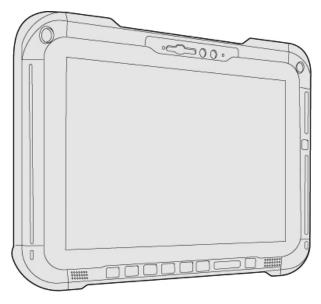
Personal Computer

Model No. FZ-G2 Series

Operating Instructions - Reference Manual



The illustration above shows only the tablet without the keyboard base mounted.

Depending on the models, the keyboard base is mounted or not, and the shape of the cover may differ.

We recommend that this Reference Manual be printed.

Disclaimer

Computer specifications and manuals are subject to change without notice. Panasonic Connect Co., Ltd. assumes no liability for damage incurred directly or indirectly from errors, omissions or discrepancies between the computer and the manuals. Refer for the latest information about optional products to the catalogs, etc.

Panasonic Connect Co., Ltd.

Web Site: https://panasonic.net/cns/pc/

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HS0721-3012 20200072WAD

Introduction

Illustrations and Terminology in this manual

- · This manual explains using the default setting.
- In principle, this manual explains based on the following conditions:
 - . When the tablet and keyboard base have been installed
 - When the keyboard and touchpad are used for operation
- Some illustrations are simplified to help your understanding and may look different from the actual unit.
- Some types of software are automatically updated, and differences may occur from descriptions in this manual.
- If you do not sign in as an administrator, you cannot use some functions or cannot display some screens.
- This manual explains operation procedures using the touchpad or mouse as typical examples. In addition, you can touch the display screen to operate the computer.

When using the touch operation, please replace the terms as described below, and read the instructions.

Operation terms to be replaced:

- Click \rightarrow Touch
- Double-click → Double-touch
- Right-click → Touch and hold (Long touch)

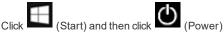
Terms and illustrations in these instructions

- « Enter »: This means to press the « Enter » key.
- 《Fn》+《F7》:

This means to press and hold $\ll Fn \gg \text{key}$, and then press $\ll F7 \gg \text{key}$.

• The display of the key may be different from this manual according to the keyboard used. (e.g. "Delete" instead of "Del")





In these instructions, the names are referred as follows.

- "Windows 10 Pro" as "Windows" or "Windows 10"
- "Multilanguage User Interface" as "MUI".
- The Digitizer + Touch Screen (Capacitive) as the "digitizer", and the Touch Screen as the "touchscreen".
- The digitizer pen as the "pen (included)".
- The computer screen supporting touching methods (using digitizer pen / your fingers) is referred to as the "screen".
- In this manual, the tablet mode refers to the status where only the tablet is used.

Regarding Windows 10

Desktop mode and Tablet mode

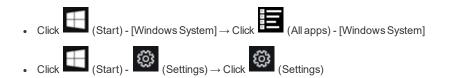
Windows 10 offers the desktop mode in which operation is performed using the keyboard or touchpad, and also the tablet mode optimized for the touch panel operation.

The mode can be switched by clicking





This manual explains operation procedures using the desktop mode as typical examples. When using the tablet mode, please replace the operation procedures as described below, and read the instructions.



NOTE

- · If some icons do not appear on the task tray, perform the following operations.
 - 1. Touch and hold the task tray.
 - 2. Select the item to display.

Screen Messages

Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference)

Opening the Control Panel

1. Click (Start) - [Windows System] - [Control Panel].

Opening the Settings

1. Click (Start) - (Settings)

Latest Information on Windows 10

When Windows 10 is updated, the screen display or operation procedures may be changed.

For the latest information on Windows 10, see the following web page.

https://pc-dl.panasonic.co.jp/itn/addendum/

Sound and Video

 Depending on the processing status on Windows, sound may be interrupted at Windows startup. You can mute the sound at startup.

The startup sound is muted as the factory default.

- Right-click (Speakers) on the task tray, and click [Sounds].
- 2. Remove the check mark from [Play Windows Startup sound], and click [OK].

Windows Update

You can update to the latest patches and service packs for Windows with the following menus.

- 1. Click (Start) (Settings) [Update & Security] [Windows Update].
- 2. Click [Check for updates].

Do not apply "Driver Updates" even if a message to update a driver appears. If a driver update is required, ask the system administrator.

Top Expansion Bay

You can select from the following options.

FZ-VBRG211	FZ-VUBG211	FZ-VLNG211	FZ-VSRG211	FZ-VTSG211
Barcode Reader	USB Port	LAN Port	Serial Port	Thermal Imaging Camera

Inserting an option to the top expansion bay

1. Turn off the computer and disconnect the AC adaptor.

IMPORTANT

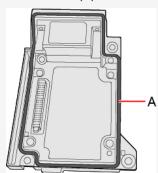
- We recommend that you turn off the computer completely the following.
 - 1. Click (Start) (Settings) [Update & Security] [Recovery].
 - 2. Click [Restart now] under "Advanced startup".
 - 3. Click [Turn off your PC].
- 2. <For tablet> Turn your computer over.

Make sure no foreign objects are under the computer.

- 3. Remove the battery pack. (Replacing the Battery Pack)
- 4. Insert an option to the top expansion bay.
 - 1. If the dummy cover is inserted, remove it.

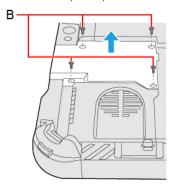
IMPORTANT

• Do not touch (A) to ensure the waterproof property.

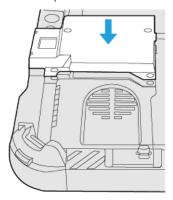


Remove the screws (B) and the dummy cover.

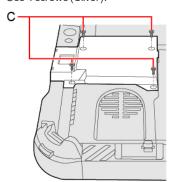
Use the PH 1 (PH #1) screwdriver.



2. Insert an option.



Tighten the screws (C) firmly.
 Use the PH 1 (PH #1) screwdriver.
 Use 4 screws (Silver).



Recommended tightening torque

 $0.45 \, \text{N} \cdot \text{m} \pm 0.05 \, \text{N} \cdot \text{m} \, (4.5 \, \text{kgf} \cdot \text{cm} \pm 0.5 \, \text{kgf} \cdot \text{cm})$

5. Insert the battery pack.

NOTE

<Only for model with Barcode Reader>

• Change the setting of [A1 Button], [A2 Button], [A3 Button] or [Rotation Lock Button] to [Barcode Reader Trigger] with Setup Utility. (Tablet Button Configuration)

Rear Expansion Bay

You can select from the following options.

FZ-VSCG211	FZ-VRFG211
Smart Card Reader	HF RFID Reader

Inserting an option to the rear expansion bay

1. Turn off the computer and disconnect the AC adaptor.

IMPORTANT

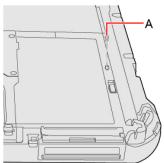
- We recommend that you turn off the computer completely the following.
 - 1. Click (Start) (Settings) [Update & Security] [Recovery].
 - 2. Click [Restart now] under "Advanced startup".
 - 3. Click [Turn off your PC].
- 2. <For tablet> Turn your computer over.

Make sure no foreign objects are under the computer.

- 3. Remove the battery pack. (Replacing the Battery Pack)
- 4. Insert an option to the rear expansion bay.
 - 1. <Only for standard model> Remove the screw (A).

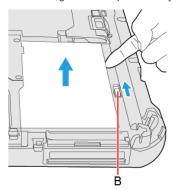
Use the PH 0 (PH #0) screwdriver.

For the appearance of the standard model, refer to "Description of Parts".

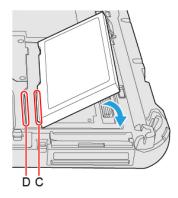


2. If the dummy pack is inserted, remove it.

While sliding the rear expansion bay latch (B), remove the dummy pack.



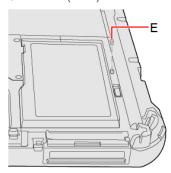
3. Insert the projection part (C) of the option into (D) part, and attach it while lowering until it clicks into place.



4. <Only for standard model> Tighten the screw (E) firmly.

For the appearance of the standard model, refer to "Description of Parts". Use the PH 0 (PH #0) screwdriver.

Use 1 screw (Black).



Recommended tightening torque

 $0.2 \, \text{N} \cdot \text{m} \pm 0.02 \, \text{N} \cdot \text{m} \, (2.0 \, \text{kgf} \cdot \text{cm} \pm 0.2 \, \text{kgf} \cdot \text{cm})$

5. Insert the battery pack.

Create a Recovery Disc

You can make a recovery disc for preinstalled software.

The recovery disc returns the flash memory to the factory default. To create a backup of the recent state of the flash memory, refer to Flash Memory Backup/Restore Function.

Preparation

- . Blank discs (About usable types of discs and required numbers of discs, refer to the screen.) or USB storage device.
- . When using DVD/BD media to create a recovery disc, prepare the commercially available optical drive.
- . USB memory device can also be used as a recovery disc.
- Connect the AC adaptor and do not remove it until the operation is complete.
- · Close all applications except for this utility.
- Remove all peripherals (excluding the device that will be used to create the recovery disc).
- Turn off the wireless function.

NOTE

- When this computer is driven by USB Power Delivery, the recovery disc cannot be created. Connect the supplied AC adaptor.
- . If the recovery partition is deleted, you cannot create recovery disc(s).

<When using a USB storage device to create a recovery disc>

- . Any previously existing data stored on the USB storage device will be deleted.
- · USB storage devices with capacities insufficient for creating a recovery disc cannot be used.
- USB storage devices that are partitioned cannot be used.
- USB storage devices that are recognized as SCSI (i.e., UASP*1 devices) cannot be used.
 - *1: USB Attached SCSI Protocol.

IMPORTANT

- . Do not perform the following operations until creating the recovery disc is complete.
 - Shut down or restart Windows
 - Enter modern standby (sleep) or hibernation.
 - · Remove the commercially available optical drive or USB storage device being used for recovery disc creation.
- If you interrupted creating a recovery disc, a message of failure may appear in step 10 screen below. In this case, restart the computer, and create a new recovery disc again.
- 1. Sign in to Windows as an administrator.
- 2. Connect the device being used to create the recovery disc to the unit.
 - For DVD/BD media
 - 1. Connect the commercially available optical drive to the USB port.
 - 2. Set a disc into the commercially available optical drive.
 - For USB storage devices
 - 1. Connect the USB storage device to the USB port.
- 3. Click (Start) (Panasonic PC Recovery Disc Creation Utility).

If the "User Account Control" is displayed, click [Yes].

IMPORTANT

• Do not remove the tablet during operation.

- 4. Click [Next].
- 5. Confirm on-screen information ([Select OS Image] and [Number of discs required]), and then click [Next].
- 6. Select the drive, and in the case of DVD/BD media, select the disc type.
- 7. Click [Next].
- 8. In the case of DVD/BD media, select the [Write Speed].
- 9. Click [OK].

Creation of the recovery disc (i.e., writing) starts. Wait a moment for the process to complete.

- 10. Finish creation of the recovery disc as follows.
 - For DVD/BD media
 - Remove the disc when "Recovery disc#1 complete." appears, and label the disc to avoid losing it.
 Do not use sharp objects that may leave a mark.
 - 2. If the recovery disc spans multiple discs, insert the next disc.
 - 3. Click [OK].
 - 4. Follow the on-screen instructions to create all the recovery discs.
 - 5. Click [OK] on the "All recovery discs complete." screen.
 - For USB storage devices
 - 1. Click [OK] on the "All recovery discs complete." screen.
 - 2. Perform "Safely Remove Hardware and Eject Media", and remove the USB storage device.

NOTE

- The disc created with this utility is only for this computer. You cannot use for others.
- · Additional applications cannot be recovered even if you use a recovery disc created with this utility.
- . If you fail to create a recovery disc or an error message appears, try either of the following procedures.
 - Insert the disc or USB storage device correctly.
 - Check the disc or USB storage device condition.
 - Restart the computer and try to create a recovery disc again.
 - · Contact Panasonic Technical Support.

About the Partition Structure

IMPORTANT

• Do not add or delete partitions in Windows 10, as the Windows area and recovery partition must be adjacent to each other in Windows 10.

Flash Memory Backup/Restore Function

Panasonic Connect Co., Ltd. will bear no responsibility for any damage suffered (including loss of data) as a result of the use of this function.

Creating a Backup of the Flash Memory Data

You can create a backup of the flash memory data, which can be used to recover from hardware failure.

This function creates a backup of the recent state of the flash memory. To return the factory default, use a recovery disc. (Create a Recovery Disc)



To create a backup of the flash memory to another storage media (e.g., external hard disk).

Connect the storage media, and follow the steps below.

- 1. Click (Start) (Settings) [Update & Security] [Backup].
- 2. Click [Go to Backup and Restore (Windows 7)] under "Looking for an older backup?".
- 3. Click [Create a system image].

Follow the on-screen instructions.

NOTE

. Connect the AC adaptor and do not remove it until backup is complete.

Restoring the Flash Memory Data

Connect the storage media that created the backup.

- 1. Click (Start) (Settings) [Update & Security] [Recovery].
- 2. Click [Restart now] under "Advanced startup"*1.
- 3. Click [Troubleshoot] [Advanced options].
- 4. Click [See more recovery options].
- 5. Click [System Image Recovery].

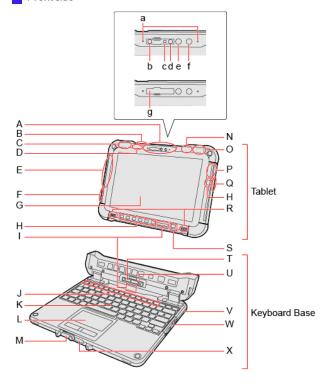
Follow the on-screen instructions.

*1 : Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)

Description of Parts

Front side



A. Front Camera

<Only for model with front camera>



- a. Microphone
- b. IR Camera
- c. IR camera light (RED)
- d. Camera Lens
- e. Camera Indicator
- f. Ambient Light Sensor

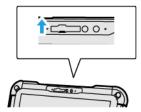
The ambient light sensor is equipped with an automatic brightness adjustment function that adjusts the display screen. (About the Ambient Light Sensor)

g. Camera Cover

When using a front camera, open the camera cover.

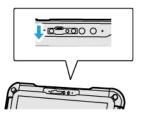
When opening and closing the camera cover, operate until it click to the secured position.

- To open the camera cover
 - 1. Slide the camera cover to the arrow direction.



• To close the camera cover

1. Slide the camera cover to the arrow direction.



B. Wireless WAN Antenna

<Only for model with wireless WAN (5G) / Only for mmWave service>



C. Dedicated GPS Antenna / Wireless WAN Antenna / GPS on Wireless WAN Antenna

<Only for model with dedicated GPS>



<Only for model with wireless WAN (5G)>



<Only for model with GPS on wireless WAN (5G)>



D. Wireless LAN Antenna

<Only for model with wireless LAN>



E. Wireless WAN Antenna

<Only for model with wireless WAN>



F. Wireless WAN Antenna

<Only for model with wireless WAN (5G) / Only for mmWave service>



G. LCD

H. Tablet Buttons



I. LED Indicator

: Battery Indicator

When the keyboard base is attached, it is indicated by the battery indicator on the keyboard base.



: Power Indicator

When the keyboard base is attached, it is indicated by the power indicator on the keyboard base.

- Off: Power off/Hibernation
- Green: Power on
- Blinking green: Modern standby (Sleep)



: Num Lock (numeric lock) indicator



J. Function (Fn) Keys

K. Keyboard

L. Touchpad



N. Wireless LAN Antenna / Bluetooth Antenna

<Only for model with wireless LAN>

(Wireless LAN)

<Only for model with Bluetooth>

O. Wireless WAN Antenna / GPS on Wireless WAN Antenna

<Only for model with wireless WAN>

(Wireless WAN)

<Only for model with GPS on wireless WAN>



P. Wireless WAN Antenna

<Only for model with wireless WAN (5G)>



Q. Wireless WAN Antenna

<Only for model with wireless WAN (5G) / Only for mmWave service>



- R. Speaker
- S. Power Switch
- T. Detach Lock
- U. Release Lever
- V. Security Slot (Keyboard base)

A Kensington cable can be connected. For further information, read the manual that comes with the cable.

W. USB 3.0 (Type-C) Port



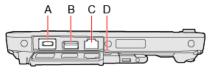
X. LED Indicator



- Off: Power off/Hibernation
- Green: Power on
- Blinking green: Modern standby (Sleep)







A. USB 3.1 (Type-C) Port

Do not insert any foreign object into the USB port.



B. USB 3.0 (Type-A) Port



C. LAN Port



D. Strap Hole

Tablet (Left side) A B

A. Security Slot (Tablet)

A Kensington cable can be connected. For further information, read the manual that comes with the cable.

B. DC-IN Jack

- To open the cover
 - 1. Slide the cover to the arrow direction.



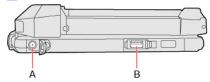
- To close the cover
 - 1. Slide the cover to the arrow direction.



NOTE

• When attaching the keyboard base, be sure to close the cover for waterproof.

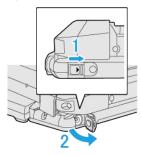
Keyboard Base (Left side)



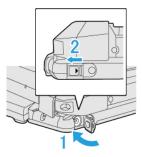
A. DC-IN Jack

When the tablet has been attached to the keyboard base, connect the AC adaptor to the DC-IN jack of the keyboard base.

- To open the cover
 - 1. Slide the cover to the arrow direction.
 - 2. Open the cover.



- To close the cover
 - 1. Close the cover.
 - 2. Slide the cover to the arrow direction.

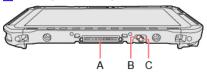


NOTE

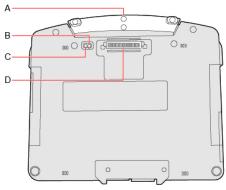
- When closing the cover, slide it while pressing as described in the illustration above. After that, make sure that the cover has been closed properly.
- B. USB 3.0 (Type-A) Port



Tablet (Bottom Side)



- A. Expansion Bus Connector
 - (→ Cradle (FZ-VEBG11AU))
 - (Cradle (FZ-VEBG21 series))
 - (Attaching/Detaching the Tablet from the Keyboard Base)
- B. External Antenna Connector (EXT_ANT1)
- C. External Antenna Connector (EXT_ANT2)
- Keyboard Base (Bottom side)



A. Carrying Handle

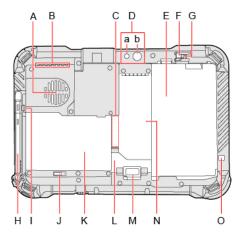
Do not use the handle if the handle is worn or damaged.

- B. External Antenna Connector (EXT_ANT1)
- C. External Antenna Connector (EXT_ANT2)
- D. Expansion Bus Connector



Tablet (Rear side)

<Only for Removable-SSD model>



- A. Ventilation Hole (Intake)
- B. Ventilation Hole (Exhaust)
- C. nanoSIM Card Slot
 - <Only for model with wireless WAN>



- D. Rear Camera
 - <Only for model with rear camera>



- a. Camera Lens
- b. Camera Indicator / Camera Light
- E. Battery Pack
- F. Detach Lock
- **Battery Latch**
- Digitizer pen
- I. Pen Holder
- J. Rear Expansion Bay Latch
- K. Rear Expansion Bay

You can select an option to the rear expansion bay and install it later.

You can select from the following options.

FZ-VSCG211	FZ-VRFG211
Smart Card Reader	HF RFID Reader

<Only for model with Smart Card Reader>



<Only for model with HF RFID Reader>

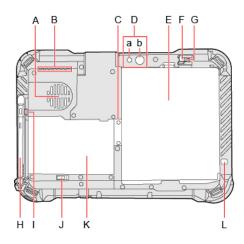


(Contactless Smart Card Reader/RFID Reader)

- L. SSD Pack Lock Cover
- M. SSD Pack Latch
- N. SSD Pack
- O. LED Indicator

: Battery Indicator (replace)

<Only for Standard model>



- A. Ventilation Hole (Intake)
- B. Ventilation Hole (Exhaust)
- C. nanoSIM Card Slot
 - <Only for model with wireless WAN>



- D. Rear Camera
 - <Only for model with rear camera>



- a. Camera Lens
- b. Camera Indicator / Camera Light
- E. Battery Pack
- F. Detach Lock
- G. Battery Latch
- H. Digitizer pen
- I. Pen Holder
- J. Rear Expansion Bay Latch
- K. Rear Expansion Bay

You can select an option to the rear expansion bay and install it later.

You can select from the following options.

FZ-VSCG211	FZ-VRFG211
Smart Card Reader	HF RFID Reader

<Only for model with Smart Card Reader>



<Only for model with HF RFID Reader>



L. LED Indicator

: Battery Indicator (replace)

Tablet (Top side)

A. Top Expansion Bay

You can select an option to the top expansion bay and install it later.

You can select from the following options.

FZ-VBRG211	FZ-VUBG211	FZ-VLNG211	FZ-VSRG211	FZ-VTSG211
Barcode Reader	USB Port	LAN Port	Serial Port	Thermal Imaging Camera

<Only for model with Barcode Reader>



<Only for model with USB Port>



<Only for model with LAN Port>



<Only for model with Serial port>



<Only for model with Thermal Imaging Camera>



B. Ventilation Hole (Exhaust)

Turning On / Turning Off

Turning On

Press and hold the power switch 0 until the power indicator 0 lights. (Description of Parts)





NOTE

- · Do not press the power switch repeatedly.
- The computer will forcibly be turned off if you press and hold the power switch $oldsymbol{\psi}$ for 10 seconds or longer.
- Once you turn off the computer, wait for 10 seconds or more before you turn on the computer again.
- Do not perform the following operation until the drive indicator turns off.
 - · Connecting or disconnecting the AC adaptor
 - · Pressing the power switch
 - Touching the keyboard, touchpad, touchscreen, tablet buttons or external mouse
 - · Closing the display

Turning Off

Shut down the computer.



2. Click (Power) - [Shut down].

NOTE

To turn off the computer completely, proceed as follows.



- 2. Click [Restart now] under "Advanced startup".
- 3. Click [Turn off your PC].

Precautions against Starting Up/Shutting Down

Do not do the following

- · Connecting or disconnecting the AC adaptor
- · Pressing the power switch
- Touching the keyboard, touchpad, touchscreen, tablet buttons or external mouse
- · Closing the display

NOTE

- To conserve power, the following power saving methods are set at the time of purchase.
 - The screen automatically turns off after:
 10 minutes (when AC adaptor is connected) of inactivity
 4 minutes (when operating by battery power) of inactivity
 - The computer automatically enters sleep*1 after:
 10 minutes (when AC adaptor is connected) of inactivity
 4 minutes (when operating by battery power) of inactivity
 - $\hbox{$^*1:$ Refer to $``Sleep/Hibernation Functions"$ about resuming from sleep.}$

Screen Input Operation

The screen of your computer allows you to perform the same operations as a mouse by touching its surface.

You can use the digitizer function to perform the same operation as the touchpad and mouse by touching the screen surface with the pen (included). And you can use the touchscreen function to perform the same operation as the touchpad and mouse by touching the screen with your finger etc.

NOTE

- . Note that the touchscreen may respond to the following:
 - · Putting the pen (included) or finger close to the screen.
 - · Liquid or metallic objects other than the pen (included) or finger.

Change "Touch Input"

You can select the screen input mode.

- 1. Click (Start) (Panasonic PC Settings Utility) (Settings) (Touch Screen).
- 2. Select the input mode under "Touch Input".

[Use touch screen / digitizer pen]

You can operate the screen with the pen (included) and other input methods such as your fingers.

[Use touch screen]

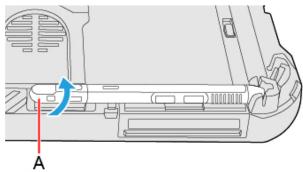
You can operate the screen with your fingers.

[Use digitizer pen]

You can operate the screen with the pen (included).

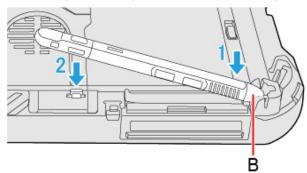
Detaching the pen from the computer

1. Lift the (A) section of the pen in the direction of the arrow to remove it from the pen holder.



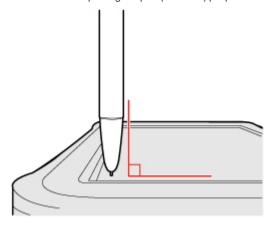
Attaching the pen to the computer

- 1. Insert the tip (B) of the pen at an angle.
- 2. Attach the pen into the pen holder until it clicks in place.



Using the pen (included)

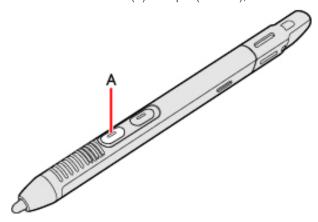
• We recommend placing the pen (included) perpendicular to the screen surface when using it.



• Press the pen's tip on the screen surface, and use the pen.

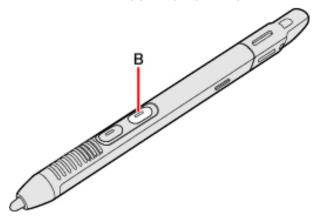
"Touch and hold" ("right-click") operation

- Touch and hold the object with your fingers, or the pen (included), and release it when a flame surrounding the object appears.
- Press and hold the button (A) of the pen (included), and then touch the object.



"Eraser" operation with the pen (included)

• Press and hold the button (B) of the pen (included), and then touch the object.



Operation by touching the screen

Instead of operating the screen with the pointer, you can use your fingers.

Touch (Tap)	Touch the screen once with one finger.
Spread / pinch	Touch an image or document with two fingers, and spread your fingers apart to zoom in or pinch them together to zoom out.
Drag	Touch an object (file, icon, etc.) and drag your finger to the desired location before removing it to move the object.
Swipe	Touch with a sweeping motion.
Flick	Touch with a quick sweeping motion.

Change "Touch Screen Mode"

You can select the suitable operation mode in "Touch Screen Mode".

- 1. Click (Start) (Panasonic PC Settings Utility) (Settings) (Touch Screen).
- 2. Select the operation mode under "Touch Screen Mode".

[Touch] mode

- Suitable for finger operation.
- Use this mode when not operating with the pen (included).

[Touch (Glove)] mode

- Use this mode when operating with a glove on.
- Depending on the type of glove, operation may be ignored.
- With finger operation, the screen may not respond properly.

[Touch (Water)] mode

- Use this mode when the screen or finger is wet with water drops in operation.
- Depending on the water drop condition, operation may be ignored.

- Operation may not be performed correctly around the edges of the screen.
- 3. If a confirmation message appears, click [Yes].

NOTE

. When "Touch Screen Mode" is set to [Touch (Water)], multi touch input is reduced to 3 points.

IMPORTANT

. Do not touch the screen while switching the operation mode. Switching may fail by doing so.

Calibrating the Screen

When you cannot point correctly with the pen (included) or your fingers, calibrate the screen by following the steps below.

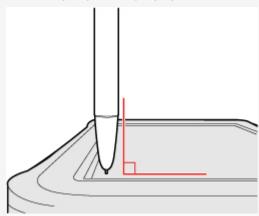
Perform the calibration as an administrator. A standard user needs to perform the calibration as an administrator before performing the calibration for each user.

NOTE

- . At first, sign in to Windows as an administrator, and perform this calibration.
- Return the rotated display to landscape before performing the screen calibration.
- 1. Click (Start) [Windows System] [Control Panel] [Hardware and Sound] [Tablet PC Settings].
- 2. Click [Calibrate...].
- 3. Click [Pen input].
 - If the "User Account Control" is displayed, click [Yes].
 - It is not necessary to perform [Touch input] for this product.
- 4. Using the pen (included), touch each of the "+" target marks one by one, and then click [Yes].

NOTE

. Make sure pen (included) is perpendicular to the screen to get the most accurate calibration.



- The following message, "Right-click anywhere on the screen to return to the last calibration point. Press the Esc button to
 close the tool." will appear on the center of the screen during calibration. However, the operation to close the tool by
 pressing the ≪ Esc≫ key can be performed.
- · If you cannot touch the desired position, perform calibration again and restart the computer.

IMPORTANT

- If you perform calibration as a standard user, the calibration data is valid until you sign out. (The data becomes invalid after you have signed out.) When using the computer continuously, perform calibration as an administrator.
- If you cannot operate the computer correctly after calibration, delete the calibration data by clicking [Control Panel] [Hardware and Sound] [Tablet PC Settings] [Reset...], and perform calibration again. (Be sure to delete the calibration data as an administrator.)
- . We recommend using [Touch input] at the factory default.

About "Touch Operation Support"

"Touch Operation Support" is an application that allows you to perform screen operations more easily. When you use a two-finger tap gesture to specify the area in which you want to perform touch operations, the area is displayed in a zoom window, allowing you to perform touch operations in an expanded display.

Using "Touch Operation Support" settings

Important usage notes

- This application will only operate on internal screen displays.
- Using the two-finger tap gesture may not display the zoom window in certain applications that handle touch operations independently (e.g., Microsoft Office Word, Internet Explorer and Paint).
- This application may take some time to start after sign in.
- You cannot use the two-finger tap gesture to display the zoom window unless this application is running.
- Using the two-finger tap gesture will not display the zoom window in some applications (Magnifier (Windows), Touch Keyboard (Windows), On-Screen Keyboard (Windows), etc.).

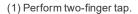
Expanding a portion of the display

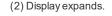
When you use a two-finger tap gesture to specify the area in which you want to perform touch operations, the area is displayed in a zoom window, allowing you to perform touch operations in an expanded display.

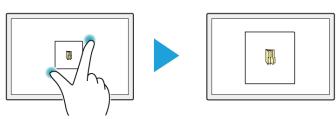
Opening the zoom window

1. Perform a two-finger tap on the area of the screen you want to expand.

A rectangular zoom window with a diagonal length equal to the distance between the two tapped points appears.

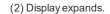


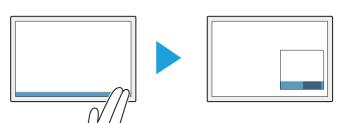




You can quickly expand the corner of the screen, for example, by performing a two-finger tap with both fingers joined.

(1) Tap with two fingers joined.





2. Perform touch operations in the zoom window.



You can perform the following touch operations in the zoom window.

- Tap (Left Click)
- Double Tap (Left Double Click)
- Press and Hold (Right Click)
- Tap on the popup menu to be displayed after right click
- Drag (Drag by Left Button)
- Drag after Press and Hold (Drag by Right Button)
- Drag from inside to inside of the zoom window
- Drag from inside to outside of the zoom window
- Drag from outside to inside of the zoom window
- Drag from outside to outside of the zoom window

Operation guides may appear when using the zoom window for the first time. These guides will not appear again if you select the [Do not show this again] checkbox and tap [OK].

NOTE

- If two points that will result in a zoom window size that is larger than the resolution of the screen are tapped, the zoom window will be adjusted to fit the screen.
- Even if you use a two-finger tap gesture on a small rectangular area, the zoom window cannot be displayed in a size smaller than the predetermined minimum size.
- The zoom window may not appear if you perform a two-finger tap on a window's title bar or edges or on an unfixed taskbar.
- The zoom window may also appear when you tap using three fingers.
- If a button for another application, for example, exists within the area of the two-finger tap, the button may be activated in addition to the zoom window opening in some cases.
- You can also use mouse and perform operation inside the zoom window. In that case, the displayed area in the zoom window follows mouse cursor movement.

Closing the zoom window

1. Tap outside the zoom window.

The zoom window closes.



NOTE

- If you are displaying the edge of the screen in the zoom window and you tap the edge of the screen outside the zoom window, an operation identical to that inside the zoom window may be performed and the zoom window may not close in some cases.
- The zoom window automatically closes when:
 - · You disable the utility in the task tray menu
 - · You rotate the screen
 - · You change the resolution
 - · Computer enters into the hibernation mode
 - The screen is locked

- · A user is switched
- · The desktop size (taskbar width, etc.) is changed
- · An additional zoom window is opened
- · Any of the applications that cannot be used together is launched

Changing the position of the zoom window

The zoom window cannot be moved.

To change the area displayed in the zoom window, close the zoom window and perform the steps in "Opening the zoom window" to expand the display again.

Additional functions

"Touch Operation Support" settings include the following helpful functions for when you press and hold or drag and drop a folder or file.

Context menu displays

When you perform a press and hold gesture in a zoom window to display a context menu, for example, the zoom window will be automatically adjusted to display the whole context menu.

NOTE

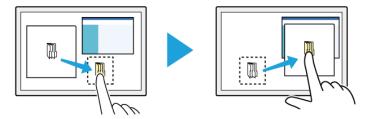
■ This function cannot be used in some applications.

Drag and drop operations

When you drag a folder or file from inside a zoom window to the outside, the zoom window will disappear temporarily and a dotted line will appear around the object being dragged.

As you drag the object to its target location, the area of the target location will be displayed in expanded view automatically, allowing for easier drop operations.

(1) Drag outside.



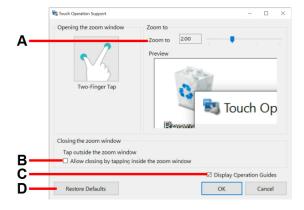
(2) Dotted line appears.

(3) Expanded view appears when you slow your drag speed.

Changing settings



- 2. Click [Advanced Settings] under "Touch Operation Support".
- 3. Adjust each setting.



- A. Use the slider to change the zoom ratio of the window (4 levels in 0.5x increments).
- B. If you clear the checkbox, the zoom window will continue to be displayed when you tap inside the zoom window. If you select the checkbox, the zoom window will close when you tap inside the zoom window.
- C. If you select the [Display Operation Guides] checkbox and click [OK] to close the window, operation guides will appear the next time you perform a two-finger tap after signing in.
- D. Click this to restore changed values to default settings.

4. Click [OK].

This completes settings adjustment.

NOTE

- Specifying a zoom ratio other than 2.0x or 3.0x may cause text in the zoom window to appear unclear.
- When the setting window is displayed, the zoom window will not be displayed.

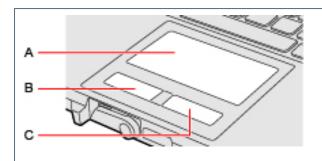
Disabling "Touch Operation Support"

- 1. Click (Start) (Panasonic PC Settings Utility) (Settings) (Touch Screen).
- 2. To disable "Touch Operation Support", remove a checkmark to [Support touch operation].

Touchpad

<Only for model with Keyboard Base>

Use the touchpad to move the cursor on the screen and perform computer operations.



- A. Work Surface (touchpad)
- B. Left Button
- C. Right Button

Function	Operation	
Move cursor	Move the tip of your finger over the work surface.	
Click (Tap)	Tap a touchpad or press a left button. Right-click: press a right button.	
Double click (Double tap)	Tap a touchpad quickly two times or press a left button quickly two times.	
Vertical scroll	Trace the right edge of the touchpad vertically with a finger.	

Disabling/Enabling the Touchpad

1. Press ≪Fn≫ + ≪Esc≫ (→ Key Combinations).

NOTE

When the touchpad is disabled, it will remain disabled until you press ≪Fn≫ + ≪Esc≫ again, even if the computer restarts.

Handling the touchpad

- By design, the touchpad is to be used with a fingertip only. Do not place any object on the work surface or press down forcefully with sharp-pointed objects (e.g., nails) or hard objects that can leave marks (e.g., pencils and ball point pens).
- Try to avoid having any harmful substances, such as oil, come in contact with the touchpad. The cursor may not work properly in such cases.
- · When the touchpad becomes dirty:

Wipe to remove dirt by using a dry soft cloth such as gauze or a soft cloth first applied with detergent diluted with water and then thoroughly wrung. Do not use benzene or thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially available household cleaners and cosmetics, as they may contain components harmful to the surface.

