

Personal Computer

Model No. CF-33 Series

Operating Instructions - Reference Manual



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

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Panasonic Connect Co., Ltd.

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

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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 → 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 << Fn>> key, and then press << F7>> key.
- The display of the key may be different from this manual according to the keyboard used. (e.g. "Delete" instead of "Del")

- Click  -  :

Click  (Start) and then click  (Power).

In these instructions, the names are referred as follows.

- "Windows 11 Pro" as "Windows" or "Windows 11"
- Circular media including DVD-ROM and CD-ROM as "discs".
- "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 11

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]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference)

Opening the Control Panel

1. Click  (Start) - [All apps] - [Windows Tools] - [Control Panel].

Opening the Settings

1. Click  (Start) - [Settings].

Latest Information on Windows

This manual is explained in Windows 11 version 22H2.

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


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

<https://pc-dl.panasonic.co.jp/itn/win11/>

Sound and Video


- Sound (e.g. MP3, WMA) and video (e.g. MPG, WMV) recorded in SD memory card may be interrupted during playback. If this happens, copy them to the flash memory drive and play back.
- 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.

1. Right-click  (Speakers) on the system tray, and click [Sound settings] - [More sound settings] - [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] - [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.

About the Partition Structure

IMPORTANT

- Do not add or delete partitions in Windows 11, as the Windows area and recovery partition must be adjacent to each other in Windows 11.

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.

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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Backup and Restore (Windows 7)].
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

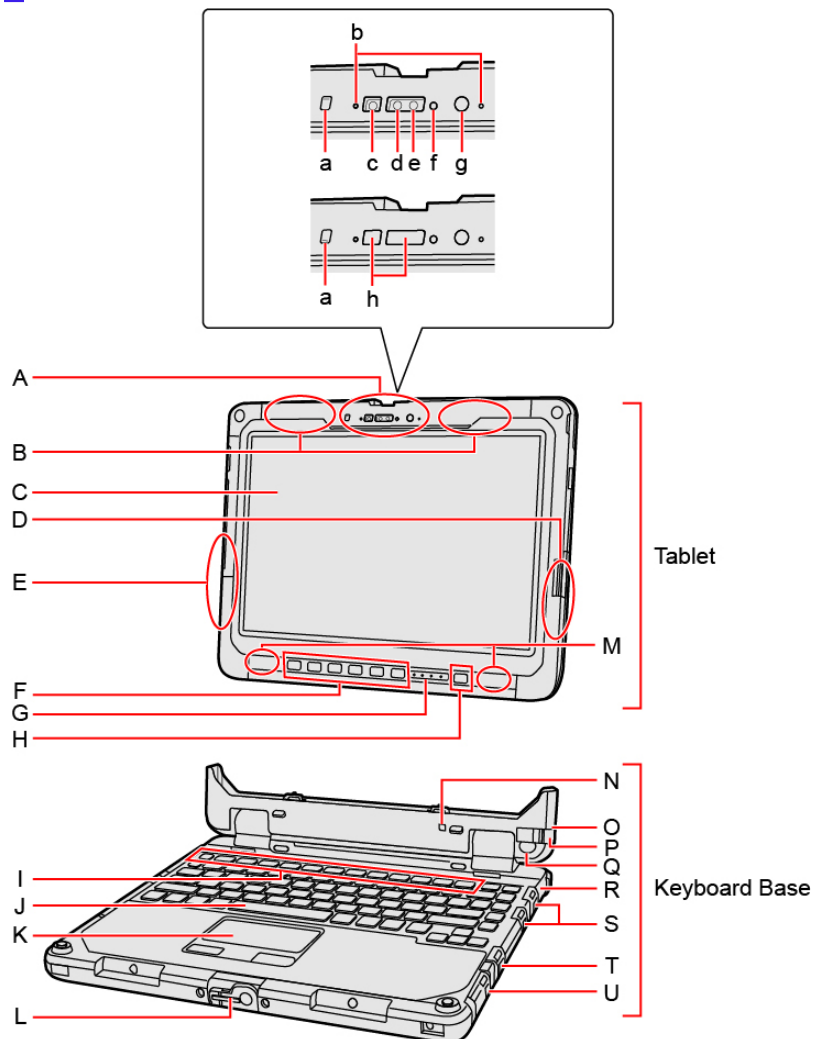
Connect the storage media that created the backup.

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Restart now] in “Advanced startup”.
3. Click [Restart now] on the “We’ll restart your device so save your work” screen.
4. Click [Troubleshoot] - [Advanced options].
5. Click [See more recovery options].
6. Click [System Image Recovery].

Follow the on-screen instructions.

Description of Parts

Front side




A. Front Camera

<Only for model with front camera>

( [Camera](#))

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

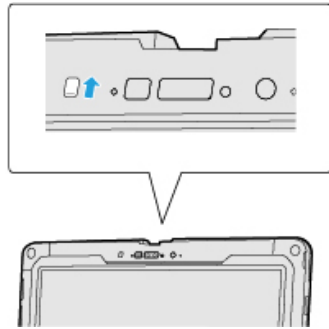
The ambient light sensor is equipped with an automatic brightness adjustment function that adjusts the display screen. ( [About the Ambient Light Sensor](#))

h. **Camera Cover**

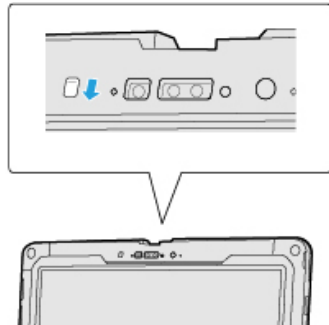
When using a front camera, open the camera cover.

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

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



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



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

<Only for model with wireless WAN>

(➡ Wireless WAN)

<Only for model with dedicated GPS>

(➡ GPS)

<Only for model with GPS on wireless WAN>

(➡ GPS)

C. LCD

D. Wireless LAN Antenna / Bluetooth Antenna

<Only for model with wireless LAN>

(➡ Wireless LAN)

<Only for model with Bluetooth>

(➡ Bluetooth)

E. Wireless LAN Antenna


<Only for model with wireless LAN>

(➡ Wireless LAN)


F. Tablet Buttons

(➡ Tablet Buttons)

G. LED Indicator

 1: Battery 1 Indicator

 2: Battery 2 Indicator

 : Drive Indicator (Drive status)

 : Power Indicator

- Off: Power off/Hibernation

- Green: Power on
- Blinking green: Modern standby (Sleep)

H. **Power Switch**

I. **Function (Fn) Keys**

J. **Keyboard**

K. **Touchpad**

( [Touchpad](#))



: Caps Lock Indicator



: Num Lock (numeric lock) Indicator



: Scroll Lock Indicator

L. **Display Latch**

M. **Speaker**

N. **Detach Indicator**

O. **Security Slot (Clamshell)**

When the tablet is attached, both the tablet and keyboard base can be secured at the same time.

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

P. **Release Lever**

Q. **Detach Lock**

R. **Security Slot (Keyboard base)**

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

S. **USB 3.2 Gen 1 (Type-A) Port**

( [USB Devices](#))

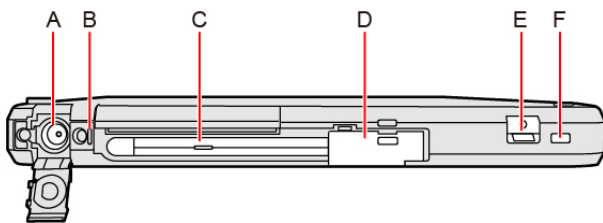
T. **LAN Port**

( [LAN](#))

U. **Serial Port**

( [Serial Port](#))

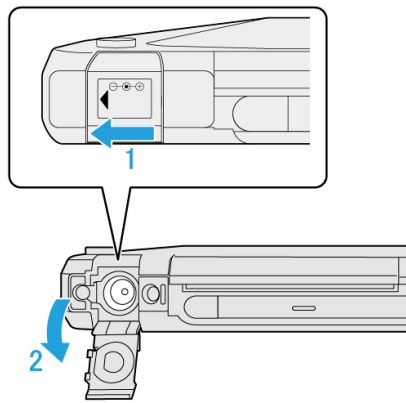
■ Tablet (Right side)



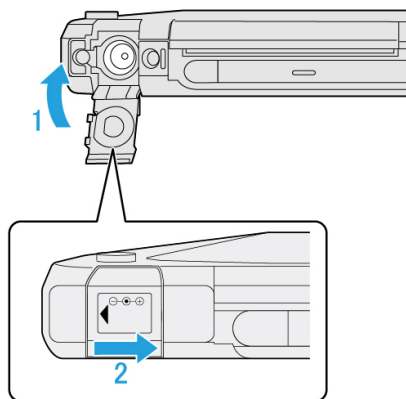
A. **DC-IN Jack**

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.



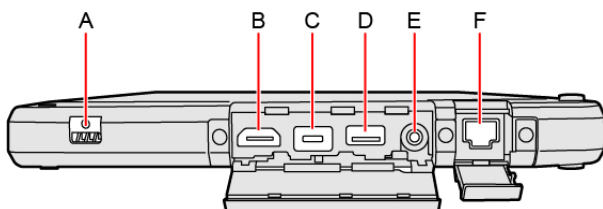
NOTE

- 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. Tether Hole
- C. Digitizer pen
- D. Pen Holder
- E. Strap Hole
- F. Security Slot (Tablet)

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

Tablet (Left side)



- A. Strap Hole
- B. HDMI Port
 - (External Display)
- C. Thunderbolt™ 4 (Type-C) Port
 - Do not insert any foreign object into the USB port.
 - (USB Devices)
- D. USB 3.2 Gen 1 (Type-A) Port (CHG)

Do not insert any foreign object into the USB port.

(➡ [USB Devices](#))

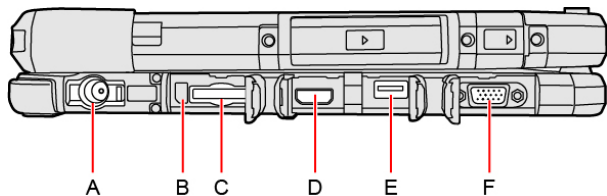
E. Headset Jack

A headset or headphone can be connected.

F. LAN Port

(➡ [LAN](#))

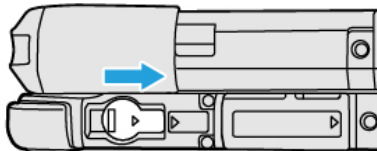
Keyboard Base (Left side)



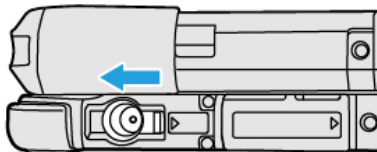
A. DC-IN Jack

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.



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



B. SD Memory Card Indicator

(Blinking: During access or a password is requested)

C. SD Memory Card Slot

Keep SD memory cards away from infants and small children.

(➡ [SD Memory Card](#))

D. HDMI Port

(➡ [External Display](#))

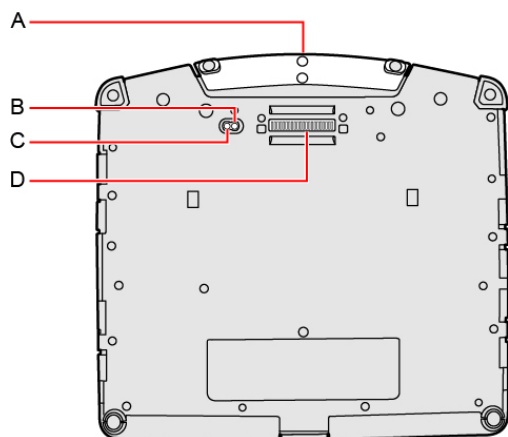
E. USB 2.0 (Type-A) Port

(➡ [USB Devices](#))

F. VGA Port

(➡ [External Display](#))

Keyboard Base (Bottom side)



A. Carrying Handle

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

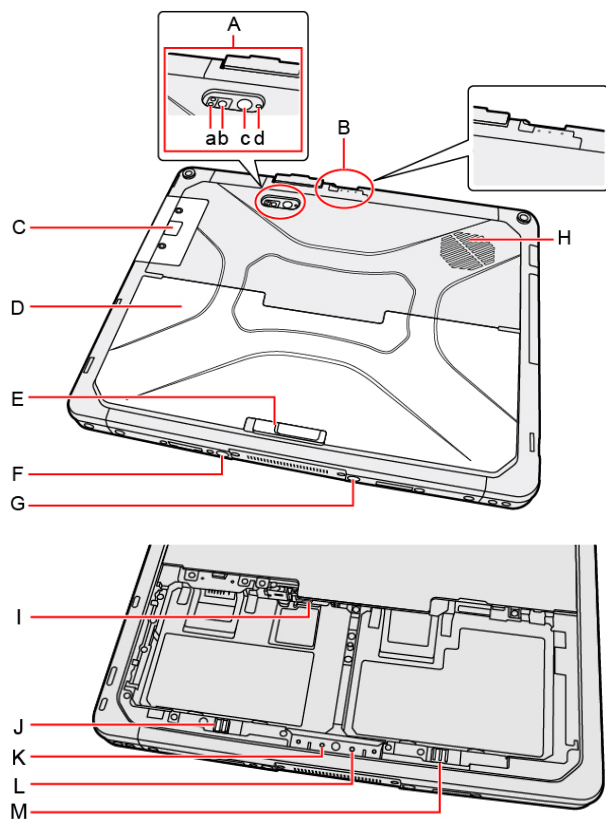
B. External Antenna Connector (Channel 1)

C. External Antenna Connector (Channel 2)

D. Expansion Bus Connector

(➡ Port Replicator)

Tablet (Rear side)



A. Rear Camera

<Only for model with rear camera>

(➡ Camera)

a. Auto-Focus Sensor

b. Camera Light

c. Camera Lens

d. Camera Indicator

B. LED Indicator

01: Battery 1 Indicator

02: Battery 2 Indicator

⌚: Power Indicator

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

C. **Smart Card Reader / Contactless Smart Card Reader / Fingerprint Reader (Windows Hello) / Fingerprint Reader (Windows Hello, Multi User authentication)**

<Only for model with Smart Card Reader>

( **Smart Card**)

<Only for model with Contactless Smart Card Reader>

( **Contactless Smart Card Reader**)

<Only for model with Fingerprint Reader (Windows Hello) / Fingerprint Reader (Windows Hello, Multi User authentication)>

( **Fingerprint Reader**)

D. **Battery Cover**

The shape of this may vary depending on the model.

