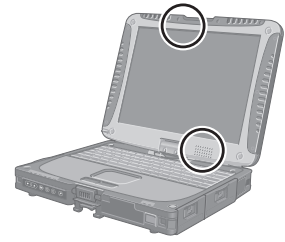
U: Camera

<For model with Camera>

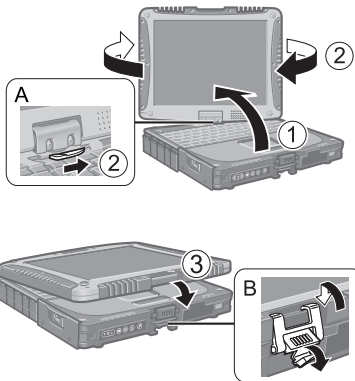
Remove the protection seal on the camera before using the camera.

^{*1} If you connect this computer to CF-VEB181 series or CF-WEB182 series, you cannot use a keyboard port.

- This computer contains a magnet and magnetic products at the locations circled in the illustration at right. Avoid leaving metallic object or magnetic media in contact with these areas.



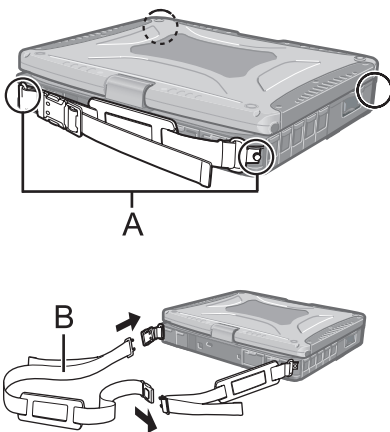
Switching to the Tablet mode



- ① Lift up the display so it stands perpendicular to the body.
- ② Slide the display release latch (A), and rotate the display clockwise until it clicks.

- ③ Close as the display faces up and fix it using the latch (B).

Attaching the hand strap and the shoulder strap (option)



Attach the hand strap to any two of the corners (A) using the screws. You can connect the shoulder strap (B) to the hand strap. (The illustration is an example.)

CAUTION

- Do not use the strap to carry a heavier weight than the computer. Otherwise the strap may become loose by itself.
- Do not use the strap if it becomes worn or damaged.

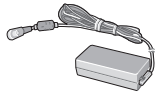
First-time Operation

■ Preparation

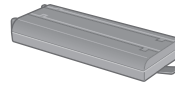
① Check and identify the supplied accessories.

If you do not find the described accessories, contact Panasonic Technical Support.

- AC Adaptor 1
- AC Cord 1
- Battery Pack 1
- Stylus 1



Model No: CF-AA5713A^{*1}



Model No: CF-VZSU48U^{*1}



Model No: CF-VNP003U

- Tether 1



- Soft Cloth 1



- USB Joint Cable^{*2} 1



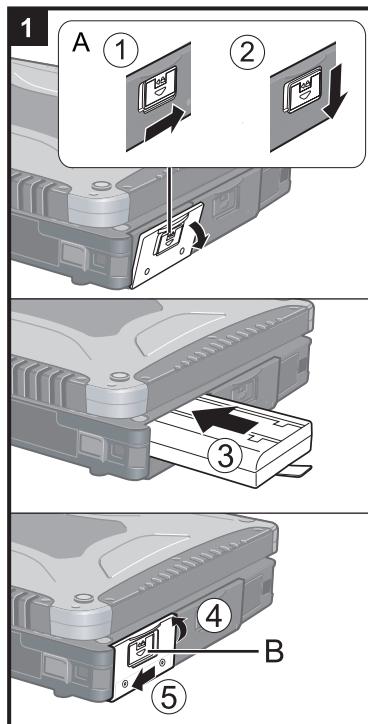
→ Reference Manual "Screen Input Operation"

- OPERATING INSTRUCTIONS (This book) 1

^{*1} The model number will be different depending on the country. For the correct model number, contact Panasonic Technical Support.

^{*2} Not included with some models. If it is not included, ask your system administrator.

② Read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging (→ page 29).



1 Inserting the Battery Pack

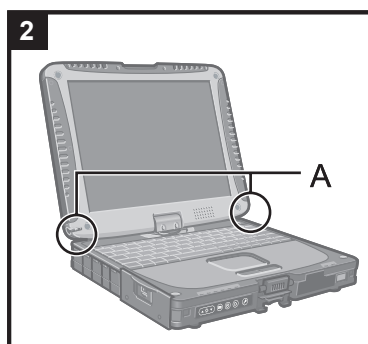
- ① Slide the latch (A) to the right to unlock the cover.
- ② Slide the latch (A) down, and open the cover.
- ③ Insert the battery pack until it securely fits the connector.
- ④ Close the cover.
- ⑤ Slide the latch (B) to the left to lock the cover.

CAUTION

- Make sure the latch is securely locked. Otherwise the battery pack may fall when you carry the computer.
- Do not touch the terminals of the battery pack and the computer. Doing so can make the terminals dirty or damaged, and may cause malfunction of the battery pack and the computer.