Keyboard

<Only for model with Keyboard Base>

Key Combinations

NOTE

- Do not repeatedly press the keys in quick succession.
- Do not use the key combinations together with touchpad (external mouse), touchscreen, tablet buttons or other key operations.
- Do not use the key combinations before you sign in to Windows. Wait until the drive indicator turn off. On the Setup Utility screen, you can use the key combinations of «Fn» + «F1» and «Fn» + «F2».
- The key combinations may not work with some applications.
- The pop-up display shown in the table below appears after signing in to Windows. It may not appear in some application conditions.

Key	Function	Pop-up display
≪ Fn≫ + ≪ Esc≫	Touchpad on/off You can select on/off of the touchpad.	Touchpad Status Notification × Touchpad Status Notification The touchpad has been disabled. Press Fn+Esc to enable.
	NOTE	
	 When the touchpad is disabled, it will remain disabled until you press ≪Fn≫ + ≪Esc≫ again, even if the computer restarts. 	
≪Fn≫ + ≪F1≫*1	LCD brightness	A slide bar appears.
≪Fn≫ + ≪F2≫ *1	$(\ll Fn \gg + \ll F1 \gg = down / \ll Fn \gg + \ll F2 \gg = up)$	
V Ó:		
≪Fn≫ +≪F3≫	Display mode switching	"PROJECT" appears.
0/0	(Switching the display mode)	
	When an external display (a projector etc.) is connected, you can change the display mode.	
	 Press ≪ Fn≫ + ≪ F3≫. 	
	2. Click the display mode.	
	IMPORTANT	
	 Do not press any keys until the display has finished switching. 	
	Do not use this function:	
	 When playing motion video such as DVD or MPEG. 	
	When an external display is not connected.	
	When showing a game screen such as pinball.	

Key	Function	Pop-up display
≪Fn≫ + ≪F4≫*1	Speaker on/off*2 You can check the status of speaker by seeing an icon on the task tray.	A slide bar appears.
≪Fn≫ +≪F5≫ ^{*1}	Volume	A slide bar appears.
≪Fn≫ + ≪F6≫*1	$(\ll Fn \gg + \ll F5 \gg = down / \ll Fn \gg + \ll F6 \gg = up)$	
₫ ⊕ Δ	NOTE	
	 When fine-tuning the sound volume, press and hold ≪Fn≫, and press ≪F5≫ or ≪F6≫ intermittently. 	
	This does not work on speakers connected to the USB port.	
≪Fn≫ +≪F7≫	Modern standby (Sleep)	
z ^z	(Entering/Resuming from Sleep or Hibernation)	
≪Fn≫ + ≪F8≫	Concealed Mode on/off You can select on/off of indication status the following devices. LCD Backlight LED Sound Wireless Radio Camera Light <only camera="" for="" model="" rear="" with=""> Backlit Keyboard <only backlit="" for="" keyboard="" model="" with=""> Fan Barcode Reader <only barcode="" for="" model="" reader="" with=""> Concealed Mode) NOTE The camera indicator cannot be turned off. [Concealed Mode] is set to [Disabled] as the factory default. You can set the devices turned off in [Concealed Mode Configuration] with Setup Utility. If you press ≪Fn≫ + ≪F8≫ in succession, the Concealed Mode may not be switched. More than 4 seconds interval is necessary to switch on/off.</only></only></only>	
«Fn» + «F9»	Remaining battery power (When the battery pack is inserted in the computer)	Checking the Remaining Battery Power)

Key	Function	Pop-up display	
«Fn» + «F10»	Airplane Mode on/off You can select on/off of the Airplane Mode. (▶ Switching the airplane mode using ≪ Fn≫)		
《Fn》+《F12》 当	<only backlit="" for="" keyboard="" model="" with=""> Backlit keyboard on/off When you press the keys, the luminance of backlit keyboard is changed. (Four steps and off). NOTE</only>	*3	
	The one step is designed to be used in dark places. It does not appear to glow in bright places, but this is not a malfunction. You cannot change the color of the backlit keyboard. (Panasonic PC Backlit Keyboard Settings Utility) When switched to [Night Mode] of "Panasonic PC Day Night Mode Utility", if you add a check mark to [Backlit Keyboard], 《Fn》 + 《F12》 is disabled. (Panasonic PC Day Night Mode Utility)		
«Fn» + «1» A1	Run [Application1] In the default settings, open "Panasonic PC Settings Utility". You can change the function of [Application1]. (Changing the functions assigned to the A1 / A2 / A3 keys)		
«Fn» + «2» A2	Run [Application2] In the default settings, backlit keyboard color is switched. You can change the function of [Application2]. (Changing the functions assigned to the A1 / A2 / A3 keys)		
«Fn» + «3» A3	Run [Application3] In the default settings, open "Panasonic PC Camera Utility". You can change the function of [Application3]. (Changing the functions assigned to the A1 / A2 / A3 keys)		

^{*1:} When [LCD Backlight] and [Sound] are set to [OFF] on the [Concealed Mode Configuration] menu and the concealed mode is turned on, these key combinations are disabled.

However, audio from the speaker is not heard.

*3: When [Backlit Keyboard] is set to [OFF] on the [Concealed Mode Configuration] menu and the concealed mode is turned on, the pop-up display does not appear.

Hotkey Settings

You can make the following settings:

Fn key lock

When you press ≪ Fn ≫, the key is locked (pressed-down) until you press another key. Use this when pressing difficult key combinations.



Make the settings under "Fn Key".[Use Fn Key lock]

^{*2:} When [Sound] is set to [OFF] on the [Concealed Mode Configuration] menu and the concealed mode is turned on, the sound volume setting of Windows does not show mute state.

- When using an ≪ Fn≫ key combination
 - 1. Press ≪ Fn≫ once. (Locked)
 - 2. Press another key. (Lock released)
- When using successive ≪ Fn≫ key combinations
 - 1. Press ≪ Fn≫ twice. (Locked)
 - 2. Press another key.

Fn key remains locked until you press \ll Fn \gg again.

[Make sound when Fn Key is pressed]*4

[Display icon in notification area]: Displays the Fn key status when



on the task tray is clicked.



: ≪ Fn≫ is locked.



NOTE

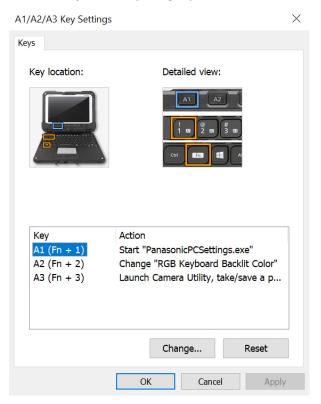
· You can have different settings for each user.

*4: If the speaker is muted or [Sound] is turned off in [Concealed Mode Configuration], beeps do not sound.

Changing the functions assigned to the A1 / A2 / A3 keys

You can change the functions assigned to A1, A2 and A3 keys.

- 1. Click (Start) (Panasonic PC Settings Utility) (Settings) (Buttons / Keys).
- 2. Click [Change] under "A1/A2/A3 Key".
- 3. Select the key and click [Change...].



- 4. Select the function in "Action".
 - Click [Browse...] to select the application if you select [Start a program].
- 5. Click [OK].
- 6. Click [OK].

. If you click [Reset], the setting will be the factory default.

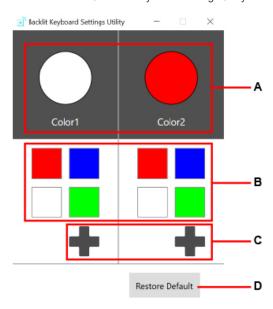
Panasonic PC Backlit Keyboard Settings Utility

The Panasonic PC Backlit Keyboard Settings Utility can be used to make custom color of the backlit keyboard.

Starting Panasonic PC Backlit Keyboard Settings Utility

1. Click (Start) - (Panasonic PC Backlit Keyboard Settings Utility).

The Panasonic PC Backlit Keyboard Settings Utility starts up, and the following screen is displayed.



A. [Color1] / [Color2]

The specified color is displayed.

B. Color Presets

To change the color of the backlit keyboard, click , , or

C. Color Settings

To customize the color of the backlit keyboard, click To Define Custom Colors

D. Restore Default

Restore the settings to the default color.

2. Select the color of the backlit keyboard.

To Define Custom Colors

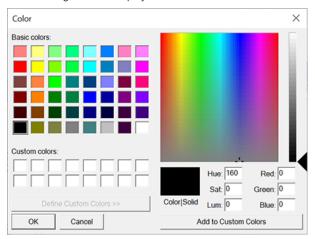
1. Click to display the "Color".

The following screen is displayed.



- When using the Basic Color
 - 1. Click the color under "Basic colors:".
 - 2. Click [OK].
- When using the Custom Color
 - 1. Click the color under "Basic colors:" closest to the color you want to define.
 - 2. Click "Define Custom Colors".

The following screen is displayed.



- $3. \quad \text{Modify the color matrix and slider}.$
 - $\label{lem:alternatively} Alternatively, modify the RGB or hue, saturation, luminosity color values.$
- 4. Click [Add to Custom Colors].
- 5. Click the color under "Custom colors:".
- 6. Click [OK].

NOTE

- If you change the color of the backlit keyboard to black, the backlit keyboard does not light.
- You can also change the color or the power saving time with Setup Utility.

Tablet Buttons

	Function		
Button	While OS is running	When launch- ing the Setup Utility	On the Setup Utility screen
A1	Run [Application1]*1 In the default settings, open "Panasonic PC Settings Utility". <only [concealed="" [enabled]="" is="" mode]="" set="" to="" when=""> Concealed Mode on/off. (Concealed Mode)</only>	≪F12≫ key	<only [concealed="" [disabled]="" is="" mode]="" set="" to="" when=""> You can change the button assign to [Disabled]/[Ctrl+Alt+Del]/ [Concealed Mode Trigger]/[Barcode Reader Trigger] (only for model with barcode reader). A1 Button)</only>
A2 *2	Run [Application2]*1 In the default settings, backlit keyboard color is switched.	≪F2≫ key	You can change the button assign to [Disabled]/[Ctrl+Alt+Del]/ [Barcode Reader Trigger] (only for model with barcode reader). (A2 Button)
АЗ	<only barcode="" for="" model="" reader="" with=""> Read barcode <only barcode="" for="" model="" reader="" without=""> Run [Application3]*1 In the default settings, open "Panasonic PC Camera Utility".</only></only>	≪F10≫ key	<only barcode="" for="" model="" reader="" with=""> You can change the button assign to [Disabled]/[Application3]/ [Ctrl+Alt+Del]. (→ A3 Button) <only barcode="" for="" model="" reader="" without=""> You can change the button assign to [Disabled]/[Ctrl+Alt+Del]. (→ A3 Button)</only></only>
-	Volume down	≪↓≫ key	You can change the button assign to [Disabled]/[Brightness Up/Down]. (Up/Down Buttons)
+	Volume up	≪→≫ key	You can change the button assign to [Disabled]/[Brightness Up/Down]. (Up/Down Buttons)
	Windows key	≪Enter≫ key	You can change the button assign to [Disabled]. (Windows Button)
6	Rotation Lock	≪Esc≫ key	You can change the button assign to [Disabled]/[Ctrl+Alt+Del]/ [Barcode Reader Trigger] (only for model with barcode reader). (Rotation Lock Button)

^{*1 :} You can change the button assign using Panasonic PC Settings Utility. (Changing the functions assigned to the A1 / A2 / A3 keys)

NOTE

- The tablet buttons may not work immediately after Windows is started up or the Windows sign in screen (or the Welcome screen) is displayed.
- On the Windows sign in screen and Welcome screen, the tablet buttons are enabled and work in default irrespective of the settings you made.
- Under the following conditions, A1, A2 and buttons will reflect the function of "Action" in "A1", "A2" and "A3".
 - When [A1 Button] in the sub-menu of [Tablet Button Configuration] in the [Main] menu of the Setup Utility is set to [Application1].
 - When [A2 Button] in the sub-menu of [Tablet Button Configuration] in the [Main] menu of the Setup Utility is set to [Application2].

^{*2 :} During sleep/hibernation/power off (when operating by battery power): Checking the battery status. (Battery Indicator)

- When [A3 Button] in the sub-menu of [Tablet Button Configuration] in the [Main] menu of the Setup Utility is set to [Application3].
- Since the key combination of ≪Fn≫ + ≪1≫ is assigned to [Application1], the function of "Action" is reflected in "A1".
- Since the key combination of $\langle Fn \rangle + \langle 2 \rangle$ is assigned to [Application2], the function of "Action" is reflected in "A2".
- Since the key combination of ≪Fn≫ + ≪3≫ is assigned to [Application3], the function of "Action" is reflected in "A3".

Important Tips

Important Battery Tips

IMPORTANT

• The battery pack is a consumable item. The rate of battery deterioration depends on the usage environment, but as a guide, it will reach the end of its life after 1-3 years of use or 300-500 times of charging. If the battery pack swells or battery usage time is dramatically short even after being fully charged, we highly recommend replacing the battery.

NOTE

<Only for model with Built-in Bridge Battery>

. The computer is equipped with a built-in bridge battery (not replaceable) and a battery pack (replaceable).

How to use the battery with minimal deterioration

The battery is a consumable and, as such, its performance will gradually deteriorate. This deterioration is accelerated under the following conditions.

- · When the battery is repeatedly charged
- . When the battery is used, charged or stored in a place with high temperature

To minimize deterioration of the battery and ensure a longer battery life, you must <u>reduce the number of charges</u> and <u>ensure that the temperature inside</u> the battery does not become too high. Bear in mind the following points.

NOTE

- The battery pack gradually deteriorates over time even if cared following the above points. If it deteriorates, be sure to replace with a new and specified battery pack.
- This computer reduces the full charge capacity in stages to ensure a longer life of the battery pack.

Charge the battery in a temperature range of 10 °C to 30 °C {50 °F to 86 °F}

In places where the outside air temperature is high, the temperature inside the battery will also become high. Do not charge the battery inside a vehicle with all its windows closed and exposed to the hot sun or in other places where the temperature is high.

This computer's battery will not be charged if its temperature is outside the allowable range. (At such a time, the battery indicator blinks orange.)

We recommend charging the battery no more than once per day

Recharging the battery after every small use raises the total number of battery charges and speeds battery deterioration.

To lower the total number of battery charges, we recommend recharging the battery no more than once per day or when the remaining charge drops to 10 % or less.

With this computer, in order to reduce the number of charges, the battery will not be recharged immediately after it has been fully charged unless the remaining charge has fallen to less than 95 %.

Charging the battery while the computer is powered off is recommended

If the computer's power is on, the temperature inside the battery rises due to the effects of heat from the CPU and other components. We recommend that you only charge the battery when the computer is powered off.

How to use the computer to maximize the battery operation time

Leave the computer off when it is not in use

Decrease the internal LCD brightness

Click (Notification) on the task tray, and then move the



Press $\ll Fn \gg + \ll F1 \gg$.

You can reduce the internal LCD brightness as follows.



(Start) -



(Settings) - [System] - [Display].

Decrease the backlit keyboard brightness <Only for model with backlit keyboard>

To extend battery life, the backlit keyboard should be disabled or automatic turned off.

Press \ll Fn \gg + \ll F12 \gg to change the backlit keyboard brightness.

You can also decrease the brightness automatically to conserve power with Setup Utility. (As factory default, [On Battery Power] and [Plugged in] are set to [None]. Change the setting if you use the automatic turn off function of the backlit keyboard.)

Before stepping away from your computer, enter the modern standby (sleep) or hibernation mode

Refer to Entering/Resuming from Sleep or Hibernation.

Click or on the task tray, and then move the "Power mode" slider () to the left to set the "Power mode" to "Best battery life"

This will reduce power consumption.

We recommend against using applications or screen saver that place a significant load on the CPU

Some screen savers place a large load on the CPU. When using these screen savers, a significant load is placed on the CPU even when the computer is not being used. We recommend that you do not use screen saver that will drain the CPU.

- Remove peripheral devices (USB devices, external mouse, etc.) when not in use
- When the network communication is not working, turn off the wireless LAN

When the computer is not going to be used for an extended period (a month or more)

In order to maintain the battery performance, remove the battery with a remaining charge of 30 % to 40 % from the computer, and store it in a cool, dark place

If the battery pack is kept installed in the computer, it will discharge gradually even when the computer's power is off. If this condition continues for a long period (several months or more), the battery may overdischarge, causing its performance to deteriorate. In addition, this deterioration will accelerate if the battery pack is stored inside a vehicle with all its windows closed and exposed to the hot sun or in other places where the temperature is high. Store the battery pack where the temperature is within the range of 10 °C to 30 °C {50 °F to 86 °F}.

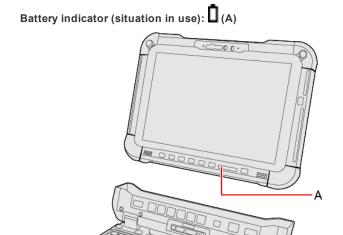
Things to keep in mind when using the battery pack

Bear in mind the following points when installing and removing the battery pack

- Do not install or remove the battery pack while the computer is in the sleep mode. (Only for model without built-in bridge battery)
 - Removal of the battery pack in this mode cause the data to be erased and cause the computer to malfunction.
- Do not touch the terminals on the battery pack.
 If the terminals are dirty or damaged, the battery may not function properly or the computer may not operate properly.
- Charging time and discharging time differs depending on the computer's power status and temperature
 - It takes longer to fully charge the battery when the computer's power is on. To charge the battery more quickly, power the computer off, or put it in the sleep or the hibernation mode.
 - It takes longer to fully charge the battery in low temperature environments. The battery discharges more quickly in low temperature environments.

Battery Power

Battery Indicator



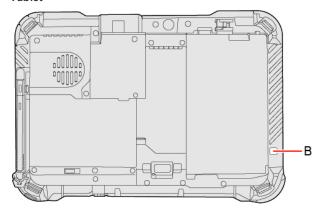
Battery indicator (situ- ation in use)	Battery status	
Not lit	The battery pack is not inserted or not being charged.	
	Concealed mode is set to ON.	
Orange	Charging is in progress. If [Battery Charging Indicator] in the [Main] menu of the Setup Utility is set to [Flashing], the indicator will alternately become lighter and darker (Flashing).	
Green	The battery is fully-charged.	
Blinking green	In order to stop the battery from deteriorating, power supply from another battery or AC adaptor has been shut off, and the battery power is being consumed.	
	Do not remove the battery pack in this status.	
Red	The remaining battery is approximately 9 % or less.	
Blinking red The battery pack or the charging circuit is not operating properly. Remove the battery pack immediately.		
Blinking orange	The battery cannot be charged temporarily due to the following reasons:	
	Its internal temperature is out of the acceptable range.	
	The power supply is not enough because software applications or peripheral devices are consuming a large amount of power.	
	When charging the computer using USB Power Delivery. The power of the connected USB Power Delivery- compatible device is insufficient.	

Battery indicator (situ- ation in use)	Battery status
Blinking green and orange alternately	The temperature is low and the computer is warming up to prevent the flash memory drive from malfunctioning. The computer will start automatically after warming-up.
Blinking orange slowly	When you set [Battery Charging Indicator] to [Flashing] on the [Main] menu of Setup Utility.

Battery indicator (replacing status): $\mathbf{\hat{Q}}$ (B)

<Only for model with Built-in Bridge Battery>

Tablet



Battery indicator (replacing status)	Battery status	
Green	The battery pack can be replaced without turning off the computer.	
Blinking red slowly	The battery pack cannot be replaced.	
Blinking red	The built-in bridge battery has deteriorated. Contact Panasonic Technical Support.	
Not lit	The battery pack can be replaced. (While the AC adaptor connected, shutdown, hibernation)	
	The battery pack is not inserted or not being charged or other than those above.	
	Concealed mode is set to ON.	

NOTE

- Once the battery is fully charged, the computer performs recharging only when the battery level becomes less than approximately 95 %, so overcharging is avoided.
- . When [LED] is set to [OFF] on the [Concealed Mode Configuration] menu, LED does not light.

Charging

When connecting the computer to a power outlet, the battery charging starts automatically.

• The battery pack is not charged when you first purchase it. Be sure to charge it before using for the first time.

Checking the Remaining Battery Power

Checking the remaining battery power on the screen

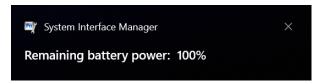
1. Click or on the task tray.

The remaining battery power is displayed.

(Example)



Alternatively, you can check the remaining battery power by $\ll Fn \gg + \ll F9 \gg$ key combination. (After signing in to Windows) **(Example)**



NOTE

- The battery display may not correspond to the actual remaining battery power in the cases as below. To correct the display, perform the Battery Recalibration (Correcting the Battery Display (Battery Recalibration)).
 - The battery indicator remains red.
 - The indicator lights orange and the display shows 99 % for a long time.
 - Low battery warning appears soon after a short time of use.
 This can occur when the computer is in sleep for a long time without power supply from the AC adaptor.
- . The battery display may not be the same as that of task tray. This is not a malfunction.

Computer behavior with low battery

The default settings are as follows.

When the battery level becomes 10 % [Low battery level]	When the battery level becomes 5 % [Critical battery level]
Displays a message that the battery level is low.	The computer enters hibernation. ↓
Charge the battery.	Connect the AC adaptor or replace the battery to start up the computer.
 Connect the AC adaptor immediately. If you do not have the AC adaptor, exit the running programs and Windows, then confirm that the power indicator is off. If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again. 	 Connect the AC adaptor and charge the battery. If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again. When the computer enters hibernation with the battery down and you resume the operation without charging the battery, the Windows Resume Loader starts up. Follow the on-screen instructions. After that, however, Windows may not start up normally, or the [Low battery level]/[Critical battery level] function may not work normally.

NOTE

• Battery goes to hibernation if the battery level is about 5 %, may be displayed such as "Not exist" or "Not use" is not a malfunction.

Please wait for a while to connect the AC adaptor.

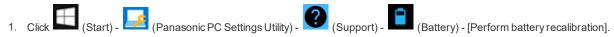
Correcting the Battery Display (Battery Recalibration)

The "Battery Recalibration" function measures and memorizes the battery capacity. To correct the battery display, use this function to fill the battery and then discharge it completely. Perform the procedure at least once immediately after purchasing the computer. Normally the interval of battery recalibration is 3 months.

The battery display may not be correct when the battery pack deteriorates after a long time use. In this case, perform the procedure again.

- 1. Connect the AC adaptor.
- 2. Perform "Battery Recalibration".

You can operate your computer while the battery recalibration is in progress.



- 2. Click [OK] on "Perform Battery Recalibration after shutting down Windows." screen.
- 3. Click [OK] on "Windows will be shut down. OK?" screen.
- 4. Restart the computer, "Battery Recalibration Utility" is displayed.
- 5. Press ≪ Enter ≫.
- 6. When the confirmation message appears, select [Yes] and press \ll Enter \gg .

After the battery recalibration is finished, normal charging starts.

NOTE

- · When this computer is driven by USB Power Delivery, the battery recalibration cannot be performed.
- The temperature range should be 10 °C to 30 °C {50 °F to 86 °F}.
- Frequent recalibration of the battery can degrade the battery. A caution message appears when the battery recalibration is
 performed at the shorter interval than approximately a month. In this case, cancel the battery recalibration.
- The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction. (An expected approximate recalibration time is displayed.)
- If the computer is turned off during the battery recalibration (e.g., due to power failure, or accidental removal of the AC adaptor and battery pack), the battery recalibration will not be completed.
- · <Only for model with Built-in Bridge Battery>

The battery recalibration cannot be performed for the built-in bridge battery.

<When performing "Battery Recalibration" after shutting down Windows>

FZ-VZSU1TU series

Full charge	Complete discharge	
Approx. 2.5 hours	Approx. 3.5 hours	
FZ-VZSU1UU/FZ-VZSU1VU series		

Full charge	Complete discharge	
Approx. 3.0 hours	Approx. 5.0 hours	

Battery duration

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:

FZ-VZSU1TU series

	Power On by	Discharge period	
Status	LAN	Only for model with keyboard base	For tablet
In modern standby (sleep) When entering into hibernation automatically after 16 hours (factory default)	Deny	Approx. 4 weeks	Approx. 5.5 weeks
In modern standby (sleep) When not entering into hibernation	Deny	Approx. 3.5 days	Approx. 4.5 days

	Power On by LAN	Discharge period	
Status		Only for model with keyboard base	For tablet
In hibernation	Deny	Approx. 4.5 weeks	Approx. 6.5 weeks
When power is off	Deny	Approx. 4.5 weeks	Approx. 6.5 weeks
	Allow	Approx. 8 days	Approx. 8.5 days

FZ-VZSU1VU series

	Power On by LAN	Discharge period	
Status		Only for model with keyboard base	For tablet
In modern standby (sleep) When entering into hibernation automatically after 16 hours (factory default)	Deny	Approx. 5.5 weeks	Approx. 8 weeks
In modern standby (sleep) When not entering into hibernation	Deny	Approx. 5 days	Approx. 6 days
In hibernation	Deny	Approx. 6.5 weeks	Approx. 9 weeks
When power is off	Deny	Approx. 6.5 weeks	Approx. 9 weeks
	Allow	Approx. 11 days	Approx. 12 days

FZ-VZSU1UU series

	Power On by LAN	Discharge period	
Status		Only for model with keyboard base	For tablet
In modern standby (sleep) When entering into hibernation automatically after 16 hours (factory default)	Deny	Approx. 5.5 weeks	Approx. 8 weeks
In modern standby (sleep) When not entering into hibernation	Deny	Approx. 5 days	Approx. 6 days
In hibernation	Deny	Approx. 6.5 weeks	Approx. 9 weeks
When power is off	Deny	Approx. 6.5 weeks	Approx. 9 weeks
	Allow	Approx. 11 days	Approx. 12 days

- The battery duration while the USB port continuous charging function is not used.
- The above value is the holding time at room temperature.
- As factory default, the computer automatically enters the hibernation in 16 hours after it enters the modern standby (sleep) state. This setting is recommended.

- The computer automatically enters the hibernation if the battery level becomes lower than 5 % in the modern standby (sleep) state.
- Since the sleep mode of this computer supports the modern standby mode, the battery consumption in sleep mode is large. Connect the AC
 adaptor before the battery level becomes zero.

Replacing the Battery Pack

The battery pack is a consumable item so the replacement will be necessary. If the battery operation time becomes noticeably short and not recovered even after recalibrating the battery, replace with a new battery.

IMPORTANT

- The battery pack is not charged when you first purchase it. Be sure to charge it before using for the first time. Charging starts automatically when the AC adaptor is connected to the computer.
- Use only the specified battery pack with your computer. The VZSU1TU/FZ-VZSU1UU series battery pack cannot be used in models with FZ-VZSU1VU series, or the FZ-VZSU1VU series battery pack cannot be used in models with VZSU1TU/FZ-VZSU1UU series, either.
- If the computer is wet, wipe them off and open the cover. Make sure to dry off the computer, replace/remove the battery
 pack.
- · <Only for model with Built-in Bridge Battery>
 - When 5 minutes elapse after removing the battery pack in sleep, the sleep mode will be released.
 - If the built-in bridge battery is deteriorated, the battery replacement time may be shortened.

NOTE

· <Only for model with Built-in Bridge Battery>

If the built-in bridge battery has enough remaining power, you can replace the battery pack without turning off the computer (Hot swap) and during sleeping the computer (Warm swap).

When replacing the battery pack after turning off the computer

1. Turn off the computer.

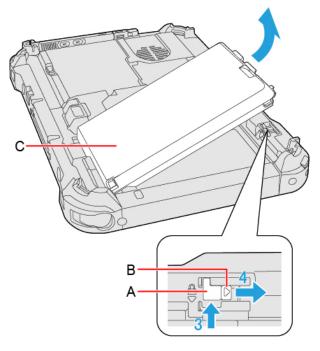
Do not use the sleep function.

2. <For tablet> Turn your computer over.

Make sure no foreign objects are under the computer.

Depending on the models, the shape of battery pack may differ.

- 3. Slide the detach lock (A) to the unlocked position.
- 4. While sliding the battery latch (B) with the detach lock (A), lift the battery pack (C).

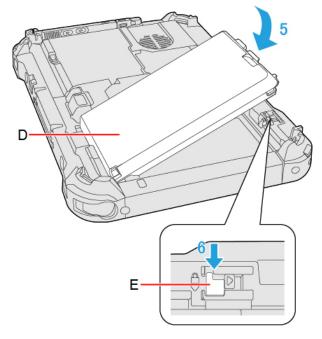


5. Insert the battery pack (D) until it touch to the secured position.

Be careful about the battery pack direction.

In case that the projection does not match the dents of the computer, detach the battery pack once, then slide it while pushing it lightly to avoid floating.

6. Slide the detach lock (E) to the locked position.



When replacing the battery pack without turning off the computer

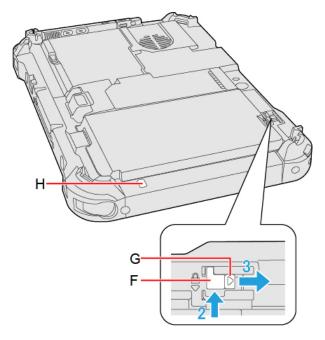
<Only for model with Built-in Bridge Battery>

1. <For tablet> Turn your computer over.

 $\label{eq:make-sure-model} \mbox{Make sure no foreign objects are under the computer.}$

Depending on the models, the shape of battery pack may differ.

- 2. Slide the detach lock (F) to the unlocked position.
- 3. Slide the battery latch (G) with the detach lock (F), check the status of battery indicator (H).

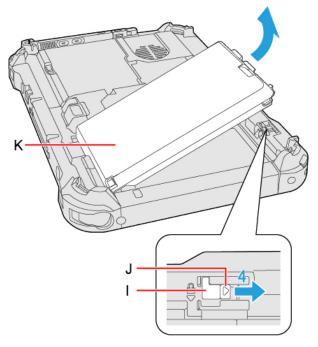


Confirm that the battery indicator lights green; this means that the built-in bridge battery has enough remaining power required for a hot swap.

When the battery indicator doesn't light; Shutdown, Hibernation and while the AC adaptor is connected to the computer.

IMPORTANT

- In the case of a hot swap, finish replacing the battery within a minute. Depending on the built-in bridge battery status, the computer may enter hibernation within 1 minute. Replace the battery pack as soon as possible.
- 4. While sliding the battery latch (J) with the detach lock (I), lift the battery pack (K).

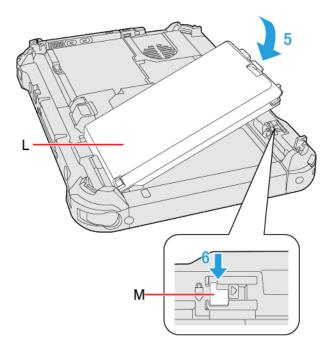


5. Insert the battery pack (L) until it touch to the secured position.

Be careful about the battery pack direction.

In case that the projection does not match the dents of the computer, detach the battery pack once, then slide it while pushing it lightly to avoid floating.

6. Slide the detach lock (M) to the locked position.



IMPORTANT

- Make sure the detach lock is securely locked, otherwise the battery pack may fall when you carry the computer.
- Do not remove the battery pack forcibly when the detach lock is locked. Doing so may damage the battery pack.
- During battery replacement, the LCD backlight may become dark.
- <Only for model with Built-in Bridge Battery>

If the built-in bridge battery has not enough remaining power, you cannot replace the battery pack without turning off the computer.

Turn off your computer before replacing the battery pack.

Sleep/Hibernation Functions

Starting Up Your Computer Quickly

The sleep or hibernation functions allow you to shut off the computer without closing programs and documents. You can quickly return to the programs and documents that you were working on before sleep or hibernation.

The sleep mode of this computer supports the modern standby mode.

Function	Recovery time	Power supply
Sleep	Short	Required. (If power is not supplied, all data will be lost.)
Hibernation	Rather long	Not required. (However power is slightly consumed to keep the hibernation.)

Setting Sleep or Hibernation

Sleep

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Select the setting for "When plugged in, PC goes to sleep after" or "On battery power, PC goes to sleep after" under "Sleep".

Hibernation

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Click [Additional power settings] under "Related settings".
- 3. Click [Change plan settings] of the power plan you want to change.
- 4. Click [Change advanced power settings].
- 5. Click [Sleep], and click [Hibernate after].
- 6. Click the item and select the setting.
- 7. Click [OK].

Precautions

- Connect the AC adaptor if the computer will be in sleep for a long period of time. If you cannot use the AC adaptor, use hibernation instead.
- Using sleep or hibernation repeatedly may cause malfunction of the computer. To stabilize computer operation, restart Windows regularly (about once a week) without using sleep or hibernation.
- Save the necessary data.
- . Close files you have opened from removable disks and network drives.
- Do not enter sleep or hibernation in the conditions below, otherwise the data or file may be corrupted, sleep or hibernation
 may not work, or malfunction may occur in the computer or the peripheral devices.
 - When the extended desktop function is activated.
 - When the drive indicator is on.
 - When playing/recording audio files or displaying motion video such as MPEG files.
 - When using communication software or network functions.
 - · When using peripheral devices.

If the computer fails to work normally, restart the computer.

The password you set in the Setup Utility will be requested upon resuming from hibernation (but not from sleep) or fast startup, if [Password On Resume] is set to [Enabled] in the [Security] menu of the Setup Utility. To disable it, set [Password On Resume] to [Disabled].

The [Password On Resume] setting is valid when you shut down the computer by clicking down].

(Start) - [Power] - [Shu

. It may take 1 or 2 minutes to enter hibernation. Do not touch any key though the screen becomes dark.

IMPORTANT

The following problem will occur if you fail the password input (failing three times or leaving the computer unattended for one minute or more) while resuming from sleep or hibernation.

- . If you fail the password input while resuming from hibernation:
 - . Cannot resume from hibernation by the Task Scheduler or the operation to open the display.

Entering/Resuming from Sleep or Hibernation

The computer automatically enters sleep after:

- 10 minutes (when AC adaptor is connected) of inactivity
- 4 minutes (when operating by battery power) of inactivity

Entering sleep or hibernation

Using hardware functions

In order to enter sleep or hibernation by following procedure, change the power option settings first so that the "Power and sleep buttons and lid settings" operation is set to sleep or hibernation.

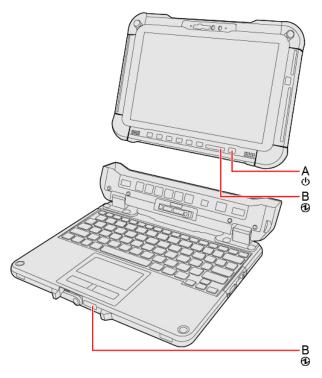
1. Close the display, or press the power switch (A).

Sleep: The power indicator (B) blinks green.

Hibernation: The power indicator (B) goes off.

NOTE

- Hibernation from the Windows system menu is not available as the factory default. To enter hibernation from the Windows system menu, the following setting is necessary.
 - 1. Click (Start) (Settings) [System] [Power & sleep].
 - 2. Click [Additional power settings] under "Related settings".
 - 3. Click [Choose what the power buttons do].
 - 4. Select [Hibernate] under "Power and sleep buttons and lid settings" and click [Save changes].



Using $\ll Fn \gg + \ll F7 \gg$

If you press $\langle Fn \rangle + \langle F7 \rangle$, the computer enters sleep.



Using Windows functions

You can enter sleep or hibernation using Windows functions.

- 1. Click (Start) (Power).
- 2. Click [Sleep] or [Hibernate].