E. **Release Latch**

F. **External Antenna Connector (Channel 1)**

G. **External Antenna Connector (Channel 2)**

H. **Ventilation Hole (Intake)**

I. **nanoSIM Card Slot**

<Only for model with wireless WAN>

( **Wireless WAN**)

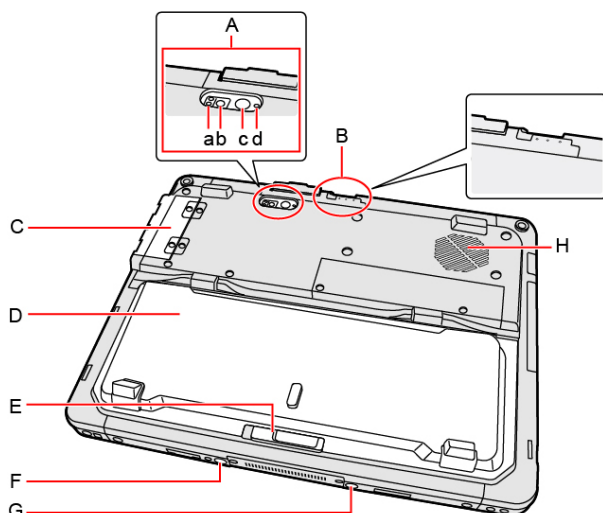
J. **Battery Pack 2 Latch**

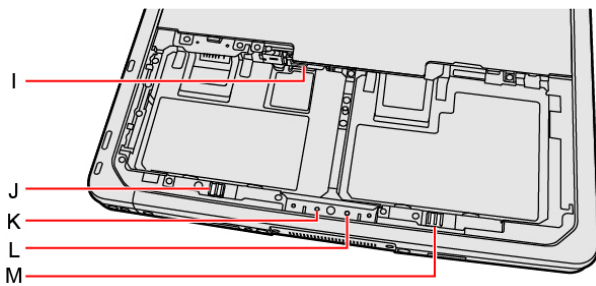
K. **Battery 2 Indicator (replace)**

L. **Battery 1 Indicator (replace)**

M. **Battery Pack 1 Latch**

<Only for Removable-SSD model>






A. Rear Camera


<Only for model with rear camera>



- a. Auto-Focus Sensor
- b. Camera Light
- c. Camera Lens
- d. Camera Indicator

B. LED Indicator

 : Battery 1 Indicator

 : Battery 2 Indicator

 : Power Indicator

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

C. SSD Pack with Smart Card slot

( SSD Pack)

( Smart Card)

D. Battery Cover

The shape of this may vary depending on the model.

E. Release Latch

F. External Antenna Connector (Channel 1)

G. External Antenna Connector (Channel 2)

H. Ventilation Hole (Intake)

I. nanoSIM Card Slot

<Only for model with wireless WAN>

( Wireless WAN)

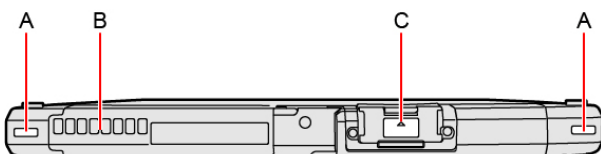
J. Battery Pack 2 Latch

K. Battery 2 Indicator (replace)

L. Battery 1 Indicator (replace)

M. Battery Pack 1 Latch

■ Tablet (Top side)



A. Strap Hole

B. Ventilation Hole (Exhaust)

C. Serial Port / 2nd USB Port / Barcode Reader / microSD Memory Card Slot

<Only for model with Serial port>

( [Serial Port](#))

<Only for model with 2nd USB port>

( [USB Devices](#))

<Only for model with Barcode Reader>

( [Barcode Reader](#))

<Only for model with microSD memory card slot>

Keep microSD memory cards away from infants and small children.



( [SD Memory Card](#))

Turning On / Turning Off

Turning On

Press and hold the power switch  until the power indicator  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  for 10 seconds or longer.
- Once you turn off the computer, wait for 30 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.

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

NOTE

To turn off the computer completely, proceed as follows.

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Restart now] in “Advanced startup”.
3. Click [Restart now] on the “We’ll restart your device so save your work” screen.
4. 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 :
 - 5 minutes (when AC adaptor is connected) of inactivity
 - 3 minutes (when operating by battery power) of inactivity
- The computer automatically enters sleep^{*1} after :
 - 5 minutes (when AC adaptor is connected) of inactivity
 - 3 minutes (when operating by battery power) of inactivity

^{*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) -  [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Touchscreen).

2. Select the input mode under “Touch Input”.

[Use touchscreen / digitizer pen]

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

[Use touchscreen]

You can operate the screen with your fingers.

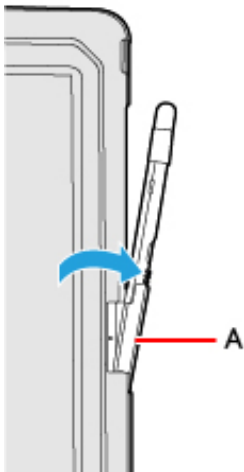
[Use digitizer pen]

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

3. If a confirmation message appears, click [Yes].

Detaching the pen from the computer

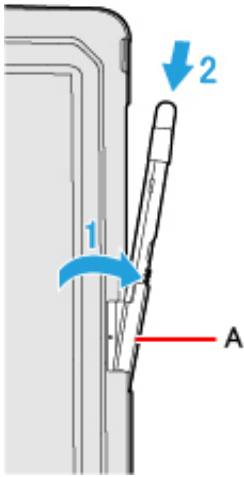
1. Pull out the pen holder (A), and take out the pen.



2. Put the pen holder back into place.

Attaching the pen to the computer

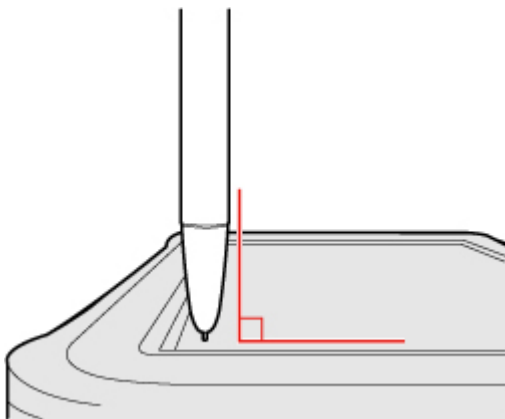
1. Pull out the pen holder (A).
2. Insert the pen into the pen holder (A) until it clicks in place.



3. Put the pen holder back into place.

Using the pen (included)

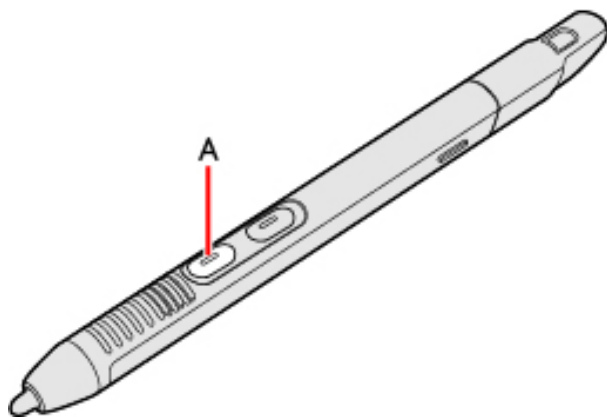
- We recommend placing the pen (included) perpendicular to the screen surface when using it.



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

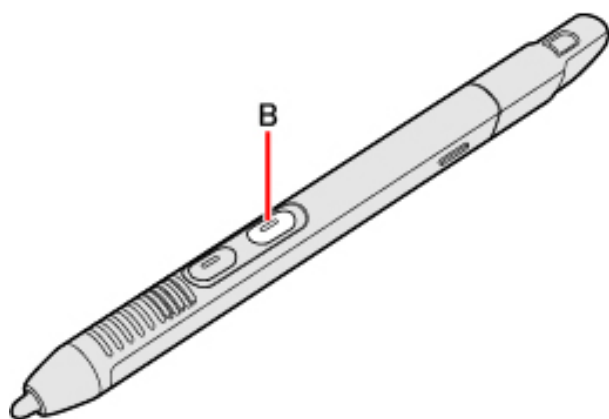
“Touch and hold” (“right-click”) operation

- 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.



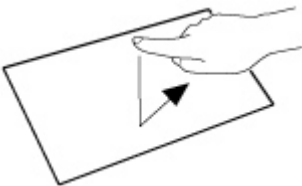
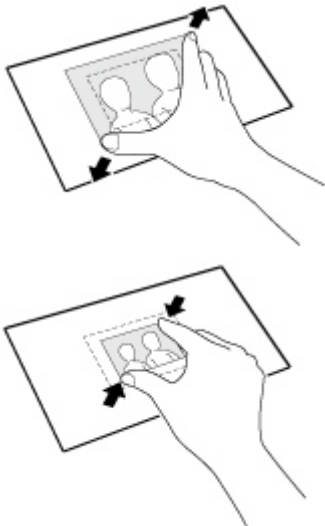
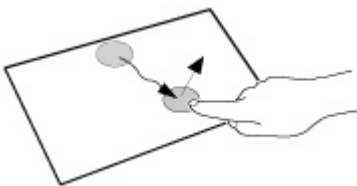
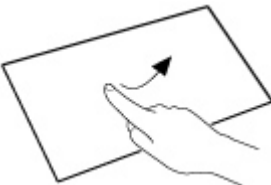
“Eraser” operation with the pen (included)

- 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 “Touchscreen Mode”

You can select the suitable operation mode in “Touchscreen Mode”.

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Touchscreen).

2. Select the operation mode under “Touchscreen 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 “Touchscreen Mode” is set to [Touch (Water)], multi touch input is reduced to 2 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.

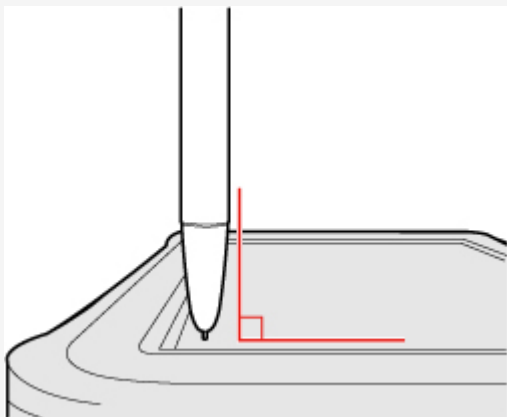
NOTE

- 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) - [All apps] - [Windows Tools] - [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 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.

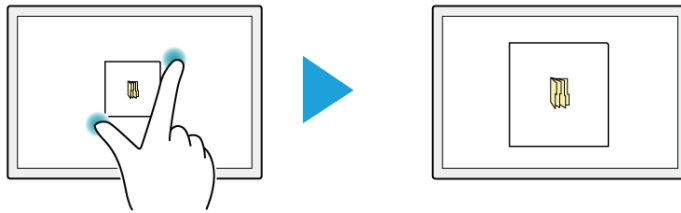
Opening the zoom window

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.

(1) Perform two-finger tap.

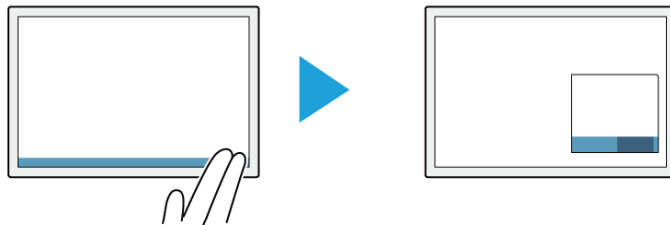
(2) Display expands.



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) Display expands.



2. Perform touch operations in the zoom window.

NOTE

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].

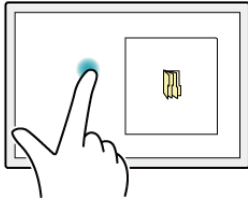
NOTE

- 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 system 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

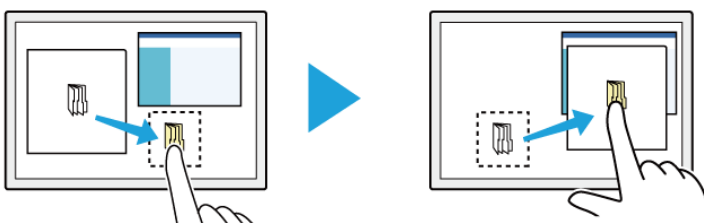
- This function cannot be used in some applications.

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.

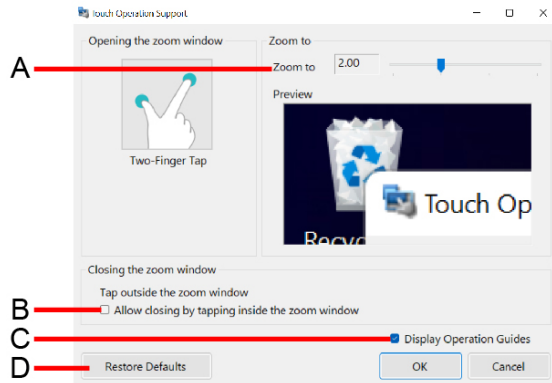


(2) Dotted line appears.

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

Changing settings

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Touchscreen).
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.