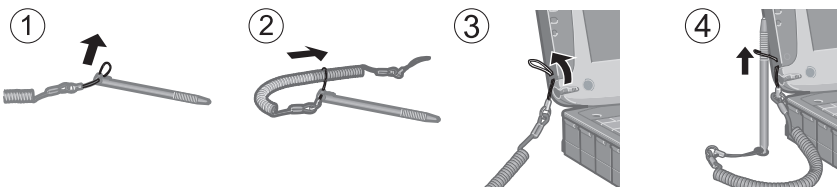
NOTE

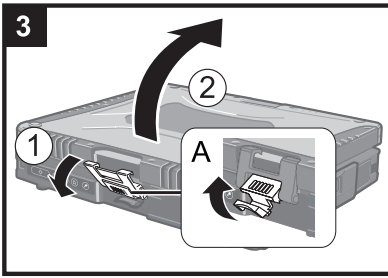
- Note that the computer consumes electricity even when the computer power is off. If the battery pack is fully charged, the battery will fully discharge in the following period of time:
 - When power is off: Approx. 4 weeks
 - In sleep: Approx. 4 days
 - In hibernation: Approx. 2 weeks



2 Attaching the stylus to the computer

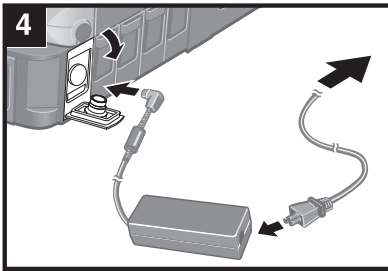
Use the tether to attach the stylus to the computer so you will not lose it. There are holes (A) to attach it.





3 Opening the Display

- ① Pull up the part (A) and release the latch.
- ② Lift open the display.

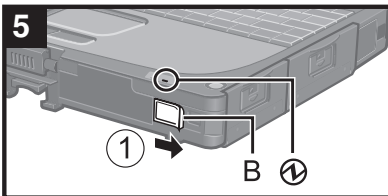


4 Connect your computer to a power outlet.

The battery charging starts automatically.

CAUTION


- Do not disconnect the AC adaptor and do not switch the wireless switch to on until the first-time operation procedure is completed.
- When using the computer for the first time, do not connect any peripheral device except the battery pack and AC adaptor.
- **Handling the AC adaptor**
 - 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 running from the battery pack alone.



5 Turn on the computer.

- ① Slide and hold the power switch (B) until the power indicator ① lights.

CAUTION

- Do not slide the power switch repeatedly.
- The computer will forcibly be turned off if you slide and hold the power switch for four seconds or longer.
- Once you turn off the computer, wait for ten seconds or more before you turn on the computer again.
- Do not perform the following operation until the hard disk drive indicator  turns off.
 - Connecting or disconnecting the AC adaptor
 - Sliding the power switch
 - Touching the keyboard, touch pad, tablet buttons, touchscreen or external mouse
 - Closing the display
 - Turn on/off the wireless switch
- When the CPU temperature is high, the computer may not start up to prevent overheating of the CPU. Wait until the computer cools down, and then turn the power on again. If the computer does not power on even after cooling down, contact Panasonic Technical Support.
- Any changes from the default setting of the Setup Utility must not be made until the First-time Operation is completed.

6 Select language and OS (32-bit or 64-bit).

NOTE

- The message "Reinstall" is displayed, but language and OS (32-bit or 64-bit) will be prepared by the following steps.

- ① Click [Reinstall Windows] and click [Next].
The License Agreement screen appears.
- ② Click [Yes, I agree to the provisions above and wish to continue!] and click [Next].
- ③ Click [Reinstall Windows to the whole Hard Disk to factory default.] and click [Next].
- ④ At the confirmation message, click [YES].


- ⑤ Select language and OS (32bit or 64bit) on “Select OS” screen and click [OK].
The language setting will start by clicking [OK] on the confirmation screen.
You can return to the “Select OS” screen by clicking [Cancel].
The language and OS setting will be completed in about 15 minutes.
- ⑥ When termination screen is displayed, click [OK] to turn off the computer.
- ⑦ Turn on the computer.

CAUTION

- Carefully choose your language because you cannot change it later. If you set a wrong language, you need to reinstall Windows.

7 Setup Windows.

Follow the on-screen instructions.

- The computer restarts several times. Do not touch the keyboard or touch pad, and wait until the hard disk drive indicator  has turned off.
- After the computer is turned on, the screen remains black or unchanged for a while, but this is not a malfunction. Wait for a moment until the Windows setup screen appears.
- During setup of Windows, use the touch pad and clicking to move the cursor and to click an item.
- Setup of Windows will take approximately 20 minutes.
Go to the next step, confirming each message on the display.
- “Join a wireless network” screen may not appear.
You can set the Wireless Network after the setup of Windows is complete.

CAUTION

- You can change the user name, password, image and security setting after setup of Windows.
- Remember your password. If you forget the password, you cannot use Windows. Creating a password reset disk is beforehand is recommended.
- Do not use the following words for user name: CON, PRN, AUX, CLOCK\$, NUL, COM1 to COM9, LPT1 to LPT9, @. In particular, if you create a user name (account name) that includes the “@” mark, a password will be requested at the log-on screen, even if no password has been set. If you try to log on without entering a password, “The user name or password is incorrect.” may be displayed and you will not be able to log on to Windows (→ page 26).
- Use standard characters as a computer name: numbers 0 through 9, uppercase and lowercase letters from A to Z, and the hyphen (-) character.
If the error message “The computer name is not valid” appears, check if characters other than the above are not entered. If the error message still remains on the display, set the key entry mode to English (“EN”) and enter characters.
- When setting up the keyboard, choose the appropriate one to your computer. Otherwise, input by the keyboard may become unavailable.


8 Perform the touchscreen calibration.

- Before performing the calibration, close Tablet PC Input Panel.

■ Calibration by an administrator


NOTE

- At first, log on to Windows as an administrator, and perform this calibration.
- Return the rotated display to [Primary Landscape] before the touchscreen calibration.

- ① Click  (Start) - [Control Panel] - [Hardware and Sound] - [Tablet PC Setting].
- ② Click [Calibrate].
- ③ Using the stylus, touch each of the “+” target marks one by one.