NOTE

- Hibernation from the Windows system menu is not available as the factory default. To enter hibernation from the Windows system menu, the following setting is necessary.
 - 1. Click (Start) (Settings) [System] [Power & sleep].
 - 2. Click [Additional power settings] under "Related settings".
 - 3. Click [Choose what the power buttons do] [Change settings that are currently unavailable].
 - 4. Add check mark for [Hibernate] and click [Save changes].

IMPORTANT

While the computer is entering hibernation

- Do not:
 - Touch the keyboard, touchpad, touchscreen, tablet buttons, or power switch.
 - Use an external mouse or other peripheral devices.
 - Connect or disconnect the AC adaptor.
 - Close or open the display.

Wait until the power indicator blinks green (sleep) or goes off (hibernation).

- It may take 1 or 2 minutes to enter sleep or hibernation. Do not touch any key though the screen becomes dark.
- After releasing the power switch, do not operate it until the power indicator blinks or goes off.

If you press and hold the power switch for 4 seconds or longer, the "Slide to shut down your PC" screen will appear without the computer entering sleep or hibernation.

If you press and hold it for 10 seconds or longer, the computer will turn the power off (forcibly shut down). In this case, any unsaved data will be lost.

In sleep or hibernation

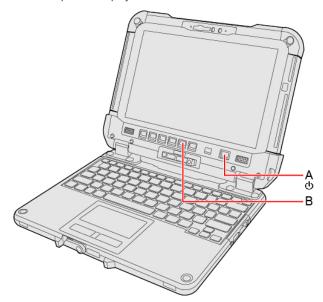
- . Do not attach or remove peripheral devices. Doing so may cause malfunction.
- · Power is consumed in sleep.

When power is exhausted, the data retained in memory will be lost. Connect the AC adaptor when the computer is in the sleep function for a prolonged time.

Resuming from sleep or hibernation

Perform one of the following operation.

- Sleep
 - Press the power switch (A) or button (B).
 - · Open the display.
 - · Touch the keyboard or touchpad.
- Hibernation
 - Press the power switch (A).
 - · Open the display.



IMPORTANT

- Do not perform the following operations until resuming is complete. After the display is resumed, wait approximately 15 seconds (normally) or 60 seconds (when the computer is on a network).
 - Touch the keyboard, touchpad, touchscreen, tablet buttons, or power switch.
 - Use an external mouse or other peripheral devices.
 - Connect or disconnect the AC adaptor or USB Power Delivery.
 - · Close or open the display.
 - Shut down or restart Windows.
 - Enter sleep or hibernation.
- If the computer enters sleep while an external keyboard or external mouse is connected, touching the external keyboard keys or external mouse will resume the computer.

Setting the password input to resume from sleep or hibernation

- Set the password beforehand. (Setting the Windows Password)

 Sign in to Windows as an administrator.

 Click (Start) (Settings).
 - 3. Click [Accounts] [Sign-in options].
 - 4. Select the item under "Require sign-in".
 - When [Windows Hello Face] is set, this is fixed to [Every Time].

Ignition Mode (Power On AC)

You can turn on the computer by connecting the AC adaptor.

- 1. Click (Start) (Settings) [Update & Security] [Recovery].
- 2. Click [Restart now] under "Advanced startup".
- Click [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
 The computer restarts, and the Setup Utility screen appears.
- 4. Set [Power On AC] to [Enabled] in the [Main] menu.
- 5. Press ≪F10≫, select [Yes], and press ≪Enter≫.

Modern Standby

The sleep mode of this computer supports the modern standby mode. The modern standby mode enables applications to receive communication packets periodically even in the sleep state and also enable to resume from the low power state. Also, resume performance in modern standby mode is faster. Accordingly, more power is consumed in modern standby mode than in the conventional sleep function. When the computer is driven by the battery, it is recommended to switch the network connection as necessary.

Setting the modern standby mode in battery-driven state

- 1. Click (Start) (Settings) [System] [Battery].
- 2. Click app that you want to change the setting, under "Battery usage per app".
- 3. Select setting under "Choose when this app can run in the background:".

[Always]: Always enabled in the background.

[Let Windows decide]: Disabled when the computer is driven by the battery.

[Never]: Disabled in the background.

NOTE

- To connect to the network in the sleep state, the application you are using needs to support the modern standby mode.

 Check with the application provider whether or not the application supports the modern standby mode.
- When resuming from modern standby (sleep), press the power switch.
- Even if the computer moves to the modern standby (sleep) state automatically or manually, depending on the OS state or application specifications, the application operation may continue with the display turned off.
- Unsaved data will be lost if the power supply is cut by removing both the battery pack and AC adaptor in the modern standby (sleep) state.

Panasonic PC Settings Utility

You can perform the following operations easily by using the Panasonic PC Settings Utility.

When starting up this application for the first time, connect to the Internet for initial setup. If it is first started up without Internet connection, the initial setup may take time, and several minutes may be required for startup.

Starting Panasonic PC Settings Utility

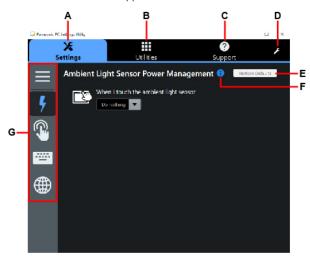
1. Click (Start) - (Panasonic PC Settings Utility).

Alternatively, press $\ll Fn \gg + \ll 1 \gg$.

<Only when [Concealed Mode] is set to [Disabled]>

Alternatively, press A1 button.

The screen to the below appears.



- A. Settings
- B. Utilities
- C. Support
- D. This Application Settings
- E. Restore Defaults

Restore the settings to the default values.

- F. Information
 - Display help.
- G. Menu

Select the items.

When clicking , name of the items appears.

2. Make the operation.



Power Management

Ambient Light Sensor Power Management:



Touch Screen

Touch Screen:

· Touch Input:

You can select the screen input mode.



· Touch Screen Mode:

You can select the suitable operation mode in "Touch Screen Mode".



Touch Operation Support:

When you use a two-finger tap gesture to specify the area in which you want to perform touch operations, the area is displayed in a zoom window. To use this function, add a checkmark to [Support touch operation].



Buttons / Keys

A1/A2/A3 Key:



Fn Key:





Wireless LAN:



eSIM Settings: <Only for the wireless WAN module EM7455/EM7430 that supports eSIM>

You can select whether to use [eSIM] or [nanoSIM card].





You can use Panasonic applications that display icons. To use these applications, click an icon.



• Manua

Manual⁻

[Launch Manual Selector]

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

• Operating Instructions - Reference Manual (This manual)

This manual contains the practical information to help you fully enjoy the computer's performance. Update it to the latest version using network connection.

• Important Battery Tips

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

• Update the on-screen manuals

This describes the procedures to update the on-screen manual.

· Connect to a network

This describes the connection procedures using the network devices mounted on this unit.

• LIMITED USE LICENSE AGREEMENT



PC Information:

[Launch PC Information Viewer]



Battery

Battery Recalibration:

[Perform battery recalibration]



Notification Settings

Urgent Notice:

[Settings]

Display the "Emergency notification setting" installation screen.



Fan Control Mode:

Set the fan control mode.



Recovery Disc Creation:

[Launch Recovery Disc Creation Utility]

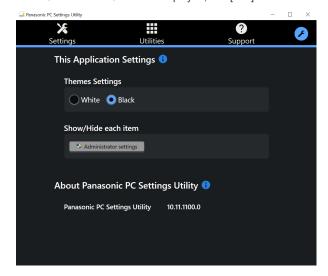




This Application Settings:

- Themes Settings:
 Change the skin of this utility.
- Show/Hide each item:

Click [Administrator settings] to allow you to export or import the show/hide settings. If the "User Account Control" is displayed, click [Yes].



The new settings will be activated after restarting this application.

You can export or import the display items that can be used by XML files on this utility.

About Panasonic PC Settings Utility:

Display the version information.

Attaching/Detaching the Tablet from the Keyboard Base

<Only for model with Keyboard Base>

Detaching the tablet from the keyboard base

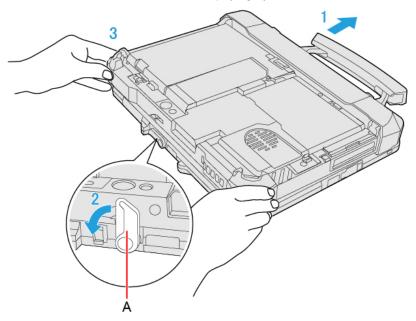
When detaching the tablet from the keyboard base while it is turned on, note the following points.

IMPORTANT

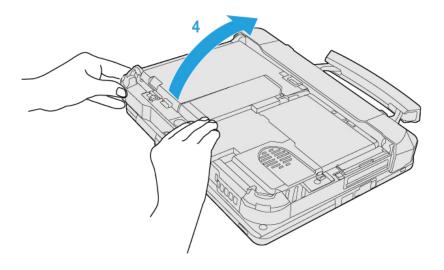
- . Before detaching the tablet, confirm the following things.
 - . Save the necessary data.
 - Close files you have opened from removable disks and network drives.
 - Remove peripheral devices connecting to the tablet and the keyboard base.
- . Do not detach the tablet in the conditions below.
 - When playing/recording audio files or displaying motion video such as MPEG files.
 - When using communication software or network functions.

NOTE

- . Do not detach the tablet in the rain.
- 1. Open the display.
 - 1. Pull out the carrying handle.
 - If you do not pull out the carrying handle before opening the display, the computer may fall over due to the weight of the display.
 - 2. Rotate the display latch (A) to the arrow direction.
 - 3. Hold the dents with both hands, and lift the display slightly.

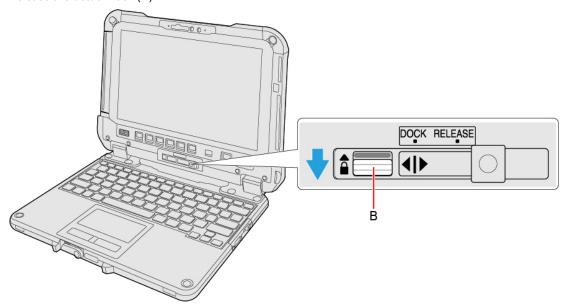


4. Hold the side of the computer with either of your hands and then lift up the display to open.

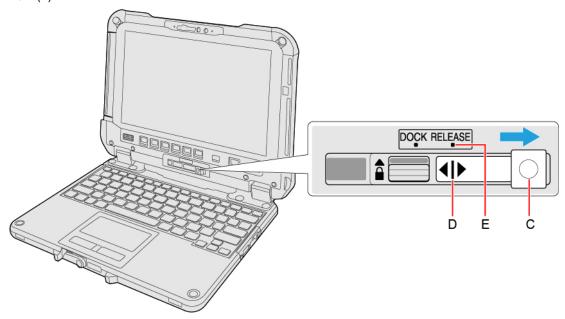


IMPORTANT

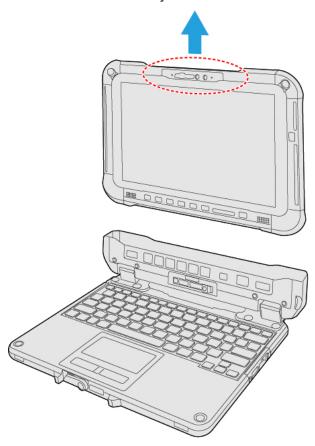
- Do not open the display wider than necessary (150° or more), and do not apply excessive pressure to the LCD. Do not open or close the computer holding the edge of the LCD segment.
- 2. Release the detach lock (B).



3. Slide the release lever (C) to the right so that the vertical line in the center of mark (D) is aligned with the position of RELEASE mark (E).



4. Detach the tablet from the keyboard base.



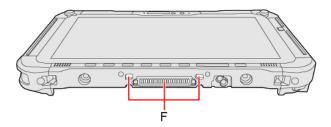
IMPORTANT

- When detaching the tablet from the keyboard base, hold the position at the locations dashed line circled in the illustration.
- Attach/detach the tablet on a flat location.
- While holding the keyboard base with hand, attach/detach the tablet.

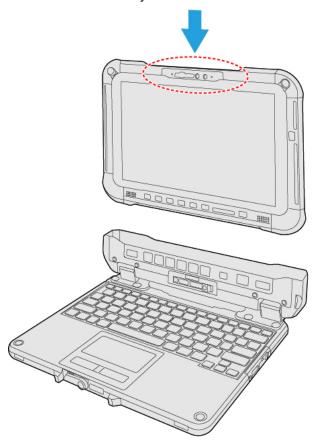
Attaching the tablet to the keyboard base

NOTE

- . Do not attach the tablet in the rain.
- Clean the tablet terminals (F) with a dry cloth. (Attached dust may cause a contact failure.)

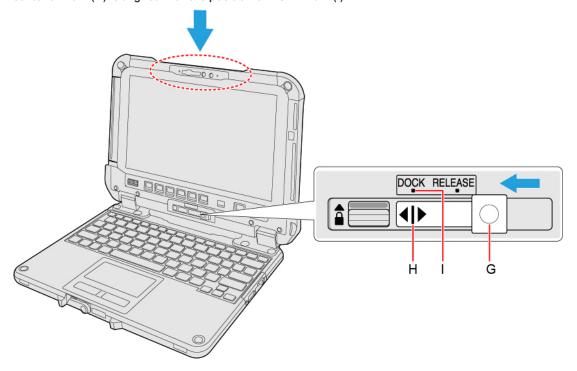


1. Insert the tablet to the keyboard base.

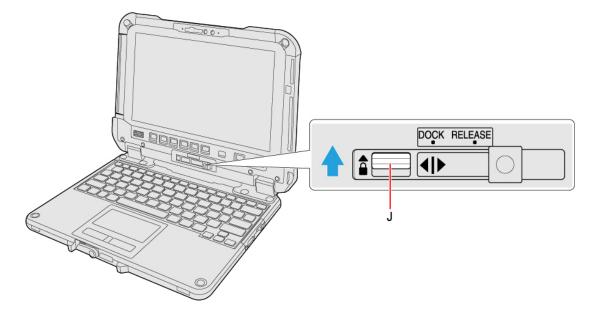


IMPORTANT

- When inserting the tablet, place the keyboard base on a hard stable surface.
- If the hand strap is attached, attach it so that the hand strap does not get caught in the keyboard base.
- 2. While pushing down the location circled with dashed lines, slide the release lever (G) to the left so that the vertical line in the center of mark (H) is aligned with the position of DOCK mark (I).

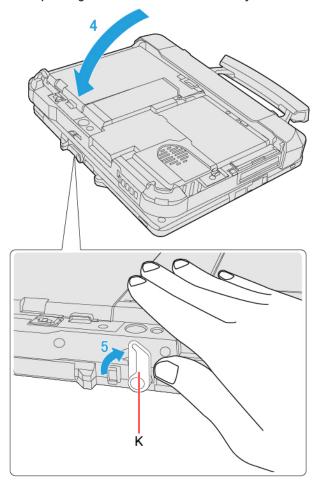


3. Raise the detach lock (J) above to the locked position.



IMPORTANT

- Confirm that the orange-colored signs near the detach lock and the release lever can not be seen.
- 4. Close the tablet.
- 5. While pushing down the tablet with either of your hands and then rotate the display latch (K) in the arrow direction to close.



LAN

<Only for model with LAN>

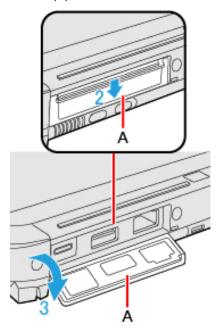
Connecting LAN

IMPORTANT

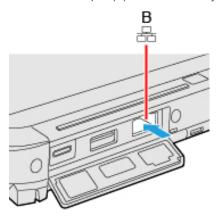
- Do not connect the telephone cable to the LAN port.
- 1. Turn off the computer.
 - Do not use sleep or hibernation.
- 2. Slide the cover (A) to the arrow direction.

The cover is unlocked.

3. Open the cover (A).



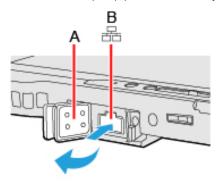
- 4. Connect the LAN cable.
 - Connect the LAN port (B) and the network system (server, HUB, etc.) using a LAN cable.



5. Turn on the computer.

<Only for model with 2nd LAN>

- 1. Turn off the computer.
 - Do not use sleep or hibernation.
- 2. Open the cover (A) and connect the LAN cable.
 - $\bullet \quad \text{Connect the LAN port (B) and the network system (server, HUB, etc.) using a LAN cable.}\\$



3. Turn on the computer.

Disabling/Enabling Wireless Communication

<Only for model with wireless LAN/Bluetooth/wireless WAN/GPS on wireless WAN/dedicated GPS>

There are several ways of disabling and enabling wireless communication.

- Switching the airplane mode using ≪ Fn≫
- · Using airplane mode
- · Turning wireless communication on/off quickly
- Using Network & Internet settings
- . Setting [Wireless Configuration] in the [Advanced] menu of the Setup Utility

NOTE

- For further information about Wireless LAN.
- · For further information about Bluetooth.
- · For further information about Wireless WAN.
- · For further information about GPS.

Switching the airplane mode using ≪ Fn≫

<Only for model with Keyboard Base>

Press ≪Fn≫ + ≪F10≫. (→ Key Combinations)

Using airplane mode*1

- 1. Click (Start) (Settings) [Network & Internet] [Airplane mode]*1.
- 2. To disable wireless communications, set "Airplane mode"*1 to [On].

To enable wireless communications, set "Airplane mode" to [Off], and then;

- set "Cellular" to [On] (for wireless WAN).
- set "Wi-Fi" to [On] (for wireless LAN).
- set "Bluetooth" to [On] (for Bluetooth).
- *1: Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference.)

Turning wireless communication on/off quickly

Turning on/off the Wi-Fi



2. To turn off the Wi-Fi, click (Wi-Fi*2).



To turn on the Wi-Fi, click . Then the icon changes to

Turning on/off the airplane mode*2

1. Click or on the task tray.

2. To turn on the airplane mode, click

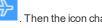








To turn off the airplane mode, click



*2: Screen messages are explained in [English (United States)]. (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference.)

Using Network & Internet settings

- 2. Click [Network & Internet settings].

"Network & Internet" screen appears.

- 3. Click the menu "Wi-Fi"*3, "Cellular" or "Airplane mode"*3, and turn on/off each wireless function.
 - *3: Screen messages are explained in [English (United States)]. (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference.)

Wireless LAN

<Only for model with wireless LAN>

Using the wireless LAN allows for the use of network without cable connection.

IMPORTANT

- Do not use wireless LAN on airplanes, in hospitals, or in other locations where wireless LAN signals may affect devices.

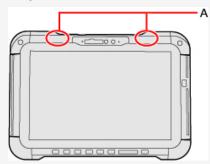
 Follow the instructions of airline companies and hospitals. If you use the computer in these locations, turn off the wireless LAN.
- . To avoid unauthorized access to the computer through wireless LAN.

We recommend you to make security settings such as encryption before using wireless LAN.

Otherwise the disk data such as the shared files can be exposed to the risk of unauthorized access.

NOTE

 Communication is established through the wireless LAN antenna (A). Do not block the antenna area with your hand or body.



- . The transmission rate will be lower when a microwave oven is used near by.
- To use wireless LAN, set [Wireless LAN] to [Enabled] (default) in the sub-menu of [Wireless Configuration] in the [Advanced] menu of the Setup Utility.

Using the Wireless LAN Function

Before using a wireless LAN, turn the wireless LAN communication on.

Turning on/off the wireless LAN communication

1. To enable the wireless communication (Disabling/Enabling Wireless Communication).

Setting the wireless LAN access point

Preparation

Follow the instruction manual of the wireless LAN access point to make settings for the access point to recognize the computer.

- 1. Click on the task tray.
- 2. Turn the wireless LAN on.
- 3. Select an access point, and click [Connect].
- 4. Input the key you set for the access point to recognize the computer, and click [Next].

Wait for the computer to connect to the wireless LAN access point.

When the icon on the task tray is changed to , the wireless LAN setting is complete.

- The settings depend on the network environment. For further information, ask the system administrator or the person in charge of the network.
- If you use the stealth type wireless LAN access point which restricts automatic detection of the wireless LAN access point, take the following procedure.

If you do not perform the procedure below, you may not be able to access the wireless LAN access point automatically or the wireless LAN access point may not be displayed.

- 1. Click on the task tray.
- 2. Turn the wireless LAN on.
- 3. Click [Hidden Network].
- 4. Click [Connect], enter the necessary information such as the network name (SSID), and click [Next].

For further information, ask the system administrator or the person in charge of the network.

Enabling/Disabling the Wireless LAN Standard IEEE802.11a (802.11a)



2. Click [Enabled] or [Disabled] for the wireless LAN IEEE802.11a.

NOTE

- In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law.
- . This computer is set to enable IEEE802.11a (5 GHz wireless LAN) as the factory default.
- If IEEE802.11a is enabled or disabled while the computer is connected to an IEEE802.11b/g access point, the connection will be temporarily interrupted.
- If IEEE802.11a is disabled, the 5 GHz band of IEEE802.11n/ac/ax will also be disabled.

Bluetooth

<Only for model with Bluetooth>

You can access internet and other Bluetooth devices without connecting cables.

NOTE

. Communication is established through the Bluetooth antenna (A). Do not block the antenna area with your hand or body.



- To use Bluetooth, set [Bluetooth] to [Enabled] (default) in the sub-menu of [Wireless Configuration] in the [Advanced] menu of the Setup Utility.
- The transmission rate will be lower when a microwave oven is used near by.
- . When you uninstall the Bluetooth Driver, turn Bluetooth off.

Using the Bluetooth Function

Before using a Bluetooth, turn the Bluetooth communication on.

Turning on/off the Bluetooth communication

- 1. To enable the wireless communication (Disabling/Enabling Wireless Communication).
- 2. Click (Start) (Settings) [Network & Internet] [Airplane mode]*1, and set "Airplane mode" to [Off].
- 3. To turn off the Bluetooth communication, set "Bluetooth" to [Off].

To turn on the Bluetooth communication, set "Bluetooth" to [On].

*1: Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference.)

Checking the Bluetooth communication status

1. Click (Start) - (Settings) - [Devices] - [Bluetooth & other devices].

NOTE

• You can also clicking on the task tray, and then click (Bluetooth Devices) - [Show Bluetooth Devices] to check the communication status.

Wireless WAN

<Only for model with wireless WAN>

The model with wireless WAN allows for data communication using the incorporated communication module.

The computer is equipped with a nanoSIM card slot and an eSIM.

eSIM allows wireless communication without a nanoSIM card.

• This model is DSSS (Dual SIM Single Standby) and you can only make either nanoSIM Card or eSIM Active.

IMPORTANT

- · After performing recovery, reselect eSIM or nanoSIM card before using a wireless WAN.
- When the eSIM is replaced due to repair, the computer is returned with an eSIM in default state. In this case, the customer needs to download the profile again.

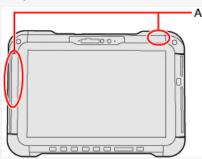
Some telecommunications carriers may allow you to continue the contract with no additional cost to use the remaining capacity. For details, contact your telecommunications carrier. In doing so, it is recommended to put down the ICCID of the profile beforehand.

- When the wireless WAN module is replaced due to repair, it is necessary to configure the eSIM setting again.
- <Only for model with wireless WAN (5G)>

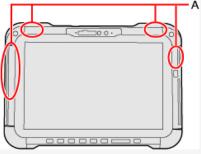
Use a nanoSIM card or eSIM that supports 5G.

NOTE

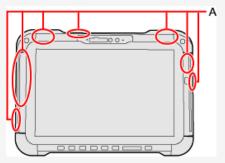
 Communication is established through the Wireless WAN antenna (A). Do not block the antenna area with your hand or body.



<Only for model with wireless WAN (5G)>



<Only for model with wireless WAN (5G) / Only for mmWave service>



• To use wireless WAN, set [Wireless WAN] to [Enabled] (default) in the sub-menu of [Wireless Configuration] in the

[Advanced] menu of the Setup Utility.

- If "Device driver software was not installed correctly." (or a similar message) appears when starting the computer or resuming from sleep or hibernation.
 - . When communication works normally, Wireless WAN is operating correctly.
 - If communication fails, the device may not be recognized correctly. In this case, restart the computer.
- . Do not use the nanoSIM card adapter.
- . Do not insert nanoSIM cards on which labels or stickers are affixed. Failure to obey may result in malfunction.

Inserting/Removing a nanoSIM Card

<Only when using a nanoSIM card>

Before using the Wireless WAN, set a nanoSIM card to the nanoSIM card slot.

IMPORTANT

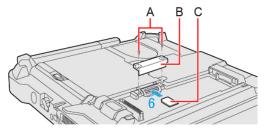
. Be sure to turn off the computer before inserting or removing the nanoSIM card.

Inserting a nanoSIM card

- 1. Turn off the computer and disconnect the AC adaptor.
- 2. <For tablet> Turn your computer over.

Make sure no foreign objects are under the computer.

- 3. Remove the battery pack. (Replacing the Battery Pack)
 - <Only for model with Built-in Bridge Battery>
 - Wait for about 3 minutes.
- 4. Remove the SSD pack. (Attaching/Detaching the SSD Pack)
- 5. Remove the screws (A) and the nanoSIM card slot cover (B). Use the PH 0 (PH #0) screwdriver.
- 6. Insert the nanoSIM card (C) into the nanoSIM card slot.



IMPORTANT

- . Do not insert the nanoSIM card upside down.
- 7. Close the nanoSIM card slot cover (B), attach it and tighten the screws (A) firmly.
 - If the cover is not closed, the nanoSIM card may jump out when the computer falls.

Use the PH 0 (PH #0) screwdriver.

Use 2 screws.

Recommended tightening torque

 $0.2 \text{ N} \cdot \text{m} \pm 0.02 \text{ N} \cdot \text{m} (2.0 \text{ kgf} \cdot \text{cm} \pm 0.2 \text{ kgf} \cdot \text{cm})$

- 8. Insert the SSD pack and battery pack.
- 9. Connect the AC adaptor.

Removing a nanoSIM card

- 1. Turn off the computer and disconnect the AC adaptor.
- 2. <For tablet> Turn your computer over.

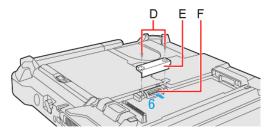
Make sure no foreign objects are under the computer.

3. Remove the battery pack. (Replacing the Battery Pack)

<Only for model with Built-in Bridge Battery>

- Wait for about 3 minutes.
- 4. Remove the SSD pack. (Attaching/Detaching the SSD Pack)
- 5. Remove the screws (D) and the nanoSIM card slot cover (E). Use the PH 0 (PH #0) screwdriver.
- 6. Push the nanoSIM card (F).

It will come out of the slot a little bit.



7. Pull the card all the way out.



8. Close the nanoSIM card slot cover (E), attach it and tighten the screws (D) firmly.

Use the PH 0 (PH #0) screwdriver.

Use 2 screws.

Recommended tightening torque

 $0.2 \, \text{N} \cdot \text{m} \pm 0.02 \, \text{N} \cdot \text{m} \, (2.0 \, \text{kgf} \cdot \text{cm} \pm 0.2 \, \text{kgf} \cdot \text{cm})$

- 9. Insert the SSD pack and battery pack.
- 10. Connect the AC adaptor.

eSIM/nanoSIM Switching

<Only for the wireless WAN module EM7511/EM9190 that supports eSIM>



- 2. Click [Cellular].
- 3. Click [SIM 1] or [SIM 2] under "Use this SIM for cellular data".

[SIM 1]: nanoSIM

[SIM 2]: eSIM

<Only for the wireless WAN module EM7455/EM7430 that supports eSIM>



Click [eSIM] or [nanoSIM card] in "SIM" under "eSIM Settings".
 Wait a moment for the settings to switch.

Connect/Disconnect to a network

Connecting to a network

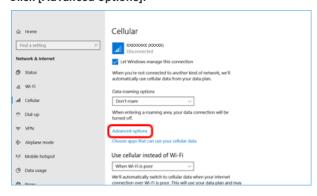
If the APN setting is completed automatically after inserting the nanoSIM card, Internet connection will be possible.

In such cases, the following settings are not necessary.

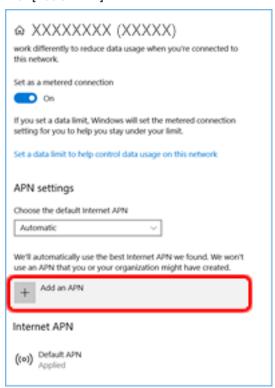
Adding an APN

If Internet connection via wireless WAN is not possible, perform the following to add an APN.

- 1. Click (Start) (Settings) [Network & Internet].
- 2. Click [Cellular].
- 3. Click [Advanced options].



4. Click [Add an APN].



5. Input detailed information such as APN, and then click [Save].



6. Click [OK].

Internet connection will be possible.

7. If you are not connected to the Internet, select created APN profile, and then click [Apply].

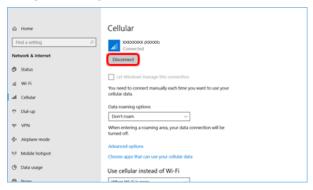
NOTE

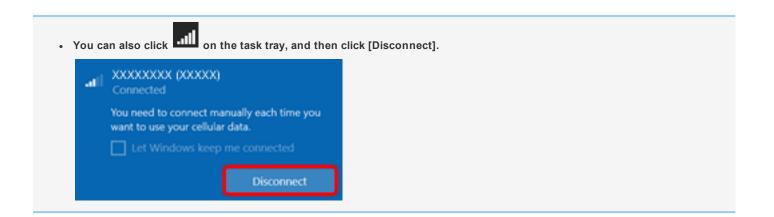
- When "Use cellular instead of Wi-Fi" is set to [When Wi-Fi is poor] (default), wireless WAN connections will be established only when there is no Internet connection via Wi-Fi.
- When using wireless WAN, perform the following to disable Airplane mode*1.
 - 1. Click (Start) (Settings) [Network & Internet] [Airplane mode]*1.
 - 2. Set "Airplane mode" *1 to [Off].
 - 3. Set "Cellular" to [On].
 - *1: Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference.)

Disconnecting to a network

- 1. Click (Start) (Settings) [Network & Internet] [Cellular].
- 2. Click [Disconnect].





GPS

<Only for model with dedicated GPS / GPS on wireless WAN>

This computer has the GPS function with the wireless WAN module, and the dedicated GPS function.

For the differences, refer to the table below.

Devices	Device name	Support system
GPS on wireless WAN	EM7511/EM7455/EM7430	GPS (L1) / GLONASS / BeiDou
	EM9190	GPS (L1/L5)/GLONASS/BeiDou/Galileo/QZSS
Dedicated GPS	U-blox NEO-M8 Series	GPS (L1) / GLONASS / SBAS

<Only for model with dedicated GPS>

GPS information can be checked using the "Panasonic PC GPS Viewer".

To use the "Panasonic PC GPS Viewer", proceed the following operation.



You can start up "Panasonic PC GPS Viewer" from Panasonic PC Settings Utility. Launch Panasonic PC Settings Utility, and then click





NOTE

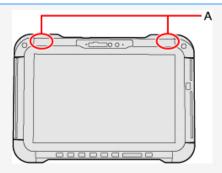
• Communication is established through the GPS antenna (A). Do not block the antenna area with your hand or body. <Only for model with dedicated GPS>



<Only for model with GPS on wireless WAN>



<Only for model with GPS on wireless WAN (5G)>



• Due to the effect of a phenomenon that weekly information transmitted by GPS is reset (GPS Week Number Rollover), wrong date values are output from the GPS module on and after the date shown on the table below. Because of this, apps, etc. that use date information from GPS will be affected by GPS Week Number Rollover.

Module	GPS Week Number Rollover transmission date
Wireless WAN (Sierra EM7430, EM7455, EM7511)	2032/12/12
Wireless WAN (Sierra EM9190)	2039/10/23
Dedicated GPS (U-blox NEO-M8 Series)	2033/4/17

Saving Power

You can extend battery life and save power also during AC adaptor usage.

Reducing Power Consumption

Use the methods below to reduce power consumption.

. Change the Power mode to "Best battery life".



- 2. Move the "Power mode" slider (1) to the left to set the "Power mode" to "Best battery life".
- · Decrease the LCD brightness.

 $\label{lem:constraint} \mbox{Decrease the internal LCD brightness to reduce power consumption}.$





<Only for model with keyboard base>

1. Press $\ll Fn \gg + \ll F1 \gg$.

Furthermore power saving options:

. Turn off the computer when it is not in use.

You can also turn off only the wireless LAN or wireless WAN power.

- Disconnect external devices (USB devices, external mouse, etc.) that are not being used.
- Use Sleep.

When you have to leave the computer, set the computer to sleep.

This shuts down computer operation to reduce power consumption.



<Only for model with keyboard base>

- Press ≪ Fn≫ + ≪ F7≫.
- . When using the battery, do not use applications that place a significant load on the CPU.

Some application software may place a large burden on the CPU only with start-up and may consume power.

• When you are using the screen saver with 3D graphics, change to another screen saver.

To change the screen saver, right-click the desktop, click [Personalize] - [Lock screen] - [Screen saver settings] and click the title of the screen saver

· Power management using the ambient light sensor.

You can set the operation, such as turning off the display when you click the ambient light sensor.



2. Select an item under "Ambient Light Sensor Power Management".

[Do nothing]

[Turn off the display]

• To resume, press the power switch.

[Turn off the display and lock the computer]

• To resume, press the power switch, and release the lock screen.

[Launch screen saver]

• To resume, touch the screen.

- . This function works when the tablet has been detached from the keyboard base.
- This function does not work when you touch the ambient light sensor too short, or too long (approximately 2 seconds or more).
- · This function works in a lighted environment.
- This function may malfunction under the environment subject to sudden changes of brightness. If a malfunction occurs, set the option to [Do nothing] (default).

Configuring Power Saving Settings



2. Use the slider under "Power mode", and select the setting.

Customizing the Power Setting

You can choose the optimum power setting for your operating condition by selecting a power plan. You can also create your own power plan.

Changing the Power Plan Setting

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Click [Additional power settings] under "Related settings".
- 3. Click [Change plan settings] of the power plan you want to change.
- 4. Change the settings.
 - [Change advanced power settings]: You can make more detailed settings.
- 5. Click [Save changes].

Creating Your Own Power Setting

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Click [Additional power settings] under "Related settings".
- Click [Create a power plan], input the name of power plan.
 The power plan is fixed to "Balanced".
- 4. Click [Next].
- 5. Change the settings and click [Create].
 - To change the settings or to make more detailed settings. (Changing the Power Plan Setting)

Deleting the Power Plan

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Click [Additional power settings] under "Related settings".
- 3. Click [Change plan settings] of the power plan you wish to delete.

 If the power plan you wish to delete is already selected, select another plan first.
- 4. Click [Delete this plan], and then click [OK] on the confirmation screen.

Security Measures

Use these features to protect your data.

Setting the Supervisor Password/User Password

Set the Supervisor Password before setting the User Password.

- 1. Start up the Setup Utility. (Starting the Setup Utility)
- 2. Select [Security].
- 3. Select [Set Supervisor Password] or [Set User Password], and press ≪ Enter≫.
- 4. Enter your password in [Create New Password] and press ≪ Enter ≫.
 - When the password has been set, you need to enter your password in [Enter Current Password] and press ≪ Enter ≫ .
 - To disable the password, leave the input field empty and press ≪ Enter≫.
- 5. Enter your password again in [Confirm New Password] and press ≪ Enter≫.
- 6. Press ≪F10≫, select [Yes], and press ≪Enter≫.
 - If you use on-screen keyboard, touch [SYM] [F10] instead of pressing \ll F10 \gg .