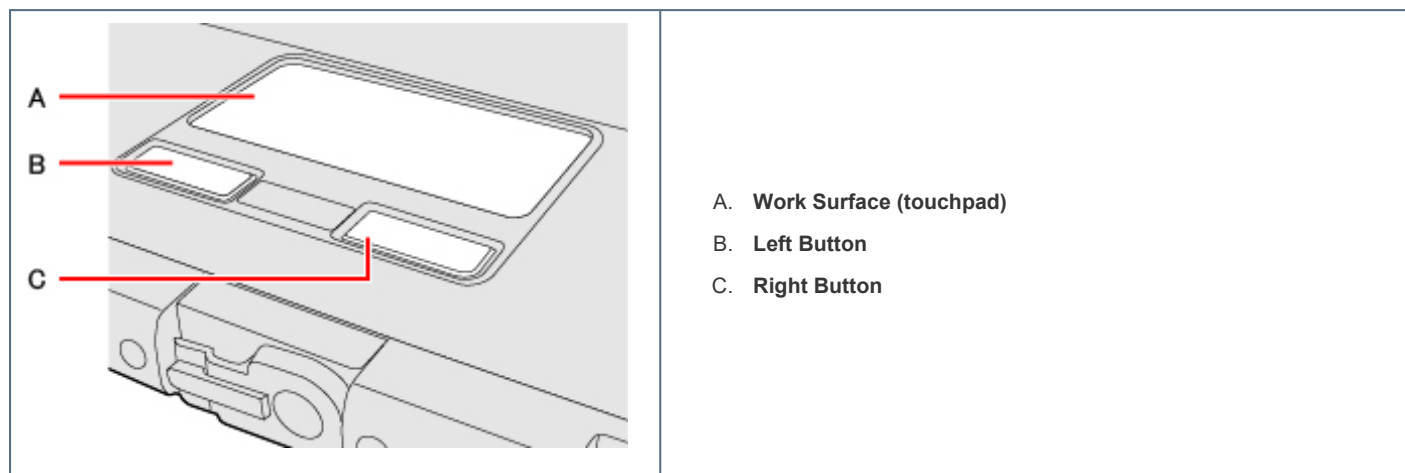
Disabling “Touch Operation Support”

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Touchscreen).
2. To disable “Touch Operation Support”, remove a check mark 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.



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.

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:







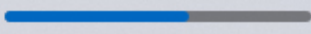

Wipe to remove dirt by using a dry soft cloth such as gauze or a soft cloth first applied with detergent diluted with water and then thoroughly wrung. Do not use benzene or thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially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











Key Combinations


<Only for model with Keyboard Base>

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  and the SD memory card 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.
- The key combination setting for the 10-key area can be changed with Setup Utility. ( [Setup Utility](#))


Key	Function	Pop-up display
<<Fn>> + <<F1>> *1 <<Fn>> + <<F2>> *1  	LCD brightness (<<Fn>> + <<F1>> = down / <<Fn>> + <<F2>> = up)	A slide bar appears.
<<Fn>> + <<F3>> 	Display mode switching ( Switching the display mode) When an external display (a projector etc.) is connected, you can change the display mode. 1. Press <<Fn>> + <<F3>> . 2. Click the display mode. IMPORTANT <ul style="list-style-type: none"> • Do not press any keys until the display has finished switching. • Do not use this function: <ul style="list-style-type: none"> • When playing motion video such as DVD or MPEG. • When an external display is not connected. • When showing a game screen such as pin-ball. 	“Project” appears.
<<Fn>> + <<F4>> *1 	Speaker on/off *2 You can check the status of speaker by seeing an icon on the system tray.	A slide bar appears.   60  : Mute

Key	Function	Pop-up display
<< Fn>> + << F5>> *1 << Fn>> + << F6>> *1  	Volume (<< Fn>> + << F5>> = down / << Fn>> + << F6>> = up) <div> NOTE <ul style="list-style-type: none"> 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. </div>	A slide bar appears.
<< Fn>> + << F7>> 	Modern standby (Sleep) ( Entering/Resuming from Sleep or Hibernation)	
<< Fn>> + << F8>> *3 	Concealed Mode on/off You can select on/off of indication status the following devices. <ul style="list-style-type: none"> LCD Backlight LED Sound Wireless Radio Camera Light <Only for model with rear camera> Backlit Keyboard Fan Barcode Reader <Only for model with Barcode Reader> Touchscreen ( Concealed Mode) <div> NOTE <ul style="list-style-type: none"> The front camera indicator cannot be turned off. [Concealed Mode] is set to [Enabled] 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. </div>	
<< Fn>> + << F9>> 	Remaining battery power (When the battery pack is inserted in the computer)	( Checking the Remaining Battery Power)
<< Fn>> + << F10>> 	Hibernation ( Entering/Resuming from Sleep or Hibernation)	

Key	Function	Pop-up display
<< Fn>> + << F12>> 	<Only for model with backlit keyboard> Backlit keyboard on/off When you press the keys, the luminance of backlit keyboard is changed. (Four steps and off). <div style="border: 1px solid #0070C0; padding: 5px;"> NOTE <ul style="list-style-type: none"> 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. </div> 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)	*4 
<< Fn>> + << 1>> 	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 / Rotation Lock buttons)	
<< Fn>> + << 2>> 	Run [Application2] In the default settings, open “Touch keyboard”. You can change the function of [Application2]. (→ Changing the functions assigned to the A1 / A2 / Rotation Lock buttons)	

*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.

*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.
However, audio from the speaker is not heard.

*3 : You can also turn on/off the concealed mode by pressing << F8>> , right << Alt>> , or the  button.

Change the [Trigger Key] setting in the sub-menu of [Concealed Mode Configuration] in the [Main] menu of the Setup Utility.

*4 : 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.

- Click  (Start) -  (Panasonic PC Settings Utility) -  (Settings) -  (Buttons / Keys).

- Make the settings under “Fn Key”.**

[Use Fn Key lock]

When using an << Fn>> key combination:

- Press << Fn>> once. (Locked)
- Press another key. (Lock released)

When using successive << Fn>> key combinations:

- Press << Fn>> twice. (Locked)
- Press another key.

Fn key remains locked until you press << Fn>> again.

- [Make sound when Fn Key is pressed]:

NOTE

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

- [Display icon in notification area]:

Displays the Fn key status when  on the system tray is clicked.



: << Fn>> is locked.









: << Fn>> is not locked.

NOTE

- You can have different settings for each user.

Tablet Buttons

Button	Function		
	While OS is running	When launching the Setup Utility	On the Setup Utility screen
	Run [Application1]*1 In the default settings, open "Panasonic PC Settings Utility".	« F12 » key	You can change the button assign to [Disabled]/[Ctrl+Alt+Del]/[Concealed Mode Trigger]. (➡ A1 Button)
 *2	<Only for model with barcode reader> Read barcode <Only for model without barcode reader> Run [Application2]*1 In the default settings, open "Touch keyboard".	« F2 » key	<Only for model with barcode reader> You can change the button assign to [Disabled]/[Application2]/[Ctrl+Alt+Del]/[Airplane Mode Hotkey]. (➡ A2 Button) <Only for model without barcode reader> You can change the button assign to [Disabled]/[Ctrl+Alt+Del]/[Airplane Mode Hotkey]. (➡ A2 Button)
	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)
	Rotation Lock	« Esc » key	You can change the button assign to [Disabled]/[Application3]*1/[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 / Rotation Lock buttons](#))

*2 : During sleep/hibernation/power off (when operating by battery power): Checking the battery status. (➡ [Battery Indicator](#))

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.

Setting the Tablet Buttons


NOTE





- You can have different settings for each user.
- On the Windows sign in screen and Welcome screen for the first time, the tablet buttons are enabled and work in default irrespective of the settings you made.

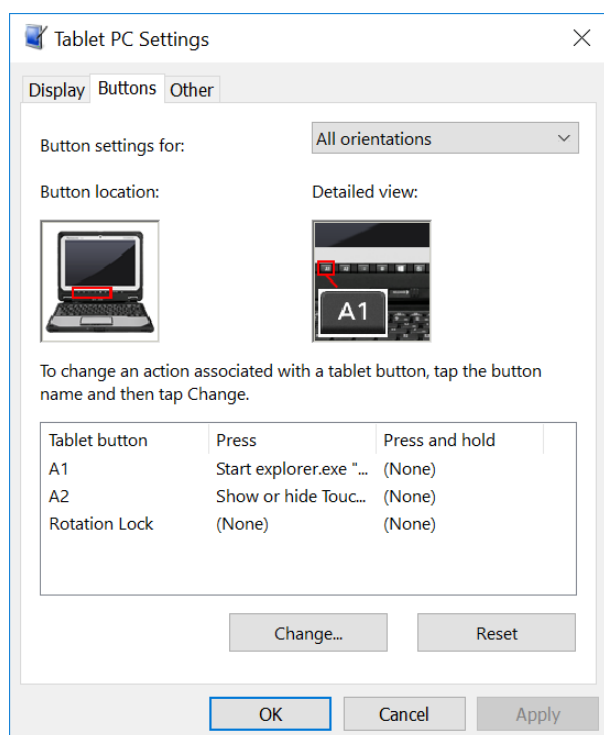
Changing the functions assigned to the A1 / A2 / Rotation Lock buttons

You can change the functions assigned to ,  and  buttons.

NOTE

- Under the following conditions, **A1**, **A2** and  buttons will reflect the functions of “Press” and “Press and hold” in “A1”, “A2” and “Rotation Lock”.
 - 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].
 - When [Rotation Lock 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 “Press” and “Press and hold” is reflected in “A1”.
- Since the key combination of << Fn>> + << 2>> is assigned to [Application2], the function of “Press” and “Press and hold” is reflected in “A2”.


1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Buttons / Keys).
2. Click [Settings] under “Tablet Buttons”.
3. Select the button and click [Change...].



4. Select the function in “Press” and “Press and hold”.
 - Click [Browse...] to select the application if you select [Start a program].
5. Click [OK].
6. Click [OK].

NOTE

- If you click [Reset], the setting will be the factory default.
- You can also open the setting screen by the following steps.

Click  (Start) - [All apps] - [Windows Tools] - [Control Panel] - [Hardware and Sound] - [Set tablet buttons to perform certain tasks].

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.

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 reduce the number of charges and ensure that the temperature inside 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  or  on the system tray, and then move the  slider () to the left.

<Only for model with keyboard base>

Press << Fn>> + << F1>> .

You can reduce the internal LCD brightness as follows.

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

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

Refer to [Entering/Resuming from Sleep or Hibernation](#).

Right-click



or



on the system tray, click [Power and sleep settings], and set the “Power mode” to [Best power efficiency].

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.
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

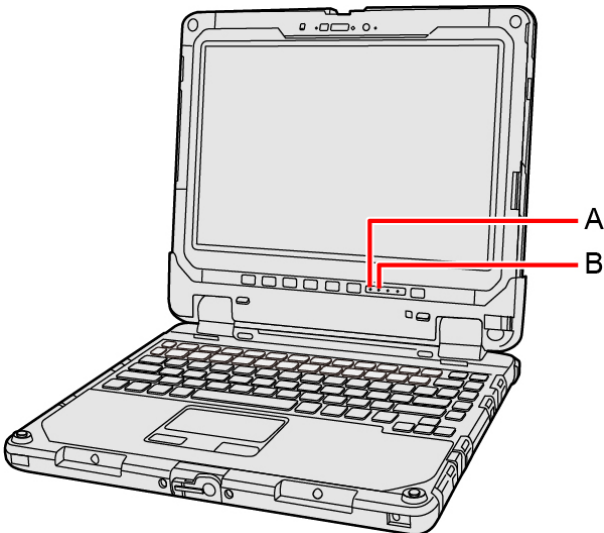
- It takes longer to fully charge the battery when the computer's power is on. To charge the battery more quickly, power the computer off, or put it in the sleep or the hibernation mode.
- It takes longer to fully charge the battery in low temperature environments. The battery discharges more quickly in low temperature environments.

Battery Power

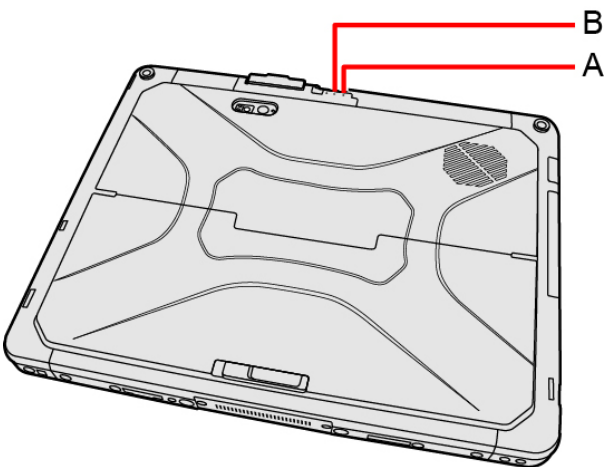
Battery Indicator

Battery indicator (situation in use):  1 (A) and  2 (B)

Tablet (Front Side)



Tablet (Rear Side)



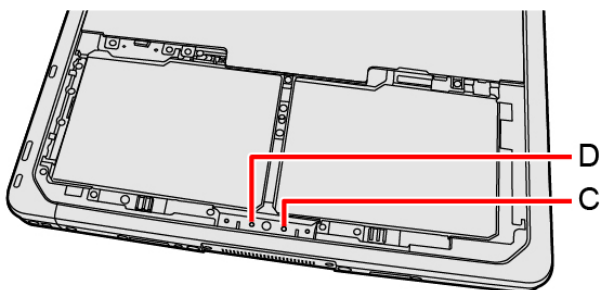
Battery indicator (situation in use)	Battery status
Not lit	<ul style="list-style-type: none">The battery pack is not inserted or not being charged.Concealed mode is set to ON.
Orange	Charging is in progress. If [Battery Charging Indicator] in the [Main] menu of the Setup Utility is set to [Flashing], 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.

Battery indicator (situation in use)	Battery 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: <ul style="list-style-type: none"> • 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.
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): **01** (C) and **02** (D)

<When using multiple batteries>

Tablet (Rear Side)



Battery indicator (replacing status)	Battery status
Green	The battery pack can be replaced without turning off the computer. (When the battery cover is opened, or the battery pack has remaining battery charge.)
Not lit	<ul style="list-style-type: none"> • The battery packs cannot be replaced. • 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.

If both the battery packs are attached to the computer, the battery 1 starts discharging first.