■ Calibration by a standard user

NOTE

- Perform the following calibration for each user.
 - ① Click  (Start) - [Control Panel] - [Hardware and Sound] - [Tablet PC Setting].
 - ② Click [Calibrate...].
 - ③ Using the stylus, touch each of the “+” target marks one by one, and then click [Yes].
 - Perform the calibration for the orientation to be used.

9 Restart the computer.


NOTE

● PC Information Viewer

This computer periodically records the management information of the hard disk, etc. The maximum data volume for each record is 1024 bytes.

This information is only used for estimating the cause when the hard disk goes down by any possibility. They are never sent to outside via network nor used for any other purpose except for the purpose described the above.

To disable the function, add the check mark for [Disable the automatic save function for management information history] in [Hard Disk Status] of PC Information Viewer, and click [OK].


(→  *Reference Manual* “Checking the Computer’s Usage Status”)

■ Precaution against Starting Up/Shutting Down

- Do not do the following
 - Connecting or disconnecting the AC adaptor
 - Sliding the power switch
 - Touching the keyboard, touch pad, touchscreen or external mouse
 - Closing the display
 - Turn on/off the wireless switch


NOTE

- To conserve power, the following power saving methods are set at the time of purchase.
 - The screen automatically turns off after 10 minutes of inactivity.
 - The computer automatically enters sleep³ after 20 minutes of inactivity.

³ Refer to  *Reference Manual* “Sleep and Hibernation Functions” about resuming from sleep/standby.

■ To change the partition structure

You can shrink a part of an existing partition to create unallocated disk space, from which you can create a new partition. This computer has a single partition in the default setting.

- ① Click  (Start) and right-click [Computer], then click [Manage].
 - A standard user needs to enter an administrator password.
- ② Click [Disk Management].
- ③ Right-click the partition for Windows (“c” drive in the default setting), and click [Shrink Volume].
 - The partition size depends on the computer specifications.
- ④ Input the size in [Enter the amount of space to shrink in MB] and click [Shrink].
 - You cannot input a larger number than the displayed size.
 - To select [Reinstall to the first 3 partitions.] in reinstalling Windows 7 (→ page 24), 60000 MB or more is necessary for [Total size after shrink in MB].
- ⑤ Right-click [Unallocated] (the shrunk space in the step ④) and click [New Simple Volume].
- ⑥ Follow the on-screen instructions to make the settings, and click [Finish].
Wait until formatting is completed.

NOTE

- You can create an additional partition using remaining unallocated space or newly creating unallocated space.
- To delete a partition, right-click the partition and click [Delete Volume] in the step ③.

On-screen Manual

You can access the following manuals on the computer screen.

■ Reference Manual

The Reference Manual contains the practical information to help you fully enjoy the computer's performance.

To access the Reference Manual:

Double-click  on the desktop.

- Alternatively click  (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Reference Manual].

■ Important Tips

The Important Tips will provide you with the battery information so that you can use the battery pack in the optimum condition to obtain longer operation time.

To access the Important Tips:

Double-click  on the desktop.

- Alternatively click  (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Important Tips].

Handling and Maintenance

Operation environment

- Place the computer on a flat stable surface not subject to shock, vibration, and danger of dropping. Do not place the computer upright or turn it over. If the computer is exposed to an extremely strong impact, it may become damaged.
 - Operating environment.
 - Temperature: Operation : -10 °C to 50 °C (IEC60068-2-1, 2)^{*1}
 - Storage : -20 °C to 60 °C
 - Humidity: Operation : 30% to 80% RH (No condensation)
 - Storage : 30% to 90% RH (No condensation)
- Even within the above temperature/humidity ranges, operation for a long time in extreme environments, smoking nearby, or operation in places where oil is used or where there is a lot of dust will result in the product deterioration and will shorten the product life.
- ^{*1} Do not expose the skin to this product when using the product in a hot or cold environment. (→ page 11)
If the computer is wet in temperatures of 0 °C or below, freeze damage may occur. Make sure to dry off the computer in such temperatures.
- Do not place the computer in the following areas, otherwise the computer may be damaged.
 - Near electronic equipment. Image distortion or noise may occur.
 - In extremely high or low temperature.
 - As the computer can become hot during operation, keep it away from items that are sensitive to heat.

Handling cautions

This computer is designed to minimize shock to parts such as the LCD and the hard disk drive and equipped with a drip-proof keyboard, but no warranty is provided against any trouble caused by shock. Be extremely careful when handling the computer.

- When carrying the computer:
 - Turn off the computer.
 - Remove all external devices, cables, PC Cards and other protruding objects.
 - Do not drop or hit the computer against solid objects.
 - Do not leave the display open.
 - Do not grip the display part.
- Do not put anything (e.g., a piece of paper) between the display and keyboard.
- When you board an airplane, take the computer with you and never put it in your checked luggage. When using the computer on airplane, follow the airline's instructions.
- When carrying a spare battery, put it in a plastic bag to protect its terminals.
- The touch pad is designed to be used by a finger tip. Do not place any object on its surface and do not press down strongly with sharp-pointed or hard objects that may leave marks (e.g., nails, pencils and ball point pens).
- Avoid any harmful substances such as oil from getting into the touch pad. The cursor may not work correctly.
- Be careful not to get injured by dropping or getting hit when carrying the computer.
- Use only the included stylus to touch the touchscreen. Do not place any object on its surface and do not press down strongly with sharp-pointed or hard objects that leave marks (e.g., nails, pencils and ball point pens).
- Do not use the touchscreen when dust or dirt (e.g., oil) is on the screen. Otherwise foreign particles on the screen/stylus can scratch the screen surface or obstruct the stylus operation.
- Use the stylus only for touching the touchscreen. Using it for any other purpose may damage the stylus and result in scratches on the screen.