IMPORTANT

- Do not forget your password. If you forget your Supervisor Password, you will not be able to use your computer. Contact Panasonic Technical Support.
- When running the Setup Utility, do not leave and go away from your computer even for a short time, since other people
 may set or change the password.
- When running the Setup Utility, inputting from the keyboard and on-screen keyboard is based on the English keyboard layout. Pay attention of inputting if you use other keyboard layouts than English.

NOTE

- The password will not be displayed on the screen.
- . If the [Caution] screen appears when entering the password, check the status of Num Lock and Caps Lock.
- You can use up to 32 alphanumeric characters (including spaces).
 - The case (upper/lower) is distinguished.
 - Use only the upper horizontal row of numeric keys to input your password.
 - You cannot use ≪ Ctrl≫ to input a password.
- . Disabling the Supervisor Password also disables the User Password.

Setting the Windows Password

To set the password, proceed as follows.

The Windows password will be applied when you sign in to Windows, or resume the computer from the Lock screen.

- 1. Click (Start) (Settings) [Accounts] [Sign-in options].
- 2. Click [Password] [Add].

IMPORTANT

. Check the status of Num Lock and Caps Lock.

NOTE

• Set the key entry mode to English ("ENG") and enter characters.

The keyboard layout can be added or changed in the following steps.

- 1. Click (Start) (Settings) [Time & Language] [Language].
- 2. Click a language and click [Options].
- 3. Click [Add a keyboard] and choose a keyboard from the list.
- Remember your password. If you forget the password, you cannot use Windows. Creating a password reset disk beforehand is recommended.

Preventing Your Computer from Unauthorized Use

You can set a start-up password to protect your computer from unauthorized use.

1. Set the password (Setting the Supervisor Password/User Password), and select [Enabled] in [Password On Boot] and/or [Password On Resume] in the [Security] menu of the Setup Utility.

NOTE

- The [Password On Resume] of Setup Utility is effective when the computer was once shut down, and not effective when the computer resume from sleep.
- If the Supervisor Password or User Password has been set, the password input screen will be displayed on starting-up of the Setup Utility even though [Password On Boot] and/or [Password On Resume] is set to [Disabled]. If you set [Password On Boot] to [Enabled] and set [Password on Reboot] to [Same as Boot], password input will also be required at Windows restart. ([Same as Boot] is the default setting.)

Preventing Your Flash Memory Drive from Being Read or Written

The flash memory lock function protects the flash memory data from being read or written when the flash memory is attached to another computer. The data can be read/written when the flash memory is returned to the original computer. (Note that the flash memory lock does not guarantee complete protection of the data.)

- 1. Select [Set Storage Password] in the sub-menu of [Storage Security Configuration (TCG)] in the [Security] menu of the Setup Utility.
- Enter your password in [Create New Password] and press ≪ Enter≫.
 - When the password has been set, you need to enter your password in [Enter Current Password] and press ≪ Enter ≫.
 - To disable the password, leave the input field empty and press ≪ Enter≫.
- 3. Enter your password again in [Confirm New Password] and press ≪ Enter≫.

IMPORTANT

- You cannot use the flash memory lock function without setting the Supervisor Password. Set the Supervisor Password beforehand (Setting the Supervisor Password/User Password).
- · When you have your flash memory drive repaired.
 - · Contact Panasonic Technical Support.
 - Before sending back the flash memory drive, be sure to disable the Storage Password and Supervisor Password.

NOTE

- · The password will not be displayed on the screen.
- If the [Caution] screen appears when entering the password, check the status of Num Lock and Caps Lock.
- You can use up to 32 alphanumeric characters (including spaces).

- The case (upper/lower) is distinguished.
- . Use only the upper horizontal row of numeric keys to input your password.
- You cannot use ≪ Ctrl≫ to input a password.
- . The flash memory lock function works with the built-in flash memory. It does not work with the external hard disk.
- We recommend you to set [Password On Boot] to [Enabled] to ensure security though it is not required to enable the flash memory lock.
- . Note that the flash memory lock does not guarantee complete protection of the data.

Disabling USB Devices

Disable USB flash Memory operation to prevent the drive from being read/written and from being used to start the computer.

You can protect your data from unauthorized access or accidental overwriting.

1. Select [Disabled] in [Tablet USB Port]/[Keyboard Base and Cradle USB Port] in the [Advanced] menu of the Setup Utility.

<Only for model that supports TPM>

Device encryption

Using device encryption can protect folders or files from illegal accesses in the case the computer is lost or stolen. This computer supports the "Device encryption" function. This function is set to on as factory default, however, the encryption is not completed yet. To complete the encryption, you need to sign in with your "Microsoft account". Follow the instruction of the system administrator to complete the setting.

NOTE

• When you execute [Create a system image] while signed into your Microsoft account with "Device encryption" enabled, the "You have chosen to back up drive c: which is encrypted. The backup location will not be encrypted. Make sure the backup is kept in a physically secure location." warning message may appear.

When attempting to recover a backup created under the above conditions, the "System Image Recovery" screen will appear and entry of the recovery key will be required. In such cases, use the recovery key that you previously printed or saved to a file, or perform the following to acquire the recovery key.

- 1. Access the "http://go.microsoft.com/fwlink/p/?LinkId=237614" URL on a device connected to the Internet (e.g., another computer or tablet), and sign into your Microsoft account.
 - If multiple recovery keys are displayed, acquire the recovery key for the key ID that appears on the "System Image Recovery" screen.
- Backups created with [Create a system image] are not encrypted. Physically store the media on which the backup is stored
 in a safe location.
- The backup recovery procedure will complete when you connect to the Internet, and a new recovery key will be created at that point.
- Additionally, entry of the recovery key will be required when restoring restore points or during startup in safe mode, for example. In such cases, perform the above procedure to acquire the recovery key.

Other security measure

About Secure Boot

"Secure Boot" is a function that protects your computer by prohibiting Operating System other than those permitted under factory default conditions from being executed during startup.

When performing [Clear Secure Boot Keys] to use Secure Boot.

<When using the function of Microsoft DeviceGuard/CredencialGuard>*1

• Select [Install default Secure Boot keys (Device Guard Ready)].

<When not using the function of Microsoft DeviceGuard/CredencialGuard>

• Select [Install default Secure Boot keys].

For further information, ask the system administrator.

*1: It is not supported by the factory OS.

About TPM

<Only for model that supports TPM>

TPM (Trusted Platform Module) is a security chip aimed at high level cryptographic processing and secure storage of encryption keys (ex. Bitlocker Drive Encryption).

In the file encryption using the TPM, encryption keys can be stored on a TPM chip separated from the internal disk. This will allow you to increase the security level.

To use the TPM function, perform the following steps.

For more information about the usage, follow the instructions by a system administrator.

- Click (Start) [Windows System] [Control Panel] [System and Security] [BitLocker Drive Encryption].
- 2. Click [TPM Administration].

· Windows Hello

This function is used to sign in to Windows quickly, or perform individual authentication.

<Only for model with front camera>

The face recognition for Windows Hellos is supported. To use Windows Hellos, perform the following steps for setup.

- 1. Click (Start) (Settings).
- 2. Click [Accounts] [Sign-in options].
- 3. Click [Windows Hello Face] [Set up].
- 4. Follow the on-screen instructions.

NOTE

- To use Windows Hellos, you need to set the password and PIN for sign-in options.
- When the camera light turns on, it becomes hot. Do not touch the camera light when the light is on, and shortly after the light turns off.

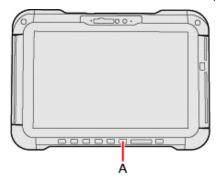
Display Rotation

The screen display rotates automatically when this unit is the tablet.

Rotation Lock

The Rotation Lock button allows you to lock the screen display when this unit is the tablet mode.

1. Press the Rotation Lock button (A).



You can switch automatic rotation ON/OFF by pressing the Rotation Lock button (A).

Alternatively you can switch automatic rotation ON/OFF by the following procedure:

1. Click (Notification) on the task tray, and then click (Rotation lock) or (Rotation lock).

NOTE

 When an external display is connected to the computer and the computer is rotated while in the "Duplicate" mode or "Extend" mode:

The screen display on the external display does not rotate.

The screen display on the internal LCD remains landscape, and does not rotate.

• To change the angle of the screen rotation manually, perform the following steps.

Right-click the desktop screen, and click [Display settings].

- . While the display is rotated:
 - Do not use the Extended Desktop. The touchscreen or pen (included) may not work properly.
 - Do not set the resolution larger than that of the internal LCD.
 - The computer's performance is slightly lowered.

from Sleep/Hibernation and Windows is unlocked.

- When the display is rotated, the motion video may not be displayed correctly or the sound may be distorted. Return the display angle to landscape.
- When you start up Windows and rotate the display right after signing in, the display may return to the previous state.
 Then, the display returns to the rotated state. The similar situation will occur when you switch the user, computer resumes

Concealed Mode

You can make your computer inconspicuously using the concealed mode.

You can select on/off of LCD Backlight, LED, Sound, Wireless Radio, Camera Light (only for model with rear camera), Backlit Keyboard (only for model with backlit keyboard), Fan and Barcode Reader (only for model with Barcode Reader).

IMPORTANT

- . [Concealed Mode] is set to [Disabled] as the factory default.
- · The front camera indicator cannot be turned off.

Switching the concealed mode

<Only when [Concealed Mode] is set to [Enabled]>

1. Press ≪Fn≫ + ≪F8≫. (→ Key Combinations)

Alternatively, press A1 button.

NOTE

If you press keys or A1 button in succession, the concealed mode may not be switched. More than 4 seconds interval is necessary to switch on/off.

Disabling/Enabling the concealed mode

This function is effective when the computer is restarted.

1. Set [Concealed Mode] to [Enabled] or [Disabled] in the sub-menu of [Concealed Mode Configuration] in the [Main] menu of the Setup Utility.

Change the settings

This function is effective when the computer is restarted.

You can change the devices turned on/off in [Concealed Mode Configuration] with Setup Utility. When Concealed Mode is enabled, the higher button will be assigned as the Concealed Mode trigger key.

NOTE

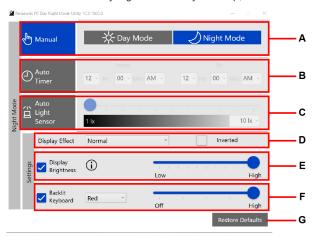
- When [Concealed Mode] is set to [Enabled], «Fn» + «F8» key and A1 button are always enabled.
- When set [LCD Backlight] to [Minimum] and [LED] to [ON], the LED becomes dark.

Panasonic PC Day Night Mode Utility

Starting Panasonic PC Day Night Mode Utility

1. Click (Start) - (Panasonic PC Day Night Mode Utility).

The Panasonic PC Day Night Mode Utility starts up, and the following screen is displayed.



A. Manual

Switch between [Day Mode] and [Night Mode].

B. Auto Timer

Specify the time period to switch to the Night Mode.

C. Auto Light Sensor <Only for model with front camera>

Set the brightness to automatically switch to the Night Mode.

NOTE

• If the computer is not equipped with an ambient light sensor, it cannot be set.

D. Display Effect

Change the color of display.

Color is inverted when you add a check mark to [Inverted].

E. Display Brightness

Change the brightness of the display screen.

If you remove the check mark, the settings will not be reflected.

F. Backlit Keyboard <Only for model with backlit keyboard>

Change the brightness and color of the Backlit Keyboard.

If you remove the check mark, the settings will not be reflected.

NOTE

If the computer is in tablet status or not connected to the backlit keyboard, the settings will not be displayed.

G. Restore Defaults

Return all the settings to the default values.

• When using the "Panasonic PC Day Night Mode Utility", confirm that "Night light" is set to [Off]. You can check with the following procedure.



2. Set "Night light" to [Off], and remove the check mark from [Change brightness automatically when lighting changes] under "Brightness and color".

Setup Utility

You can make the settings of the computer's operating environment (password settings, startup drive selection, etc.)

Starting the Setup Utility



(Settings) - [Update & Security] - [Recovery].

- 2. Click [Restart now] under "Advanced startup"*1.
 - *1: Screen messages are explained in [English (United States)].

 (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)
- 3. Click [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].

The computer restarts, and the Setup Utility screen appears.

When [Enter Password] is displayed, enter your password.

When you start the Setup Utility with Supervisor Password

• You can make the settings of all items of the Setup Utility.

When you start the Setup Utility with User Password

- · Note the following:
 - In the [Advanced] and [Boot] menus, you cannot make the settings of all items.
 - In the [Security] menu, you can change only the User Password when [User Password Protection] is set to [No Protection]. You cannot delete the User Password.
 - In the [Exit] menu, you cannot make the setting of [Load Default Values] and [Boot Override].

To set Setup Utility, alternatively you can use touch input and pen input.

Using touch screen:

Double-touch the setting value to be changed, select the new value, and touch it again.

Using on-screen keyboard:

To input characters and symbols, touch at the upper right corner of the Setup Utility screen to display the on-screen keyboard.



To operate special keys such as a function key, touch [SYM] on the on-screen keyboard so that the key is highlighted as illustrated below.

r												
ı	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
	`	-	=	~	Ţ	@	#	\$	%	^	ENT	ΓER
	&	*	()	_	+	[]	\	{	}	SPC
	I	;		:	"		-	/	<	>	?	SYM

Using tablet buttons:

The tablet buttons operates at follows.

. Move to the item below.

• Hove to the item right.

: Enter (select).
: Move to the [Exit] menu.

NOTE

• Setup Utility screen is displayed on the internal LCD even when an external display is connected to the computer as the factory default. However, if the LID (display) is closed, it will come to be displayed on an external display.

Information Menu

Underlined items are the factory presets.

Language	English French
	Japanese

Product Information

Model No Serial No	Computer information (cannot be changed.)
▶ Docking Device	Enter the sub-menu.

Sub-menu (Docking Device)

Docking Device Information

Docking Device	Computer information (cannot be changed.)
Model No	
Serial No	
Embedded Controller	

Expansion Areas Enter the sub-menu.

Sub-menu (Expansion Areas)

Expansion Areas

Rear Expansion Bay	Computer information (cannot be changed.)
Model No	
Serial No	

Option Configuration ID Computer information (cannot be changed.)

System Information

Processor Type	Computer information (cannot be changed.)
Memory Size	
Hard Disk	

BIOS Information

BIOS	Computer information (cannot be changed.)
BIOS Configuration	
Embedded Controller	
Intel(R) ME Firmware	
LAN Firmware (NVM)	
Accumulative Operating Time	
Access Level	

Main Menu

 $\label{thm:continuous} \mbox{ Underlined items are the factory presets. }$

System Date	[xxx xx/xx/xxxx]
Day of the Week, Month/Day/Year.	
You can use ≪ Tab≫ to move the cursor.	
System Time	[xx:xx:xx]
24-hr. style.	
You can use ≪ Tab≫ to move the cursor.	

Main Configuration

10-Key Mode	NumLock
Select the behavior of the 10-key area of the keyboard.	Fn Key
When [NumLock] is selected, the 10-key area works as a number pad when Num Lock LED is on.	
When [Fn Key] is selected, the 10-key area works as a number pad when the ≪ Fn≫ key is held, and Num Lock LED is on.	
▶ Tablet Button Configuration	Enter the sub-menu.
The sub-menu appears when this item is selected.	

Sub-menu (Tablet Button Configuration)

Tablet Button Configuration

A1 Button	Disabled
When [Concealed Mode] is set to [Enabled], it becomes [Concealed Mode Trigger].	Application1 Ctrl+Alt+Del
 [Ctrl+Alt+Del] is only displayed when [A2 Button], [A3 Button] or [Rotation Lock Button] is not set to [Ctrl+Alt+Del]. [Barcode Reader Trigger] is only displayed when [A2 Button], [A3 Button] or [Rotation Lock Button] is not set to [Barcode Reader Trigger]. 	Concealed Mode Trigger Barcode Reader Trigger (Only for model with Barcode Reader)

Key assignment during startup.	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
A2 Button • [Ctrl+Alt+Del] is only displayed when [A1 Button], [A3 Button] or [Rotation Lock Button] is not set to [Ctrl+Alt+Del]. • [Barcode Reader Trigger] is only displayed when [A1 Button], [A3 Button] or [Rotation Lock Button] is not set to [Barcode Reader Trigger].	Disabled Application2 Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader)
Key assignment during startup.	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
A3 Button [Ctrl+Alt+Del] is only displayed when [A1 Button], [A2 Button] or [Rotation Lock Button] is not set to [Ctrl+Alt+Del]. [Barcode Reader Trigger] is only displayed when [A1 Button], [A2 Button] or [Rotation Lock Button] is not set to [Barcode Reader Trigger].	Disabled Application3 (Only for model without Barcode Reader) Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader)
Key assignment during startup.	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
Up/Down Buttons	Disabled Volume Up/Down Brightness Up/Down
Windows Button	Disabled Enabled

Rotation Lock Button [Ctrl+Alt+Del] is only displayed when [A1 Button], [A2 Button] or [A3 Button] is not set to [Ctrl+Alt+Del]. [Barcode Reader Trigger] is only displayed when [A1 Button], [A2 Button] or [A3 Button] is not set to [Barcode Reader Trigger].	Disabled Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader) Rotation Lock
Key assignment during startup.	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Esc

Table of Preboot Key Bindings

• The settings for [A1 Button], [A2 Button], [A3 Button] and [Rotation Lock Button] can be changed on [Tablet Button Configuration]. The settings for [Down Button], [Up Button] and [Windows Button] cannot be changed.

A1 Button	Display the currently assigned button.
A2 Button	Display the currently assigned button.
A3 Button	Display the currently assigned button.
Down Button	Display the currently assigned button.
Up Button	Display the currently assigned button.
Windows Button	Display the currently assigned button.
Rotation Lock Button	Display the currently assigned button.

LCD Brightness Mode	Normal Brightness Low Brightness
Battery Charging Indicator	On Continuous Flashing
Power On AC	<u>Disabled</u> Enabled
Wireless Antenna Switching	PC(built-in) Auto
Battery Charging Mode	Normal High Temperature

► Concealed M	lode Configuration	Enter the sub-menu.
• The sub	o-menu appears when this item is selected.	

Sub-menu (Concealed Mode Configuration)

Concealed Mode Configuration

Concealed Mode	<u>Disabled</u> Enabled
Can be changed only when [Concealed Mode] is set to [Enabled].	OFF Minimum ON
 Can be changed only when [Concealed Mode] is set to [Enabled]. Except for the front camera indicator and the LED of external devices. 	OFF ON
Sound Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Wireless Radio Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Camera Light Only for model with rear camera. Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Backlit Keyboard Only for model with Backlit Keyboard. Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Only for model with Barcode Reader. Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
► Fan Diagnostics • To use this option, set [Concealed Mode] to [Disabled].	Enter the sub-menu. Press ≪ Enter ≫ to start fan test.
► Backlit Keyboard Settings Only for model with Backlit Keyboard	Enter the sub-menu.
Only for model with Backlit Keyboard.	
Sub-menu (Backlit Keyboard Settings) Backlit Keyboard Settings	
Toggle Color 1	Red Green Blue White Custom

Custom

Red Green Blue Can be changed only when [Toggle Color 1] is set to [Custom]. Specify [Red], [Green], and [Blue] colors with numbers from [0] to [255], or use ≪ F5≫ /≪ F6≫ keys to set them.

Toggle Color 2	Red Green Blue White
	Custom

Custom

Backlight Timeout (seconds)

On Battery Power	None 5
 When [On Battery Power] is set to [None] and the backlit keyboard is turned on, it is always lit. 	10
	15
	30
	60
Plugged in	None
When [Plugged in] is set to [None] and the backlit keyboard is turned on, it is	5
always lit.	10
	15
	30
	60

▶ Optional Kit Configuration	Enter the sub-menu.
Normally do not change this setting.	A separately provided password is required to enter the sub-menu.

Advanced Menu

Underlined items are the factory presets.

▶c	PU Configuration	Enter the sub-menu.
	The sub-menu appears when this item is selected.	

Sub-menu (CPU Configuration)

CPU Configuration

Intel(R) Hyper-Threading Technology • Can be changed only when [Intel(R) Trusted Execution Technology] is set to [Disabled].	Disabled Enabled
Intel(R) Virtualization Technology Can be changed only when [Intel(R) Trusted Execution Technology] is set to [Disabled]. Can be changed only when [Intel(R) VT-d] is set to [Disabled].	Disabled Enabled
Intel(R) VT-d • Can be changed only when [Intel(R) Trusted Execution Technology] is set to [Disabled].	Disabled Enabled
Intel(R) Trusted Execution Technology • Can be changed only when [Intel(R) VT-d] is set to [Enabled].	Disabled Enabled
Intel(R) Turbo Boost Technology 2.0	Disabled Enabled
Intel(R) Software Guard Extensions	Disabled Enabled Software Controlled
Processor Reserved Memory Can be changed only when [Intel(R) Software Guard Extensions] is set to [Enabled].	Disabled 32MB 64MB 128MB

Peripheral Configuration

▶ Serial Port Settings	Enter the sub-menu.
The sub-menu appears when this item is selected.	
Used to configure the serial port.	
Displayed only for model with serial port.	

Sub-menu (Serial Port Settings)

Serial Port Settings

Serial Port Settings	
Serial Port	Disabled Enabled
Only for model with serial port.	Auto
LAN	Enabled Bianta d
	Disabled
Power On by LAN	<u>Deny</u>
Can be changed only when [LAN] is set to [Enabled].	Allow
LAN (2nd)	Disabled
Only for model with 2nd LAN.	<u>Enabled</u>
▶ Wireless Configuration	Enter the sub-menu.

Sub-menu (Wireless Configuration)

• The sub-menu appears when this item is selected.

Wireless Configuration

Wireless Switch	Disabled Enabled
Wireless LAN Only for model with wireless LAN. Can be changed only when [Bluetooth] is set to [Disabled].	Disabled Enabled
Only for model with Bluetooth. Can be changed only when [Wireless LAN] is set to [Enabled].	Disabled Enabled
Wireless WAN Only for model with wireless WAN.	Disabled Enabled
GPS Only for model with dedicated GPS.	Disabled Enabled

Conly for model with dedicated GPS> WWAN main NONE Conly for model with GPS on wireless WAN> WWAN GPS WWAN aux NONE Conly for model with dedicated GPS> Padicated GPS	Ext Antenna 1	<only for="" gps="" model="" on="" wan="" wireless="" with=""> WWAN main NONE</only>
WWAN GPS WWAN aux NONE <only dedicated="" for="" gps="" model="" with=""></only>		WWAN main
Dedicated GPS	Ext Antenna 2	WWAN GPS WWAN aux NONE

Smart Card Only for model with Smart Card slot.	Disabled Enabled
Contactless Smart Card Reader Only for model with Contactless Smart Card Reader.	Disabled Enabled

Tablet USB Port	Disabled Enabled
Keyboard Base and Cradle USB Port	Disabled
The USB port on the FZ-VEBG11AU cannot be disabled.	Enabled

SuperSpeed USB Configuration

Right Port of Tablet	Disabled
Can be changed only when [Tablet USB Port] is set to [Enabled].	Enabled
Keyboard Base and Cradle	Disabled Enabled

Camera (Front)	Disabled
Only for model with front camera.	<u>Enabled</u>
Camera (Rear)	Disabled
Only for model with rear camera.	Enabled
Thermal Camera	Disabled
Only for model with thermal imaging camera.	Enabled

Boot Menu

Underlined items are the factory presets.

Boot Mode	Normal
 If the startup from USB devices is not possible, set [Compatible] and retry. However, setting [Compatible] will require longer time to display the Windows boot screen than setting [Normal]. 	Compatible

UEFI Priorities

Boot Option #1 - #5	Windows Boot Manager
	Windows Recovery Environment
	Recovery Partition
	UEFI: IPv4 Intel(R) Ethernet Connection (10) I219-LM
	UEFI: IPv6 Intel(R) Ethernet Connection (10) I219-LM
	Disabled

UEFI Boot Device Control

Set whether to enable or disable the startup of each device.

UEFI Boot from Storage	Disabled Enabled
UEFI Boot from LAN	Disabled Enabled
UEFI Boot from USB and others	Disabled Enabled

Changing the boot order

- [Boot Option] for [UEFI Boot Device Control] shows the boot device recognized by Firmware (BIOS).
- Boot from a device or not can be selected at [UEFI Priorities], device by device.
- You can select the boot device during start-up of the computer, too. Press ≪ Esc≫ key soon after "Panasonic" boot screen is displayed. "Boot Menu" appears and you can select the device. To use this function, set [Boot Popup Menu] to [Enabled].

Security Menu

Underlined items are the factory presets.

Boot Prompt Configuration

Boot Popup Menu	Disabled
	Enabled

Password On Boot The shutdown when the fast startup is enabled, this function is ineffective.	Disabled Enabled
Password On Reboot	Disabled Same as Boot
Password On Resume Can be changed only when [Password On Boot] is set to [Enabled]. This function is effective when the computer is restarted after a shutdown (when fast startup is enabled) and when the computer resumes from hibernation, but not when it resumes from sleep.	Disabled Enabled

Set Supervisor Password	Enter the password.
User Password Protection	No Protection Protected
Set User Password • Can be changed only when [Set Supervisor Password] is set.	Enter the password.
SW KB Support for Encryption	Disabled Enabled
Profile Selection • Can be changed only when [SW KB Support for Encryption] is set to [Enabled].	1 field 2 fields
SW KB Support for BitLocker	Disabled Enabled

► Storage Security Configuration (TCG)	Enter the sub-menu.
Can be changed only when [Set Supervisor Password] is set.	
Sub-menu items:	
Sub-Menu Protection	
Security Policy	
Set Storage Password	
 Storage Security Status (Depending on the models, this item is displayed differently.) 	
► Embedded Security (TPM)	Enter the sub-menu.
Only for model that supports TPM.	
Can be changed only when [Set Supervisor Password] is set.	
Sub-menu items:	
Sub-Menu Protection	
TPM State (Depending on the models, this item is not displayed.)	
Pending TPM operation When [Clear TPM Owner] is selected, clear owner information in the TPM chip. Use for discarding and transferring this product. If you select [Clear TPM Owner] when the BitLocker is effective, you may need to reinstall OS.	
Block SID Authentication	
▶ AMT Configuration	Enter the sub-menu.
Only for model that supports Intel(R) AMT.	
Can be changed only when [Set Supervisor Password] is set.	

➤ Secure Boot	Enter the sub-menu.
 The sub-menu appears when this item is selected. If you change factory default setting, preinstalled-OS may not operate correctly. 	
 Absolute Persistence(R) Module Absolute(R), formerly Absolute Computrace(R), is a service designed to help track devices and provide recovery services in the event a device is lost or stolen. 	Enabled Disabled Permanently Disabled*2

^{*2:} When [Permanently Disabled] is selected, this setting cannot be used again.

Exit Menu

Save Values and Reboot	To reboot the system after saving the changes.
Reboot Without Saving Changes	To reboot the system without saving the changes.

Save Options

Save Current Values	To save the changes for all Setup options.
Load Previous Values	To load previous values for all Setup options.

Load Default Values	To return the settings to the default values.
---------------------	---

Boot Override

Windows Boot Manager	Boot from preinstalled OS.
Recovery Partition	Erase your flash memory or restore the computer to its original factory default image.
Windows Recovery Environment	Boot from Windows Recovery Environment.
UEFI: IPv4 Intel(R) Ethernet Connection (10) I219-LM	Boot from LAN device (IP4).
UEFI: IPv6 Intel(R) Ethernet Connection (10) I219-LM	Boot from LAN device (IP6).

 $\label{lem:constructions} \mbox{Depending on the hardware constructions, some device names are different.}$

	▶ Diagnostic Utility	Execute Diagnostic Utility.
--	----------------------	-----------------------------

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 {14 °F to 122 °F} (IEC60068-2-1, 2)*1
- Storage: -20 °C to 60 °C {-4 °F to 140 °F}

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.

If the computer is wet in temperatures of 0 °C {32 °F} or below, freeze damage may occur. Make sure to dry off the computer in such temperatures.

*1 : Do not expose the skin to this product when using the product in a hot or cold environment. (**OPERATING INSTRUCTIONS - Read Me First "Safety Precautions")

- 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 flash memory 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 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.
- Be careful not to get injured by dropping or getting hit when carrying the computer.
- Use only the pen (included) to touch the screen. 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).
- The touchpad is designed to be used by fingertip. 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 touchpad. The pointer may not work correctly.
- Touch the screen with the pen (included) or your fingers.
 - When touching the screen, use only the pen (included) or your fingers on the surface.

Touching the screen with an object other than the pen (included) or your fingertip (a fingernail or metal object, or other hard or sharp objects that may leave a mark) may scar or stain the surface, causing the malfunction.

- Do not apply too much pressure when operating the screen.
 - Only a light touch is required to operate the screen. Applying too much pressure may damage the surface.
- Do not use the screen when dust or dirt (e.g., oil) is on the screen.

 Otherwise foreign particles on the screen/pen (included) can scratch the screen surface or obstruct the pen (included) operation.

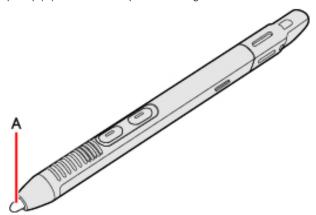
Handling the screen

- Do not apply strong pressure to the screen outside of the LCD display.
 Applying strong pressure to the screen outside of the display area may result in malfunctions or damage to the LCD screen.
- Do not apply excessive force to the screen.
 - Do not lift the computer while holding the LCD screen, or allow the screen to be twisted. Do not place any objects on the LCD screen. Any of the above may cause the screen glass to break, or may damage the LCD screen.
- Operation response may be slower in low temperature environments.
 - The screen may respond to operations more slowly when using the computer in temperatures less than 5 °C {41 °F}, but this is not a malfunction. Response time will return to normal when the computer is returned to room temperature.
- If the pointer jumps to a location other than where the screen was touched, or if the LCD resolution changes, recalibrate the screen.

 Perform the procedure of "Calibrating the Screen".

Handling the pen (included)

- Clean the pen (included) tip and screen prior to operation.
 - Foreign particles can scratch the screen and impede the operation of the pen (included).
- Use only the pen (included) to touch the screen.
 - Using it for any other purpose may damage the pen (included) and result in scratches on the screen.
- The pointer cannot follow the pen (included) movement if you move the pen (included) too quickly.
- Do not apply excessive force to the tip of pen.
 - If excessive force is applied to the pen tip (A), the screen may be damaged, or the pen tip (A) will be easily damaged or deteriorate. Also, leaving the pen tip (A) for a long period of time with pressure applied may cause operational errors or deterioration. Do not apply excessive force to the pen tip (A) since it can be operated with light force.



- The digitizer uses electromagnetic induction and may not work properly near strong electrical field or magnetic fields, such as:
 - Near AM radio base station or relay station antennas
 - . Near CRT displays that generate strong electromagnetic field noise

Move the digitizer away from such locations so it will work properly.

When using peripheral devices

Follow these instructions and this 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.

When the battery indicator does not light on

The battery indicator may not light on even if the AC adaptor and the battery pack are correctly connected to the computer, due to the following reasons.

• The AC adaptor's protection function may be working. In this case, pull out the AC cord and wait for more than 1 minute before reconnecting the AC cord.

Sensors

This computer is equipped with four sensors (acceleration sensor, gyro sensor, magnetic sensor, ambient light sensor), and you can use these sensors with any software that is compatible.

As the accuracy of each sensor output is dependent on the operating environment and other conditions, the results should only be used as a reference.

The acceleration sensor, gyro sensor, and magnetic sensor are located at the bottom left of the LCD. The detection results of each sensor may vary depending on how you are holding the computer, the application software you are using, and other factors.

Magnetic sensor

The magnetic sensor on the computer operates by detecting geomagnetism. Therefore, the magnetic sensor may not function properly and it readings may be inaccurate, especially in the following environments.

- Inside or near steel structures such as buildings or bridges
- . Inside or near automobiles, or near train power lines
- · Near metallic furniture or appliances
- . When the AC adaptor or other peripheral devices are brought closer to the computer
- Near magnets, speakers, or other objects with strong magnetic fields

The magnetic directions indicated by the magnetic sensor may not be accurate immediately after purchase or in environments with poor magnetic fields. In such cases, turn on the computer and move it as follows.

- 1. Hold the computer so that its screen side is facing upward and level.
- 2. While keeping the computer level, rotate it 90 degrees or more clockwise.
- 3. Return the computer to position 1, and rotate it 90 degrees or more counterclockwise.
- 4. Return the computer to position 1.
- 5. Tilt the computer 90 degrees or more to the left so that the left side of the computer tilts down.
- 6. Return the computer to position 1, and tilt it 90 degrees or more to the right so that the right side of the computer tilts down.

IMPORTANT

· Hold the computer firmly when moving it. Strong shocks from dropping the computer may result in damage.

Maintenance

If drops of water or other stains get on the surface of the LCD panel, wipe them off immediately. Failure to do so may result in staining.

Cleaning the LCD panel

The screen is specially treated to prevent dirt from adhering to the surface. Also, to improve the outdoor visibility of the display, a low reflection coating has been added

When removing the dirt on the screen surface, use only an approved soft cloth (included) in order to avoid scratches and peeling of the coating.

Before using the computer, be sure to read the instructions provided below.

- Be sure to wipe the LCD display to remove fingerprints, etc., with the soft cloth (included).
- . The included soft cloth is designed for cleaning the LCD surface. Do not wipe areas other than the LCD display with it.
- . How to use the soft cloth
 - . Use the soft cloth when it is dry. Do not apply water or solvents to the soft cloth.
 - First, lightly wipe foreign particles and dust adhering to the LCD display on one side of the soft cloth. Do not use force, since the LCD surface may be damaged with the foreign particles or dust.

Next, wipe off fingerprint, etc., with the other side of the soft cloth.

After wiping off foreign particles and dust, wash the soft cloth (refer to the following) to remove the foreign particles and dust from the soft cloth

- When the soft cloth becomes dirty, wash it with neutral detergent. Do not use bleach or a fabric conditioner (softener), or carry out sterilization by boiling.
- If the LCD gets wet, wipe the surface lightly with the soft cloth.
- Before wiping the LCD display, the computer must be turned off.
- · Clean the screen while the computer is powered off.

Cleaning the screen while the power is on may cause the computer to malfunction. Also, dirt on the screen is easier to see when the computer is powered off, and so is easier to clean.

· Wash the soft cloth when it becomes dirty.

When the soft cloth becomes dirty, wash it with mild detergent. Do not use bleach or fabric conditioner (softener), or try to sterilize the cloth by boiling

If the soft cloth is dirty, it may be ineffective in cleaning the screen, and in fact may cause dirt to adhere to the screen.

- Check the following to prevent the surface of the screen from being scratched.
 - Are you using your fingers or the pen (included) to operate the screen?
 - Is the surface clean?
 - Is the soft cloth clean?
 - · Are your fingers clean?
 - Are you using the pen (included) with the tip extended?
 - Is the tip of the pen (included) clean?

Cleaning 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.

IMPORTANT

- 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.
- Use a soft, dry cloth to wipe droplets of water from the surface of the unit. Do not use a microwave to dry the unit. Doing so will result in malfunction or damage.

Smart Card

<Only for model with Smart Card slot>

You need software to use a Smart Card.

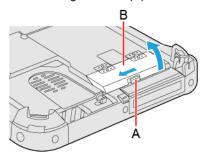
IMPORTANT

- . Do not:
 - Hit, bend, or drop the card.
 - . Touch the contact part with fingers or metal object.
 - Place the card in very hot location for a long time.
 - Remove the card immediately after inserting it.
- . Make sure no foreign objects are under the computer.