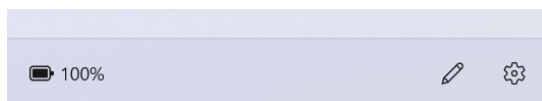
Checking the Remaining Battery Power

Checking the remaining battery power on the screen

1. Click  or  on the system tray.

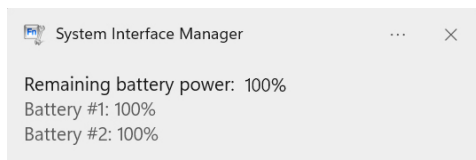
The remaining battery power is displayed.

(Example)




Alternatively, you can check the remaining battery power by << Fn>> + << F9>> 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 system 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]
<ul style="list-style-type: none">• Displays a message that the battery level is low. <p>↓</p>	<ul style="list-style-type: none">• The computer enters hibernation. <p>↓</p>
Charge the battery.	Connect the AC adaptor or replace the battery to start up the computer.
<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• 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. <p>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.</p>

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.

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Support) -  (Battery) - [Perform battery recalibration].
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 << Enter >> .

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.
- <When performing “Battery Recalibration” after shutting down Windows>

CF-VZSU1A series

Status	Full charge	Complete discharge
1 battery pack	Approx. 2.5 hours	Approx. 1.5 hours
2 battery packs		Approx. 3.0 hours

CF-VZSU1B series

Status	Full charge	Complete discharge
1 battery pack	Approx. 2.5 hours	Approx. 3.0 hours
2 battery packs		Approx. 6.0 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:

CF-VZSU1A series × 2

Status	Power On by LAN	Discharge period	
		Only for model with key- board base	For tablet
In modern standby (sleep) When entering into hibernation automatically after 16 hours or consuming 30 % of remaining battery power (factory default)	Deny	Approx. 9 days	Approx. 11 days
In modern standby (sleep) When not entering into hibernation	Deny	Approx. 1.5 days	Approx. 1.5 days
When power is off	Deny	Approx. 2 weeks	Approx. 3 weeks
	Allow	Approx. 6 days	Approx. 6.5 days

CF-VZSU1B series × 2

Status	Power On by LAN	Discharge period	
		Only for model with key- board base	For tablet
In modern standby (sleep) When entering into hibernation automatically after 16 hours or consuming 30 % of remaining battery power (factory default)	Deny	Approx. 23 days	Approx. 32 days
In modern standby (sleep) When not entering into hibernation	Deny	Approx. 3 days	Approx. 3 days
When power is off	Deny	Approx. 4 weeks	Approx. 6 weeks
	Allow	Approx. 13 days	Approx. 14 days

- The battery duration while the USB port continuous charging function is not used.
- The above value is the holding time at room temperature.
- With the factory default power plan, the computer automatically enters the hibernation in 16 hours or after consuming 30 % of remaining battery power after it enters the modern standby (sleep) state. This power plan 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.

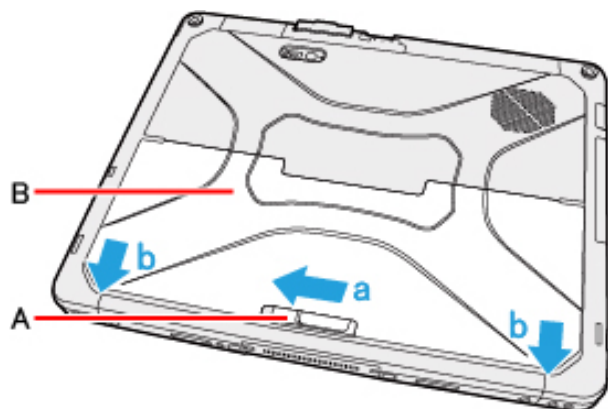
IMPORTANT

- **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 CF-VZSU1B series battery pack cannot be used in models with CF-VZSU1A series, or the CF-VZSU1A series battery pack cannot be used in models with CF-VZSU1B series, either.**
- **Do not use without inserting battery pack/dummy battery.**

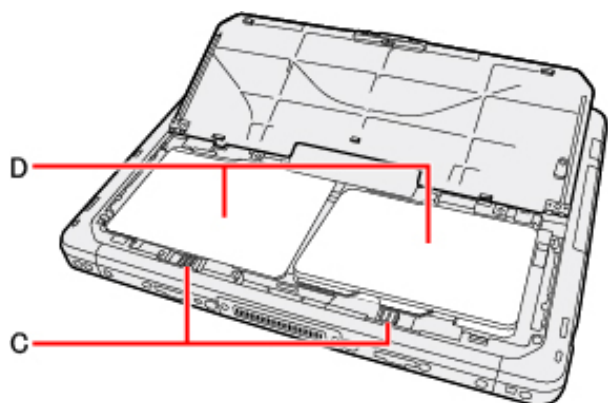
- If the computer is wet, wipe them off and open the cover. Make sure to dry off the computer, replace/remove the battery pack.

When replacing the battery pack after turning off the computer

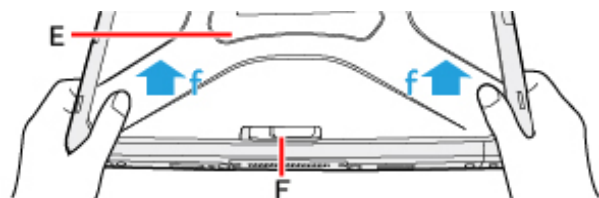
1. Turn off the computer.
Do not use the sleep function.
2. <For tablet> Turn your tablet over.
Make sure no foreign objects are under the tablet.
Depending on the models, the shape of cover may differ.
3. While sliding the release latch (A) to the left arrow (a) direction, slide the battery cover (B) to the down arrow (b) direction.



4. Open the battery cover.
5. Slide the battery pack latch (C), and remove the battery pack (D).



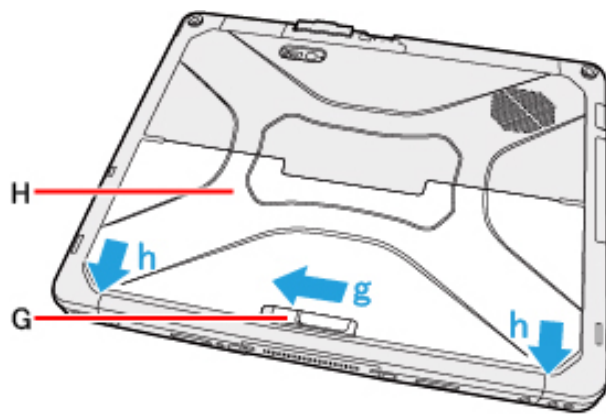
6. Insert the battery pack until it securely fits the connector.
7. Close the battery cover.
8. Slide the battery cover (E) in the arrow (f) direction until the release latch (F) clicks into place securely.



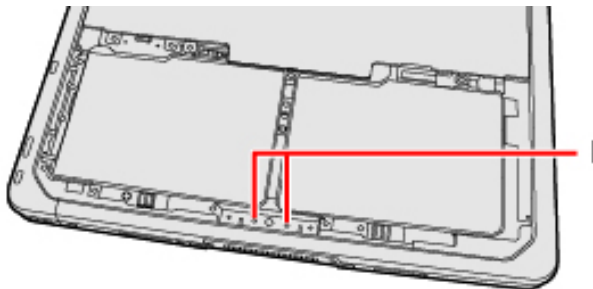
When replacing the battery pack without turning off the computer

<When using multiple battery packs>

1. <For tablet> Turn your tablet over.
Make sure no foreign objects are under the tablet.
Depending on the models, the shape of cover may differ.
2. While sliding the release latch (G) to the left arrow (g) direction, slide the battery cover (H) to the down arrow (h) direction.



3. Open the battery cover.
4. Check the status of battery indicator (I).



If some one battery has enough remaining power, you can replace the battery pack without turning off and during sleep the computer.

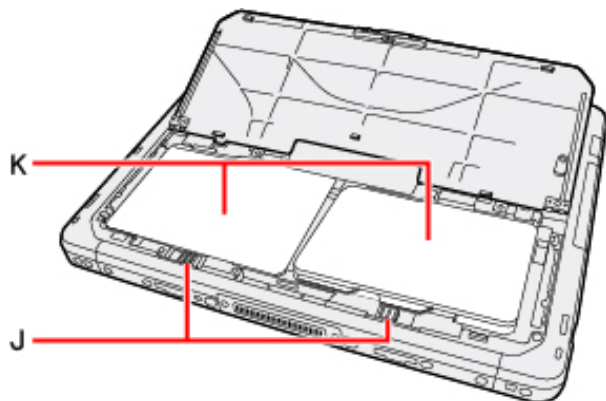
If a battery indicator lights green, you can replace the battery pack without turning off the computer.

If a battery indicator does not light, you cannot replace the battery pack without turning off the computer. Turn off the computer before replace the battery pack.

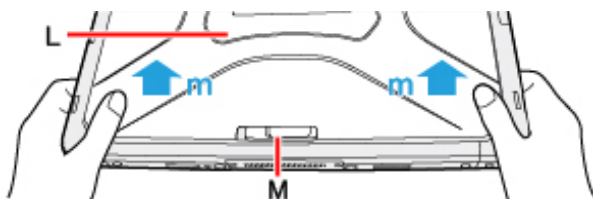
IMPORTANT

- When using two battery packs and replacing one of them, replace it quickly according to the level of batteries in use.

5. Slide the battery pack latch (J), and remove the battery pack (K).



6. Insert the battery pack until it securely fits the connector.
7. Close the battery cover.
8. Slide the battery cover (L) in the arrow (m) direction until the release latch (M) clicks into place securely.



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

Sleep



- Click (Start) - [Settings] - [System] - [Power & battery] - [Screen and sleep].
- Select the setting for “When plugged in, put my device to sleep after” or “On battery power, put my device to sleep after”.

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 any of the SD memory card indicator and the drive indicator  are 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  (Start) -  (Power) - [Shut down].

- 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:

- 5 minutes (when AC adaptor is connected) of inactivity (factory default)
- 3 minutes (when operating by battery power) of inactivity (factory default)

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).**

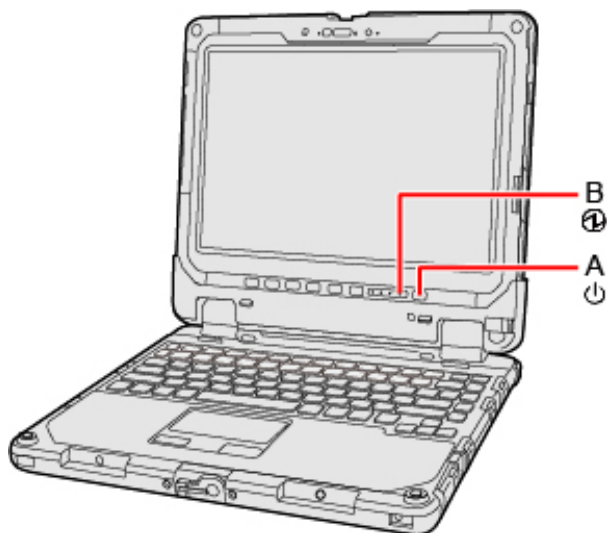
Sleep: The power indicator (B) blinks green.

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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
3. Click [Choose what the power buttons do].
4. Select [Hibernate] under “Power and sleep buttons and lid settings” and click [Save changes].



Using «Fn» + «F7» or «Fn» + «F10»



If you press «Fn» + «F7», the computer enters sleep.

If you press «Fn» + «F10», the computer enters hibernation.

( [Key Combinations](#))


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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
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 sleep or 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.
 - Insert and remove the SD memory card.

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.

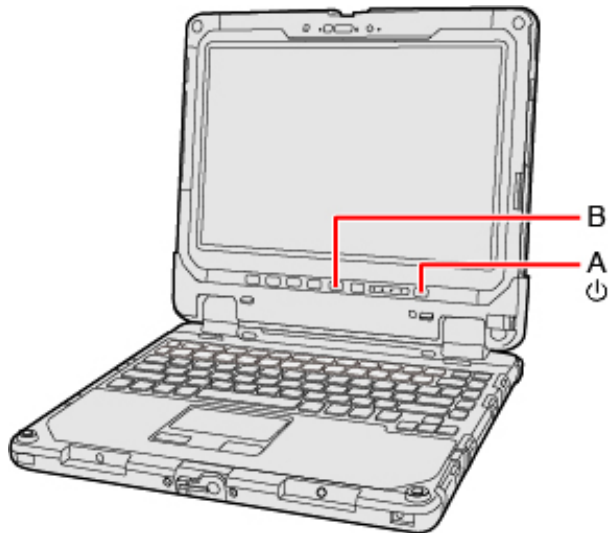
When power is exhausted, the data retained in memory will be lost. Connect the AC adaptor when the computer is in the sleep function for a prolonged time.

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.
 - Close or open the display.
 - Shut down or restart Windows.
 - Enter sleep or hibernation.
 - Insert and remove the SD memory card.
- 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





NOTE

- Set the password beforehand. ( [Setting the Windows Password \(Sign-in Options\)](#))

1. Sign in to Windows as an administrator.
2. Click  (Start) - [Settings].
3. Click [Accounts] - [Sign-in options].
4. Select the item in "If you've been away, when should Windows require you to sign in again?".
 - When [Facial recognition (Windows Hello)] or [Fingerprint recognition (Windows Hello)] is set, this is fixed to [Every Time].

Ignition Mode

The power status can be switched by connecting or disconnecting the AC adaptor.

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Power Management).
2. Make the settings under "Ignition Mode".

[Enable "Power on AC"]: The computer is turned on by connecting the AC adaptor.

[Enable "Power off AC"]: The computer switches to the set power status by disconnecting the AC adaptor.

- [Power Status]: Select the power status.
- [Wait Time]: Select the time to switch to the set power status.
- [Display countdown]: Displays a countdown until the computer switches to the set power status.

3. **Restart the computer to enable the new settings.**



NOTE

- You can also set [Power On AC] with Setup Utility.
 1. Select [Enabled] in [Power On AC] in the [Main] menu of the Setup Utility.

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] - [Apps] - [Installed apps].
2. Click  - [Advanced options] of the app that you want to change the setting.
3. **Select setting under “Let this app run in background”.**
 - [Always]: Always enabled in the background.
 - [Power optimized (recommended)]: 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.