■ When using peripheral devices

Follow these instructions and the Reference Manual to avoid any damage to the devices. Carefully read the instruction manuals of the peripheral devices.

- Use the peripheral devices conforming to the computer's specifications.
- Connect to the connectors in the correct direction.
- If it is hard to insert, do not try forcibly but check the connector's shape, direction, alignment of pins, etc.
- If screws are included, fasten them securely.
- Remove the cables when you carry the computer. Do not pull the cables forcibly.

■ Preventing your computer from unauthorized use via wireless LAN/Bluetooth/Wireless WAN

<Only for model with wireless LAN/Bluetooth/Wireless WAN>

- Before using wireless LAN/Bluetooth/Wireless WAN, make the appropriate security settings such as data encryption.


Handling and Maintenance

■ Battery Recalibration

- The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction.
<When performing “Battery Recalibration” after shutting down Windows>
 - Full charge: Approximately 3.5 hours
 - Complete discharge: Approximately 4.0 hoursWhen performing “Battery Recalibration” without shutting down Windows, it may take more time to charge / discharge.

Maintenance

To clean the LCD panel

Use the soft cloth included with the computer. (For further information, refer to “Suggestions About Cleaning the LCD Surface” →  *Reference Manual* “Screen Input Operation”.)

To clean areas other than the LCD panel

Wipe with a soft dry cloth such as gauze. When using detergent, dip a soft cloth in water-diluted detergent and wring it thoroughly.

CAUTION

- Do not use benzene, thinner, or rubbing alcohol since it may adversely affect the surface causing discoloration, etc. Do not use commercially-available household cleaners and cosmetics, as they may contain components harmful to the surface.
- Do not apply water or detergent directly to the computer, since liquid may enter inside of the computer and cause malfunction or damage.

Reinstalling Software

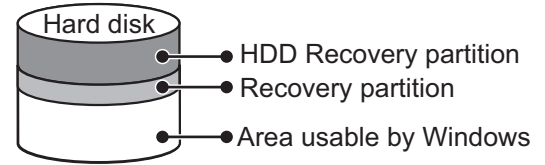
Reinstalling software will return the computer to the default condition. When you reinstall the software, the hard disk data will be erased.

Back up important data to other media or an external hard disk before reinstallation.

■ Hard Disk Recovery

CAUTION

- Do not delete the partitions with boot files on the hard disk. The disk space in the partition is not available to store data.



Preparation

- Remove all peripherals.
- Connect the AC adaptor and do not remove it until reinstallation is complete.

- 1 Turn on the computer, and press F2 or Del while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
 - If the password is requested, enter the Supervisor Password.
- 2 Write down all of the contents of the Setup Utility and press F9.**
At the confirmation message, select [Yes] and press Enter.
- 3 Press F10.**
At the confirmation message, select [Yes] and press Enter.
Computer will restart.
- 4 Press F2 or Del while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
 - If the password is requested, enter the Supervisor Password.
- 5 Select the [Exit] menu, then select [Recovery Partition] and press Enter.**
- 6 Click [Reinstall Windows] and click [Next].**
The License Agreement screen appears.
- 7 Click [Yes, I agree to the provisions above and wish to continue!] and click [Next].**
- 8 Select the settings and click [Next].**
 - [Reinstall Windows to the whole Hard Disk to factory default.]
Select this option when you want to reinstall Windows to the factory default. After reinstallation, you can create a new partition. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
 - [Reinstall to the System and OS partitions.]^{*1}
Select this option when the hard disk has already been divided into several partitions. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
You can keep the partition structure.
^{*1} This does not appear if Windows cannot be reinstalled to the partition containing boot files and the area usable by Windows.
- 9 At the confirmation message, click [OK].**
- 10 Select language and OS (32bit or 64bit), then click [OK].**
- 11 At the confirmation message, click [OK].**
Reinstallation starts according to the instructions on the screen.
 - Do not interrupt reinstallation, for example by turning off the computer. Otherwise reinstallation may become unavailable as Windows may not start up or the data may be corrupted.
- 12 When termination screen is displayed, click [OK] to turn off the computer.**
- 13 Turn on the computer.**
 - If the password is requested, enter the Supervisor Password.
- 14 Perform the “First-time Operation” (→ page 17).**
- 15 Start the Setup Utility and change the settings as necessary.**
- 16 Perform Windows Update.**

Reinstalling Software

■ Using Recovery Disc


Use the Recovery Disc for reinstallation in the following conditions.

- You have forgotten the administrator password.
- Reinstallation is not complete. The recovery partition may be broken.

NOTE


- To change OS from 32 bit to 64 bit, or vice versa, reinstall OS using the recovery partition in the hard disk.

Preparation



- Prepare the Recovery Disc (→  Reference Manual “Recovery Disc Creation Utility”)
- Remove all peripherals.
- Connect the AC adaptor and do not remove it until reinstallation is complete.