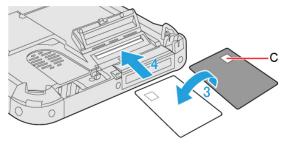
Inserting/Removing the Smart Card

Inserting the card

- 1. Detaching the pen (included) from the computer. (Detaching the pen from the computer)
- 2. While sliding the latch (A) to the left arrow direction, open the cover (B) to the up arrow direction.



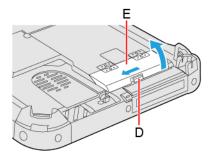
- 3. Reverse the Smart Card.
- 4. Insert the Smart Card until it surely fits in the slot.
 - $\bullet \quad \text{Smart Card must be inserted with the chip portion (C) down.}$



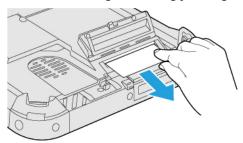
- 5. Close the cover (B) until it clicks.
- 6. Attaching the pen (included) to the computer. (Attaching the pen to the computer)

Removing the card

- 1. Detaching the pen (included) from the computer. (Detaching the pen from the computer)
- 2. While sliding the latch (D) to the left arrow direction, open the cover (E) to the up arrow direction.



3. Draw the card straight out using your fingers.



- 4. Close the cover (E) until it clicks.
- 5. Attaching the pen (included) to the computer. (Attaching the pen to the computer)

External Display

<Only when connected to port replicator>

You can switch the output destination to an external HDMI/VGA display.

Before switching the computer on, connect the HDMI/VGA display to the HDMI/VGA port and the AC adaptor to the DC-IN jack on the port replicator.

For further information of the connection with terminals, refer to "Port Replicator (CF-VEB201U)".

<Only when connected to cradle>

You can switch the output destination to an external HDMI/VGA display.

Before switching the computer on, connect the HDMI/VGA display to the HDMI/VGA port and the AC adaptor to the DC-IN jack on the cradle.

For further information of the connection with terminals, refer to "Cradle (FZ-VEBG11AU)" or "Cradle (FZ-VEBG21 series)".

USB 3.1 (Type-C) Port

You can switch the output destination to an external display.

The USB 3.1 (Type-C) port of this computer complies with the following standards.

• DisplayPort Alternate Mode

A standard to transfer digital video signals to an LCD, etc. Using USB Alternate Mode, images can be displayed on the external display from the USB 3.1 (Type-C) port.

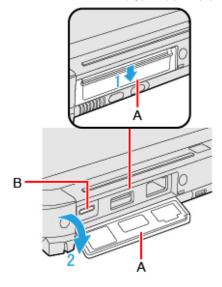
USB Power Delivery (→ USB Power Delivery)

Tablet

1. Slide the cover (A) to the arrow direction.

The cover is unlocked.

- 2. Open the cover (A).
- 3. Connect the USB 3.1 (Type-C) port (B) and the external display using a USB Type-C cable.



NOTE

- When using a DisplayPort-compatible display, connect with a USB Type-C cable.
- · For connection with an external display, read the operating instructions supplied with the display as well.

Switching the display mode

Using key function

<Only for model with Keyboard Base>

- 2. Select the display mode.

Using the [Display settings]

- 1. Click (Start) (Settings) [System] [Display].
- 2. Select the item under "Multiple displays".

NOTE

- . After switching the display mode, the display resolution may change.
- After resuming from sleep or hibernation, or restarting the computer, the output destination may not be the same as selected in the previous status.
- . When you change the display after Windows starts up, do not press any key until switching is complete.
- Until Windows startup is completed (during Setup Utility, etc.), the display cannot be switched in the simultaneous display.
- . Do not connect or remove the external display during sleep or hibernation.
- · It may take some time to switch between displays depending on the displays used.
- When you use the external display only, set the suitable number of colors, resolution, or refresh rate separately from when
 you use the internal LCD only or when you use the simultaneous display.
 - Depending on the settings, some external displays may be distorted or may not display the mouse pointer correctly. In this case, set the settings to lower value.
- . When you use the simultaneous display, MPEG files and other motion image files may not be played back smoothly.
- · Carefully read the instruction manual of the external display.
- When connecting an external display that does not conform to the Plug & Play standards, select the display driver accordingly in the following menu, or use the driver disc supplied with the monitor.
 - 1. Click (Start) (Settings) [System] [Display].
 - 2. Click [Advanced display settings] under "Multiple displays".
 - 3. Click [Display adapter properties for Display *].
 - * is a display number.
 - 4. Click [Monitor] [Properties] [Driver] [Update Driver].
 - 5. Following on-screen instructions.
- An external display connected to the cradle (optional) can also be switched.

IMPORTANT

- . The screen may become distorted due to the following operations. In this case, restart the computer.
 - Disconnecting an external display for which you have set high resolution or high refresh rate.
 - Connecting/disconnecting an external display during computer operations.

Extended Desktop

NOTE

- It may not be possible to use the extended desktop with some software applications.
- When you click the maximize button, the window is displayed on one of the displays. You cannot move the maximized window to the other display.
- Do not use the display rotation in the extended desktop.
- · <Only for model with Keyboard Base>
 - The pop-up displayed by $\ll Fn \gg$ key combination appears only on the primary display.
- . While using an extended desktop or [Second screen only], you cannot operate the external display screen with touch

operation.

• Set the internal LCD to the primary display when using the touchscreen. The cursor will move on the primary display when you touch the internal LCD.

USB Devices

Features of the Supported Standards

USB 3.0 (Type-A) port

Support USB 1.1, 2.0 and 3.0.

USB 3.1 (Type-C) port

The features of the supported standards are as follows.

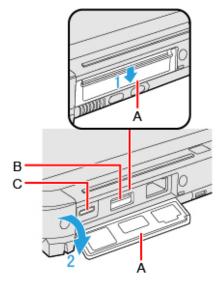
- USB 3.1 (Gen 1/2)
- USB Power Delivery (USB Power Delivery)

Connecting/Removing USB Devices

Connecting the USB device

Tablet

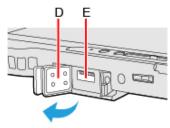
- 1. Slide the cover (A) to the arrow direction.
 - The cover is unlocked.
- 2. Open the cover (A).
- 3. Connect the USB device to the USB 3.0 (Type-A) port (B) or the USB 3.1 (Type-C) port (C) on the computer.



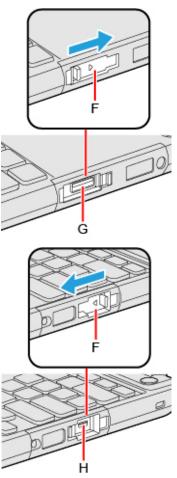
To check whether the connected device supports USB 3.1 Type-C, refer to the operating instructions supplied with the device.

<Only for model with 2nd USB port>

1. Open the cover (D) and connect the USB device to the USB 2.0 port (E) on the computer.



- 1. Slide the cover (F) to the arrow direction.
- 2. Connect the USB device to the USB 3.0 (Type-A) port (G) or the USB 3.0 (Type-C) port (H) on the computer.



Removing the USB device

- 1. Disable the USB device.
 - 1. Click on the task tray and click
 - 2. Select the USB device.
 - These steps are not necessary when;
 - Removing the device after turning off the computer.
 - is not displayed.
 - The device does not appear in the list in step 2.
- 2. Remove the USB device.

NOTE

- You may need to install the driver for the USB device. Follow the on-screen instructions or refer to the instruction manual
 of the USB device.
- · You may need to install the driver again when connecting the device to another port.
- When a USB device is connected, sleep or hibernation may not function normally. If the computer does not start up normally, remove the USB device and restart the computer.
- When the USB device is removed and then inserted while the computer is on, the device may not be correctly recognized. In this case, remove and connect the device again, or restart the computer.
- When a USB device is connected, power consumption increases. Remove the USB device when it is not in use, especially when operating by battery power.
- If the computer enters sleep while an external keyboard or external mouse is connected, touching the external keyboard keys or external mouse will resume the computer.

Charging USB Devices

<Only for tablet>

The computer comes with a USB port to provide efficient charging to smart phones or portable devices that can use USB port charging

This computer's USB 3.1 (Type-C) port equipped with the continuous power supply function allows USB devices to be charged efficiently even if the computer is turned off or in the sleep/hibernation state.

The high speed charging is supported at the following situation.

- · When the computer is turned on.
- When the computer is turned off or in sleep/hibernation mode.

Charging with USB 3.1 (Type-C) port

This computer can send a maximum power of 15 W.

The USB 3.1 (Type-C) port enables charging even if the computer is turned off.

IMPORTANT

When using a USB Power Delivery, use a cable that supports USB Power Delivery.
 Depending on the cable, power may not be supplied to the connected device properly.

USB Power Delivery

<Only for tablet>

Connect the USB device to the USB 3.1 (Type-C) Port.

USB Power Delivery is a standard that allows up to 100 W of power supply using a USB cable.

• Power supply from USB Power Delivery-compatible devices to this computer:

The power can be supplied from USB Power Delivery-compatible devices with the following power supply capabilities.

Power ON or Modern standby: 85 W or more

Power OFF or Hibernation: 7.5 W or more*1

*1: If the output on the USB Power Delivery-compatible device side is less than 15 W, the battery cannot be fully charged.

• Power supply from this computer to USB Power Delivery-compatible devices:

Up to 15 W

• Use a cable that supports USB Power Delivery.

It is recommended to use a cable that supports 5 A. When using a cable that does not support 5 A, this computer may not receive sufficient power from USB Power Delivery-compatible devices.

Driving/Charging the computer using USB Power Delivery

The USB 3.1 (Type-C) port of this computer supports the USB Power Delivery.

You can also use the Power Delivery of the USB 3.1 (Type-C) port in clamshell style.

IMPORTANT

Connect a cable that supports USB Power Delivery.

NOTE

- If the battery level is less than 5 %, the computer cannot be started up.
- · The following functions cannot be performed.

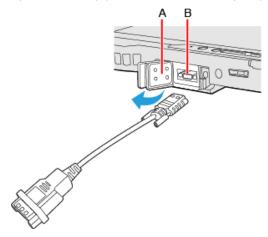
- Updating firmware such as BIOS
- Battery Recalibration
- Create a Recovery Disc
- If the battery indicator blinks orange or turns off, check the status of the battery indicator. (Battery Indicator)

Serial Port

<Only for model with serial port>

Connecting Serial device

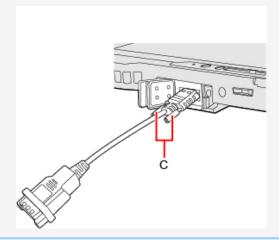
1. Open the cover (A) and connect the serial port (B) and the serial conversion cable.



2. Connect the serial device to the connector of the serial conversion cable.

NOTE

• When connecting a cable, be sure to secure it with screws (C).



Camera

<Only for model with camera>

Using the Camera

For the camera position and functions, refer to "Description of Parts".

NOTE

- When the camera is in use, the Camera Indicator lights up. (Even if [Concealed Mode] is set to [Enabled] and [LED] to
 [OFF], the camera indicator cannot be turned off.)
- When the computer is moved from hot and humid environment to low temperature environment, dew condensation may form on the lens. This is not a malfunction. Wait until the lens dries out.

About the Ambient Light Sensor

The ambient light sensor is used to adjust the display screen brightness automatically.

To configure the automatic adjustment function, proceed as follows.

- 1. Click (Start) (Settings) [System] [Display].
- 2. Add the check mark to [Change brightness automatically when lighting changes] under "Brightness and color".

NOTE

. When using the "Panasonic PC Day Night Mode Utility", do not use the automatic adjustment function.

Panasonic PC Camera Utility

The Panasonic PC Camera Utility can be used to shoot photos and videos.

When you use pictures and videos recorded using this utility at Web conferences, or other services, use specialized applications accordingly.

NOTE

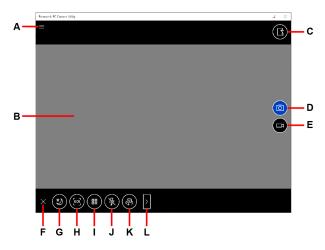
- If you use this utility and other multi-media software at the same time, an error may occur. Close all multi-media software
 including this utility and restart this utility.
- . If an error message appears and nothing is displayed, restart this utility.
- When the computer has resumed from sleep and hibernation, an error may appear and the connection with the camera device may be lost. If this occurs, restart this utility.
- · Panasonic PC Camera Utility only with the built-in camera. It does not support a camera connected to the computer.

Starting up

1. Click (Start) - (Panasonic PC Camera Utility).

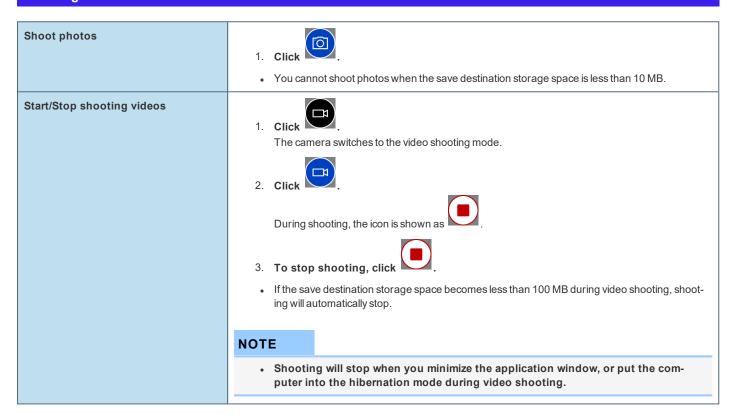
The Panasonic PC Camera Utility starts up, and the following screen is displayed.

• When the utility is running, do not remove or insert audio devices (such as microphones and speakers). Also, do not enable or disable such devices.



- A. Open the camera settings
- B. Preview screen
- C. Display the folder where recorded data is saved
- D. Shoot photos
- E. Start/Stop shooting videos
- F. Hide the mode menu
- G. Night Mode switching
- H. OCR <Only for model with rear camera>
- I. Barcode reader <Only for model with rear camera>
- J. Camera light <Only for model with rear camera>
- K. Camera device <Only for model with multiple cameras>
- L. Change the menu <Only for model with rear camera>

Shooting Photos and Videos



Turn the Night Mode ON To make the dark viewing image brighter	1. Click When using the Night Mode, the icon is shown as
	NOTE
	 Updating the preview screen may be delayed when using the Night Mode. CPU utilization increases when using the Night Mode. If you leave the computer for long hours, the area around the exhaust vent may be heated.
Display the recorded image or video files	Click The recorded data will be saved in the displayed folder named the recording date.

OCR Scanning

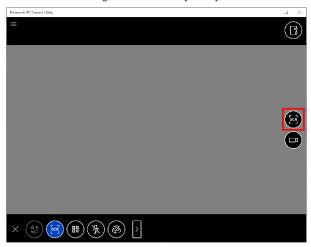
<Only for model with rear camera>



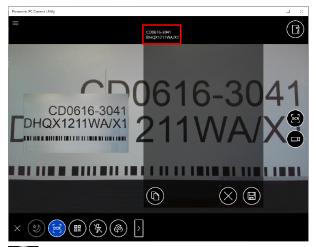
Point the window at the target text you want to scan, and click side of the screen.



You can turn on the light. Click - [Tor



When the target text has been scanned, the scanned OCR text is displayed above the preview window.





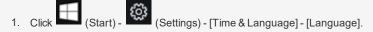




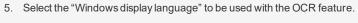
To stop scanning, click

NOTE

Installation of the language pack is necessary in order to use the OCR feature
of other languages. If it is not installed, please download the language pack by
the following procedure.



- 2. Click [Add a language] under "Preferred languages".
- 3. Select a language to install, and then click [Next].
- 4. Change the "Install language features" if necessary, and then click [Install]. Restart may be necessary in some cases.



- 6. Sign out and sign in once.
- OCR feature can't be used in some languages which Windows doesn't support OCR feature.

Barcode Reader

<Only for model with rear camera>

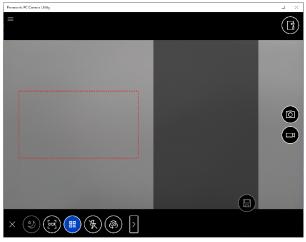


k The icon is shown as

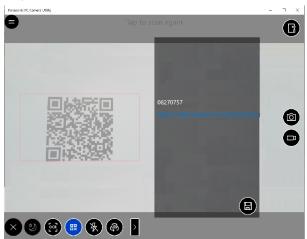


2. Point the on-screen guide at the barcode.

You can turn on the light. Click - [Torch].

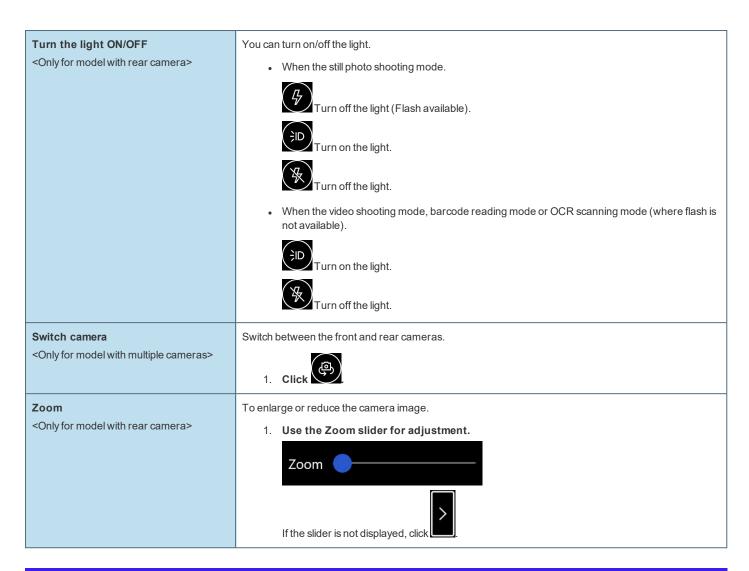


When the barcode has been scanned, the scanned barcode text is displayed on the right side of the preview window.





Save the barcode text.



Changing the Settings

1. Click

The "Setting" menu is displayed.



A. Mirror setting <Only for model with front camera>

Make the preview screen mirror-reversed (flip horizontal). (Recorded images will not be reversed)

B. Camera shake correction <Only for model with front camera>

Enable the image stabilizer when shooting photos.

C. Brightness

Change the brightness of camera images.

D. White Balance

Change the white balance of camera images. To set manually, uncheck the [Auto] option.

E. Contrast

Change the contrast of camera images.

F. Flicker correction

Set the flickering correction of camera images.

G. Still picture resolution

Change the still picture resolution. Perform touch operation or mouse click to select the resolution. The resolution may not be correctly specified if you use the keyboard cursor keys.

H. Video resolution

Change the video resolution. Perform touch operation or mouse click to select the resolution. The resolution may not be correctly specified if you use the keyboard cursor keys.

• Note that the described FPS values are theoretical. They may be decreased depending on the actual use conditions.

I. Burst Mode

Press and hold the photo shooting button to shoot continuously while the button is pressed. The maximum number of continuous shooting is 20.

• You cannot shoot continuously when using the Night Mode.

J. Adding a stamp

Add geolocation and time stamps to still images.

K. Adding a geotag

Add geotagging to the Exif data of still images.

L. Photo storage folder

Specify the destination of recorded photo data to save. The default value is the "Pictures" folder.

M. Video storage folder

Specify the destination of recorded video data to save. The default value is the "Videos" folder.

 If you specify the FAT32 formatted storage as destination to save, video files cannot be correctly created when the storage data capacity exceeds 4 GB.

N. Save barcode file automatically

O. Barcode file storage folder <Only for model with rear camera>

Specify the destination of saved barcode text. The default value is the "Pictures/Barcode" folder.

P. Character recognition file storage folder

Specify the destination of saved OCR text. The default value is the "Pictures/OCR" folder.

Q. Self-Timer

Specify the time period until shooting starts after the button is pressed. (OFF/5 sec./10 sec.)

R. Interval Shooting

When you move the slider to the right, and specify the value except [0], the camera automatically repeats shooting at intervals of specified seconds. The maximum 10 photos can be shot continuously.

S. Restore default settings

Return all the settings to the default values.

To close the "Setting" menu, click



on the upper left of the screen, or click the preview screen.

NOTE

- To specify the save destination folder, select the folder you have the access right to. If a writing error occurs, change the specified folder.
- The drive that appears by performing the following procedure will be used as the location in which the "Pictures" and "Videos" folders will be stored.

Click tings".

(Start) - (Start) - (Settings) - [System] - [Storage], and then click [Change where new content is saved] under "More storage set-

Thermal Imaging Camera

Panasonic PC Thermal Viewer is an application to visualize thermal information obtained using the thermal imaging camera (optional).

By inserting the thermal imaging camera (optional) to the top expansion bay, it can be used.

Barcode Reader

<Only for model with Barcode Reader>

Preparation

<To make a BEEP sound when reading a barcode>

- 1. Click (Start) (Panasonic PC 2D Barcode Key Emulator).
- 2. Click on the task tray, and then click (Panasonic PC 2D Barcode Key Emulator) [Connection to Barcode (Always-On)].

Reading Barcodes

IMPORTANT

Do not look directly into the reading window.
 DO NOT LOOK DIRECTLY AT THE BARCODE READER LIGHT.

NOTE

- For models with Barcode Reader, [Barcode Reader Trigger] is set to [A3 Button] as the factory default.
- When a Barcode Reader is installed for models without Barcode Reader, change the settings of [A1 Button], [A2 Button], [A3 Button] or [Rotation Lock Button] to [Barcode Reader Trigger] with Setup Utility. (Tablet Button Configuration)
- If you have changed to something other than [A3 Button], replace [A3 Button] with [A1 Button], [A2 Button] or [Rotation Lock Button] and read the instructions.



- 1. Open the software for reading a barcode, and put the cursor on it.
- 2. Aim the Barcode Reader (A) at the barcode.
- 3. Press button (B).

The Barcode Reader lights red to indicate the reading position.

If the barcode is read successfully, the code appears where the cursor is placed.

NOTE

- When the barcode read operation is finished, please wait about 3 seconds to start the next reading. You may press the button immediately, even if you set to release, it takes several seconds to light to light actually.
- . If an error message appears and nothing is displayed, restart this utility.

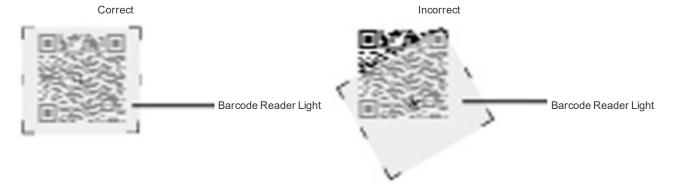
Observe the Following to Correctly Read a Barcode with This Computer

· The reading angle is important factor.

Perform reading at the angle indicated in the figure. We recommend you to set at approximately 2° to 3° angle from the perpendicular position.



- Hold the reader farther away when reading a larger barcode, and closer in when reading a smaller barcode.
- Perform reading so that the entire symbol falls within the center of the red Barcode Reader light.
- The reader can still read a barcode even if the barcode is not in the center of the red Barcode Reader light.
 However, if a part of the barcode lies outside the Barcode Reader light, the barcode cannot be read. Make sure the entire barcode is inside the Barcode Reader light.



Cleaning the Reading Window

 $If the \ reading \ window \ is \ dirty, \ gently \ wipe \ the \ reading \ window \ with \ a \ cloth \ or \ a \ cotton \ swab \ moistened \ with \ water.$

Do not allow materials that can easily scratch the reading window to touch the window, such as sandpaper or metal object.

For parts other than the reading window, please read "Handling and Maintenance".

Decode Capabilities

Following symbologies are supported as the factory default.

Codabar, Code 128, GS1-128, Code 39, Code 93, DataMatrix, Interleaved 2 of 5, PDF417, QR Code, GS1 Databar, GS1 Databar Limited, GS1 Databar Expanded, UPC-A, UPC-E, EAN-8, EAN-13, Aztec

Following symbologies also can be used.

Codablock A, Codablock F, Code 11, ISBT 128, GS1 Composite CC-A/B, GS1 Composite CC-C, ISBN, ISMN, ISSN, Matrix 2 of 5, Maxicode, MicroPDF417, MSI, Plessey, Standard 2 of 5, Telepen, UPC-E1, TLC 39, HanXin, Australian Post, BPO, Dutch Post, Japan Post, Planet, Postnet, Canada Post, Infomail, Sweden Post

Contactless Smart Card Reader/RFID Reader

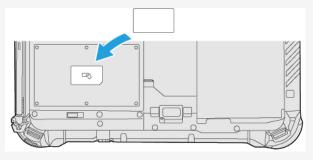
<Only for model with Contactless Smart Card Reader/RFID Reader>

You can read the data from RFID (Radio Frequency Identification) tags / Contactless Smart Card.

Precautions

NOTE

- This reader is typically used with specialized applications. For further information, ask the system administrator.
- Contactless Smart Card Reader Location



- 1. Aim the center of RFID tag / Smart Card at the Contactless Smart Card Reader.
 - Continue operation by using the specialized applications.

NOTE

- · Wave cards one at a time. If multiple cards are waved simultaneously, proper reading will not be possible.
- If the chip device is held outside of the contactless smart card reader area or at an angle, or waved incorrectly, proper reading may not be possible.
- Operation distance depends on RFID tag / Smart Card.

SSD Pack

<Only for Removable-SSD model>

Attaching/Detaching the SSD Pack

You can replace the SSD pack.

IMPORTANT

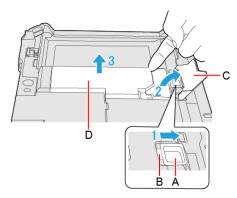
- Back up all the important data before detaching the SSD pack.
- If you need to read the SSD pack data on another computer for repair or other purpose, disable the Storage Password and Supervisor Password before detaching the SSD pack. (Preventing Your Flash Memory Drive from Being Read or Written)
- Carefully attach/detach the SSD pack since the SSD pack is extremely sensitive to shock. Note that static electricity may affect some internal components.
- . Make sure to turn the computer off for detaching or attaching.
- . Make sure no foreign objects are under the computer.
- 1. Turn off the computer and disconnect the AC adaptor.
 - Do not use sleep or hibernation.

Perform the following steps to turn off the computer.

- 1. Click (Start) (Settings) [Update & Security] [Recovery].
- 2. Click [Restart now] under "Advanced startup".
- 3. Click [Turn off your PC].
- 2. <For tablet> Turn your computer over.

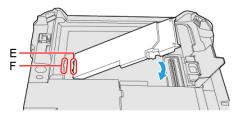
 $\label{eq:make-sure-model} \mbox{Make sure no foreign objects are under the computer.}$

- 3. Remove the battery pack. (Replacing the Battery Pack)
- 4. Attach/Detach the SSD pack.
 - To detach
 - Slide the SSD pack latch (A) until the orange-colored appears in the indicator (B).
 The SSD pack lock cover is unlocked.
 - 2. Open the SSD pack lock cover (C).
 - 3. Lift the SSD pack (D) and pull it out of the slot.

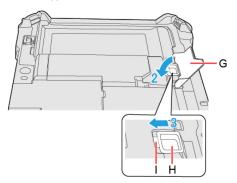


To attach

1. Insert the projection part (E) of the SSD pack into the (F) part, and attach it while lowering until it clicks.



- 2. Close the SSD pack lock cover (G).
- 3. While holding down the SSD pack lock cover (G), slide the SSD pack latch (H) until the orange-colored sign disappears in the indicator (I).



5. Insert the Battery Pack.

IMPORTANT

- Confirm that the SSD pack latch is surely locked so that the SSD pack does not fall when you carry the computer.
- Be sure to attach the SSD pack for use.

NOTE

• You can check that the SSD pack is recognized or not in the [Information Menu] of the Setup Utility. If the SSD pack is not recognized, turn off the computer and insert it again.

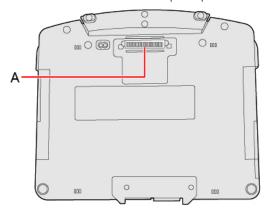
Port Replicator (CF-VEB201U)

<Only for model with Keyboard Base>

You can use an optional port replicator. This device frees you from being bothered by a lot of cable connections when you carry the computer. It also allows you to connect various peripherals.

Connect the port replicator to the expansion bus connector (A) on the bottom of the computer.

Read the instruction manual of the port replicator before using.



IMPORTANT

- · Connect the AC adaptor always when using the port replicator.
- The driver of the port replicator is preinstalled in the computer.
- · Connect or disconnect the port replicator while the computer power is turned off.
- To boot the computer from a commercially available optical drive, be sure to connect the USB drive to the USB port on the computer, not to the USB port on the port replicator.
- If the port replicator is connected, each port of the keyboard base cannot be used.

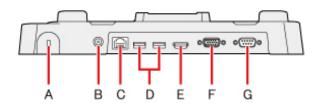
Names and Functions of Parts

Read carefully this manual that described for each device when connecting each device to the port replicator.

IMPORTANT

• Do not touch the expansion bus connector or pins of the port replicator.

<Rear>



A. Security Slot

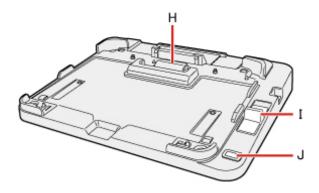
A Kensington cable can be connected.

- For more information, read the manual that comes with the cable.
- B. DC-IN Jack
- C. LAN Port
- D. USB 3.0 Ports (2 ports)
- E. HDMI Port

Connector for HDMI compatible digital display.

- It is not compatible with the analog display.
- The display specifications of the maximum resolution, etc. that can be output differ according to the specifications of the device connected. For details, refer to the specifications of the device connected.
- F. VGA Port
- G. Serial Port

<Front>



H. Expansion Bus Connector

This connects to the expansion bus connector on the bottom of the computer.

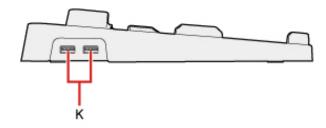
Lever

Slide the lever all the way back to release the computer.

J. Power Switch

This operates identically to the power switch on the computer.

<Left>



K. USB 2.0 Ports (2 ports)

Connecting/Disconnecting the Computer

IMPORTANT

- Make sure to turn the computer off for connection/disconnection.
- Do not connect or disconnect the port replicator while the computer is powered on or in the sleep or hibernation mode.

Connecting

1. Turn off the computer.

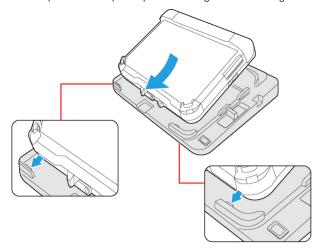
Disconnect all the devices and cables and close the terminal cover and close the display.

2. Connect the AC adaptor to DC-IN jack of the port replicator.

Connect the AC cord to the AC adaptor, and connect to an AC outlet.

IMPORTANT

- Refer to the OPERATING INSTRUCTIONS accompanying computer for information on proper handling of the AC adaptor and AC cord.
- 3. Set the front corners of the computer in the latches of the port replicator.
 - Confirm to close all connector covers of computer before connecting. Do not attempt to make connections if there is any object between the computer and the port replicator. Doing so could damage the computer and the port replicator.



4. Press the computer in the direction of the arrow and set firmly against the port replicator.

IMPORTANT

. Do not allow your hand to get caught between the computer and the port replicator when setting the computer.



IMPORTANT

- Do not attempt to move the port replicator while the computer is being connected to the port replicator.
- If the computer malfunctions while the port replicator is attached, disconnect the port replicator and check to see if the computer operates normally, the port replicator may be malfunctioning. Contact Panasonic Technical Support.

NOTE

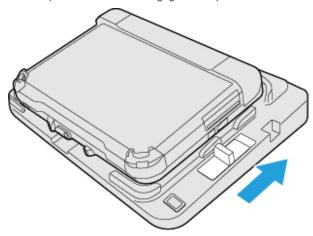
. See other chapters in this manual for connecting and setting USB devices, external displays and LAN.

• If the image of the external display connected to the port replicator has stopped, remove the computer from the port replicator, and then reconnect it.

Disconnecting

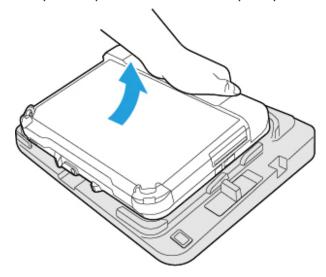
- 1. Turn off the computer and close the display.
 - If the cable has been connected to the security slot on the side, remove the cable.
- 2. Slide the lever all the way back.

 $The \ connector \ disengages \ the \ expansion \ bus \ connector \ of \ the \ port \ replicator.$



IMPORTANT

- After sliding the lever, do not suddenly release it. The lever may relock. Do not slide the lever while pressing the computer from above. Doing so could damage the computer.
- If the computer malfunctions while the port replicator is attached, disconnect the port replicator and check to see if the computer operates normally. If the computer operates normally, the port replicator may be malfunctioning. Contact Panasonic Technical Support.
- 3. Lift up the computer to remove it from the port replicator.



NOTE

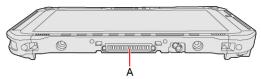
• If it is difficult to disconnect the computer, push the lever while holding the computer from top for easy disconnection.

Cradle (FZ-VEBG11AU)

You can use an optional cradle. This device frees you from being bothered by a lot of cable connections when you carry the FZ-G2 series (tablet). It also allows you to connect various peripherals.

Connect the cradle to the expansion bus connector (A) on the bottom side of the tablet.

For further information, refer to the instruction manual of the cradle.



In combination of the computer and cradle, you can connect variety of devices.

Read operating instructions for each device carefully when connecting each device to the cradle.

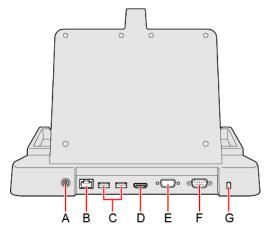
- Names and Functions of Parts
- · Connecting/Disconnecting the Tablet

Names and Functions of Parts

IMPORTANT

. Do not touch the expansion bus connector or pins of the cradle.

<Rear>



- A. DC-IN Jack
- B. LAN Port
- C. USB 3.0 Ports (2 ports)
- D. HDMI Port

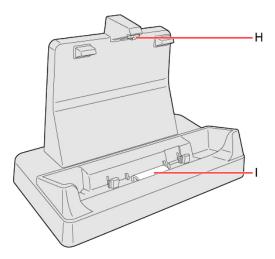
Connector for HDMI compatible digital display.

- It is not compatible with the analog display.
- The display specifications of the maximum resolution, etc. that can be output differ according to the specifications of the device connected. For details, refer to the specifications of the device connected.
- E. VGA Port
- F. Serial Port
- G. Security Slot

A Kensington cable can be connected.

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

<Front>



H. Roller

I. Expansion Bus Connector

This connects to the expansion bus connector on the bottom of the tablet.

Connecting/Disconnecting the Tablet

IMPORTANT

- Make sure to turn the tablet off for connection/disconnection.
- Do not connect or disconnect the cradle while the tablet is powered on or in the sleep mode (i.e., when the power indicator is blinking).

Connecting

1. Turn off the tablet.

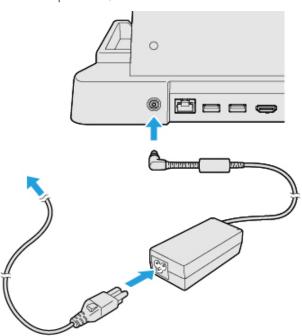
Disconnect all the devices and cables and close the terminal cover.

If the keyboard base is attached, detach the tablet from the keyboard base.