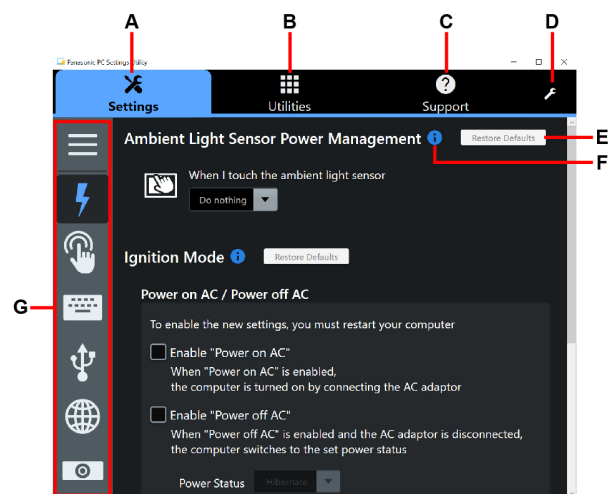
When starting up this application for the first time, connect to the Internet for initial setup. If it is first started up without Internet connection, the initial setup may take time, and several minutes may be required for startup.

Starting Panasonic PC Settings Utility

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility).

With the factory default, you can also press << Fn >> + << 1 >> or  button to start Panasonic PC Settings Utility.

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.**



Settings

-  Power Management

Ambient Light Sensor Power Management:

( Saving Power)

Ignition Mode:



( Ignition Mode)

Thermal and Fan Control:

Set the fan control mode.

-  Touchscreen

Touch Input:

- Touch Input:
( [Change "Touch Input"](#))
- Touchscreen Mode:
( [Change "Touchscreen Mode"](#))
- Disable:
<Only when the keyboard base is attached>
You can disable the touch screen.

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 check mark to [Support touch operation].

( [About "Touch Operation Support"](#))

-  Buttons / Keys

Tablet Buttons:

( [Setting the Tablet Buttons](#))

Fn Key:

( [Hotkey Settings](#))

-  USB


USB Charge Settings:

( [Charging USB Devices](#))

-  Network

Wireless LAN:

( [Wireless LAN](#))

-  Camera <Only for model with rear camera>

Camera Device:

Enable or Disable the rear camera.

If the rear camera is disabled by the Setup Utility, you cannot enable the rear camera by clicking [Enable].

( [Camera](#))



Utilities

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



Support

-  System

PC Information:

Display particular PC information.

[Launch PC Information Viewer]

( [Checking the Computer's Usage Status](#))

-  Battery

Battery Information:

Display particular battery information.

Battery Recalibration:

[Perform battery recalibration]

( [Correcting the Battery Display \(Battery Recalibration\)](#))

-  Manual

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.
- PANASONIC COMPUTER END USER LICENSE AGREEMENT

-  Notification Settings

Urgent Notice:

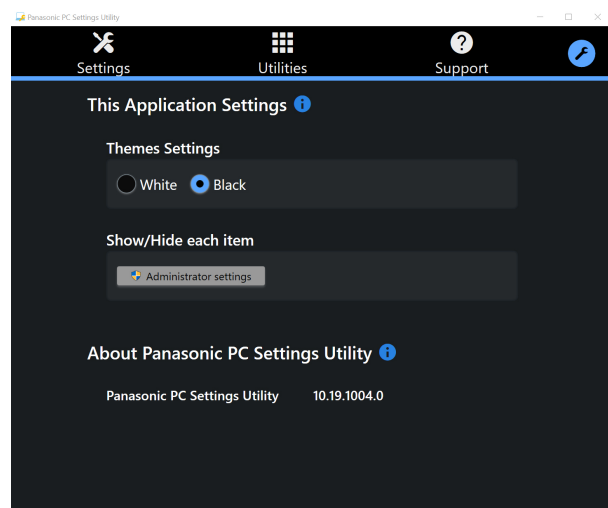
[Settings]

Display the "Emergency notification setting" installation screen.



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.

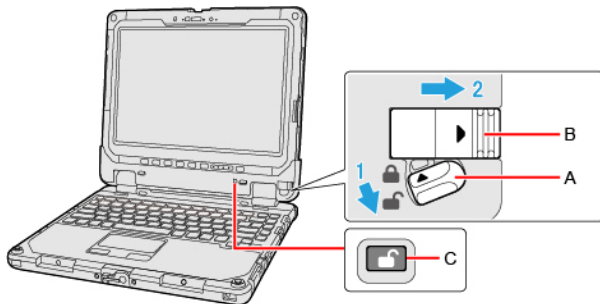
IMPORTANT

- **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 the SD memory card indicator is on.
 - 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. Release the detach lock (A).
2. Slide the release lever (B) in the direction of the arrow.

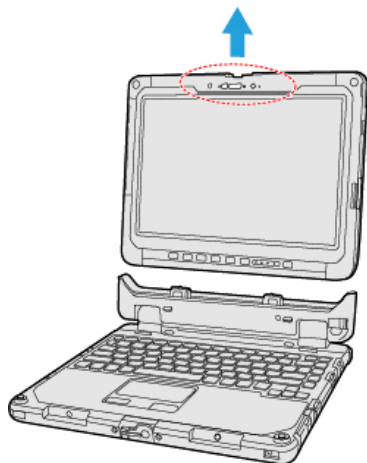


The detach indicator (C) will turn from black (🔒) to orange (🔓).

IMPORTANT

- After step 2, you cannot stop detaching the tablet. Detach the tablet once.

3. Detach the tablet from the keyboard base.



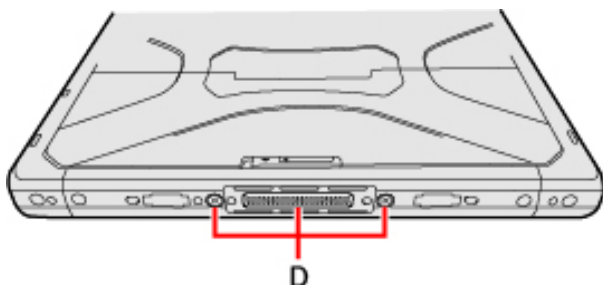
IMPORTANT

- 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.

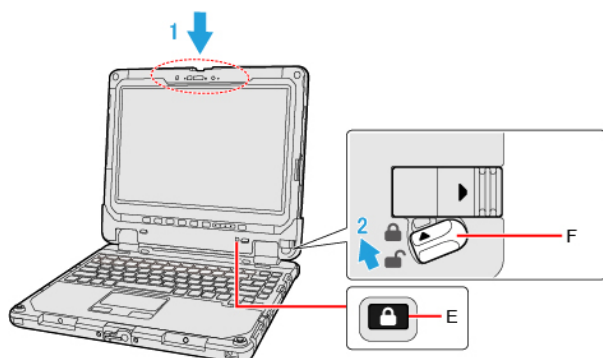
Attaching the tablet to the keyboard base

NOTE

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



1. Hold the area enclosed by the dashed circle in the illustration, and push the tablet downward.



The detach indicator (E) will turn from orange (🔒) to black (🔓).

2. Lock the detach lock (F).

IMPORTANT

- Confirm that the detach indicator (E) has turned black (🔒). If the detach indicator is still orange-colored or partially orange-colored, the tablet has not been properly locked to the keyboard base. Attach the tablet properly.
- Do not lift up the computer set when even a little orange color is seen in the detach indicator. Doing so may result in the tablet falling down.

LAN

<Only for model with LAN>

Connecting LAN

IMPORTANT

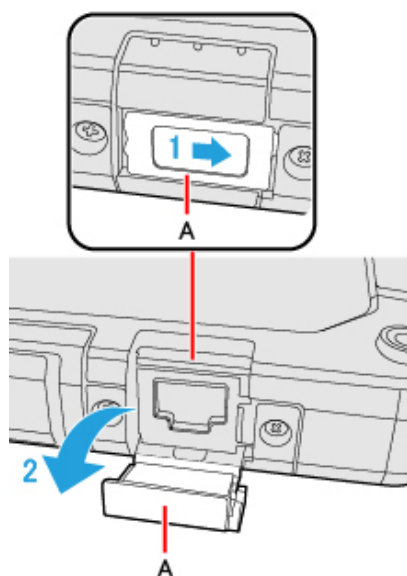
- Do not connect the telephone cable to the LAN port.

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

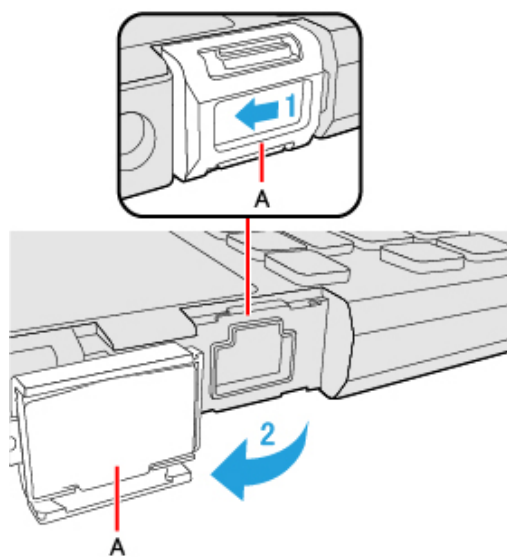
The cover is unlocked.

2. Open the cover (A).

Tablet



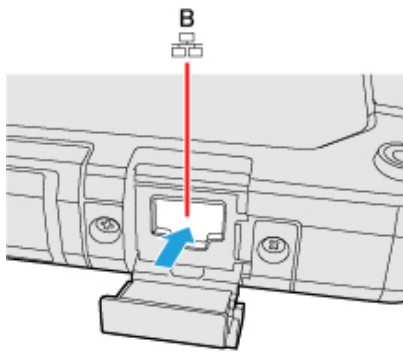
Keyboard base



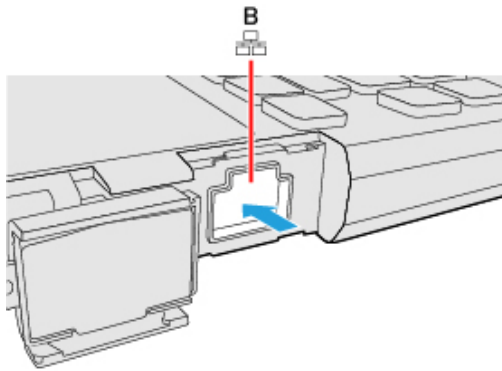
3. Connect the LAN cable.

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

Tablet



Keyboard base



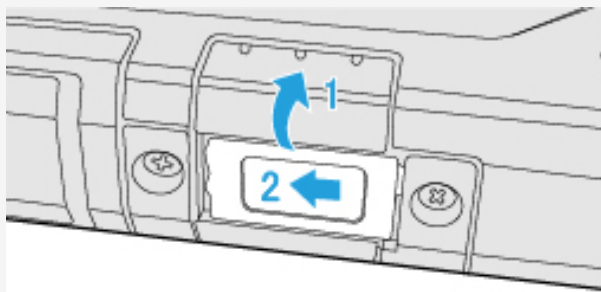
IMPORTANT

- Do not remove the tablet from the keyboard base while using the LAN function.

NOTE

- When closing the cover, slide it while pressing as described in the illustration below. After that, make sure that the cover has been closed properly.

(The illustration shows the cover on the tablet, for example.)



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.

- [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](#).

Using airplane mode




1. Click  (Start) - [\[Settings\]](#) - [\[Network & internet\]](#) - [\[Airplane mode\]](#).
2. To disable wireless communications, set “Airplane mode” 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).
 - set “GPS” to [\[On\]](#) (for GPS) <Only for model with GPS on wireless WAN>.

Turning wireless communication on/off quickly

Turning on/off the Wi-Fi

1. Click  or  on the system tray.
2. To turn off the Wi-Fi, click  .
The icon changes to  , and then the icon  on the system tray changes to  .
To turn on the Wi-Fi, click  . Then the icon changes to  .



Turning on/off the airplane mode

1. Click  or  on the system tray.
2. To turn on the airplane mode, click  .

The icon changes to , and then the icon  on the system tray changes to .

To turn off the airplane mode, click . Then the icon changes to .

Using Network & Internet settings

1. Right-click  or  on the system tray.
2. Click [Network and Internet settings].
"Network & internet" screen appears.
3. Turn on/off each wireless function in "Wi-Fi", "Cellular" or "Airplane mode".

Wireless LAN

<Only for model with wireless LAN>

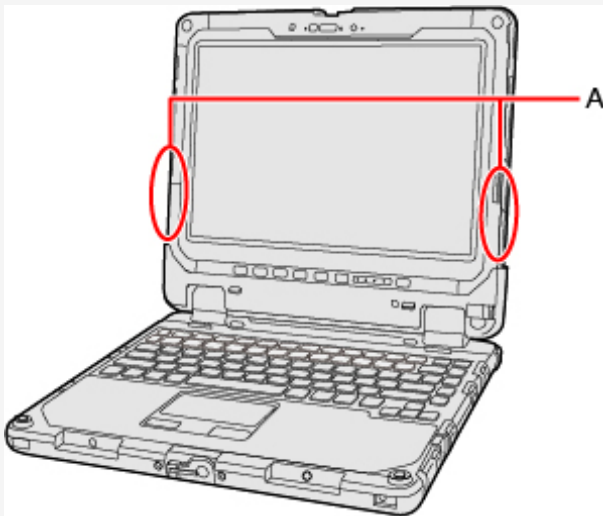
Using the wireless LAN allows for the use of network without cable connection.

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 system tray.
2. Click  to turn the wireless LAN on.




3. Click  (Manage Wi-Fi connections).
4. Select an access point, and click [Connect].
5. 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 system tray is changed to , the wireless LAN setting is complete.

NOTE

- 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 system tray.
2. Click  to turn the wireless LAN on.
3. Click  (Manage Wi-Fi connections).
4. Click [Hidden Network].
5. 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.

Switching the frequency band of the wireless LAN

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Network).
2. Select the frequency band under “Wireless LAN”.