- 1 Turn off the computer and connect the CD/DVD drive to the USB port (→ page 14).**
- 2 Turn on the computer, and press **F2** or **Del** while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
 - If the password is requested, enter the Supervisor Password.
- 3 Write down all of the contents of the Setup Utility and press **F9**.**
At the confirmation message, select [Yes] and press **Enter**.
- 4 Press **F10**.**
At the confirmation message, select [Yes] and press **Enter**.
Computer will restart.
- 5 Press **F2** or **Del** while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
 - If the password is requested, enter the Supervisor Password.
- 6 Set the Recovery Disc into the CD/DVD drive.**
- 7 Select the [Exit] menu, then select your CD/DVD drive.**
- 8 Press **Enter**.**
The computer will restart.
- 9 Click [Reinstall Windows] and click [Next].**
The License Agreement screen appears.
- 10 Click [Yes, I agree to the provisions above and wish to continue!] and click [Next].**
- 11 Select the settings and click [Next].**
 - [Reinstall Windows to the whole Hard Disk to factory default.]
Select this option when you want to reinstall Windows to the factory default. After reinstallation, you can create a new partition. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
 - [Reinstall to the first 3 partitions.]²
Select this option when the hard disk has already been divided into several partitions. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
You can keep the partition structure.
² This does not appear if Windows cannot be reinstalled to the partition containing boot files and the area usable by Windows.
- 12 At the confirmation message, click [YES].**
Reinstallation starts.
According to the screen, replace the Recovery Disc.
 - Do not interrupt reinstallation, for example by turning off the computer. Otherwise reinstallation may become unavailable as Windows may not start up or the data may be corrupted.
- 13 When termination screen is displayed, remove the Recovery Disc, and then click [OK] to turn off the computer.**
- 14 Turn on the computer.**
 - If the password is requested, enter the Supervisor Password.
- 15 Perform the “First-time Operation” (→ page 17).**
- 16 Start the Setup Utility and change the settings as necessary.**
- 17 Perform Windows Update.**

Troubleshooting (Basic)




Follow the instructions below when a problem has occurred. There is also an advanced troubleshooting guide in the "Reference Manual". For a software problem, refer to the software's instruction manual. If the problem persists, contact Panasonic Technical Support. You can also check the computer's status in the PC Information Viewer (→  Reference Manual "Troubleshooting (Advanced)").

■ Starting Up



<p>Cannot start up. The power indicator or battery indicator is not lit.</p>	<ul style="list-style-type: none"> ● Connect the AC adaptor. ● Insert a fully charged battery. ● Remove the battery pack and the AC adaptor, then connect them again. ● If a device is connected to the USB port, disconnect the device, or set [USB Port] or [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. ● If a device is connected to the ExpressCard slot, disconnect the device, or set [ExpressCard Slot] to [Disable] in the [Advanced] menu of the Setup Utility. ● Press Fn + F8 to turn off the concealed mode.
<p>The power is turned on but "Warming up the system" appears.</p>	<ul style="list-style-type: none"> ● The computer is warming up before start up. Wait for the computer to start up (the maximum waiting time will be displayed on the screen). If, "Cannot warm up the system" is displayed, the computer failed to warm up and does not start. In this case, turn off the computer, leave it in an environment of 5 °C or higher temperature for about an hour, and then turn on the power again.
<p>Cannot turn on the computer. The computer does not resume from sleep. (The battery indicator blinks alternately in orange and green.)</p>	<ul style="list-style-type: none"> ● The computer is warming up. Wait for a moment.
<p>The computer does not enter sleep mode while the screen saver is running (The screen stays black).</p>	<ul style="list-style-type: none"> ● Slide and hold the power switch for four seconds or longer to shut down the computer forcibly. (Data not saved will be lost.) Then disable the screen saver.
<p>You have forgotten the password.</p>	<ul style="list-style-type: none"> ● Supervisor Password or User Password: Contact Panasonic Technical Support. ● Administrator password: <ul style="list-style-type: none"> • If you have a password reset disk, you can reset the administrator password. Set the disk and enter any wrong password, then follow the on-screen instructions and set a new password. • If you do not have a password reset disk, reinstall (→ page 23) and set up Windows, and then set a new password.
<p>"Remove disks or other media. Press any key to restart" or a similar message appears.</p>	<ul style="list-style-type: none"> ● A floppy disk is in the drive and it does not contain system startup information. Remove the floppy disk and press any key. ● If a device is connected to the USB port, disconnect the device, or set [USB Port] or [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. ● If a device is connected to the ExpressCard slot, disconnect the device, or set [ExpressCard Slot] to [Disable] in the [Advanced] menu of the Setup Utility. ● If the problem persists after removing the disk, it may be a hard disk failure. Contact Panasonic Technical Support.
<p>Windows startup and operation is slow.</p>	<ul style="list-style-type: none"> ● Press F9 in the Setup Utility (→  Reference Manual "Setup Utility") to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again. (Note that the processing speed depends on the application software, so this procedure may not make Windows faster.) ● If you installed a resident software after purchase, turn off the residence. Disable the pop-up menu and Input Panel Tab. <ol style="list-style-type: none"> ① Open the Input Panel, and click [Tools] - [Options] - [Opening]. ② Remove the check mark of [Show Input Panel sliding open from the tab] and click [OK].
<p>The date and time are incorrect.</p>	<ul style="list-style-type: none"> ● Make the correct settings. Click  (Start) - [Control Panel] - [Clock, Language, and Region] - [Date and Time]. ● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support. ● When the computer is connected to LAN, check the date and time of the server. ● The 2100 A.D. or later year will not be correctly recognized on this computer.
<p>[Executing Battery Recalibration] screen appears.</p>	<ul style="list-style-type: none"> ● The Battery Recalibration was canceled before Windows was shut down last time. To start up Windows, turn off the computer by the power switch, and then turn on.