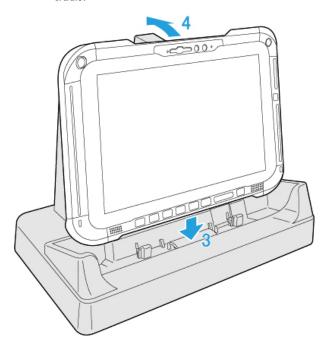
2. Connect the AC adaptor to DC-IN jack of the cradle.

Connect the AC cord to the AC adaptor, and connect to an AC outlet.

• Refer to the "OPERATING INSTRUCTIONS - Read Me First" accompanying computer for information on proper handling of the AC adaptor and AC cord.

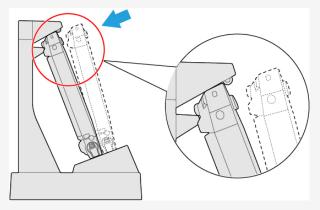


- 3. Insert the tablet to the cradle from above.
- 4. Push the tablet to the back.
 - Do not attempt to make connections if there is any object between the tablet and the cradle. Doing so could damage the tablet and the cradle



IMPORTANT

· Push the tablet into the back of the roller as shown in the illustration below when connecting it to the cradle.



- Do not attempt to move the cradle while the tablet is being connected to the cradle.
- When connecting USB devices to the tablet connected to the cradle, make sure that the tablet does not come off the cradle.
- If the computer malfunctions while the cradle is attached, disconnect the cradle and check to see if the computer operates normally. If the computer operates normally, the cradle may be malfunctioning. Contact Panasonic Technical Support.

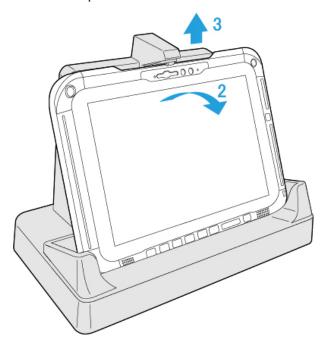
NOTE

• If the image of the external display connected to the cradle has stopped, remove the tablet from the cradle, and then reconnect it.

Disconnecting

- 1. Turn off the tablet.
- 2. Pull the tablet to the front.

3. Hold and lift up the tablet.

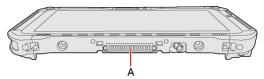


Cradle (FZ-VEBG21 series)

You can use an optional cradle. This device frees you from being bothered by a lot of cable connections when you carry the FZ-G2 series (tablet). It also allows you to connect various peripherals.

Connect the cradle to the expansion bus connector (A) on the bottom side of the tablet.

For further information, refer to the instruction manual of the cradle.



In combination of the computer and cradle, you can connect variety of devices.

Read operating instructions for each device carefully when connecting each device to the cradle.

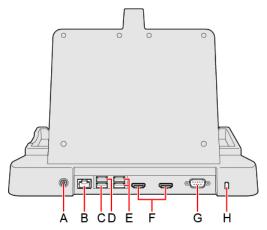
- Names and Functions of Parts
- · Connecting/Disconnecting the Tablet

Names and Functions of Parts

IMPORTANT

. Do not touch the expansion bus connector or pins of the cradle.

<Rear>



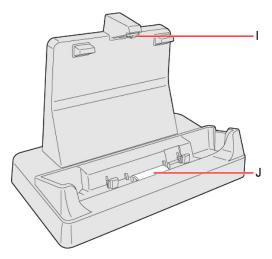
- A. DC-IN Jack
- B. LAN Port
- C. USB 3.1 Port
- D. USB 3.0 Port
- E. USB 2.0 Ports (2 ports)
- F. HDMI Ports (2 ports)

Connector for HDMI compatible digital display.

- It is not compatible with the analog display.
- The display specifications of the maximum resolution, etc. that can be output differ according to the specifications of the device connected. For details, refer to the specifications of the device connected.
- G. Serial Port
- H. Security Slot

A Kensington cable can be connected.

• For more information, read the manual that comes with the cable.



- I. Roller
- J. Expansion Bus Connector

This connects to the expansion bus connector on the bottom of the tablet.

Connecting/Disconnecting the Tablet

IMPORTANT

- Make sure to turn the tablet off for connection/disconnection.
- Do not connect or disconnect the cradle while the tablet is powered on or in the sleep mode (i.e., when the power indicator is blinking).

Connecting

1. Turn off the tablet.

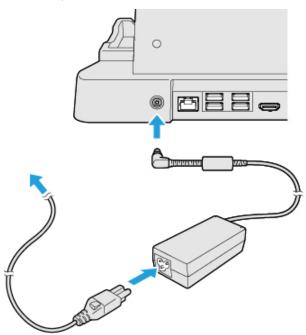
Disconnect all the devices and cables and close the terminal cover.

If the keyboard base is attached, detach the tablet from the keyboard base.

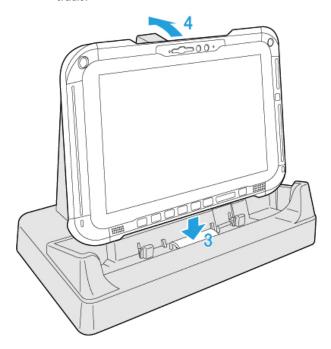
2. Connect the AC adaptor to DC-IN jack of the cradle.

Connect the AC cord to the AC adaptor, and connect to an AC outlet.

• Refer to the "OPERATING INSTRUCTIONS - Read Me First" accompanying computer for information on proper handling of the AC adaptor and AC cord.

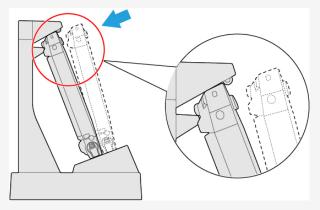


- 3. Insert the tablet to the cradle from above.
- 4. Push the tablet to the back.
 - Do not attempt to make connections if there is any object between the tablet and the cradle. Doing so could damage the tablet and the cradle.



IMPORTANT

· Push the tablet into the back of the roller as shown in the illustration below when connecting it to the cradle.



- Do not attempt to move the cradle while the tablet is being connected to the cradle.
- When connecting USB devices to the tablet connected to the cradle, make sure that the tablet does not come off the cradle.
- If the computer malfunctions while the cradle is attached, disconnect the cradle and check to see if the computer operates normally. If the computer operates normally, the cradle may be malfunctioning. Contact Panasonic Technical Support.

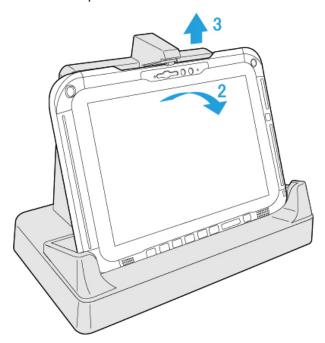
NOTE

• If the image of the external display connected to the cradle has stopped, remove the tablet from the cradle, and then reconnect it.

Disconnecting

- 1. Turn off the tablet.
- 2. Pull the tablet to the front.

3. Hold and lift up the tablet.



Strap

Attaching the straps (hand strap/shoulder strap) helps you stably hold the computer.

Installing the Hand Strap

Preparation

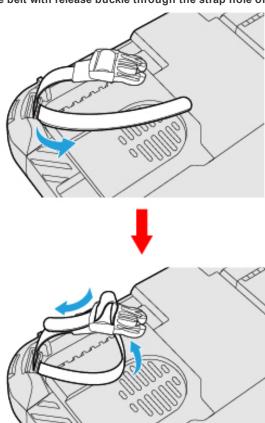
- <Only for model with Keyboard Base>
 Detach the tablet from the keyboard base.
- 2. Turn the tablet over.

IMPORTANT

- Place the tablet on a soft cloth with the panel side down. In addition, make sure that there are no objects under the tablet.
- 3. Remove the belt with release buckle from the hand strap.



4. Put the belt with release buckle through the strap hole of the tablet.



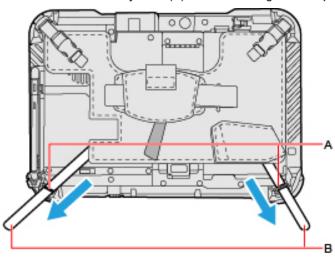
5. Attach the belt with release buckle to the hand strap.



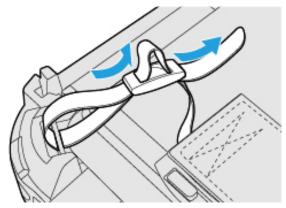
In the same way as above, attach the belt with release buckle on the opposite side of the tablet.

Attaching the Hand Strap

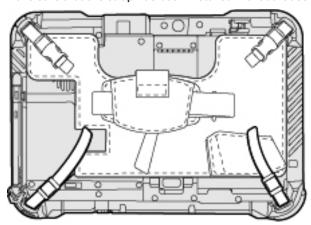
1. Put the belts with the adjusters (B) attached through the strap holes (A) located on the lower side of the back of the tablet.



2. Put the belt through the adjuster, and securely tighten it so as not to loosen.

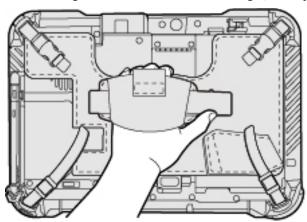


3. Make sure that the strap has been installed without looseness.

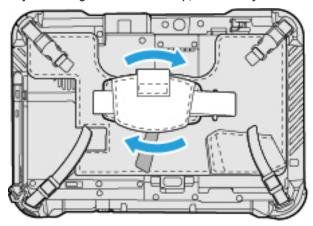


Using the Hand Strap

1. When holding the tablet in one hand and using it, insert your hand to the hand strap.



- 2. Fix the hand strap firmly enough to support the tablet, and turn it over.
- 3. Adjust the angle of the hand strap, if necessary.

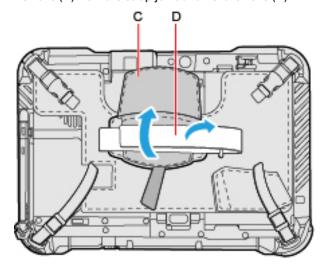


IMPORTANT

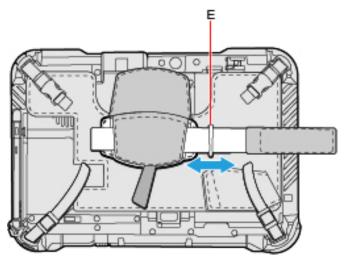
• If the hand is not securely fixed to the hand strap, the tablet may drop.

When the hand strap is too loose or too tight, adjust the hand strap according to the instructions below.

1. Remove (C) from the strap joint and next remove (D).



2. Adjust the position (E).

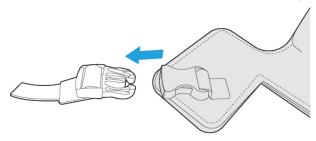


- 3. Attach (D), and then attach (C) to the joint.
- Firmly attach the hand strap so as not to loosen.

When inserting/removing the battery pack

IMPORTANT

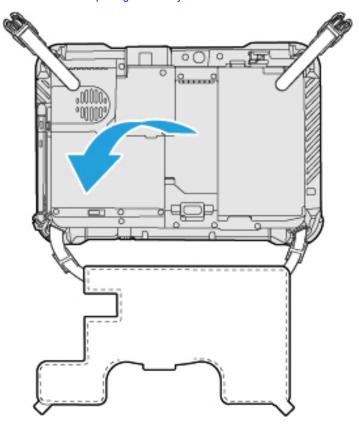
- Place the tablet on a soft cloth with the panel side down. In addition, make sure that there are no objects under the tablet.
- 1. Remove the belt with release buckle from the hand strap.



2. Raise the upper side of the hand strap.

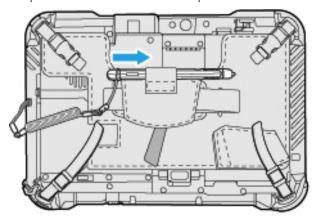
With the upper side of the hand strap lifted up, remove the back cover.

• Refer to Replacing the Battery Pack.



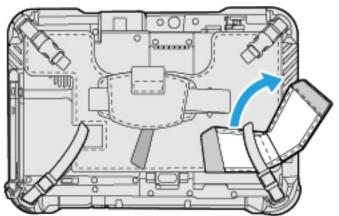
Attaching the pen to the Hand Strap

The pen can be attached to the hand strap.

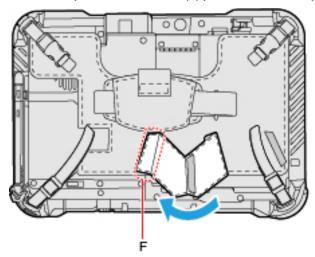


Using the tablet stand

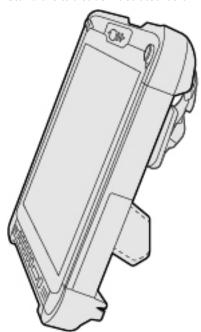
1. Unfold the stands on the right sides.



2. Attach the tip of the stand to the (F) part of the hand strap.



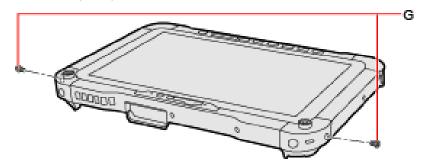
3. Stand the tablet as illustrated below.



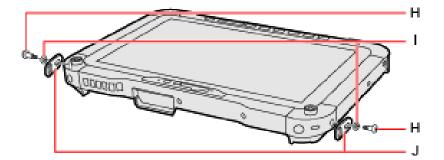
Attaching the Shoulder Strap

- <Only for model with Keyboard Base>
 Detach the tablet from the keyboard base.
- 2. Remove the screws (G).

Use the PH 1 (PH #1) screwdriver.



3. Attach the plates (J), and tighten the screws (H) with the washers (I) inserted between them. Use the two plates, two washers, and two screws supplied with the shoulder strap. Use the PH 1 (PH #1) screwdriver.



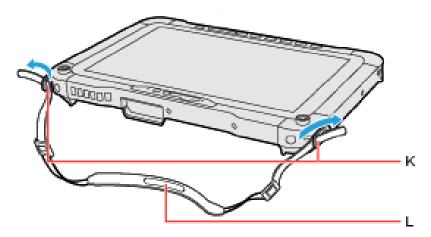
Recommended tightening torque

 $0.45 \, \text{N} \cdot \text{m} \pm 0.05 \, \text{N} \cdot \text{m} \, (4.5 \, \text{kgf} \cdot \text{cm} \pm 0.5 \, \text{kgf} \cdot \text{cm})$

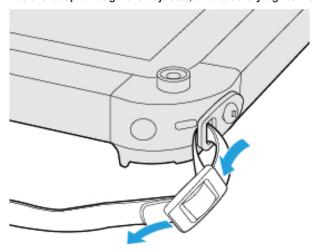
4. Pass the end of the strap through the strap holes (K) on the plate.

NOTE

• Attach the shoulder strap so that the shoulder pad (L) faces inward.



5. Put the strap through the adjuster, and securely tighten it so as not to loosen.



IMPORTANT

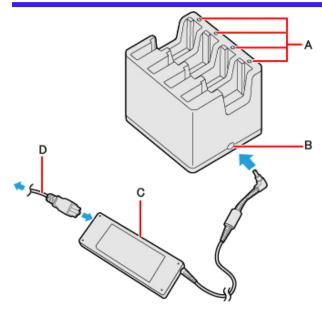
• Do not use the shoulder strap for other purposes such as use as a neck strap.

Battery Charger

The battery charger is designed for charging the battery pack for the Panasonic computer series. To recharge a battery pack, you will need the AC adaptor and AC cord included with this product.

Read both this operating instructions and the operating instructions of the battery charger before using.

Description of Parts



- A. Battery Indicator (1 to 4)
- B. DC-IN Jack
- C. AC adaptor

Clean the dust and other debris of the connector regularly.

D. AC cord

IMPORTANT

- The AC cord may vary depending on the country.
- Use only the specified AC adaptor with this product.

Indicators

The power indicator on the battery charger lights green when the power is being supplied (when the adaptor is connected).

Battery Indicator	Battery status
Not lit	The battery pack is not inserted or not being charged.
Orange	Charging is in progress.
Green	The battery is fully-charged.
Blinking red	The battery pack or the charging circuit is not operating properly.
Blinking orange	The battery cannot be charged temporarily due to the following reasons:
	Its internal temperature is out of the acceptable range.

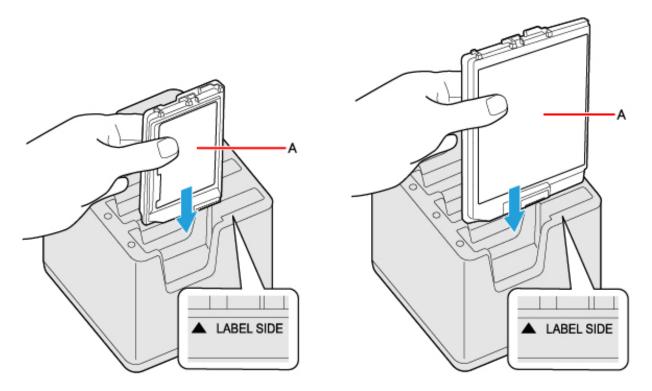
Charging the battery pack

- 1. Connect the AC adaptor.
- 2. Insert the battery pack(s).

Insert the battery pack firmly with its label side (A) facing the "LABEL SIDE" of the battery charger.

FZ-VZSU1VU series

FZ-VZSU1TU/FZ-VZSU1UU series



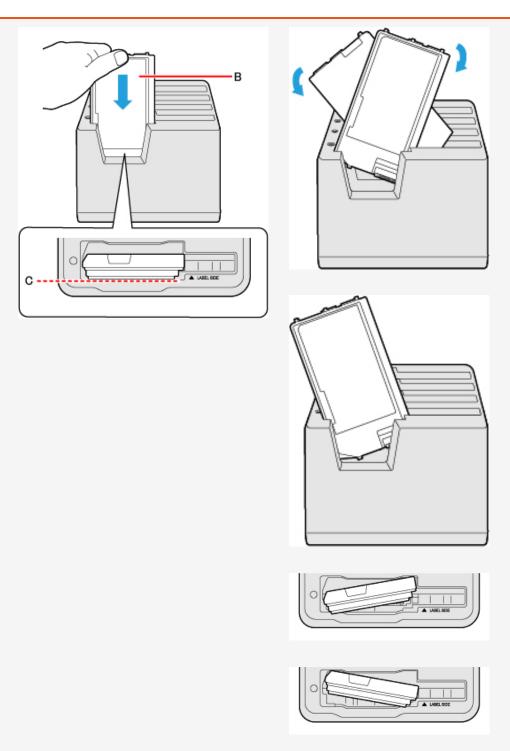
Four battery packs can be inserted simultaneously. Each of them can be inserted in any slot. Charging begins automatically.

IMPORTANT

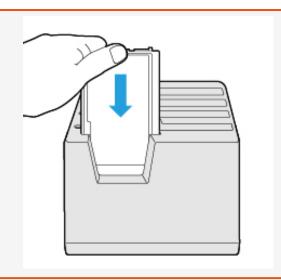
• Insert the battery pack straight into the battery charger so that both ends of the label side (B) are along the dashed lines (C) on the battery charger.

Inserting the battery pack vertically or at an angle may damage the terminal of the battery charger.

Correct Incorrect



• If the battery pack got lodged in the slots, push the middle of the battery pack.



NOTE

- The battery indicator lights when the battery pack is properly inserted with the AC adaptor connected.
- When removing the battery pack, pull it out in the opposite direction of attaching the battery pack.
- The battery pack or battery charger will become somewhat warm during normal use. This is not a malfunction.

Troubleshooting

Refer to the following instructions when a problem occurs. If the remedies indicated in the chart do not solve the problem, contact Panasonic Technical Support.

For a software problem, refer to the instruction manual of the software.

• Refer to Checking the Computer's Usage Status.

Starting Up / Sleep / Hibernation / Resume

Cannot start up. The power indicator or	Connect the AC adaptor.
battery indicator is not lit.	Insert a fully charged battery.
	Remove the battery pack and the AC adaptor, and then connect them again.
	 Even if the AC adaptor and battery pack are correctly connected, if the battery indicator is not lit, the AC adaptor protection function may be operating. Disconnect the AC cord, wait 3 minutes or more, and reconnect the AC cord.
	If a device is connected to the USB port, disconnect the device.
	 Press ≪ Fn≫ + ≪ F8≫ or button to turn off the concealed mode.
Cannot turn on the computer. The computer does not resume from sleep. (The power indicator blinks rapidly in green.)	Leave it in an environment of 5 °C {41 °F} or higher temperature for about an hour, then turn on the power again.
It takes time for the power indicator to light up.	If the power switch is pressed immediately after the battery pack has been mounted on the computer, and while the AC adaptor is not connected, it may take about 5 seconds before the power indicator lights up and the computer turns on. This is because the computer is checking the remaining battery charge; it is not a malfunction.
"Remove disks or other media. Press any key to restart" or a similar message	If a device is connected to the USB port, disconnect the device, or set [Tablet USB Port] or [Keyboard Base and Cradle USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.
appears.	 If the problem persists after removing the disk, it may be a flash memory failure. Contact Panasonic Technical Support.
Windows startup and operation is slow.	Start the Setup Utility (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.
Cannot resume.	One of the following operations may have been carried out. Press the power switch turn on the computer. Data not saved will be lost.
	 In sleep mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected.
	 The power switch was pressed for 10 seconds or longer to forcibly turn off the computer.
	The battery is exhausted. Sleep and hibernation consumes some power.

 Start in the Setup Utility (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. 1. Remove all peripheral devices including an external display. 2. Right-click (Start) - [File Explorer]. 3. Click [This PC]. 4. Right-click [Windows (C:)], and click [Properties]. 5. Click [Tools] - [Check].
A standard user needs to enter an administrator password.
6. Follow the on-screen instructions.
Remove all peripherals.
It may take 1 or 2 minutes to turn off the computer.
Remove USB devices temporarily. If the problem persists, restart the computer.
It may take 1 or 2 minutes to enter sleep or hibernation.
The computer does not enter sleep or hibernation immediately after resuming. Wait approximately 1 minute.
Disconnect peripheral devices.
If you connect to a network using wireless LAN function, select the profile and connect to the
access point (Disabling/Enabling Wireless Communication).
 If you do not use wireless LAN function, turn off wireless LAN function (Disabling/Enabling Wireless Communication).
Make sure that you are not using any software that regularly accesses the flash memory.

Entering Password

Forgot the password.	Supervisor Password or User Password: Ask the system administrator.	
	Administrator password:	
	 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 (Installing Software) and set up Windows, and then set a new password.	
Even after entering the password, password input screen is displayed again.	The computer may be in ten-key mode. If the Num Lock indicator	
	The computer may be in Caps Lock mode. If the Caps Lock indicator	
	 Enter the password using the same keyboard that was used to set the administrator password or user password, as the key layouts of the on-screen keyboard and some external keyboards may differ. 	

[Enter Password] does not appear when	Select [Enabled] in [Password On Resume] in the [Security] menu of the Setup Utility.	
resuming from sleep/hibernation.	The Windows password can be used instead of the password set in the Setup Utility.	
	To add a password, set up the following.	
	1. Click (Start) - (Settings) - [Accounts] - [Sign-in options].	
	2. Click [Password] - [Add].	
	3. Create a password.	
	4. Click [Next].	
	5. Click [Finish].	
	6. Select [Every Time] under "Require sign-in".	
Cannot sign in to Windows using the face recognition for Windows Hello outdoors.	If you have registered the face recognition indoors, you may not sign in to Windows using the face recognition outdoors. In such cases, please add Windows Hello face recognition outdoors. Perform the following procedure.	
	1. Sign in to Windows.	
	2. Click (Start) - (Settings) - [Accounts] - [Sign-in options].	
	Click [Windows Hello Face] - [Improve recognition].	
	4. When the "Windows Hello setup" screen is displayed, click [Get started].	
	5. "Making sure it's you" is displayed, input PIN number.	
	 Since additional registration of face recognition starts, follow the on-screen instruc- tions. 	
	If you cannot register the face recognition outdoors properly, try to take the following measures.	
	 In the shade, register your face with your back against the wall that does not reflect the light. 	
	Place the tablet vertically to block the sunlight, and register your face.	

Display

No display.	 The external display is selected. Press «Fn» + «F3» or « » + «P» to switch the display. Then click the display mode. When using an external display, Check the cable connection. Turn on the display. Check the settings of external display. The display is turned off by the power-saving function. The screen returns to the original state when you operate keyboard, touchpad, or touchscreen. When operating the keyboard, press a key that does not affect the computer operation, such as « Ctrl». The computer entered sleep or hibernation by the power-saving function. To resume, press the power switch.
The screen is dark.	 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. Press «Fn» + «F8» or button to turn off the concealed mode. Under factory default settings, the brightness of the display screen will adjust automatically based on the ambient light detected by the ambient light sensor. You can adjust the settings for this sensor. (About the Ambient Light Sensor)
The screen is disordered.	 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. Resuming from sleep or hibernation may affect the screen of the external display. Restart the computer.

During Simultaneous display, one of the screens becomes disordered.	When using the Extended Desktop, use the same display colors for the external display as those used by the LCD. If you continue to experience problems, try changing the display.
The external display does not work normally.	 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. Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.).
The screen does not become bright.	The brightness is set low to avoid malfunction where surrounding temperature is high. For proper operating temperature (> Specifications).
There are red, green, or blue dots on the screen, or there is unevenness in colors and brightness on the screen.	 Although advanced high-precision technologies are used in the production of color LCD screens, 0.002 % or less of the picture elements may be dark or remain constantly lit (i.e., more than 99.998 % of elements function properly). Due to the natural characteristics of LCD screens, you may notice unevenness in colors and brightness depending on your angle of view. Hues may also vary by product.
Image persistence is occurred.	When the same image is displayed on the screen for a long time, previous images may remain faint even if you switch the image to the new one. This phenomenon is called "image persistence". You can suppress the image persistence by the following measures. Use the screen saver. Right-click the desktop, and then click [Personalize] - [Lock screen] - [Screen saver settings]. Select any screen saver. Set the time to turn off the display. Click (Start) - (Settings) - [System] - [Power & sleep]. Change the setting.

Sound

No sound.	 Press «Fn» + «F4», «Fn» + «F6» or tablet buttons to cancel mute. Turn off the concealed mode. Restart the computer. Beeping sounds are not emitted by this device.
Distorted sound.	 Performing ≪ Fn≫ key combinations sometimes causes sound distortion. Stop and restart playback.
Cannot change the volume by pressing $\ll Fn \gg + \ll F5 \gg$, $\ll Fn \gg + \ll F6 \gg$ or tablet buttons.	Activate the Windows sound function. When it is not active, the volume does not change even if slide bar is displayed.
The microphone volume is small/large.	 Adjust the volume of the microphone according to the following steps.: Right-click (Speakers) on the task tray, and click [Sounds]. Click [Recording] - [Microphone Array] - [Properties], and then move the slider () to adjust the volume of [Microphone Array] and/or [Microphone Boost] in [Levels].
Cannot record with microphone.	Use a condenser microphone.
When signing in (e.g., resuming the computer), audio is distorted.	Perform the following steps to change the audio settings to prevent audio output. Right-click (Speakers) on the task tray, and click [Sounds]. Remove the check mark from [Play Windows Startup sound].

The feedback noise may occur.	To stop microphone's monitoring output.	
	Right-click (Speakers) on the task tray, and click [Sounds].	
	Click [Recording] - [Microphone Array] - [Properties], and then remove a check mark for [Listen to this device] in [Listen].	

Keyboard

Only numbers can be input.	When the indicator is on, the keyboard is in ten-key mode. Press ≪ Num Lock≫ to cancel.
Only capital letters can be input.	When the indicator is on, the keyboard is in Caps Lock mode. Press ≪ Caps Lock≫ to cancel.
Cannot enter special characters (ß, à, ç, etc.) and symbols.	 Use the character map. Click (Start) - [Windows Accessories] - [Character Map].

Network

Cannot connect to a network.	Set the device ([LAN] / [LAN [Advanced] menu of the Setum	(2nd)]/[Wireless LAN]/[Wireless WAN]) to [Enabled] in the up Utility.
Cannot check the computer's MAC address.	Follow the steps below. 1. Click (Start) - (Settings). 2. Click [Network & Internet] - [Status] - [View hardware and connection properties]. Properties of each device appears. Write down the 12-digit address (alphanumeric) that appears for "Physical address (MAC):" rows of each devices. The names of each of the devices are as follows.	
	Device	Connection name
	LAN	Ethernet
	LAN (2nd)	Ethernet 2
	LAN (2nd) Wireless LAN	Ethernet 2 Wi-Fi
	Wireless LAN	Wi-Fi
	Wireless LAN Bluetooth Wireless WAN *The content display	Wi-Fi Bluetooth Network Connection

Wireless Communication (only for model with wireless LAN/Bluetooth/wireless WAN)

Cannot connect to a network.	Set the device ([Wireless LAN] / [Wireless WAN] of [Wireless Configuration]) to [Enabled] in the
	[Advanced] menu of the Setup Utility (Wireless Configuration).
	Confirm the airplane mode is Off.
	To turn off the airplane mode (Using airplane mode).
	 If this computer cannot be connected to an IEEE802.11a network, confirm "Enabling/Disabling the Wireless LAN Standard IEEE802.11a (802.11a)".
	Restart the computer.

Access point is not detected.	Shorten the distance between the computer and the access point, and try the detection again.
	Confirm the following settings:
	[Wireless LAN] in the [Advanced] menu of the Setup Utility
	Confirm that [Wireless LAN] of [Wireless Configuration] is set to [Enabled].
	Check the channel being used by the access point.
<only for="" model="" wan="" wireless="" with=""></only>	Confirm the following settings:
Cannot communicate.	[Wireless WAN] in the [Advanced] menu of the Setup Utility
	Confirm that [Wireless WAN] of [Wireless Configuration] is set to [Enabled].
	Confirm that the nanoSIM card is inserted correctly.
	 If you cannot be connected to the network after inserting the nanoSIM card, confirm "eSIM/n-anoSIM Switching".
	If communication is not established after proceeding with the above remedies, the wireless WAN device may not be correctly recognized. Restart the computer.

Display Rotation

Cannot rotate the display.	 The application program currently running may not support the image rotation. Quit the program, and then try to rotate the image. This can ameliorate the status. When the automatic rotation is off, screen display does not rotate automatically.
The operations of screen do not match the rotation angle.	 The application program currently running may not support the image rotation. Quit the program, and then try to rotate the image. This can ameliorate the status. Change a screen setup to landscape.

Connecting Peripherals

An error occurs when installing the driver.	When you install a driver of card or peripheral device, make sure that the driver is compatible with the operating system. If it is not compatible, malfunction may occur. For information about the driver, contact the manufacturer of the peripheral device.		
A peripheral device does not work.	Install the driver.		
	Contact the manufacturer of the device.		
	 When operation resumes from sleep or hibernation, devices such as an external mouse and cards may not function properly. In this case, restart the computer or reinitialize the device. 		
	When is displayed in the Device Manager, remove and insert the device. If the problem persists, restart the computer.		
	The settings of USB ports can be changed separately for the computer and the cradle (optional). In the [Advanced] menu of the Setup Utility, check both [Tablet USB Port] and [Keyboard Base and Cradle USB Port] settings.		
	 The computer may not recognize the connection/removal of some devices, or may not operate normally with some devices. 		
	Right-click (Start) - [Device Manager].		
	 Select the device, and remove the check mark for [Allow the computer to turn off this device to save power] in [Power Management]. (This item may be unavailable for some types of devices.) 		
	 In the case that a USB device does not work, remove the USB device and connect it again or connect the USB device to another port. 		
	 Depending on the peripheral devices, it may not operate normally when connected to the USB port with the continuous power supply function. 		
The connected mouse does not work.	Check the mouse connection.		
	Install the driver compatible with the connected mouse.		
You do not know the address map for IRQ,	You can check with the following procedure.		
I/O port address, etc.	Right-click (Start) - [Device Manager].		
	Click [View] - [Resources by type].		

<only for="" model="" port="" serial="" with=""></only>	Check the connection.
The device connected to the serial port	The device driver may not work. Refer to the instruction manual of the device.
does not work.	Set [Serial Port] to [Auto] in the sub-menu of [Serial Port Settings] in the [Advanced] menu of the Setup Utility.
	The I/O and IRQ you can use vary depending on the device. If the setting does not work, try other settings in the Setup Utility.
<only dedicated="" for="" gps="" model="" on="" wan="" wireless="" with=""></only>	You can check the GPS status. (GPS)
GPS does not work.	Set airplane mode to OFF.
	Airplane mode*1
	Confirm that Wireless LAN (Wi-Fi) is [On].
	Confirm that Wireless WAN (Cellular) is [On].
	 If a USB 3.0 compatible device is used, GPS information may not be correctly received. In this case, do any of the following.
	 Set [Right Port of Tablet] or [Keyboard Base and Cradle] to [Disabled] in the [Advanced] menu of the Setup Utility.
	Connect the USB device to the USB 2.0 port.
	Use an extension cable (separately sold) compatible with USB 2.0.
	 If an external antenna for GPS can be used, use the external antenna, and keep some distance between the external antenna and the USB device.
<only for="" lan="" model="" wireless="" with=""></only>	You can check the Wireless LAN status. (Wireless LAN)
Wireless LAN does not work.	Set airplane mode to OFF.
	Airplane mode ^{*1}
	Confirm that Wireless LAN (Wi-Fi) is [On].
	Confirm that Wireless WAN (Cellular) is [On].
	 If a USB 3.0 compatible device is used, Wireless LAN Antenna may not be correctly received. In this case, do any of the following.
	Set [Keyboard Base and Cradle] to [Disabled] in the [Advanced] menu of the Setup Utility.
	Connect the USB device to the USB 2.0 port.
	Use an extension cable (separately sold) compatible with USB 2.0.
<only bluetooth="" for="" model="" with=""> Bluetooth does not work.</only>	You can check the Bluetooth status. (Bluetooth)
bluetooth does not work.	Set airplane mode to OFF.
	Airplane mode ^{*1}
	Confirm that Wireless LAN (Wi-Fi) is [On].
	Confirm that Wireless WAN (Cellular) is [On].
	 If a USB 3.0 compatible device is used, Bluetooth Antenna may not be correctly received. In this case, do any of the following.
	Set [Keyboard Base and Cradle] to [Disabled] in the [Advanced] menu of the Setup Utility.
	Connect the USB device to the USB 2.0 port.
	Use an extension cable (separately sold) compatible with USB 2.0.
<only for="" lan="" model="" with=""> LAN transmission speed slows down noticeably.</only>	Change the power plan to [Best performance]. (Configuring Power Saving Settings)
<only for="" lan="" model="" wireless="" with=""> Wireless LAN connection is cut.</only>	
vvii eless LAIN connection is cut.	

^{*1 :} Screen messages are explained in [English (United States)].

 $(Depending \ on \ the \ language \ preference, some \ screen \ messages \ in \ these \ instructions \ are \ different \ from \ the \ actual \ screen \ messages. For example, \ [Flight mode]/[WiFi] \ may be \ displayed \ instead \ of \ [Airplane \ mode]/[Wi-Fi] \ in \ some \ language \ preference.)$

Touchpad / Touchscreen

The pointer does not work.	Connect the external mouse correctly.	
	Restart the computer using the keyboard.	
	If the computer does not respond to keyboard commands, read "No response".	
<only base="" for="" keyboard="" model="" with=""> Cannot input using the touchpad.</only>	The touchpad may be disabled by some mouse drivers. Check your mouse's operating instructions. The touchpad may be disabled by some mouse drivers. Check your mouse's operating instructions.	
	The touchpad is disabled. Press ≪ Fn≫ + ≪ Esc≫ to enable.	
Cannot point the correct position using the pen (included) and fingers.	Perform the Calibrating the Screen.	