NOTE

- This computer is set to enable 5 GHz/6 GHz wireless LAN as the factory default.
- In some countries, communication using 5 GHz/6 GHz wireless LAN is restricted by law.
- In some countries, a 6 GHz wireless LAN can not be used.
- If the frequency band is switched while the computer is connected to an access point, the connection will be temporarily interrupted.

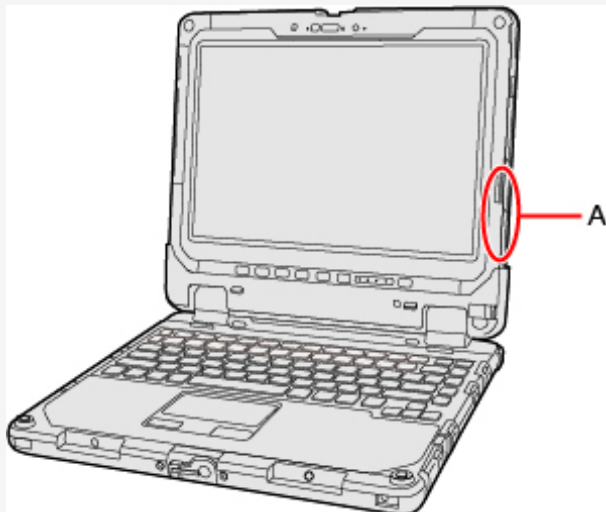
Bluetooth

<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) - [\[Settings\]](#) - [\[Network & internet\]](#) - [\[Airplane mode\]](#), 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 [\[On\]](#).

Checking the Bluetooth communication status

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

NOTE

- You can also clicking  on the system 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.

<Only for eSIM compatible model>

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

eSIM allows wireless communication without a nanoSIM card.

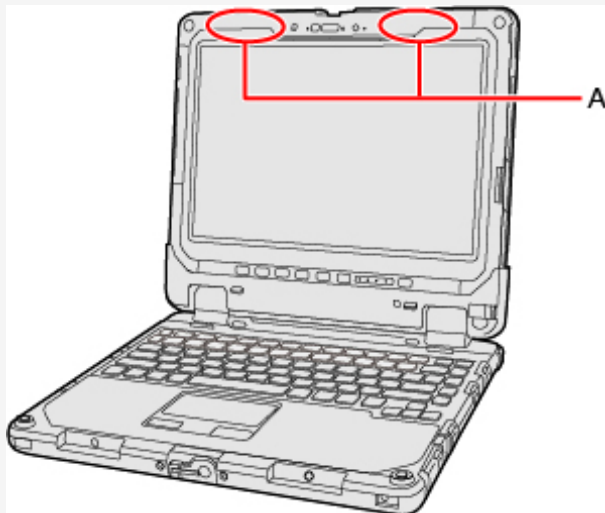
- This model is DSSS (Dual SIM Single Standby) and you can only make either nanoSIM Card or eSIM Active.

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.

NOTE

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



- 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>

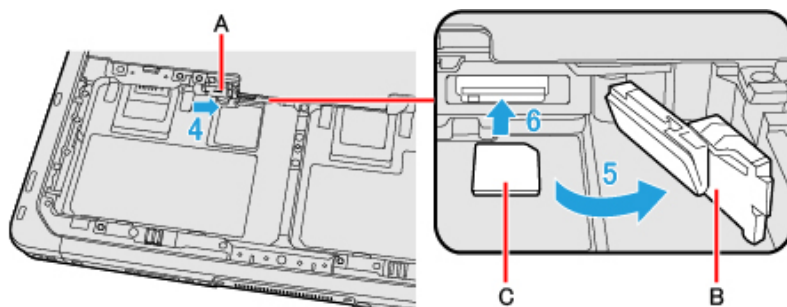
Before using the Wireless WAN, set a nanoSIM card to the nanoSIM card slot.

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 tablet over.
Make sure no foreign objects are under the tablet.
3. Remove the battery pack. (➡ [Replacing the Battery Pack](#))
4. Slide the lock cover (A).
5. Open the nanoSIM card slot cover (B).
6. Insert the nanoSIM card (C) into the nanoSIM card slot.



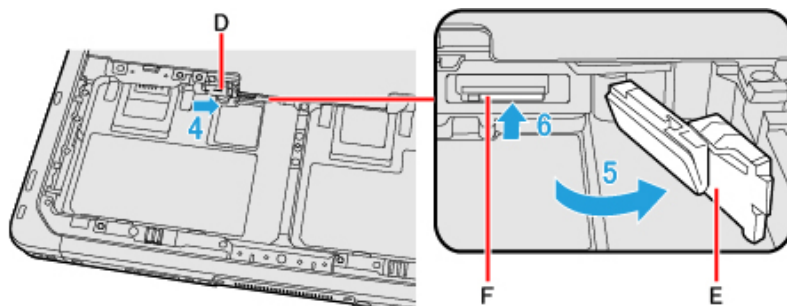
IMPORTANT

- Do not insert the nanoSIM card upside down.

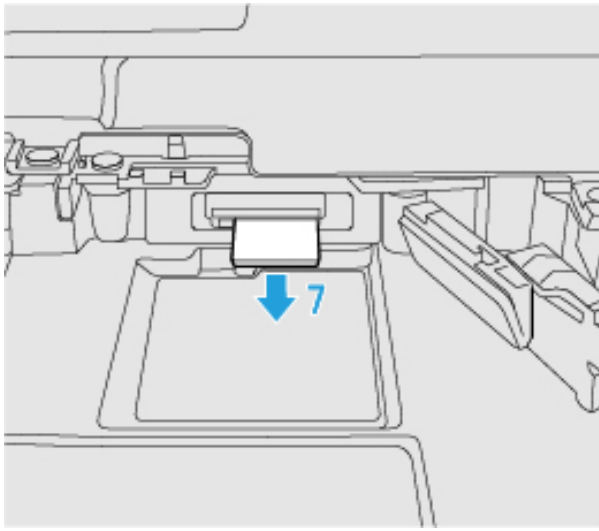
7. Close the nanoSIM card slot cover (B), and then close the lock cover (A).
 - If the cover is not closed, the nanoSIM card may jump out when the computer falls.
8. Insert the battery pack. (➡ [Replacing the Battery Pack](#))
9. Connect the AC adaptor.


Removing a nanoSIM card

1. Turn off the computer and disconnect the AC adaptor.
2. <For tablet> Turn your tablet over.
Make sure no foreign objects are under the tablet.
3. Remove the battery pack. (➡ [Replacing the Battery Pack](#))
4. Slide the lock cover (D).
5. Open the nanoSIM card slot cover (E).
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), and then close the lock cover (D).
9. Insert the battery pack. ( [Replacing the Battery Pack](#))
10. Connect the AC adaptor.

eSIM/nanoSIM Switching

1. Click  (Start) - [Settings] - [Network & internet].
2. Click [Cellular].
3. Click [SIM 1] or [SIM 2] in “Use this SIM for cellular data”.
[SIM 1]: nanoSIM
[SIM 2]: eSIM

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 [Mobile operator settings].
4. Click [Add APN].
5. Input detailed information such as APN, and then click [Save].
For APN type, select [Internet and attach].
If [Internet and attach] cannot be selected, select [Internet].
6. Click [OK].
Internet connection will be possible.

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. Click  (Start) - [Settings] - [Network & internet].
2. Set [Airplane mode] to [Off].

Disconnecting to a network

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

NOTE

- You can also click  on the system tray, and then click  (Manage Cellular connections) - [Disconnect].

GPS

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

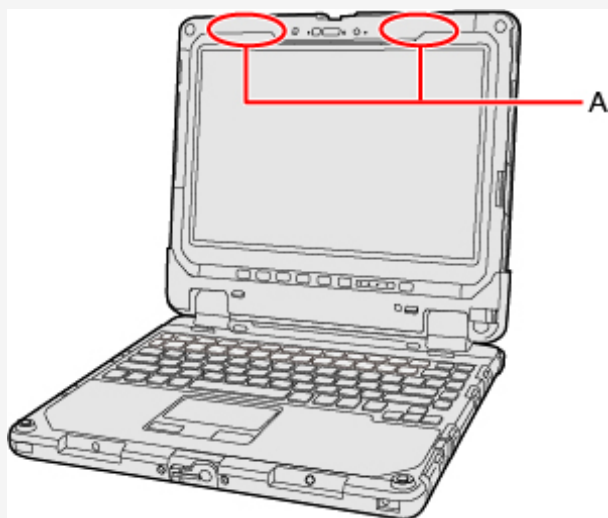
This computer has the GPS function with the wireless WAN module, and the dedicated GPS function.

For the differences, refer to the table below.

Devices	Device name	Support system
GPS on wireless WAN	MLP31-W / EM7421 / EM7431	GPS / GLONASS / BeiDou / Galileo / QZSS
Dedicated GPS	U-blox NEO-M8 Series	GPS / GLONASS / QZSS / SBAS

NOTE

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



- 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 (Thales MLP31-W) (Sierra EM7421, EM7431)	2032/12/22
Dedicated GPS (U-blox NEO-M8 Series)	2040/11/18



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 power efficiency].**

1. Right-click  or  on the system tray, and click [Power and sleep settings].
2. Set the "Power mode" to [Best power efficiency].

- **Enable the battery saving function.**

1. Right-click  or  on the system tray, and click [Power and sleep settings].
2. Click [Battery saver] - [Turn on now].

- **Decrease the LCD brightness.**

Decrease the internal LCD brightness to reduce power consumption.

1. Click  or  on the system tray.
2. Move the  slider () to the left.

<Only for model with keyboard base>

1. Press << Fn >> + << F1 >> .

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/Hibernation.**

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

This shuts down computer operation to reduce power consumption.

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

<Only for model with keyboard base>

1. Press << Fn >> + << F7 >> or << Fn >> + << F10 >> .

- **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] 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.

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (Power Management).
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.

NOTE

- 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

1. Right-click  or  on the system tray, and click [Power and sleep settings].
2. Select the setting in “Power mode”.



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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
3. 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) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
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 << F10>> .

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.
- **<Only for model with Fingerprint Reader>**

When the fingerprint is registered for Windows Hello Fingerprint authentication, the registered fingerprint can be used to authenticate the Supervisor Password.

1. **When fingerprint authentication screen is displayed, touch the registered finger on the fingerprint reader.**



2. **When authenticated, the display of the fingerprint switches as shown below and sign in to the registered user account.**



- If fingerprint authentication failed three times, the computer turns off.
- If you leave the fingerprint authentication screen for approximately 1 minute, it will switch to the password input screen.
- You can switch to password input by pressing the << Esc>> key.

- The registered fingerprint data will be saved in the computer. Erase the fingerprint data when reinstalling Windows, disposing or transferring the computer.

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 (Sign-in Options)

Set a password to sign in to Windows with a local account.

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

To set the password, proceed as follows.

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 & region].
2. Click  - [Language options] in the language.
3. Click [Add a keyboard] in “Installed keyboards” 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.


Windows Hello

This function is used to sign in to Windows quickly, or perform individual authentication. To use Windows Hello, you need to set the password and PIN for sign-in options.

Using Windows Hello Face Recognition

<Only for model with camera with IR sensor>

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

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


NOTE

- 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.

Using Windows Hello Fingerprint Authentication

<Only for model with fingerprint reader>

The fingerprint recognition for Windows Hello is supported. To use Windows Hello, perform the following steps for setup.

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

NOTE

- Register at least two fingers. That way, if by any chance one finger is injured, another can be used.

IMPORTANT


- To prevent scanning errors, pay attention to the following.
 - Touch the fingerprint reader with the first joint of the finger you want to register.



- In the following cases, the fingerprint reader may fail to register or authenticate.
 - You touch the fingerprint reader while sliding your finger.
 - You touch the fingerprint reader with a finger at an angle.
 - The pressing force to touch the fingerprint reader is weak.
 - The finger is dirty or scarred.
 - The finger is too wet or too dry.
- See [“Fingerprint Reader Handling”](#) for details.
- In rare cases, features necessary for fingerprint authentication may not be detected.
In such cases, try registering another finger.

Using Windows Hello PIN

A PIN is a PIN number that is set for each device such as the computer or smart phone. When you have added a PIN to the computer, you are requested to enter the PIN on the sign in screen. To use Windows Hello, perform the following steps for setup.

1. Click  (Start) - [Settings].
2. Click [Accounts] - [Sign-in options].
3. Click [PIN (Windows Hello)] - [Set up].
 - You must be connected to the Internet to set up a PIN for Microsoft account.
4. Follow the on-screen instructions.

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.)

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 Left USB Port \(Type-C\)\]](#)/[\[Tablet Left USB Port \(Type-A\)\]](#)/[\[Keyboard Base USB Port\]](#) 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>

- 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.

- **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.

1. Right-click  (Start) - [Run], then input "tpm.msc" and click [OK].

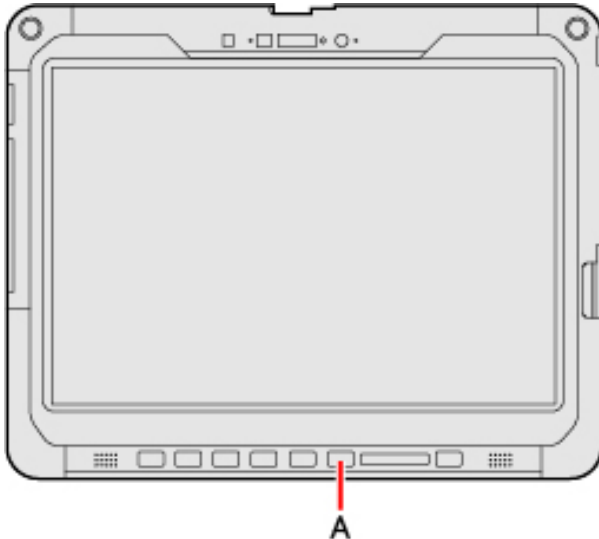
Display Rotation

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  (Start) - [Settings] - [System] - [Display].
2. Set "Rotation lock" to [On] or [Off].

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.
- 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 from Sleep/Hibernation and Windows is unlocked.