Troubleshooting (Basic)

■ Starting Up

[Enter Password] does not appear when resuming from sleep/hibernation.	<ul style="list-style-type: none"> ● Select [Enabled] in [Password On Resume] in the [Security] menu of the Setup Utility (→ <i>Reference Manual</i> “Setup Utility”). ● The Windows password can be used instead of the password set in the Setup Utility. <ol style="list-style-type: none"> ① Click  (Start) - [Control Panel] - [User Accounts and Family Safety] - [Add or remove user accounts] and select the account, and set the password. ② Click  (Start) - [Control Panel] - [System and Security] - [Power Option] - [Require a password when the computer wakes] and add a check mark for [Require a password].
Cannot resume.	<ul style="list-style-type: none"> ● One of the following operations may have been carried out. <ul style="list-style-type: none"> • In sleep mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected. • The power switch was slid for four seconds or longer to forcibly turn off the computer. Slide the power switch to turn on the computer. Data not saved will be lost. ● An error may occur when the computer automatically enters the sleep or hibernation mode while the screensaver is active. In this case, turn off the screensaver or change the pattern of the screensaver.
Other startup problems.	<ul style="list-style-type: none"> ● Press F9 in the Setup Utility (→ <i>Reference Manual</i> “Setup Utility”) to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again. ● Remove all peripheral devices. ● Check to see if there was a disk error. <ol style="list-style-type: none"> ① Remove all peripheral devices including an external display. ② Click  (Start) - [Computer] and right-click [Local Disk (C:)], and click [Properties]. ③ Click [Tools] - [Check Now...]. <ul style="list-style-type: none"> • A standard user needs to enter an administrator password. ④ Select the option in [Check disk options] and click [Start]. ⑤ Click [Schedule disk check] and restart the computer. ● Start the computer in Safe Mode and check the error details. When the [Panasonic] boot screen disappears^{**1} at startup, press and hold F8 until the Windows Advanced Options Menu is displayed. Select the Safe Mode and press Enter. ^{**1} When [Password on boot] is set to [Enabled] in the [Security] menu of the Setup Utility, [Enter Password] appears after the [Panasonic] boot screen disappears. As soon as you enter the password and press Enter, press and hold F8.

■ Entering Password

Even after entering the password, password input screen is displayed again.	<ul style="list-style-type: none"> ● The computer may be in ten-key mode. If the NumLk indicator  lights, press NumLk to disable the ten-key mode, and then input. ● The computer may be in Caps Lock mode. If the Caps Lock indicator  lights, press Caps Lock to disable the Caps Lock mode, and then input.
Cannot log on to Windows. (“The user name or password is incorrect.” is displayed.)	<ul style="list-style-type: none"> ● The user name (account name) includes an “@”. <ul style="list-style-type: none"> • If another user account name exists: Log on to Windows using another user account name, and delete the account name that includes “@”. Then create a new account name. • If no other account name exists: You need to reinstall Windows (→ page 23).

■ Shutting down

Windows does not shut down.	<ul style="list-style-type: none"> ● Remove the USB device and the ExpressCard. ● Wait one or two minutes. It is not a malfunction.
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■ Display

No display.	<ul style="list-style-type: none"> ● The external display is selected. Press Fn + F3 or ⌘ + P to switch the display. Wait until the display has been switched completely before pressing Fn + F3 or ⌘ + P again. ● When using an external display, <ul style="list-style-type: none"> • Check the cable connection. • Turn on the display. • Check the settings of external display. ● The display is turned off by the power-saving function. To resume, do not press the direct selection keys, but press any other key like Ctrl. ● The computer entered sleep or hibernation by the power-saving function. To resume, press the power switch.
The screen is dark.	<ul style="list-style-type: none"> ● The screen is darker when the AC adaptor is not connected. Press Fn + F2 and adjust the brightness. As you increase the brightness, battery consumption increases. You can separately set the brightness for when the AC adaptor is connected and when not connected. ● Press Fn + F8 to turn off the concealed mode.
The screen is disordered.	<ul style="list-style-type: none"> ● Changing the number of display colors and resolution may affect the screen. Restart the computer. ● Connecting/disconnecting an external display may affect the screen. Restart the computer.
During Simultaneous display, one of the screens becomes disordered.	<ul style="list-style-type: none"> ● When using the Extended Desktop, use the same display colors for the external display as those used by the LCD. ● Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.).
The external display does not work normally.	<ul style="list-style-type: none"> ● If the external display does not support the power saving function, it may not work normally when the computer enters the power saving mode. Turn off the external display.
<Only for model with GPS> The cursor cannot be controlled properly.	<ul style="list-style-type: none"> ● Operate the following steps. <ol style="list-style-type: none"> ① Set [GPS] to [Disabled] in the [Advanced] - [Serial Port Settings] of the Setup Utility. ② Press F10 and select [Yes] at the confirmation message, and press Enter. The computer will restart. ③ Log on to Windows as an administrator. ④ Click ⊞ (Start) and input "c:\util\drivers\gps\GPS.reg" in [Search programs and files], and press Enter. ⑤ Click [Yes], click [Yes] and click [OK]. Then restart the computer. ⑥ Press F2 while [Panasonic] boot screen is displayed. ⑦ Set [GPS] to [Enabled] in the [Advanced] - [Serial Port Settings]. ⑧ Press F10 and select [Yes] at the confirmation message, and press Enter.


■ Touch Pad / Touchscreen

The cursor does not work.	<ul style="list-style-type: none"> ● When using the external mouse, connect it correctly. ● Restart the computer using the keyboard. Press ⌘ and press → twice, and press ↑ to select [Restart] and press Enter. ● If the computer does not respond to keyboard commands, read "No response" (→ page 28).
Cannot input using the touch pad.	<ul style="list-style-type: none"> ● Set [Touch Pad] to [Enable] in the [Main] menu of the Setup Utility. ● The drivers for some mice may disable the touch pad. Check your mouse's operating instructions.
Cannot input using the touchscreen.	<ul style="list-style-type: none"> ● Set [Touchscreen Mode] to [Auto] or [Tablet Mode] in the [Main] menu of the Setup Utility.
Cannot point the correct position using the included stylus.	<ul style="list-style-type: none"> ● Perform the touchscreen calibration (→ page 18).