Smart Card (only for model with Smart Card slot)

Cannot use a Smart Card.	Insert the Smart Card correctly.	
	To use a Smart Card, you need a specified software and driver.	

Barcode Reader (only for model with Barcode Reader)

Reading is not possible.	 Confirm that the barcode is readable (without damage, etc.). Confirm that the barcode (symbology) is readable.
	 Confirm the area for reading. The distance from the reader to the barcode is important. As a rule of thumb, a farther distance should be used for a larger symbol to allow the light to cover the symbol. In addition, a closer distance should be used for a thinner symbol.
	Be sure the barcode is not placed closer than necessary to the reader.
	 Confirm the assignment of [Barcode Reader Trigger] with the Setup Utility, and change the set- ting if it is not assigned. (Tablet Button Configuration)

User Switching

 When switching to a different user without signing out, some applications do not work properly. In this case, sign out the other users.
--

Others

Although the computer is turned on, the following problems is occurred.	Concealed mode is set to ON (Concealed Mode).
The indicators does not light.	
No sound.	
Screen is dark.	
No response.	Open Task Manager and close the software application.
	Right-click (Start) - [Task Manager].
	 An input screen (e.g., password input screen at startup) may be hidden behind another window. Use ≪ Alt≫ + ≪ Tab≫ to check.
	 Shut down by pressing and holding the power switch for 10 seconds or longer, and turn on the computer and open the application again.
	 If Windows runs correctly, but the application software does not start, uninstall the failing application software, then reinstall it.
	To uninstall, perform the procedure below.
	Right-click (Start) - [Apps and Features] - [Apps & features].
	Select the program you want to uninstall, and click [Uninstall].

A motion image file cannot be played using Windows Media Player and the message "Codec required" appears.	Some motion image files require a Codec that is not installed as standard. In this case, connect to the Internet and try playback of the file again. The Codec may automatically be downloaded so you may be able to play it.
The date and time are incorrect.	Make the correct settings. 1. Click (Start) - (Settings) - [Time & Language] - [Date & time], and select [Off] in "Set time automatically".
	 Click [Change], and then set the day and time. Click [Change], and select [On] in "Set time automatically". If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
"Battery not exist" is displayed.	Battery goes to hibernation if the battery level is about 5 %, may be displayed such as "Not exist" or "Not use" is not a malfunction. Connect the AC adaptor for a while.

Checking the Computer's Usage Status

You can check the computer's usage status in the PC Information Viewer. You may need this information when calling Panasonic Technical Support for advice.

NOTE

This computer periodically records the management information of the flash memory, etc. The maximum data volume for
each record is 1024 bytes. The information is only used for estimating the cause when the flash memory 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].

- A standard user needs to enter an administrator password.
- . Depending on your network environment, it may take 1 minute to start up the PC Information Viewer.

Launching PC Information Viewer

- 1. Click (Start) (Panasonic PC Settings Utility) (Support) (System) [Launch PC Information Viewer].
- 2. Select the item to display the detailed information.

Saving the information as a text file

- 1. Run the PC Information Viewer and display the information you wish to save.
- 2. Click [Save].
 - To save the item that is displayed

Click [Save only the information displayed] and click [OK]. Some of the hidden information on the screen, which cannot be shown without scrolling the screen, will be saved, too.

· To save all items

 $\label{eq:click} \hbox{Click}\,[\hbox{Save all the information}]\,\hbox{and click}\,[\hbox{OK}].$

In the case of [Hard Disk Status], if you do not add the check mark for [Disable the automatic save function for management information history], the records already recorded are also saved.

3. Select the folder to save the information, input the file name, and then click [Save].

Saving a copy of the screen as an image file

To save a copy of the screen as an image file, perform the following steps.

1. Display the screen you want to save.



Alternatively press + -.

The screen image is saved in "Screenshots" folder under "Pictures" folder.

Hardware Diagnostics

If it appears that the hardware installed in this computer is not operating properly, you can use the PC-Diagnostic Utility to determine whether or not there is a problem.

If the utility discovers a problem in the hardware, contact Panasonic Technical Support.

Software cannot be checked using this utility.

Hardware that can be checked using the PC-Diagnostic Utility

- CPU/System
- RAM XXXXX MB
- Storage XXX GB
- SOUND*1
- USB
- · Keyboard (Only when the keyboard base is attached)
- Touch Screen
- Wireless LAN (Only for model with wireless LAN)
- Video
- Wired LAN
- Serial Port (Only for model with serial port)
- . Wireless WAN (Only for model with wireless WAN)
- . Bluetooth (Only for model with Bluetooth)
- GPS (Only for model with dedicated GPS)
- Smart Card (Only for model with Smart Card slot)
- Front Camera (Only for model with front camera)
- · Rear Camera (Only for model with rear camera)

NOTE

- · Only for tablet is subject to the diagnostic check.
- · When the video diagnostic check is running, the display may be distorted. This is not malfunction.

Regarding the PC-Diagnostic Utility

Operations	Touchscreen/External mouse operations	Internal keyboard operations
Select icon	Place the cursor above the icon	Press « Space » , and then press « \to » « \leftarrow » « \uparrow » « \downarrow » ((close) cannot be selected)
Click the icon	Touch or click (right click cannot be used)	Press ≪ Space ≫ above the icon
Complete the PC-Diagnostic Utility and then restart the computer	Click (close)	Press « Ctrl» + « Alt» + « Del»

^{*1:} When the PC-Diagnostic Utility is running a loud beep will sound. (The beep will not sound if mute is using in Windows or [Sound] is turned off in [Concealed Mode Configuration].)

If the touchpad does not operate properly, press ≪ Ctrl≫ + ≪ Alt≫ + ≪ Del≫ to restart the computer, or press the power switch to turn the power off, and then restart the PC-Diagnostic Utility.

Running the Diagnostic Check

Run this utility using the default settings in the Setup Utility.

If the Setup Utility or other settings will not allow hardware to be executed, the hardware icon will be displayed in gray.

1. Connect the AC adaptor, and be enabled the wireless function.

During the diagnostic check, do not remove the AC adaptor, or attach any peripheral devices.

2. Start the Setup Utility.



- 2. Click [Restart now] under "Advanced startup" *2
- $3. \quad \text{Click} \, [\text{Troubleshoot}] \, \, [\text{Advanced options}] \, \, [\text{UEFI Firmware Settings}] \, \, [\text{Restart}].$

The computer restarts, and the Setup Utility screen appears.

- If the password is requested, enter the Supervisor Password.
- If you are using the computer after changing the settings from the status at the time of purchase, we recommend that you make a note of the settings that are changed.
- *2: Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)

3. **Press ≪ F9≫**.

At the confirmation message, select [Yes] and press \ll Enter \gg .

4. Press ≪ F10≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

The 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.

NOTE

• For the tablet only, touch the top left corner of the screen or press the screen is displayed.



6. Select the [Exit] menu, and then select [Diagnostic Utility].

When the PC-Diagnostic Utility starts up, it will automatically begin the diagnostic check for all hardware components.

- If the password is requested, enter the password.
- The touchpad and the internal keyboard may not be used when each hardware checking is running. While checking is in process, a vertical green progress bar (A) is displayed on the right side of the hardware icon.



• You can perform the following operations by selecting the icons on the screen:





- : Display help (click the screen or press ≪ Space≫ to return to the original screen).
- You can check the status and results of the diagnostic check via the progress bar displayed on the right of the hardware icon.
 - When the bar is progressing: The diagnostic check is in progress.
 During memory diagnostic check, the display may stop for a long period of time. Wait until the process is complete.
 - · When the bar is green: No problems discovered.
 - . When the bar is red: Problems discovered.
 - When the bar is yellow: The diagnostic check has been stopped or canceled.

NOTE

- Using the following procedure, you can run a diagnostic check on a specified hardware component, or run an
 extended diagnostic check (The extended diagnostic check is only specified). The extended diagnostic check is
 more detailed, and so requires a longer period of time to run.
 - Click to stop the diagnostic check, and click the hardware icon to configure the diagnostic.
 - Standard display (B): Perform diagnostic check.



• "Full" display (C): Perform extended diagnostic check. ("Storage", "Keyboard" and "Touch Screen" only)



• Gray display (D): Do not perform diagnostic check.



- 2. Click to start the diagnostic check.
 - Display during diagnostic check (E): Diagnostic check is in progress.



7. When all the hardware check is complete, confirm the diagnostic check results.

If the display is red and the message "TEST FAILED" is displayed, you can assume that there is a problem with the computer's hardware. Confirm which hardware component is displayed as red, and contact Panasonic Technical Support.

If the display is green and the message "TEST PASSED" is displayed, the computer's hardware is operating normally. Continue using the computer as it is. If the computer still does not operate properly, reinstall the software (Installing Software).

8. After the diagnostic check is complete, click (close), or press «Ctrl» + «Alt» + «Del» to restart the computer.

When the Icon Becomes Gray and the Corresponding Device Cannot Be Checked

The device is disabled in the Setup Utility:
 Set the device to [Enabled] in the Setup Utility.

Reset your computer

If operations on the unit become unstable, we recommend refreshing Windows. This involves reinstalling the operating system with personal files and settings retained (Personalization).

Preparation

- Remove all peripherals.
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Click (Start) (Settings) [Update & Security] [Recovery].
- 2. Click [Get started] under "Reset this PC".
- 3. Click [Keep my files] or [Remove everything] on the "Choose an option" screen.

[Keep my files]

- Remove all applications and programs that did not come with this computer.
- · Restore settings to default.
- Reinstall Windows without removing your personal files.

[Remove everything]

- · Remove all applications, programs and personal files.
- · Restore settings to default.
- 4. If you are connected to the Internet, click [Cloud download] or [Local reinstall] on the "How would you like to reinstall Windows?" screen.

[Cloud download]

- Download the latest Windows installation file from Microsoft and reinstall Windows.
- · You will need at least 4 GB of free space.

[Local reinstall]

- · Reinstall Windows from this computer.
- 5. Click [Change settings] or [Next] on the "Additional settings" screen.
 - When [Keep my files] is selected in step 3, you can change the settings of "Restore preinstalled apps?" by clicking [Change settings].
 - When [Remove everything] is selected in step 3, you can change the settings of "Clean data?" and "Delete workplace resources?" (displayed only for some models) by clicking [Change settings].
 - If you are connected to the Internet, you can change the settings of "Download Windows?" by clicking [Change settings].
- 6. When the "Ready to reset this PC" screen appears, confirm on-screen information, and click [Reset].

After the reinstallation, the computer will restart.

- Do not interrupt installation, for example by turning off the computer or performing other operation. Otherwise installation may become unavailable as Windows may not start up or the data may be corrupted.
- 7. Perform Setup Windows (OPERATING INSTRUCTIONS Read Me First).

NOTE

- The date and time, and the time zone may not be correct. Be sure to set them correctly.
- 8. <Only for model with TPM> Clear TPM.
 - 1. Right-click (Start) [Run], then input "tpm.msc" and click [OK].
 - $2. \quad \text{Click} \, [\text{Clear TPM}...] \, \text{under "Actions" on the right of the "Trusted Platform Module (TPM)} \, \text{Management on Local Computer" screen}.$
 - 3. Click [Restart] of the "Manage the TPM security hardware" screen.
 - After restarting the computer, perform the step 1 to display the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - After restarting the computer, the "Trusted Platform Module (TPM) Management on Local Computer" screen may appear automatically.
 - 5. Click [Refresh] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.

6. When "The TPM is ready for use." appears in "Status" item, close the "Trusted Platform Module (TPM) Management on Local Computer" screen.

If "The TPM is ready for use." does not appear, wait a moment and click [Refresh] again.

Installing Software

Installing software will return the computer to the default condition. When you install the software, the internal SSD data will be erased.

Back up important data to other media or an external flash memory before installation.

IMPORTANT

- Do not delete the recovery partition on the SSD. If it has been deleted, the recovery disc could not be created.
 - To check the recovery partition, perform the following methods.
 - Right-click (Start) [Disk Management].
 - . A standard user needs to enter an administrator password.

Disk recovery

You can reinstall the OS that was pre-installed at the time of purchase.

IMPORTANT

• If the recovery partition is deleted, you cannot perform flash memory recovery.

If reinstallation using the method described in "Reset this PC" is not successful, follow the steps below.

Preparation

- . Remove all peripherals.
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Start the Setup Utility.
 - 1. Click (Start) (Settings) [Update & Security] [Recovery].
 - 2. Click [Restart now] under "Advanced startup".
 - 3. Click [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility and press ≪F9≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

Press ≪ F10≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

The 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.

NOTE

- For the tablet only, touch the top left corner of the screen or press the button while "Panasonic" boot screen is displayed.
- 5. Select the [Exit] menu, then select [Recovery Partition] and press ≪ Enter≫.

Computer will restart.

6. Click [Recovery].

 ${\sf Click}\,[{\sf CANCEL}]\, to\, abort\, the\, operation.$

- 7. Confirm the contents of "EULA", and click [Accept.] if you continue.
- Click [Integrated Storage Drive: xxxxx] or [Quick Release Storage Drive: xxxxx].
- 9. Click [Recovery ALL Partitions.].

Installation starts according to the instructions on the screen. (It will take approximately several tens of minutes.)

- Do not interrupt installation, for example by turning off the computer or performing other operation. Otherwise installation may become unavailable as Windows may not start up or the data may be corrupted.
- 10. When the Ending process screen is displayed, click [Shutdown.] to turn off the computer.
- 11. Turn on the computer.
 - If the password is requested, enter the Supervisor Password.
- 12. Perform Setup Windows (OPERATING INSTRUCTIONS Read Me First).
- 13. Start the Setup Utility and change the settings as necessary.
- 14. <Only for model with TPM> Clear TPM.
 - 1. Right-click (Start) [Run], then input "tpm.msc" and click [OK].
 - 2. Click [Clear TPM...] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - 3. Click [Restart] of the "Manage the TPM security hardware" screen.
 - 4. After restarting the computer, perform the step 1 to display the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - After restarting the computer, the "Trusted Platform Module (TPM) Management on Local Computer" screen may appear automatically.
 - 5. Click [Refresh] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - 6. When "The TPM is ready for use." appears in "Status" item, close the "Trusted Platform Module (TPM) Management on Local Computer" screen.

If "The TPM is ready for use." does not appear, wait a moment and click [Refresh] again.

Using Recovery Disc

Use the Recovery Disc in the following conditions.

- · You have forgotten the administrator password.
- Installation is not complete. The recovery partition in the flash memory may be broken.

Preparation

- · Prepare the following items:
 - Recovery Disc (USB memory device can also be used as a recovery disc.) (Create a Recovery Disc)
 - Commercially available optical drive
- Remove all peripherals (except for the commercially available optical drive).
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Start the Setup Utility.
 - 1. Click (Start) (Settings) [Update & Security] [Recovery].
 - 2. Click [Restart now] under "Advanced startup".
 - 3. Click [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility and press ≪F9≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

3. Insert the media that was used to create the recovery disc.

- For DVD/BD media
 - 1. Connect the commercially available optical drive to the USB port.
 - 2. Set the Recovery Disc into the commercially available optical drive.
- · For USB storage devices
 - 1. Connect the USB storage device used to create the recovery disc to the USB port.
- 4. Press ≪ F10≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

The 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.

NOTE

• For the tablet only, touch the top left corner of the screen or press the button while "Panasonic" boot screen is displayed.

 Select the [Exit] menu, and then select the commercially available optical drive or USB storage device in [Boot Override] and press ≪ Enter≫.

The computer will restart.

- 7. Click [Recovery].
- 8. Confirm the contents of "EULA", and click [Accept.] if you continue.
- 9. Click [Integrated Storage Drive: xxxx] or [Quick Release Storage Drive: xxxxx].
- 10. Click [Recovery ALL Partitions.].
- 11. Click [Remain Recovery Partition.].

Follow the on-screen instructions.

12. When the ending process screen is displayed, remove the recovery disc and commercially available optical drive or USB storage device, and then click [Reboot.].

Follow the on-screen instructions.

- 13. On the "Finish Recovery Process." screen, click [Shutdown.].
- 14. Turn on the computer.
- 15. Perform Setup Windows (OPERATING INSTRUCTIONS Read Me First).
- 16. Start the Setup Utility and change the settings as necessary.
- 17. <Only for model with TPM> Clear TPM.
 - 1. Right-click (Start) [Run], then input "tpm.msc" and click [OK].
 - $2. \quad \text{Click} \, [\text{Clear TPM}...] \, \text{under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen. \\$
 - 3. Click [Restart] of the "Manage the TPM security hardware" screen.
 - 4. After restarting the computer, perform the step 1 to display the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - After restarting the computer, the "Trusted Platform Module (TPM) Management on Local Computer" screen may appear automatically.
 - 5. Click [Refresh] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
 - 6. When "The TPM is ready for use." appears in "Status" item, close the "Trusted Platform Module (TPM) Management on Local Computer" screen.

If "The TPM is ready for use." does not appear, wait a moment and click [Refresh] again.

Error Message

 $Follow \ the \ instructions \ below \ when \ an \ error \ message \ appears. \ If \ the \ problem \ persists \ or \ if \ the \ error \ message \ is \ not \ shown \ here, \ contact \ Panasonic \ Technical \ Support.$

Error Message	Solution
Bad System CMOS	An error has occurred in the memory of system settings. This occurs when the memory content is changed by an unexpected program operation, etc.
System CMOS Checksum	Start the Setup Utility and return the settings to the default values, and then change the settings as necessary.
Error	If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
Invalid Year. System date	The date and time settings are not correct.
restored to 01/01/20XX	Start the Setup Utility and set the correct date and time.
	If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
Press F2 for Setup / F12 for LAN	Write down the error details and press ≪ F2≫ or ≪ Del≫ to start the Setup Utility. Change the settings if necessary.
Warming up the system (up to 30 minutes)	The computer is warming up before start up. Wait for the computer to start up (takes up to 30 minutes). 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 {41 °F} or higher temperature for about an hour, and then turn on the power once more.
Remove disks or other media. Press any key to restart	If a device is connected to the USB port, disconnect the device, or set [Tablet USB Port] or [Keyboard Base and Cradle USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.
	If the problem persists after removing the disk, it may be a flash memory failure. Contact Panasonic Technical Support.
Reboot and Select proper	The operating system is not properly installed in the flash memory that you are going to boot from.
Boot device or Insert Boot Media in selected Boot device	If you cannot start up the OS from the internal disk, check if the internal disk is properly recognized on the "Information" menu of the Setup Utility. "Information" menu of the Setup Utility.
and press a key	If it is recognized ("xxx GB" is displayed.), perform the reinstallation.
Disk error Press any key to	If not ("Empty" is displayed.), contact Panasonic Technical Support.
restart	If a device is connected to the USB port, disconnect the device, or set [Tablet USB Port] or [Keyboard Base and Cradle USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.
Please use the recommended AC adaptor	Use the specified AC adaptor.
Problem Undocking From Key-	Perform the following procedure.
board Base	Close the dialog box.
	2. Remove peripheral devices connecting to the keyboard base, and then retry detaching the tablet from the
	keyboard base (Detaching the tablet from the keyboard base).

Technical Information

Network Connections and Communications Software

The sleep mode of this computer supports the modern standby mode. (Modern Standby)

- . When an application supports the modern standby mode, it can periodically connect to the network even during sleep.
- If the computer enters sleep or hibernation while you are using an application that does not support the modern standby mode, the network connection may be interrupted or the performance may be adversely affected. If that happens, set the power saving function to [Never]. (Setting Sleep or Hibernation)

About Fast startup

The fast startup is enabled as the factory default.

If the computer shut down by the following steps, the fast startup will be disabled at next boot-up.

- 1. Click (Start) (Settings) [Update & Security] [Recovery].
- 2. Click [Restart now] under "Advanced startup"*1.
- 3. Click [Turn off your PC].
- *1 : Screen messages are explained in [English (United States)].

(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)

If you perform the following steps, the fast startup function becomes always disabled.

- 1. Click (Start) (Settings) [System] [Power & sleep].
- 2. Click [Additional power settings] under "Related settings".
- 3. Click [Choose what the power buttons do] [Change settings that are currently unavailable].
- 4. Remove checkmark from [Turn on fast startup (recommended)] in "Shutdown settings".

Erasing data when disposing or transferring the computer

When disposing the computer or transferring the ownership, erase all flash memory drive data in order to avoid data leakage. Even if you erase the data or initialize the flash memory drive using normal Windows commands, the data can be read with some special software.

It is recommended to use dedicated software or services to erase the data.

Note that transferring of the ownership without uninstalling the commercial software will be a violation of the software's license agreement.

Hard Disk Data Erase Utility

The Hard Disk Data Erase Utility erases data and software stored on the flash memory drive in a way that is difficult to recover.

The Hard Disk Data Erase Utility erases data using an overwriting method, but there is a possibility that due to malfunctions or other operational errors, data may not be completely erased. There are also specialized devices that may be able to read data that has been erased using this method. If you need to erase highly confidential data, contact a company that specializes in this process. Panasonic Connect Co., Ltd. will bear no responsibility for damages suffered as a result of the use of this utility.

IMPORTANT

· Connect the AC adaptor and do not remove it until flash memory data erase is complete.

NOTE

• This function cannot be used to erase the data on the specified partition.

Preparation

- Prepare the following items:
 - Recovery Disc (USB memory device can also be used as a recovery disc.) (Create a Recovery Disc)
 - · Commercially available optical drive
- Remove all peripherals (except for the commercially available optical drive).
- . Connect the AC adaptor and do not remove it until flash memory drive data erase is complete.
- 1. Start the Setup Utility.
 - 1. Click (Start) (Settings) [Update & Security] [Recovery].
 - 2. Click [Restart now] under "Advanced startup".
 - 3. Click [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility and press ≪F9≫.

At the confirmation message, select [Yes] and press ≪ Enter ≫.

- 3. Insert the media that was used to create the recovery disc.
 - For DVD/BD media
 - 1. Connect the commercially available optical drive to the USB port.
 - 2. Set the Recovery Disc into the commercially available optical drive.
 - · For USB storage devices
 - 1. Connect the USB storage device used to create the recovery disc to the USB port.
- Press ≪ F10≫.

At the confirmation message, select [Yes] and press \ll Enter \gg .

The 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.

NOTE

- For the tablet only, touch the top left corner of the screen or press the A2 button while "Panasonic" boot screen is displayed.
- 6. Select the [Exit] menu, and then select the commercially available optical drive or USB storage device in [Boot Override] and press ≪ Enter≫.

The computer will restart.

- 7. Click [Erase].
- 8. Click [Erase the all data on the whole Disk.].
- 9. Click [Start Erase Process.].

Erasing the flash memory drive data starts.

10. After the erasing is completed, remove the Recovery Disc and click [Shutdown.].

Dispose of Computer

<Only for model with Built-in Bridge Battery>

<For Europe and U.S.A./Canada>

Attention Customers

Don't remove the battery by yourself. The battery must be removed by qualified professionals.

When disposing of this product, be sure to contact qualified professionals to remove the battery.

Attention Qualified professionals to remove the battery

Dispose of this product correctly in accordance with the local regulations after removing the battery as shown in the following procedure.

Preparation

- . Remove all peripherals.
- Erase the stored data. (Frasing data when disposing or transferring the computer)

IMPORTANT

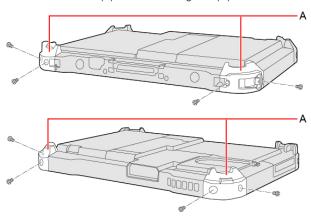
- Never disassemble the computer except before disposal.
- Refer to the precautions when disposing of the computer (POPERATING INSTRUCTIONS Read Me First).
- 1. Turn off the computer, and disconnect the AC adaptor.
- 2. <Only for model with keyboard base>

Detach the tablet from the keyboard base. (Detaching the tablet from the keyboard base)

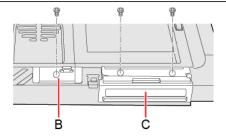
- 3. Turn over the computer.
- 4. Remove the battery pack. (Replacing the Battery Pack)
- 5. <Only for Removable-SSD model>

Remove the SSD pack. (Attaching/Detaching the SSD Pack)

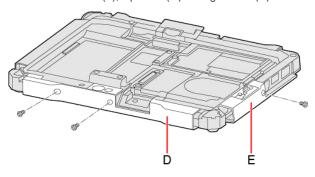
- 6. Detaching the pen (included) from the computer. (PDetaching the pen from the computer)
- 7. Remove an option from the rear expansion bay. (🔻 Inserting an option to the rear expansion bay)
- 8. Remove an option from the top expansion bay. (Inserting an option to the top expansion bay)
- 9. Remove the screws (8) and the corner guard (A).



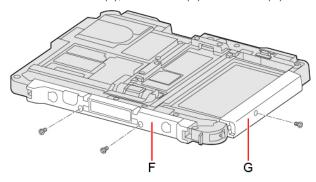
10. Remove the screws (3), pen holder (B), and I/O cover (C).



11. Remove the screws (3), top cover (D) and right cover (E).

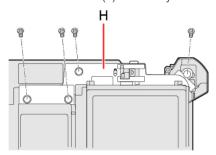


12. Remove the screws (3), bottom cover (F) and left cover (G).



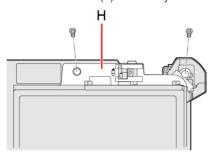
13. <Only for Removable-SSD model>

Remove the screws (4) and battery latch cover (H).

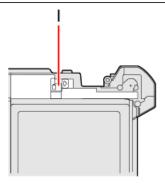


<Only for standard model>

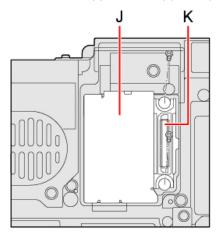
Remove the screws (2) and battery latch cover (H).



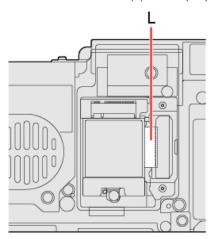
14. Remove the lock lever (I).



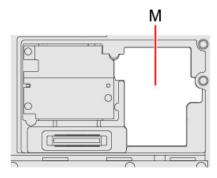
15. Remove the seat (J) and screws (2), and top expansion bay connector (K).



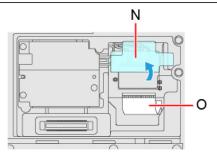
 $16. \quad \hbox{Disconnect the FPC cable (L) on the top expansion bay connector side.}$



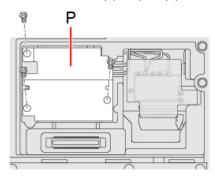
17. Remove the seat (M).



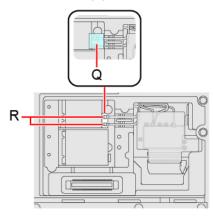
18. With the seat (N) lifted up, disconnect the FPC cable (O).



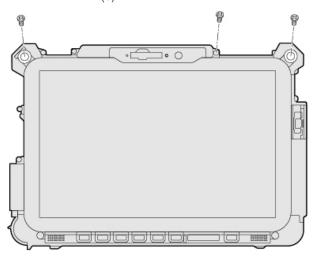
19. Remove the screws (3) and plate (P).



20. Remove the seat (Q) and disconnect the cables (R).

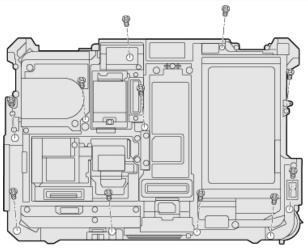


21. Remove the screws (3).

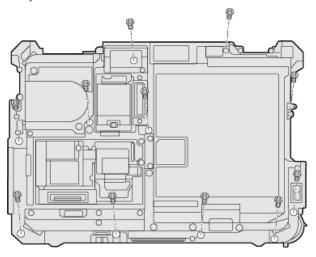


22. Remove the screws (11).

<Only for Removable-SSD model>

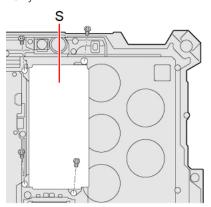


<Only for standard model>

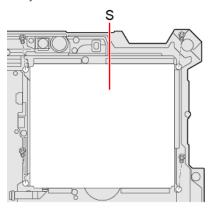


23. Remove the screws (4) and the built-in bridge battery (S).

<Only for Removable-SSD model>



<Only for standard model>



Insulate the connectors of the built-in bridge battery by covering them with plastic tape, for example.

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:



The model number is described on the computer)

To check CPU speed, memory size and the flash memory drive (SSD) size:

Run the Setup Utility (Setup Utility) and select "Information" menu.

[Processor Type]: CPU speed, [Memory Size]: Memory size, [Hard Disk]: SSD size

Main Specifications

CPU		Intel [®] Core [™] i5-10310U Processor (with Intel vPro [®] Technology) (6 MB ^{*1} cache, 1.7 GHz up to 4.4 GHz with Intel [®] Turbo Boost Technology) / Intel [®] Core [™] i7-10810U Processor (with Intel vPro [®] Technology) (12 MB ^{*1} cache, 1.1 GHz up to 4.9 GHz with Intel [®] Turbo Boost Technology)
Chip Set		Built-in CPU
Video Controller		Intel® UHD Graphics (Built-in CPU)
Main Memory*1*2		8 GB / 16 GB / 32 GB, LPDDR4x SDRAM
Storage*3		256 GB / 512 GB / 1 TB (Opal SSD) Approx. 20 GB is used as a partition with disk recovery tools. (Users cannot use this partition.) Approx. 1 GB*4 is used as a partition with system tools. (Users cannot use this partition.)
Display Method		10.1" WUXGA (1920 × 1200 dots), Aspect ratio 16:10, Anti-Reflection
	Internal LCD*5	Max. 16,777,216 colors (1920 × 1200 dots)
	External Display (USB Type-C)*6	Tablet: Max. 16,777,216 colors (4096 × 2160 dots)
Wireless LAN*7		Intel® Wi-Fi 6 AX201 (Wireless LAN)
Bluetooth*7*8		(Bluetooth)
LAN		IEEE 802.3 10Base-T / IEEE 802.3u 100BASE-TX / IEEE 802.3ab 1000BASE-T
Sound		Intel [®] High Definition Audio subsystem support, Stereo speaker
Camera	Front	Video: 1920 × 1080 pixels, 30 fps Still: 1920 × 1080 pixels Dual Microphone / with Camera Cover
Security Chip		TPM (TCG V2.0 compliant)
Interface		<tablet> USB Ports (USB 3.0 (Type-A) port × 1 / USB 3.1 (Type-C) port (with USB Power Delivery, DisplayPort™ Alternate Mode) × 1)*9 / LAN Port (RJ-45) × 1 / External Antenna Connector × 2 <keyboard base=""> USB Ports (USB 3.0 (Type-A) port × 1 / USB 3.0 (Type-C) port × 1)*9 / Expansion Bus Connector (Dedicated 24-pin female) / External Antenna Connector × 2</keyboard></tablet>

_	*40		
Sensor	Ambient light sensor*10	Equipped	
	Digital compass	Equipped	
	Gyro sensor	Equipped	
	Acceleration sensor	Equipped	
Keyboard / Pointing D	Pevice	81 Keys / Touchpad / Touchscreen: 10 Finger touch (Capacitive) / Digitizer	
Power Supply		AC adaptor or Battery pack	
AC Adaptor*11		Input: 100 V - 240 V AC, 50 Hz/60 Hz, Output: 15.6 V DC, 7.05 A	
Battery Pack		<fz-vzsu1tu series=""> Li-ion 11.4 V, 4360 mAh <fz-vzsu1uu fz-vzsu1vu="" series=""> Li-ion 10.8 V, 6300 mAh</fz-vzsu1uu></fz-vzsu1tu>	
	Operating Time*12	<fz-vzsu1tu series=""> With Keyboard Base: Approx. 12 hours For tablet: Approx. 12 hours <fz-vzsu1uu fz-vzsu1vu="" series=""> With Keyboard Base: Approx. 18.5 hours For tablet: Approx. 18.5 hours</fz-vzsu1uu></fz-vzsu1tu>	
	Charging Time ^{*13}	<fz-vzsu1tu series=""> Power Off: Approx. 2.5 hours Power On: Approx. 2.5 hours <fz-vzsu1uu fz-vzsu1vu="" series=""> Power Off: Approx. 3 hours Power On: Approx. 3 hours</fz-vzsu1uu></fz-vzsu1tu>	
Power Consumption	*14	Approx. 40 W*15 / Approx. 110 W (maximum when recharging in the ON state)	
Physical Dimensions (W × D × H)*16		<fz-vzsu1tu series=""> With Keyboard Base: 287.0 mm × 235.0 mm × 52.7 mm {11.3" × 9.3" × 2.1"} (without protruding parts) For tablet: 279.0 mm × 188.0 mm × 23.5 mm {11.0" × 7.4" × 1.0"} (without protruding parts) <fz-vzsu1uu series=""> With Keyboard Base: 287.0 mm × 235.0 mm × 52.7 mm {11.3" × 9.3" × 2.1"} (without protruding parts) For tablet: 279.0 mm × 188.0 mm × 32.8 mm {11.0" × 7.4" × 1.3"} (without protruding parts) <fz-vzsu1vu series=""> With Keyboard Base: 287.0 mm × 235.0 mm × 52.7 mm {11.3" × 9.3" × 2.1"} (without protruding parts) For tablet: 279.0 mm × 188.0 mm × 235.0 mm × 52.7 mm {11.3" × 9.3" × 2.1"} (without protruding parts) For tablet: 279.0 mm × 188.0 mm × 28.1 mm {11.0" × 7.4" × 1.1"} (without protruding parts)</fz-vzsu1vu></fz-vzsu1uu></fz-vzsu1tu>	

Weight*16		<fz-vzsu1tu series=""></fz-vzsu1tu>	
		With Keyboard Base: Approx. 2.10 kg {Approx. 4.63 lbs.}	
		For tablet: Approx. 1.19 kg {Approx. 2.63 lbs.}	
		<fz-vzsu1uu series=""></fz-vzsu1uu>	
		With Keyboard Base: Approx. 2.19 kg {Approx. 4.83 lbs.}	
		For tablet: Approx. 1.27 kg {Approx. 2.80 lbs.}	
		<fz-vzsu1vu series=""></fz-vzsu1vu>	
		With Keyboard Base: Approx. 2.23 kg {Approx. 4.91 lbs.}	
		For tablet: Approx. 1.32 kg {Approx. 2.90 lbs.}	
		<fz-vzsu1tu 5g="" for="" model="" only="" series=""></fz-vzsu1tu>	
		With Keyboard Base: Approx. 2.12 kg {Approx. 4.67 lbs.}	
		For tablet: Approx. 1.21 kg {Approx. 2.66 lbs.}	
		<fz-vzsu1uu 5g="" for="" model="" only="" series=""></fz-vzsu1uu>	
		With Keyboard Base: Approx. 2.21 kg (Approx. 4.87 lbs.)	
		For tablet: Approx. 1.29 kg {Approx. 2.84 lbs.}	
		<fz-vzsu1vu 5g="" for="" model="" only="" series=""></fz-vzsu1vu>	
		With Keyboard Base: Approx. 2.25 kg {Approx. 4.96 lbs.}	
		For tablet: Approx. 1.34 kg {Approx. 2.96 lbs.}	
Environment	Operating Temperature	-10 °C to 50 °C {14 °F to 122 °F} (IEC60068-2-1, 2)*17*18	
	Operating Humidity	30 % to 80 % RH (No condensation)	
	Storage Temperature	-20 °C to 60 °C {-4 °F to 140 °F}	
	Storage Humidity	30 % to 90 % RH (No condensation)	

Software

Operating System*19	Windows 10 Pro 64-bit	
Pre-installed Software	 PC Information Viewer Panasonic PC Recovery Disc Creation Utility Microsoft Office Trial*20 Emergency notification setting Panasonic PC Camera Utility*21 Panasonic PC GPS Viewer*22 Panasonic PC Manual Selector Panasonic PC Settings Utility*23 Panasonic PC Day Night Mode Utility Panasonic PC 2D Barcode Key Emulator*24 	
	 Aptio Setup PC-Diagnostic Utility Hard Disk Data Erase Utility*25 	

Wireless LAN*7

Data Transfer Rates*26	IEEE802.11a:	54 Mbps
	IEEE802.11b:	11 Mbps
	IEEE802.11g:	54 Mbps
	IEEE802.11n:	HT20 : 144.4 Mbps
		HT40:300 Mbps
	IEEE802.11ac:	VHT20:173.3 Mbps
		VHT40:400 Mbps
		VHT80:866.7 Mbps
		VHT160:1.73 Gbps
	IEEE802.11ax:	HE20 : 287 Mbps
		HE40: 574 Mbps
		HE80: 1.2 Gbps
		HE160: 2.4 Gbps
Standard Supported	IEEE802.11a/IEEE802.11b/IEEE802.11g/IEEE802.11n/IEEE802.11ac/	
	IEEE802.11ax	
Transmission Method	OFDM system, DSSS system	

Bluetooth*7*8

Bluetooth	Bluetooth v5.1	
	Classic mode / Low Energy mode	
Transmission Method	FHSS system	
Wireless Channels Used	Classic mode: Channels 0 to 78 / Low Energy mode: Channels 0 to 39	
RF Frequency Band	2.402 GHz - 2.480 GHz	

Optional Devices

Wireless WAN*27		LTE/5G
Dedicated GPS*28		Chip: U-blox NEO-M8 Series GPS/GLONASS/SBAS Support
nanoSIM Card Slot*29	9	×1
Camera	Rear	Video: 3200 × 2400 pixels, 15 fps Still: 3200 × 2400 pixels Camera Flash LED
Battery Hot Swap		Built-in bridge battery (not replaceable)

Top Expansion Bay*30

Barcode Reader	×1
2nd USB 2.0 (Type-A) port*9	×1
2nd LAN	IEEE 802.3 10Base-T / IEEE 802.3u 100BASE-TX / IEEE 802.3ab 1000BASE-T

True Serial Port	×1
Thermal Imaging Camera	×1

Rear Expansion Bay*31

Smart Card Slot	×1
Contactless Smart Card Reader	× 1, RF frequency: 13.56 MHz, compatible with ISO14443 Type-A, ISO14443 Type-B, ISO18092

- *1: 1 MB = 1,048,576 bytes / 1 GB = 1,073,741,824 bytes
- *2: Memory size depends on the model.
- *3: 1 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes / 1 TB = 1,000,000,000,000 bytes. Your operating system or some application software will report as fewer GB.
- *4: Space used may increase when system update is performed.
- *5: A 16,777,216 color display is achieved by using the dithering function.
- *6: Maximum resolution depends on the specifications of the external display. Display may be impossible using some connected external displays.
- *7: Only for model with wireless LAN. The specifications may differ depending on the model.
- *8: Does not guarantee operation of all Bluetooth peripherals.
- *9: Does not guarantee operation of all USB-compatible peripherals.
- *10: Only for model with front camera.
- *11: <Only for North America>

The AC adaptor is compatible with power sources up to 240 V AC adaptor. This computer is supplied with a 125 V AC compatible AC cord.