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, Barcode Reader (only for model with Barcode Reader) and TouchScreen, and select on/minimum of Fan.

IMPORTANT

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

Switching the concealed mode

1. Press << Fn>> + << F8>> ( [Key Combinations](#)).

NOTE

- If you press keys 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.

1. You can change the devices turned on/off in [\[Concealed Mode Configuration\]](#) with [Setup Utility](#). You can change the trigger key in [\[Trigger Key\]](#).

NOTE

- << Fn>> + << F8>> key is always enabled.
- When set [\[LCD Backlight\]](#) to [\[Minimum\]](#) and [\[LED\]](#) to [\[ON\]](#), the LED becomes dark.


Waves MaxxAudio

Waves MaxxAudio is an application that adjusts the sound output of speakers or headset jack using an equalizer function or noise reduction function.

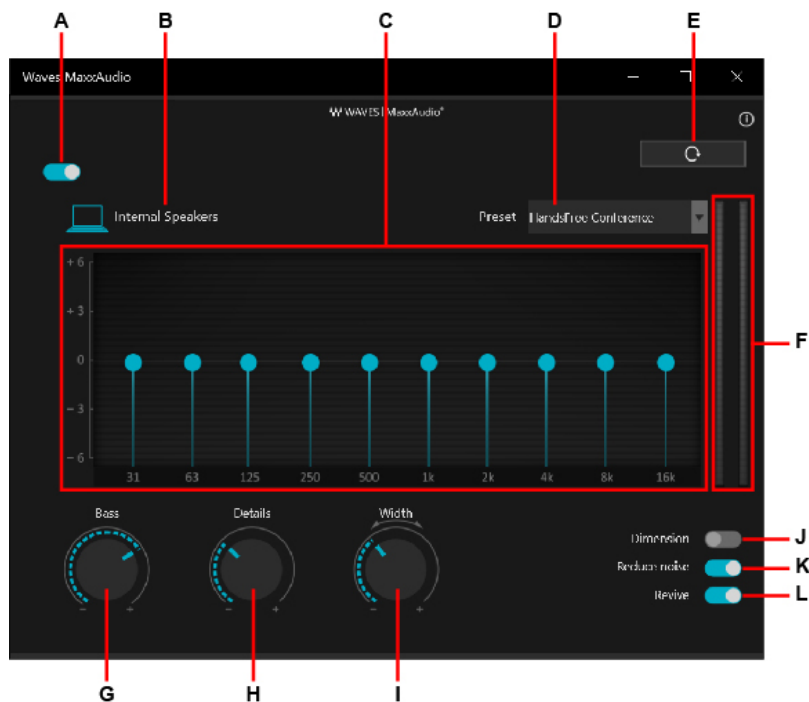
NOTE

- Waves MaxxAudio is enabled as factory default, so it does not require the startup operation.
- Depending on the model, [HandsFree Conference] or [Standard] that places importance on conversation has been preset as default. This setting can be changed to a different preset according to the purpose of use such as music.
- On this computer, Realtek Audio Console to adjust the sound input/output has also been installed in addition to Waves MaxxAudio.
Use an appropriate application according to the purpose of use.

Starting Waves MaxxAudio

1. Click  (Start) - [All apps] -  (Waves MaxxAudio).

The Waves MaxxAudio starts up, and the following screen is displayed.




A. ON/OFF Switch

Switches between ON and OFF of Waves MaxxAudio. If the sound adjusted with Waves MaxxAudio is not a preferred sound, this application can be turned off.

B. Sound Device

Displays the sound output device. Settings are stored for each sound output device.

C. Equalizer

The volumes can be adjusted for each frequency band. Move the slider () up and down to adjust the volume of each frequency band.

D. Preset

Click the preset menu to select a displayed preset according to the purpose of use.

Profiles selected as default are as follows.

- [HandsFree Conference]: This setting places importance on the sound volume and quality of conversation.
- [Standard]: This setting places importance on the balance between sound volume and quality.

- [Movie & Music]: This setting places importance on the sound quality by raising the volume of low-tone range.

NOTE

- The preset cannot be changed while headphones are used.
- Depending on the model, the preset that is selected as default may differ.

E. Reset Button

Clicking this button restores each setting to the default state.

F. Level Meter

Displays the volume (left/right) meter.

G. “Bass” adjustment dial

While clicking the dial, move the dial up/down or left/right to adjust the volume of low-tone range. Turning the dial in “+” direction increases the volume of low-tone range.

H. “Details” adjustment dial

While clicking the dial, move the dial up/down or left/right to adjust the volume of high-tone range. Turning the dial in “+” direction increases the volume of high-tone range.

I. “Width” adjustment dial

While clicking the dial, move the dial up/down or left/right to adjust the direction of sounds output from the right and left speakers. Turning the dial in “+” direction spreads the right and left sounds.

Increasing the level of “Width” adjustment may cause the stereo sound only in the right side or left side to slightly come out from the counterpart speaker.

NOTE

- This dial does not support sound equipment connected to the headset jack.

J. Dimension

Turning on this switch while the headphones are in use gives you sound spread as if you are listening through speakers.

NOTE

- This function may not respond depending on the headphones to be used. In that case, the switch cannot be turned on.

K. Reduce noise

Turning on this switch reduces constant noises that generally occur from the microphone input, etc.

L. Revive

Electronically improves low bit-rate sound sources with relatively poor sound quality. This function is turned on as default. This function can be disabled by turning off the switch.

NOTE

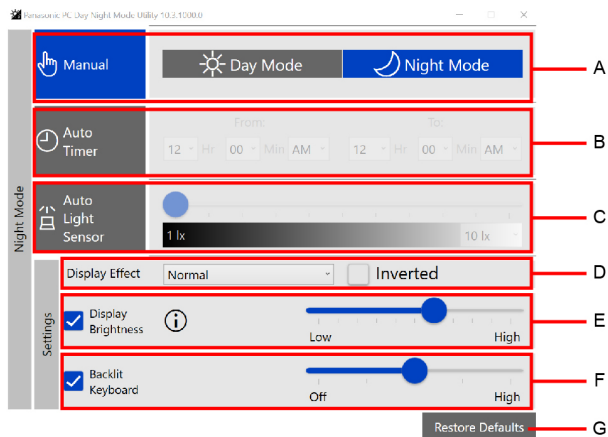
- Depending on the headphones to be used, Waves MaxxAudio may not be supported, or some of the items may not be set.
- If other sound applications are used, the Waves MaxxAudio settings or functions may be affected.
- Depending on the application to be used, the sound adjustment by Waves MaxxAudio may not function.
- The Waves MaxxAudio function does not guarantee its effects or improvement of sound quality.

Panasonic PC Day Night Mode Utility

Starting Panasonic PC Day Night Mode Utility

1. Click  (Start) - [All apps] -  (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, the settings will not be displayed.

- 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 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.

NOTE

- When using the “Panasonic PC Day Night Mode Utility”, confirm that [Night light] is set to [Off].

You can check with the following procedure.



1. Click  (Start) - [Settings] - [System] - [Display].
2. Set [Night light] to [Off].
3. Click [Brightness], and remove the check mark from [Change brightness automatically when lighting changes].

Setup Utility

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

Starting the Setup Utility



1. Click **(Start) - [Settings] - [System] - [Recovery]**.
2. Click **[Restart now]** in “Advanced startup”.
3. Click **[Restart now]** on the “We'll restart your device so save your work” screen.
4. 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.



ESC	1	2	3	4	5	6	7	8	9	0	BKS
q	w	e	r	t	y	u	i	o	p	ENTER	
a	s	d	f	g	h	j	k	l	↑	SPACE	
z	x	c	v	b	n	m	CAP	←	↓	→	SYM



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.

F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
`	~	=	~	!	@	#	\$	%	^	ENTER	
&	*	()	_	+	[]	\	{	}	SPC
	:	'	:	"	,	.	/	<	>	?	SYM

Using tablet buttons:

The tablet buttons operates at follows.

-  : Move to the item below.
-  : Move 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 is connected to the HDMI port of tablet.

Information Menu

Underlined items are the factory presets.

Language	<u>English</u> French Japanese
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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 Model No. Serial No. EC	Computer information (cannot be changed.)
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System Information

Processor Type Memory Size Storage	Computer information (cannot be changed.)
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BIOS Information

▶ Firmware Information	Enter the sub-menu.
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Sub-menu (Firmware Information)

BIOS BIOS Configuration EC Intel(R) ME Firmware LAN Firmware (NVM) Embedded Security (TPM) Intel(R) ISH Intel(R) ISH Profile Intel(R) USB4 Retimer PD Controller Camera (Front)	Computer information (cannot be changed.)
---	---

Accumulative Operating Time Access Level	Computer information (cannot be changed.)
---	---

Main Menu

Underlined items are the factory presets.

System Date <ul style="list-style-type: none">Day of the Week, Month/Day/Year.You can use << Tab>> to move the cursor.	[xxx xx/xx/xxxx]
System Time <ul style="list-style-type: none">24-hr. style.You can use << Tab>> to move the cursor.	[xx:xx:xx]

10-Key Mode <ul style="list-style-type: none">Select the behavior of the 10-key area of the keyboard.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.	<u>NumLock</u> Fn Key
Application HotKey	Disabled <u>Enabled</u>
▶ Tablet Button Configuration <ul style="list-style-type: none">The sub-menu appears when this item is selected.	Enter the sub-menu.

Sub-menu (Tablet Button Configuration)

A1 Button <ul style="list-style-type: none">[Ctrl+Alt+Del] is only displayed when [A2 Button] or [Rotation Lock Button] is not set to [Ctrl+Alt+Del].	Disabled <u>Application1</u> Ctrl+Alt+Del Concealed Mode Trigger
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Preboot Key Binding <ul style="list-style-type: none"> Key assignment during startup. 	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 <u>F12</u>
A2 Button <ul style="list-style-type: none"> [Ctrl+Alt+Del] is only displayed when [A1 Button] or [Rotation Lock Button] is not set to [Ctrl+Alt+Del]. [Barcode Reader Trigger] is only displayed when [Rotation Lock Button] is not set to [Barcode Reader Trigger]. 	Disabled <u>Application2</u> (Only for model without Barcode Reader) Ctrl+Alt+Del Airplane Mode Hotkey <u>Barcode Reader Trigger</u> (Only for model with Barcode Reader)
Preboot Key Binding <ul style="list-style-type: none"> Key assignment during startup. 	Not Assigned F1 <u>F2</u> F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
Up/Down Buttons	Disabled <u>Volume Up/Down</u> Brightness Up/Down
Windows Button	Disabled <u>Enabled</u>
Rotation Lock Button <ul style="list-style-type: none"> [Ctrl+Alt+Del] is only displayed when [A1 Button] or [A2 Button] is not set to [Ctrl+Alt+Del]. [Barcode Reader Trigger] is only displayed when [A2 Button] is not set to [Barcode Reader Trigger]. 	Disabled Application3 Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader) <u>Rotation Lock</u>

Preboot Key Binding <ul style="list-style-type: none"> Key assignment during startup. 	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 <u>Esc</u>
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Table of Preboot Key Bindings

- The settings for [A1 Button], [A2 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.
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	<u>Normal Brightness</u> Low Brightness
Battery Charging Indicator	<u>On Continuous</u> Flashing
Power On AC	Disabled Enabled

▶ Concealed Mode Configuration <ul style="list-style-type: none"> The sub-menu appears when this item is selected. 	Enter the sub-menu.
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
Sub-menu (Concealed Mode Configuration)

Concealed Mode Configuration


Concealed Mode	Disabled <u>Enabled</u>
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LCD Backlight <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. 	OFF <u>Minimum</u> ON
LED <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. Except for the front camera indicator and the LED of external devices. 	<u>OFF</u> ON

Sound <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>
Wireless Radio <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>
Camera Light <ul style="list-style-type: none"> Only for model with rear camera. Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>
Backlit Keyboard <ul style="list-style-type: none"> Only for model with Backlit Keyboard. Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>
Fan <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. 	Minimum <u>ON</u>
Barcode Reader <ul style="list-style-type: none"> Only for model with Barcode Reader. Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>
Touchscreen <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. 	<u>OFF</u> <u>ON</u>

Trigger Key <ul style="list-style-type: none"> Can be changed only when [Concealed Mode] is set to [Enabled]. Select the key combination to turn on/off the concealed mode. When [F8] is selected, pressing << F8>> turns on/off the concealed mode. When [Right Alt] is selected, pressing right << Alt>> turns on/off the concealed mode. When [A1 Button] is selected, pressing the A1 () button turns on/off the concealed mode. 	<u>Fn+F8</u> F8 Right Alt A1 Button
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 Fan Diagnostics <ul style="list-style-type: none"> To use this option, set [Concealed Mode] to [Disabled]. 	Enter the sub-menu. Press << Enter>> to start fan test.
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 USB Charge Settings	Enter the sub-menu.
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Sub-menu (USB Charge Settings)

 USB Charge Settings

Always on Charging	<u>Disabled</u> Enabled
Quick Charging	<u>Disabled</u> Enabled

 Optional Kit Configuration <ul style="list-style-type: none"> Normally do not change this setting. 	Enter the sub-menu. A separately provided password is required to enter the sub-menu.
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Advanced Menu

Underlined items are the factory presets.

▶ CPU Configuration

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

Enter the sub-menu.

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) Total Memory Encryption

Disabled
Enabled

■ Peripheral Configuration

▶ Serial Port Settings

- The sub-menu appears when this item is selected.
- Used to configure the serial port.
- Displayed only for model with serial port of tablet.

Enter the sub-menu.

Sub-menu (Serial Port Settings)

■ Serial Port Settings

Serial Port

- Only for model with serial port.

Disabled
Enabled
Auto

Tablet LAN

- Only for tablet.

Disabled
Enabled

Power On by LAN

- Can be changed only when [Tablet LAN] is set to [Enabled].

Deny
Allow

▶ Wireless Configuration

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

Enter the sub-menu.