Troubleshooting (Basic)


■ On-screen Document

The document of PDF format is not displayed.

- Install Adobe Reader.
 - ① Log on to Windows as an administrator.
 - ② Click  (Start) and input "c:\util\reader" in [Search for programs and files].
 - ③ Start the installation program.

■ Others

No response.

- Press **Ctrl + Shift + Esc** to open Task Manager and close the software application that is not responding.
- An input screen (e.g., password input screen at startup) may be hidden behind another window. Press **Alt + Tab** to check.
- Slide the power switch for four seconds or longer to shut down the computer, and then slide the power switch to turn it on. If the application program does not work normally, uninstall and reinstall the program. To uninstall, click  (Start) - [Control Panel] - [Program] - [Uninstall a program].

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Specifications

This page provides the specifications for the basic model.
The model number is different according to the unit configuration.

- To check the model number:
Check the bottom of the computer or the box the computer came in at the time of purchase.
- To check CPU speed, memory size and the hard disk drive (HDD) size:
Run the Setup Utility (→  *Reference Manual* "Setup Utility") and select [Information] menu.
[CPU Speed]: CPU speed, [Memory Size]: Memory size, [Hard Disk]: Hard disk drive size

■ Main Specifications

Model No.	CF-19 Series	
CPU	Intel® Core™ i5-3320M Processor (3 MB ^{*1} cache, up to 3.3 GHz) with Intel® Turbo Boost Technology	
Chipset	Mobile Intel® QM77 Express Chip set	
Memory ^{*12}	4 GB (8 GB Max.) ^{*3}	
Video Memory ^{*14}	<Only for model with 32bit> UMA 1416 MB Max. (When memory is either 4 GB or 8 GB) ^{*5} UMA 1544 MB Max. (When memory is either 4 GB or 8 GB) ^{*6} <Only for model with 64bit> UMA 1696 MB Max. (When memory is either 4 GB or 8 GB)	
Hard Disk Drive ^{*7}	500 GB Approx. 10 GB is used as a partition with HDD recovery tools. (Users cannot use this partition.) Approx. 300 MB is used as a partition with recovery tools. (Users cannot use this partition.)	
Display Method	10.1 XGA type (TFT)	
Internal LCD ^{*8}	65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots)	
External Display ^{*9}	65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots/1280 × 768 dots/1280 × 1024 dots)	
Wireless LAN ^{*10}	→ page 31	
Bluetooth® ^{*11}	→ page 31	
GPS ^{*12}	Chip: SiRF starIII Accuracy: 10 m (2DRMS), 5 m (2DRMS, SBAS) Protocol message: GGA, GSA, GSV, RMC, VTG	
Wireless WAN ^{*13}	Ericsson HSPA+ (F5521gw)	
LAN	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T	
Modem	Data: 56 kbps (V.92) FAX: 14.4 kbps	
Sound	WAVE and MIDI playback, Intel® High Definition Audio subsystem support, Monaural speaker	
Card Slot	PC Card	Type I or Type II x 1 (3.3 V: 400 mA, 5 V: 400 mA)
	ExpressCard ^{*5}	ExpressCard/34 or ExpressCard/54 x 1
	Smart Card ^{*6}	x 1
	SD Memory Card ^{*14}	x 1
RAM Module Slot	DDR3L SDRAM, 204-pin, 1.35 V, SO-DIMM PC3L-10600 Compliant ^{*3}	
Interface	USB port 2.0 x 1, 3.0 x 1 ^{*15} , Serial Port (Dsub 9-pin male), Modem port (RJ-11), LAN port (RJ-45), External display port (VGA) (Mini Dsub 15-pin female), Expansion Bus Connector (Dedicated 100-pin female), External Antenna Connector (Dedicated 50 Ω coaxial connector) x 2, IEEE 1394a Interface Connector (4-pin x 1), Microphone Jack (Miniature jack, 3.5 DIA, Stereo), Headphone Jack (Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW x 2)	
Keyboard / Pointing Device	82 or 83 keys / Touch Pad / Touchscreen (Anti-Reflection, Stylus (included) touch capable)	
Power Supply	AC adaptor or Battery pack	
AC Adaptor ^{*16}	Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 16.0 V DC, 5.0 A	
Battery Pack	Li-ion 10.65 V, 5.7 Ah (typ.), 5.4 Ah (min.)	
Operating Time ^{*17}	Approx. 10 hours	
Charging Time ^{*18}	Approx. 3.5 hours	
Clock Battery	Coin type lithium battery 3.0 V	
Power Consumption ^{*19}	Approx. 30 W ^{*20} / Approx. 90 W (maximum when recharging in the ON state)	
Physical Dimensions (W × H × D) (excluding the hand strap/shoulder strap)	271 mm × 49 mm × 216 mm	

■ Main Specifications

Weight (excluding the hand strap/shoulder strap)	Approx. 2.30 kg
Operation Environment	Temperature: -10 °C to 50 °C (IEC60068-2-1, 2) ^{*21} Humidity: 30% to 80% RH (No condensation)
Storage Environment	Temperature: -20 °C to 60 °C Humidity: 30% to 90% RH (No condensation)
Operating System	Genuine Windows® 7 Professional 32-bit Service Pack 1 / Genuine Windows 7 Professional 64-bit Service Pack 1
Utility Programs ^{*22}	Adobe Reader, PC Information Viewer, Wireless Switch Utility, Hotkey Settings, Battery Recalibration Utility, Hand Writing Utility, Display Rotation Tool, Wireless Connection Disable Utility ^{*23} , Dashboard for Panasonic PC, Aptio Setup Utility, PC-Diagnostic Utility, Recovery Disc Creation Utility, Power Plan Extension Utility, Quick Boot Manager, Hard Disk Data Erase Utility ^{*24} , GPS Viewer ^{*12} , Software Keyboard, Table button Manager, Camera Utility ^{*25} , System Interface Manager