*12: Measured by MobileMark® 2014.

Varies depending on the usage conditions, or when an optional device is attached.

 ${\sf MobileMark}^{\circledR} \ \text{is a U.S. Registered Trademark of the Business Applications Performance Corporation}.$

- *13: Varies depending on the usage conditions, CPU speed, etc.
- *14: Approx. 0.5 W when the battery pack is fully charged (or not being charged) and the computer is off.

Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.15 W) simply by having the AC adaptor plugged into an AC outlet.

- *15: Rated power consumption.
- *16: Typical value. May differ depending on models and options.
- *17: Do not expose the skin to this product when using the product in a hot or cold environment. (**OPERATING INSTRUCTIONS Read Me First)

 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 SSD is warming up during startup. Therefore, if you are using battery power and the remaining power is low, the computer may not start up.

- *18: <Only for North America>
 - UL 62368-1 Evaluated for use at ambient temperatures up to 35 $^{\circ}$ C {95 $^{\circ}$ F} when used with optional AC Power Adaptor and 40 $^{\circ}$ C {104 $^{\circ}$ F} when used without AC power adaptor.
- *19: Operations of this computer are not guaranteed except for the pre-installed OS and the OS which is installed by using the flash memory recovery and the recovery disc.
- *20: To continue using this software after the end of the trial, purchase a license by following the on-screen instructions.
- *21: Only for model with camera.
- *22: Only for model with dedicated GPS.
- *23: Panasonic PC Settings Utility includes the following functions: Touch Screen Mode / Touch Operation Support / etc.
- *24: Only for model with Barcode Reader.
- *25: Perform on the recovery disc.
- *26: These are speeds specified in IEEE802.11a+b+g+n+ac+ax standards. Actual speeds may differ.
- *27: Only for model with wireless WAN. The specifications may differ depending on the model. The model supports eSIM.
- *28: The 5G model cannot be used.

*29: Only for model with wireless WAN. When using a nanoSIM card, a nanoSIM card (8.8 mm {0.35"} × 12.3 mm {0.48"}) must be inserted in the nanoSIM card slot.

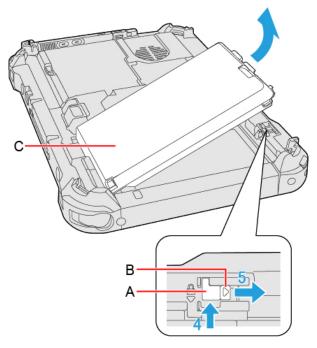


- *30: Option for Top Expansion Bay. Exclusively configurable by selecting one from Barcode Reader, 2nd USB 2.0 (Type-A) Port, 2nd LAN, True Serial Port or Thermal Imaging Camera.
- *31: Option for Rear Expansion Bay. Exclusively configurable by selecting one from Smart Card Slot or Contactless Smart Card Reader.

The model number is described on the computer

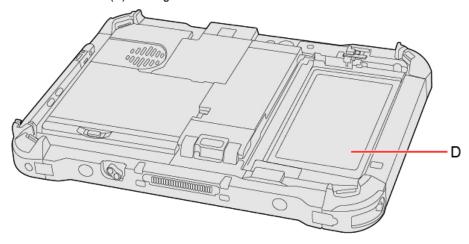
Check according to the procedure below.

- 1. Turn off the computer.
- 2. Detach the tablet from the keyboard base. (Detaching the tablet from the keyboard base)
- 3. Turn your computer over.
 - Make sure no foreign objects are under the computer.
 - Depending on the model, the shape of the battery pack may differ.
- 4. Slide the detach lock (A) to the unlocked position.
- 5. While sliding the battery latch (B) with the detach lock (A), lift the battery pack (C).



6. Check the model number.

The model number (D) starting with "FZ-G2" is described.



Keyboard Base

The model number of the keyboard base is described on the bottom of the keyboard base.

For Europe

For CE marking, refer to the followings:

Declaration of Conformity (DoC)

"Hereby, Panasonic declares that this computer is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU."

Hint:

If you want to get a copy of the original DoC of our above mentioned products, please contact our web address: https://www.ptc.panasonic.eu/

Authorised Representative:

Panasonic Testing Centre

Panasonic Connect Europe

Winsbergring 15, 22525 Hamburg, Germany

<Only for model with wireless WAN>

Following are applied for FZ-G2A/B/C/D series with EM7455/EM9190.

Type of wireless	Communication Mode	Frequency band	Maximum transmit power
WWAN (EM7455)	W-CDMA	1920 - 1980 MHz (Band 1)	24 dBm
	W-CDMA	1710 - 1785 MHz (Band 3)	24 dBm
	W-CDMA	880 - 915 MHz (Band 8)	24 dBm
	LTE	1920 - 1980 MHz (Band 1)	24 dBm
	LTE	1710 - 1785 MHz (Band 3)	24 dBm
	LTE	2500 - 2570 MHz (Band 7)	23 dBm
	LTE	880 - 915 MHz (Band 8)	24 dBm
	LTE	832 - 862 MHz (Band 20)	24 dBm

Type of wireless	Communication Mode	Frequency band	Maximum transmit power
WWAN (EM9190)	W-CDMA	1920 - 1980 MHz (Band I)	24 dBm
	W-CDMA	1710 - 1785 MHz (Band III)	24 dBm
	W-CDMA	880 - 915 MHz (Band VIII)	24 dBm
	LTE	1920 - 1980 MHz (Band 1)	24 dBm
	LTE	1710 - 1785 MHz (Band 3)	24 dBm
	LTE	2500 - 2570 MHz (Band 7)	24 dBm
	LTE	880 - 915 MHz (Band 8)	24 dBm
	LTE	832 - 862 MHz (Band 20)	16 dBm
	LTE	703 - 748 MHz (Band 28)	24 dBm
	LTE	2010 - 2025 MHz (Band 34)	24 dBm
	LTE	2570 - 2620 MHz (Band 38)	24 dBm
	LTE	2300 - 2400 MHz (Band 40)	24 dBm
	LTE	3400 - 3600 MHz (Band 42)	24 dBm
	5G	1920 - 1980 MHz (n1)	24.5 dBm
	5G	1710 - 1785 MHz (n3)	24.5 dBm
	5G	703 - 748 MHz (n28)	24.5 dBm
	5G	2496 - 2690 MHz (n41)	24.5 dBm
	5G	3300 - 4200 MHz (n77)	24.5 dBm
	5G	3300 - 3800 MHz (n78)	24.5 dBm

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*/

zlib

/* zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.8, April 28th, 2013

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Jean-loup Gailly Mark Adler

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*/

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Glenn Randers-Pehrson glennrp at users.sourceforge.net July 18, 2013

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WARRANTY

For U.S.A.

Panasonic Connect North America

Computer Products - Worldwide Warranties

Section 1: Limited Warranty - Hardware

Panasonic Connect North America, referred to hereinafter as "Panasonic", will repair the computer products listed below ("Product(s)") with new or rebuilt parts, free of charge in a Global Panasonic designated service location or Panasonic Authorized Service Center for the period specified below from the date of original purchase in the event of a defect in materials or workmanship. These warranties are extended solely to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

Original Battery Warranty

Batteries supplied with the product are covered under the warranty for one (1) year from date of purchase. Batteries purchased separately are covered under the warranty for one (1) year from the date of purchase. A replacement battery furnished under the product warranty is covered for the remaining period of the one- year warranty on the original or purchased battery.

Optional: Extended Warranty Program (PC)

If this coverage is purchased, the serial numbered Product is entitled to the same manufacturer's warranty coverage on the Product with the exception of the battery. The cost of labor, parts, and shipping are included in the price of the Extended Warranty Program.

Optional: Panasonic "Protection Plus" Warranty

Any Product for which the Panasonic "Protection Plus" warranty has been purchased will receive additional coverage for any failure that occurs due to accidental damage. All other terms and conditions of the standard warranty apply and this additional coverage will exist for the duration of the standard warranty period of the Product. If an extended Protection Plus warranty program is purchased, coverage is extended to the end of the last year of extended coverage purchased.

This warranty does not cover failures or defects that are caused by fire, intentional acts, loss, theft, improper maintenance, modification or service by anyone other than a Panasonic Authorized Service Provider, or damage that is attributable to acts of God. Cosmetic damage that does not affect functionality is not covered. Cosmetic damage on Products with hardware failures will be repaired in accordance with the warranty terms. This warranty is extended solely to the original purchaser on the Product's serial number for which it was purchased. Complete Product unit replacement fulfills the full obligation and is at the discretion of Panasonic and is limited to once during the coverage term.

Refer to the Panasonic website for full terms and conditions on the above programs.

• Additional exclusions apply – please refer to limited warranty exclusions section below.

Optional: Panasonic "Ultimate Care" Warranty

Any Product for which the Panasonic "Ultimate Care" warranty program has been purchased will receive additional coverage as specified in that program, for any failure that occurs due to accidental damage. All other terms and conditions of the standard warranty will apply and this additional warranty coverage will exist for the duration of the standard warranty period of the applicable Product. If an extended warranty is purchased for the Product together with the Ultimate Care warranty program coverage, the warranty term will be extended to the end of the last year of the purchased extended warranty coverage.

The Ultimate Care warranty will cover any hardware failures occurring due to accidental damage of the Product with an exclusion only of customer intentional acts and damage caused by events beyond human control, for up to a maximum of 1% of the total of Products deployed for a specific customer.

This includes unlimited replacement of major sub-assemblies and components of the Product during the standard warranty term and any extended warranty term plan that has been purchased by the customer. This also includes cosmetic damages that may result from exposure of the internal components of the Product to the environmental conditions.

• Additional exclusions apply – please refer to limited warranty exclusions section below.

Wireless Module Warranty

Panasonic approved wireless modems installed in Panasonic brand computers and integrated by Panasonic or an Authorized Panasonic Wireless Integrator are covered under the warranty for the remaining warranty period of the device in which the modem is installed. For devices with less than three (3)

months remaining on the unit warranty, the wireless modem will be covered for a period of three (3) months from the date of installation of the modem, covering only modem replacement or modem installation related issues.

All modems must be approved by the wireless carrier prior to use. Any use or attempted use of a wireless modem not approved and activated by the carrier for use on their network is strictly prohibited and is not sanctioned or warranted by Panasonic and may result in legal action. In addition, all modems must be approved by Panasonic as compatible with the device hardware before installation or use.

Panasonic's sole responsibility for the warranty or technical support of the software required to install or operate the modem is defined in Section 2 (Limited Software Warranty). Any attempted software installation by anyone other than a Panasonic Authorized Wireless Integrator is not covered under warranty and may result in service charges.

Installation or attempted installation by any party other than Panasonic or an Authorized Panasonic Wireless Integrator is strictly not covered under the warranty and may void the computer warranty if damage results.

Options and Accessories Warranties

The below listed Panasonic brand or supplied options and accessories are covered under this limited warranty for the period specified from the date of purchase or as specifically stated:

- AC Adaptor / Power Cord 3 Years
- Memory Expansion Card (Panasonic Brand) 3 Years
- Car Mount Docking Station PCB or Vehicle Docking Station 3 Years
- Desktop Port Replicator, I-O Box, Docking Cradle (like CF-U1) 3 Years
- Antenna Pass-through Cable 3 Years
- Backlit or Full-sized keyboard 3 Years or assumes warranty of the unit in which it is installed
- Integrated Panasonic supplied options and kits including, but not limited to Wireless Modems, Media Bay Drives (CD, DVD, Combo), Camera,
 GPS, Bluetooth, Smartcard Reader, Magnetic Card Reader, Barcode Reader, and Fingerprint Reader 3 Years or assumes warranty period of
 the unit in which it is installed provided the integration was performed by Panasonic or an Authorized Integrator.
- · Hard Drive / Solid State Drive (Internal) 3 Years
- Separately purchased 2nd Hard Drive 1 Year
- External USB Drives (CD / DVD / Hard Drive) 1 Year
- Optional Battery 1 Year
- Battery Charger / Multi-Bay Battery Charger 1 Year
- Stylus Pens, Digitizer & Standard 90 Days (physical damage excluded)

Section 2 - Limited Warranty - Software

Panasonic warrants to you only that the disk(s) or other media on which the Programs are furnished will be free from defects in material and work-manship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

This is the only warranty Panasonic makes to you. Panasonic does not warrant that the functions contained in the Programs will meet your requirements or that the operation of the Programs will be uninterrupted or error free. Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media.

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

Section 3 - Limited Warranty Exclusions - Specifically excluded from the warranty are:

- All consumable items; such as screen protection films, logo badges, labels, cleaning cloths, carry cases, manuals, cables, straps, belts, holsters, tethers, and harnesses and any other options and accessories not listed above or covered under a separate warranty
- The Warranty excludes 3 or less faulty pixels on the LCD screen
- Failures related to the product operating system, hard drive or solid state drive image, software setup, software program, virus, other program (s) or file(s) on any drive or in any computer memory location
- Failures due to BIOS settings or changes, as well as any cosmetic or physical damage to the unit
- Any unit or device with a missing or altered model number or serial number label
- Cosmetic damage or any damage which occurs in shipment
- Failures which are caused by products not supplied by Panasonic
- Failures which result from alteration, accident, misuse, introduction of liquid or other foreign matter into the unit, abuse, neglect, installation, maladjustment of consumer controls, improper maintenance or modification, use not in accordance with product use instructions
- Failures due to service by anyone other than a Panasonic Authorized Service Provider

- Failures caused by improper installation of options or accessories or due to integration by any company other than Panasonic or a Panasonic Authorized Service Center
- Damage, failure, or loss due to the unit being stolen, lost, misplaced, or used by anyone other than the original purchaser
- · Damage that is attributable to acts of God
- * Protection Plus and Ultimate Care warranty programs provide protection against accidental damage. Neither program is intended to provide product refurbishment due to normal wear and tear through normal use.
- *Customers who have twenty (20) or more units requiring service are required to contact Panasonic at 800-527-8675 and request Field Engineering assistance to coordinate higher volume repairs.

This limited warranty only covers failures due to defects in materials or workmanship which occur during normal use. If a unit is sent to a Panasonic Authorized Service Center and no hardware failure is found, the customer will be billed for labor to correct a software issue or reimage the applicable Hard Disk, or Solid State Drive plus shipping and applicable administrative fees at the current rates set by the service provider.

While we anticipate use of our products in certain environments such as nuclear equipment/systems, air traffic control equipment/systems, or aircraft equipment/systems (as defined in *1), medical devices or accessories (as defined in *2), medical treatment diagnosis image display, life-support system, or other equipment/devices/systems that are involved with ensuring human life or safety, we do not allow users to integrate our product such that it becomes an integral part of the systems found in these environments.

Panasonic will not be responsible for any liability resulting, and in any way for any damages or loss resulting from the use of this product arising out of the foregoing uses.

- *1 : Aircraft equipment/systems include Electric Flight Bag (EFB) systems are defined by FAA AC120-76D or EASA Commission Regulation (EU) No 965/2012
- *2: As defined by the Regulation (EU) 2017/745 Medical Device Regulation.

Panasonic cannot guarantee any specifications, technologies, reliability, safety (e.g. flammability/smoke/toxicity/radio frequency emission, etc.) requirement related to aviation standards that exceed the specifications of our COTS products.

Other Limits and Exclusions: There are no other express warranties except as listed above.

PANASONIC SHALL NOT BE LIABLE FOR LOSS OF DATA OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

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

For technical support or to arrange for service on your Panasonic computer product, call our toll-free hotline at 1-800-LAPTOP5 [option 1] (800-527-8675).

For Canada

PANASONIC COMPUTER AND PERIPHERALS LIMITED WARRANTY

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

Scope of Coverage	Period of Coverage	Type of Failure Coverage
Laptop Computers (except Battery) and AC Adaptor	Three (3) Years from Date of Original End User Customer Purchase Defective Materials or	Defective Materials or Workmanship
 Factory/PCI installed options including Wireless WAN, GPS, Bluetooth, Finger print reader, Backlit keyboard, Memory Card and Media Bay Drives (CD/DVD) 	Workmanship	
Ultra-Mobile PC		
Tablet PC		
Mobile Wireless Display		
PDRC — LCD and Keyboard Assemblies		
Port Replicator		

 Hand-held Computers Battery Battery charger Auto Adaptor External USB Drives 	One (1) Year from Date of Original End User Customer Purchase	Defective Materials Workmanship
Standard or Digitizer Stylus Pen	Ninety (90) Days from Date of Original End User Customer Purchase	Defective Materials or Workmanship
All consumable items including pro- tection film, cleaning cloth, carry case, tether and harness No Coverage	No Coverage	

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

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

While we anticipate use of our products in certain environments such as nuclear equipment/systems, air traffic control equipment/systems, or aircraft equipment/systems (as defined in *3), medical devices or accessories (as defined in *4), medical treatment diagnosis image display, life-support system, or other equipment/devices/systems that are involved with ensuring human life or safety, we do not allow users to integrate our product such that it becomes an integral part of the systems found in these environments.

Panasonic will not be responsible for any liability resulting, and in any way for any damages or loss resulting from the use of this product arising out of the foregoing uses.

- *3 : Aircraft equipment/systems include Electric Flight Bag (EFB) systems are defined by FAA AC120-76D or EASA Commission Regulation (EU) No 965/2012.
- *4: As defined by the Regulation (EU) 2017/745 Medical Device Regulation.

Panasonic cannot guarantee any specifications, technologies, reliability, safety (e.g. flammability/smoke/toxicity/radio frequency emission, etc.) requirement related to aviation standards that exceed the specifications of our COTS products.

IF YOU SHIP THE PRODUCT FOR WARRANTY SERVICE

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

SOFTWARE MEDIA LIMITED WARRANTY

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

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<u>Claim Procedure</u> – In the event of a defect in material or workmanship in the media during the sixty (60) days warranty period, and you return it, transportation costs prepaid, to Panasonic Canada Inc., Computer Products Marketing, 5770 Ambler Drive, Mississauga, Ontario L4W 2T3, within the warranty period, together with a copy of your purchase receipt, and an explanation of the suspected defect, PCI will replace in Canada the defective disk(s) or other media

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

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

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

Pour le Canada

GARANTIE LIMITÉE - ORDINATEURS ET PÉRIPHÉRIQUES PANASONIC

<u>Couverture</u> - Panasonic Canada Inc. (« PCI ») garantit à l'acheteur original que ce produit informatique (à l'exclusion des supports des logiciels) est, au moment de sa vente par PCI ou d'un revendeur agréé par PCI, exempt de défauts de pièces et de fabrication dans les conditions normales d'utilisation, et ce, pendant la période de couverture de la garantie, sous réserve des modalités décrites ci-dessous.

Éléments couverts	Durée de couverture	Type de couverture
Ordinateurs blocs-notes (sauf bat- teries) et adaptateur secteur	Trois (3) ans à partir de la date d'achat original.	Défauts de pièces et de fabrication
Options installées en usine/par PCI incluant: WAN sans fil, GPS, Bluetooth, lecteur d'empreintes digitales, clavier rétroéclairé, carte mémoire et lecteurs (CD/DVD)		
Ordinateurs personnels ultra-portables		
Ordinateurs tablettes		
Écran mobile sans fil		
Ensembles PDRC – ACL et clavier		
Duplicateur de port		
 Ordinateurs de poche Batterie Chargeur de batterie Adaptateur pour voiture Périphériques USB 	Un (1) an à partir de la date d'achat original.	Défauts de pièces et de fabrication
Stylo pointeur standard ou pour numériseur graphique	Quatre-vingt-dix (90) jours à partir de la date d'achat original.	Défauts de pièces et de fabrication
Tous les articles consommables inclu- ant les pellicules protectrices, chiffons de nettoyage, étuis de transport, longes et sangles	Aucune couverture	

Recours – Pour obtenir des informations sur la marche à suivre dans le cas où une réclamation en vertu de la garantie deviendrait nécessaire, communiquez par téléphone avec un représentant de PCI au 1-800-668-8386, entre 9h00 et 17h00 (heure de l'Est) du lundi au vendredi (sauf les jours fériés), avant l'échéance de la garantie applicable, en prenant soin d'identifier la nature de la défaillance.

Un reçu ou toute autre pièce justificative de la date d'achat original sera exigé avant toute réparation. Toute pièce défectueuse couverte par la présente garantie limitée sera réparée ou remplacée par une pièce neuve ou remise à neuf. Le remplacement ou la réparation sera fait conformément aux modalités de la présente garantie limitée pendant la durée restante de la période originale de la garantie.

Produits non couverts – La présente garantie limitée ne couvre pas les produits achetés à l'extérieur du Canada. Elle ne couvre pas non plus les dommages, la défaillance ou les défauts attribuables à une manutention inadéquate, une mauvaise installation, une utilisation anormale ou abusive, de la négligence, un accident, un déversement ou la pénétration d'un objet étranger, une modification, un cas fortuit ou une réparation effectuée par une personne non agréée par PCI.

Bien que nous anticipions l'utilisation de nos produits dans certains environnements tels que les systèmes/équipements nucléaires, systèmes/équipements de contrôle du trafic aérien ou systèmes/équipements d'avions (comme défini dans *5), dispositifs ou accessoires médicaux (comme défini dans *6), affichages d'images de diagnostic pour traitement médical, systèmes d'assistance de vie artificielle ou tout autre équipement/dispositif/système lié à la vie ou la sécurité humaine, nous n'autorisons pas les utilisateurs à intégrer nos produits de telle sorte qu'ils fassent partie intégrante des systèmes trouvés dans ces environnements.

Panasonic n'acceptera aucune responsabilité pour tout incident, et d'aucunes façons pour tout dommages ou pertes résultant de l'usage de ce produit pour l'une des fonctions énoncées ci-dessus.

- *5 : Les systèmes/équipements d'avion incluent les systèmes à Sac de vol électronique (EFB) sont définis par l'AA AC120-76D ou le Règlement de la Commission de l'AESA (UE) N° 965/2012.
- *6 : Comme prescrit par la Règlement (UE) 2017/745 concernant les dispositifs médicaux.

Panasonic ne donne aucune garantie en ce qui concerne les spécifications, les technologies, la fiabilité et la sécurité (par exemple, l'inflammabilité, la fumée, la toxicité, l'émission de fréquences radio, etc.) relatives aux normes de l'aviation qui ont dépassent les spécifications de nos produits produits COTS

EXPÉDITION DU PRODUIT POUR SERVICE SOUS GARANTIE

Emballez soigneusement le produit, de préférence dans son emballage d'origine. Joignez une description de la défaillance de même qu'une pièce justificative de la date d'achat. Panasonic Canada Inc. ne peut être tenue responsable pour tout dommage ou perte subi pendant le transport si vous avez choisi le transporteur.

GARANTIE LIMITÉE - SUPPORTS DES LOGICIELS

<u>Couverture</u> – Panasonic Canada Inc. (« PCI ») garantit à l'acheteur original que la ou les disquettes ou tout autre support sur lequel le ou les programmes sont fournis sont exempts de défauts de pièces et de fabrication dans des conditions normales d'utilisation au Canada, et ce, pour une période de soixante (60) jours suivant la date de réception indiquée sur la preuve d'achat.

LA PRÉSENTE GARANTIE EST LA SEULE OFFERTE PAR PCI COUVRANT LES SUPPORTS DE LOGICIELS. PCI ne garantit pas les logiciels. Reportez-vous à la garantie écrite du concédant de licence d'utilisation du logiciel (qui accompagne la copie du logiciel) pour toute réclamation en vertu de la garantie.

<u>Réclamation</u> – marche à suivre – Panasonic Canada Inc. remplacera toute disquette ou support défectueux si l'article en question est retourné, port payé, à son service de Marketing – produits informatiques, 5770 Ambler Drive, Mississauga (Ontario) L4W 2T3, dans les soixante (60) jours suivant la date d'achat original. Joignez à votre envoi une pièce justificative de votre achat et une description du problème.

Recours – La responsabilité de PCI - et votre seul recours - dans le cas de toute défaillance couverte par la garantie sur ce support de logiciel est limitée au seul remplacement du support. Elle ne couvre aucun autre dommage, y compris, mais non exclusivement, la perte d'usage ou de profits, ni aucun dommage spécial, indirect ou consécutif, ni aucune autre réclamation de nature similaire ou autre.

Produits non couverts—La présente garantie limitée ne s'applique pas si la ou les disquettes ou autre support ont été utilisés dans un produit d'une marque autre que Panasonic ou dans des conditions environnementales autres que celles spécifiées par PCI ou le fabricant, ou soumis à une mauvaise utilisation, à la négligence, à une manutention inadéquate ou encore si le programme a été modifié ou subi une tentative de modification ou des dommages attribuables à un accident ou à un cas fortuit. De plus, PCI n'assume aucune responsabilité pour toute perte de, ou tout dommage à, un programme, des données ou un support de sauvegarde amovible.

GÉNÉRALITÉS

PCI NE RECONNAÎT AUCUNE AUTRE GARANTIE, EXPLICITE OU IMPLICITE, Y COMPRIS, MAIS NON EXCLUSIVEMENT, LES GARANTIES IMPLICITES DE VALEUR COMMERCIALE ET D'UTILITÉ À UNE FIN QUELCONQUE, À L'ÉGARD DU LOGICIEL, SUPPORTS DE LOGICIELS, PRODUITS INFORMATIQUES, PÉRIPHÉRIQUES ET ACCESSOIRES.

SOUS AUCUNE CIRCONSTANCE PCI NE POURRA ÊTRE TENUE RESPONSABLE DES DOMMAGES SPÉCIAUX, INDIRECTS OU CONSÉCUTIFS ATTRIBUABLES À UN MANQUEMENT AUX GARANTIES LIMITÉES DÉCRITES DANS LE PRÉSENT DOCUMENT OU À L'UTILISATION DU PRODUIT INFORMATIQUE, Y COMPRIS, SANS RESTRICTION, LA PERTE DE DONNÉES, D'AFFAIRES, D'ACHALANDAGE OU DE PROFIT.

DANS TOUS LES CAS, LA RESPONSABILITÉ MAXIMALE DE PCI POUR TOUT MANQUEMENT NE POURRA EXCÉDER LE PRIX DE VENTE DU PRODUIT INFORMATIQUE. AUCUNE RÉCLAMATION, SANS ÉGARD À SES MOTIFS, NE POURRA ÊTRE FAITE AUPRÈS DE PCI PLUS DE DEUX (2) ANS APRÈS LES FAITS INVOQUÉS À LA BASE D'UNE TELLE RÉCLAMATION.

<u>Garantie statutaires</u> – Certaines juridictions interdisent de telles limitations ou exclusions; aussi, pourraientelles ne pas s'appliquer.

For Europe

Panasonic Connect Europe

Panasonic Connect Europe (referred to as "Panasonic") will repair this product (other than software, which is treated in a different section of this warranty) with new or refurbished parts, from the date of original purchase in the event of a defect in materials or workmanship.

This warranty only applies to new Panasonic Toughbooks purchased in the EEA and Switzerland and Turkey.

Panasonic (or its authorised Service Provider) target to repair your equipment within 48 hours from its receipt in our service centre.

Additional charges may apply for shipment to countries outside of the European Union. Panasonic will use all reasonable endeavours to ensure this service.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use for the applicable Service Agreement Period listed below. In the event that any product (or part thereof) is replaced, Panasonic shall transfer ownership of the replacement product (or part) to the customer and the customer shall transfer ownership of the replaced product (or part) to Panasonic.

Service Agreement Period - from original date of purchase

- . Toughbooks (and every accessory included in the original packaging except the battery) 3 years
- Toughpads (and every accessory included in the original packaging except the battery) 3 years
- Accessories included in the original package 3 years

- Additional peripherals manufactured by Panasonic (including media bay devices such as CD-Rom drives) 1 year
- Batteries 6 months. Panasonic Warranty covers the battery for six months. A battery is considered good if it maintains 50% of its charge capacity during the warranty period. If a battery is returned under this contract and testing determines that it has charge capacity greater than 50%, the battery will be returned with an invoice for the retail purchase price of a new battery.

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

Limits and Exclusions:

This warranty does not cover and shall be void for:

- Broken or cracked LCD screen.
- Defective pixel in notebook displays and LCD screens within 0.002%
- · Damage that is attributable to fire, theft or acts of God.
- Damage caused by environmental influences (electrical storms, magnetic fields etc.).
- Damage which has not been caused during normal operation
- Repair of damage that is cosmetic only or does not affect product functionality such as wear and tear, scratches and dents.
- Failures caused by products not supplied by Panasonic.
- Failures resulting from alteration, accidental damage, casualty, misuse, abuse or neglect.
- Introduction of liquid or other foreign matter into the unit.
- · Improper installation, operation or maintenance.
- Improper connections with peripherals.
- · Maladjustment of consumer controls such as function settings.
- Modification or service by anyone other than Panasonic or its approved Service Providers.
- · Products used as short term rental or leased equipment.
- · Products whose serial number has been removed making the unit warranty condition impossible to clearly determine.

The product is not intended for use as, or as part of nuclear equipment/systems, air traffic control equipment/systems, aircraft equipment/systems (as defined in *7), medical devices or accessories (as defined in *8), medical treatment diagnosis image display, life-support system, or other equipment/devices/systems that are involved with ensuring human life or safety. Our products are not intended to be utilised as an integral component of the systems used in such environments and, as such, the use of our products in such environments is not recommended.

Panasonic can not be held responsible in any way for any damage or loss resulting from the use of this unit in these types of equipment, devices or systems, etc.

- *7 : Aircraft equipment/systems include Electric Flight Bag (EFB) systems are defined by FAA AC120-76D or EASA Commission Regulation (EU) No 965/2012
- *8: As defined by the Regulation (EU) 2017/745 Medical Device Regulation.

Panasonic cannot guarantee any specifications, technologies, reliability, safety (e.g. flammability/smoke/toxicity/radio frequency emission, etc.) requirement related to aviation standards that exceed the specifications of our COTS products.

Panasonic shall not be liable for loss of data or other incidental or consequential damages resulting from the use of this product, or arising out of any breach of this warranty. All express and implied warranties, including the warranties of satisfactory quality and fitness for a particular purpose are limited to the applicable warranty period set forth above. Panasonic shall not be liable for any indirect, special or consequential loss or damage (including without limitation any loss of profits) arising from the use of this product or for any breach of this warranty.

This limited warranty gives you specific legal rights, and you may have other rights that vary from country to country. You must consult the applicable country laws for a full determination of your rights. This limited warranty is in addition to, and does not affect any rights arising out of any contract of sale or by statute.

Data Storage Media

Data Storage Media is the media on which the Operating System, drivers and programs originally installed by Panasonic on the tablet are stored. This media is originally provided with the unit.

Panasonic warrants to you only that the disc(s) or other media on which the Programs are furnished will be free from defects in material and work-manship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

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

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

Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media otherwise than on the Product or in the environment conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mishandling, misapplication, installation, maladjustment of consumer con-

trols, improper maintenance, modification or damage that is attributable to acts of God. In addition, Panasonic shall have no obligation for any defects in the disk(s) or other media if you have modified, or attempted to modify any Program.

Duration of implied warranties, if any is limited to sixty (60) days.

Pre-installed software

Pre-installed software means the software shipped pre-loaded by Panasonic, not that loaded by any third party or selling agent.

Panasonic and its suppliers makes no warranty, either express, implied or statutory, with respect to software provided with the Product and licensed to Purchaser, its quality, performance, merchantability, or fitness for a particular purpose. Panasonic does not warrant that the functions contained in the software will be uninterrupted or error free. Panasonic assumes no risk of and shall not in any case be liable for any damages, including, without limitation, any special, incidental, consequential, or punitive damages arising from breach of warranty or contract, negligence or any other legal theory, including, without limitation loss of goodwill, profits or revenue, loss of use of the Programs or Products or any associated equipment, cost of capital, cost of any substitute equipment, facilities, or services, downtime costs, or claims of any party dealing with such damages.

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

This limited warranty gives you specific legal rights and you may also have other rights that vary from country to country. You must consult applicable country laws for a full determination of your rights.

Contacts

Address Panasonic Connect Europe

Panasonic Manufacturing U.K. Ltd. Service Centre Building B4,

Wharfedale Road, Pentwyn Industrial

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Web page https://business.panasonic.co.uk/mobile-solutions/

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