■ Wireless LAN <Only for model with wireless LAN>

Data Transfer Rates	IEEE802.11a : 54/48/36/24/18/12/9/6 Mbps (automatically switched) ^{*26} IEEE802.11b : 24/11/5/2/1 Mbps (automatically switched) ^{*26} IEEE802.11g : 54/48/36/24/18/12/9/6 Mbps (automatically switched) ^{*26} IEEE802.11n : (HT20) 150/130/117/115/104/86/78/65/58/57/52/43/39/28/19/14/13/6 Mbps (automatically switched) ^{*26} (HT40) 300/270/243/240/216/180/162/130/120/117/108/104/90/81/78/60/54/52/39/30/27/26/13 Mbps (automatically switched) ^{*26}
Standards Supported	IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n
Transmission method	OFDM system, DSSS system

■ Bluetooth® <Only for model with Bluetooth>

Bluetooth Version	2.1 + EDR
Transmission method	FHSS system
Wireless Channels Used	Channels 1 to 79
RF Frequency Band	2.402 GHz - 2.480 GHz

■ Wireless WAN^{*13}

Data Communication	HSUPA	Category 6, 5.7 Mbps
	HSUPA (HSPA+)	Category 14, 21 Mbps
	UMTS	3GPP Release 7
	EDGE/ GPRS	MultiSlot Class 10 Circuit Switched Data
Other Features	SMS	Mobile Originated SMS (MO-SMS) Mobile Terminated SMS (MT-SMS)
	FAX	No Support
	Voice	No Support
SIM	1.8/3V SIM Support	

^{*1} 1 MB = 1,048,576 bytes/1 GB = 1,073,741,824 bytes

^{*2} You can physically expand the memory up to 8192 MB, but the total amount of usable memory available will be less depending on the actual system configuration.

^{*3} <Only for model with camera>
The memory cannot be increased.

^{*4} 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.

^{*5} Only for model with Express Card slot

^{*6} Only for model with Smart Card slot

^{*7} 1 GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.

^{*8} A 16,777,216 color display is achieved by using the dithering function.

^{*9} Maximum resolution depends on the specifications of the external display. Display may be impossible using some connected external displays.

^{*10} Only for model with wireless LAN

^{*11} Only for model with Bluetooth

Specifications

- ^{*12} Only for model with GPS.
- ^{*13} Only for model with wireless WAN. The specification may differ depending on the model.
- ^{*14} SD Memory Cards that support high-speed transfer rates can be used. Windows ReadyBoost function is also supported. Operation has been tested and confirmed using Panasonic SD Memory Cards and SDHC Memory Cards with a capacity of up to 32 GB, and Panasonic SDXC Memory Card with a capacity of up to 64 GB. Operation on other SD equipment is not guaranteed.
- ^{*15} Does not guarantee operation of all USB-compatible peripherals.
- ^{*16} The AC adaptor is compatible with power sources up to 240 V AC adaptor. The unit for North America (identified by the suffix 'M' on the model number) is supplied with a 125 V AC compatible AC cord. 20-M-1-1
- ^{*17} Measured at LCD brightness: 60 cd/m²
Varies depending on the usage conditions, or when an external device is attached.
- ^{*18} Varies depending on the usage conditions.
- ^{*19} Approx. 0.9 W when the battery pack is fully charged (or not being charged) and the computer is OFF.
<When using with 115 V AC>
Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.2 W) simply by having the AC adaptor plugged into an AC outlet.
<When using with 240 V AC>
Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.3 W) simply by having the AC adaptor plugged into an AC outlet.
- ^{*20} Rated power consumption 23-E-1
- ^{*21} Do not expose the skin to this product when using the product in a hot or cold environment. (➔ page 11)
When using in hot or cold environment, some peripherals may fail to work properly. Check the operation environment of the peripherals.
Using this product continuously in a hot environment will shorten the product life. Avoid use in these types of environments. When using in low temperature environment, startup may become slow or battery operation time may become short. The computer consumes power when the hard disk is warming up during startup. Therefore, if you are using battery power and the remaining power is low, the computer may not start up.
- ^{*22} When reinstalling Windows using the data of the recovery area on the hard disk, you can select the OS to be installed (either Windows 7 (32-bit) or Windows 7 (64-bit)). An OS that has been installed at the time of purchase or an OS that has been installed using the hard disk recovery function or the recovery disc can be supported.
- ^{*23} You need to install to use the feature.
- ^{*24} Perform on the recovery partition. (If this software can not be performed on the recovery partition, perform from the recovery disc)
- ^{*25} Only for model with Camera.
- ^{*26} It does not correspond to IEEE802.11a+b+g+n standards.
Actual speeds may differ.



As an ENERGY STAR® Partner, Panasonic Corporation has determined that this product meets ENERGY STAR® guidelines for energy efficiency. By enabling available power management settings, Panasonic computers enter a low-power sleep mode after a period of inactivity, saving the user energy.

<Only for U.S.A.>

To learn more about power management, please visit the web site:

http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_management

Outline of the International ENERGY STAR® Office Equipment Program

The international ENERGY STAR® Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles, and copiers. Their standards and logos are uniform among participating nations.

<Only for U.S.A.>

For information about ENERGY STAR®, refer to the following web site:

<http://www.energystar.gov>

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Printed in Japan

SS0413-0
DFQW5812ZA