Sub-menu (Wireless Configuration)

<p>Wireless LAN</p> <ul style="list-style-type: none"> Only for model with wireless LAN. Can be changed only when [Bluetooth] is set to [Disabled]. 	<p>Disabled</p> <p><u>Enabled</u></p>
<p>Bluetooth</p> <ul style="list-style-type: none"> Only for model with Bluetooth. Can be changed only when [Wireless LAN] is set to [Enabled]. 	<p>Disabled</p> <p><u>Enabled</u></p>
<p>Wireless WAN</p> <ul style="list-style-type: none"> Only for model with wireless WAN. 	<p>Disabled</p> <p><u>Enabled</u></p>
<p>GPS</p> <ul style="list-style-type: none"> Only for model with dedicated GPS. 	<p>Disabled</p> <p><u>Enabled</u></p>

<p>Wireless Antenna Switching</p>	<p>PC(built-in)</p> <p><u>Auto</u></p>
<p>Ext Antenna Select</p> <ul style="list-style-type: none"> Only for model with External Antenna. The number of antennas used in devices to which the external antenna is connected can be specified. The settings of the selected items are displayed below. <div> <p>NOTE</p> <ul style="list-style-type: none"> This computer always has two channels for the external antenna. The settings of the antenna that is not displayed on the screen are also enabled. Single setting works only for the vehicle dock with one external antenna. </div>	<p>Single</p> <p><u>Dual</u></p>
<p>Ext Antenna 1</p>	<p><When [Ext Antenna Select] is [Single] (Only for model with GPS on wireless WAN)></p> <p><u>WWAN main</u></p> <p>WWAN GPS</p> <p>NONE</p> <p><When [Ext Antenna Select] is [Single] (Only for model with dedicated GPS)></p> <p><u>GPS</u></p> <p>WWAN main</p> <p>NONE</p> <p><When [Ext Antenna Select] is [Dual] (Only for model with GPS on wireless WAN)></p> <p><u>WWAN main</u></p> <p>NONE</p> <p><When [Ext Antenna Select] is [Dual] (Only for model with dedicated GPS)></p> <p><u>WWAN main</u></p> <p>NONE</p>

Ext Antenna 2	<When [Ext Antenna Select] is [Dual] (Only for model with GPS on wireless WAN)> <u>WWAN GPS</u> WWAN sub NONE
	<When [Ext Antenna Select] is [Dual] (Only for model with dedicated GPS)> <u>GPS</u> NONE

Tablet Left USB Port (Type-C)	Disabled <u>Enabled</u>
Tablet Left USB Port (Type-A)	Disabled <u>Enabled</u>
Keyboard Base USB Port	Disabled <u>Enabled</u>

▶ SuperSpeed USB Configuration	Enter the sub-menu.
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Sub-menu (SuperSpeed USB Configuration)

■ SuperSpeed USB Configuration

Tablet Left USB Port (Type-A) <ul style="list-style-type: none"> Can be changed only when [Tablet Left USB Port (Type-A)] is set to [Enabled]. 	Disabled <u>Enabled</u>
Keyboard Base and Port Replicator	Disabled <u>Enabled</u>

■ Camera Configuration

Camera (Front) <ul style="list-style-type: none"> Only for model with front camera. 	Disabled <u>Enabled</u>
Camera (Rear) <ul style="list-style-type: none"> Only for model with rear camera. 	Disabled <u>Enabled</u>

Boot Menu

Underlined items are the factory presets.

Boot Mode <ul style="list-style-type: none"> 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]. 	<u>Normal</u> Compatible
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UEFI Priorities

Boot Option #1 - #7	Windows Boot Manager Windows Recovery Environment Recovery Partition UEFI: PXE IPv4 Realtek USB Ethernet Controller [Key-board Base] UEFI: PXE IPv6 Realtek USB Ethernet Controller [Key-board Base] UEFI: PXE IPv4 Intel(R) Ethernet Connection (16) I219-LM [Tablet] UEFI: PXE IPv6 Intel(R) Ethernet Connection (16) I219-LM [Tablet] Disabled
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Depending on the hardware constructions, some device name are different.

UEFI Boot Device Control

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

UEFI Boot from Storage	Disabled <u>Enabled</u>
UEFI Boot from LAN	Disabled <u>Enabled</u>
UEFI Boot from USB and Others	Disabled <u>Enabled</u>

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	<u>Disabled</u> Enabled
Password on Boot <ul style="list-style-type: none">• The shutdown when the fast startup is enabled, this function is ineffective.	Disabled <u>Enabled</u>
Password on Reboot	Disabled <u>Same as Boot</u>
Password on Resume <ul style="list-style-type: none">• 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 <u>Enabled</u>
Set Supervisor Password	Enter the password.

User Password Protection	<u>No Protection</u> Protected
Set User Password <ul style="list-style-type: none"> Can be changed only when [Set Supervisor Password] is set. 	Enter the password.
SW KB Support for Encryption	<u>Disabled</u> Enabled
Profile Selection <ul style="list-style-type: none"> Can be changed only when [SW KB Support for Encryption] is set to [Enabled]. 	1 field <u>2 fields</u>
SW KB Support for BitLocker	<u>Disabled</u> Enabled
Enhanced sign-in security	<u>Disabled</u> <u>Enabled</u>
<div> <div>IMPORTANT</div> <ul style="list-style-type: none"> <Only for model with Fingerprint Reader (Windows Hello)> If you have switched [Enhanced sign-in security] from [Enabled] to [Disabled], perform the following steps to set up Windows Hello again. <div> <div></div> <ol style="list-style-type: none"> Click (Start) - [Settings] - [Accounts] - [Sign-in options]. For Microsoft accounts, set “For improved security, only allow Windows Hello sign-in for Microsoft accounts on this device (Recommended)” to [Off]. Click [PIN (Windows Hello)] - [Remove] - [Remove]. <ul style="list-style-type: none"> If the “First, verify your account password.” is displayed, enter your account password and click [OK]. Right-click (Start) - [File Explorer]. Click [This PC] - [Windows (C:)] - [util] - [drivers] - [fngprint] - [support]. Right-click [off_fingerprint_ess.bat], and click [Run as administrator]. Click (Start) - [Settings] - [Accounts] - [Sign-in options]. Set up [Facial recognition (Windows Hello)], [Fingerprint recognition (Windows Hello)] and [PIN (Windows Hello)] again. </div> <Only for model with Fingerprint Reader (Windows Hello)> If you have switched [Enhanced sign-in security] from [Disabled] to [Enabled], perform the following steps to set up Windows Hello again. <div> <div></div> <ol style="list-style-type: none"> Right-click (Start) - [File Explorer]. Click [This PC] - [Windows (C:)] - [util] - [drivers] - [fngprint] - [support]. Right-click [on_fingerprint_ess.bat], and click [Run as administrator]. </div> </div>	

<p>► Embedded Security (TPM)</p> <ul style="list-style-type: none"> Only for model that supports TPM. Can be changed only when [Set Supervisor Password] is set. Sub-menu items: <ul style="list-style-type: none"> 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 (Depending on the models, this item is displayed differently.) 	Enter the sub-menu.
<p>► Fingerprint Security</p> <ul style="list-style-type: none"> Only for model with Fingerprint Reader (Windows Hello). Can be changed only when [Set Supervisor Password] is set. Sub-menu items: <ul style="list-style-type: none"> Sub-Menu Protection Power-on Security Clear the fingerprint data 	Enter the sub-menu.
<p>► AMT Configuration</p> <ul style="list-style-type: none"> Only for model that supports Intel(R) AMT. Can be changed only when [Set Supervisor Password] is set. 	Enter the sub-menu.
<p>► DFCI Configuration</p> <ul style="list-style-type: none"> DFCI is a feature that allows remote control of some items in the Setup Utility via Microsoft Intune. 	Enter the sub-menu.
<p>► Secure Boot</p> <ul style="list-style-type: none"> The sub-menu appears when this item is selected. If you change factory default setting, preinstalled-OS may not operate correctly. 	Enter the sub-menu.
<p>► Absolute Persistence(R) Module</p> <ul style="list-style-type: none"> 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. 	<u>Ready</u> Disabled Permanently Disabled*1
*1 : When [Permanently Disabled] is selected, this setting cannot be used again.	
<p>► Secure Wipe</p> <ul style="list-style-type: none"> Can be changed only when [Set Supervisor Password] is set. Sub-menu items: <ul style="list-style-type: none"> Start "Secure Wipe" 	Enter the sub-menu.

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.
UEFI: PXE IPv4 Realtek USB Ethernet Controller [Key-board Base]	Boot from LAN device (IP4).
UEFI: PXE IPv6 Realtek USB Ethernet Controller [Key-board Base]	Boot from LAN device (IP6).
UEFI: PXE IPv4 Intel(R) Ethernet Connection (16) I219-LM [Tablet]	Boot from LAN device (IP4).
UEFI: PXE IPv6 Intel(R) Ethernet Connection (16) I219-LM [Tablet]	Boot from LAN device (IP6).
Windows Recovery Environment	Boot from Windows Recovery Environment.

Depending on the hardware constructions, some device name 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.

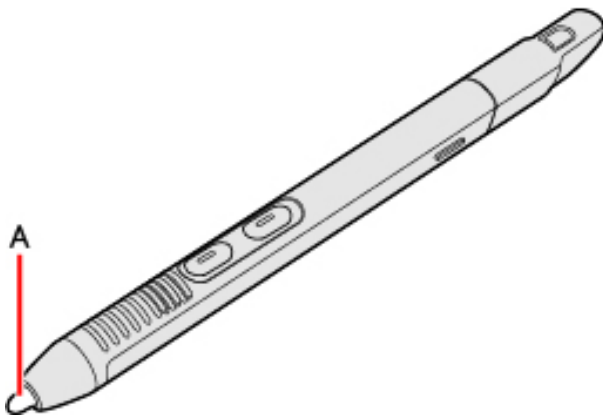
- Do not apply too much pressure when operating the screen.
Only a light touch is required to operate the screen. Applying too much pressure may damage the surface.
- Do not use the screen when dust or dirt (e.g., oil) is on the screen.
Otherwise foreign particles on the screen/pen (included) can scratch 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 noiseMove 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 its 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.**

SD Memory Card

The SD memory card slot on this computer accepts SD/SDHC/SDXC memory cards.

Keyboard base has an SD memory card slot.

<Only for model with microSD memory card slot>

Tablet has a microSD memory card slot.

Inserting/Removing the SD Memory Card

IMPORTANT

- Do not remove or insert the SD memory card until Windows has completed loading.
- Do not remove the card or turn off the computer in the following cases, otherwise the data may be corrupted.
 - While the computer is in sleep or hibernation.
 - While the SD memory card indicator is on.
 - While data is being read from or written to the card.
 - Immediately after the writing operation, this computer may still continue the access to the card. If you remove the card before the operation is completed, the data may be damaged or the card access may no longer be performed normally.
- Note that Panasonic assumes absolutely no liability for any loss of data recorded by the user, or any other damages, direct or indirect.
- Keep SD memory cards away from infants and small children.

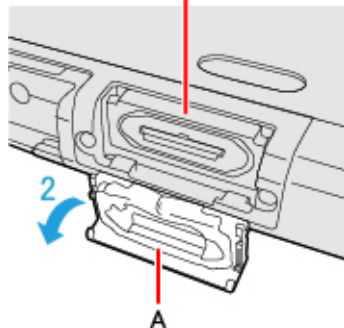
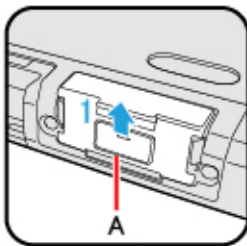
Inserting the card

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

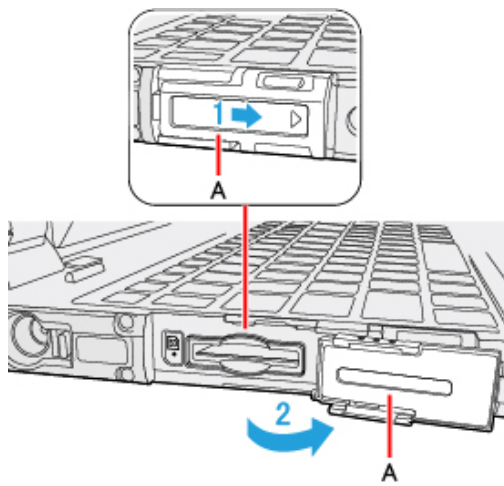
The cover is unlocked.

2. Open the cover (A).

Tablet



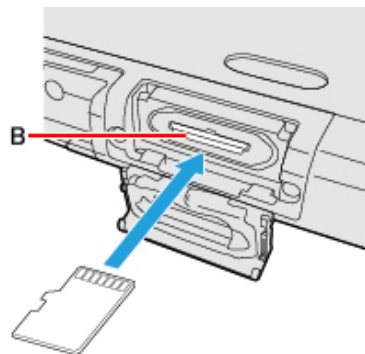
Keyboard Base



3. Insert the SD memory card to the SD memory card slot (B).

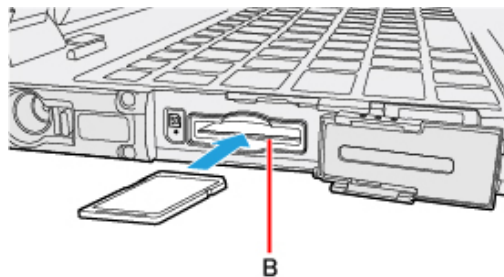
Tablet

Confirm that the label side is facing down.



Keyboard Base

Confirm that the label side is facing up.

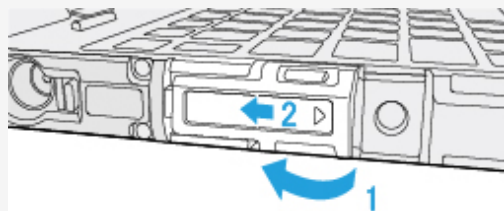


4. Close the cover (A).

NOTE

- When closing the cover, slide it while pressing as described in the illustration below. After that, make sure that the cover has been closed properly.

(The illustration shows the cover on the keyboard base, for example.)






Removing the card

Preparation

- Save the data and close all applications.
- Open the cover and confirm the SD memory card indicator is off.

1. **Disable the card function.**

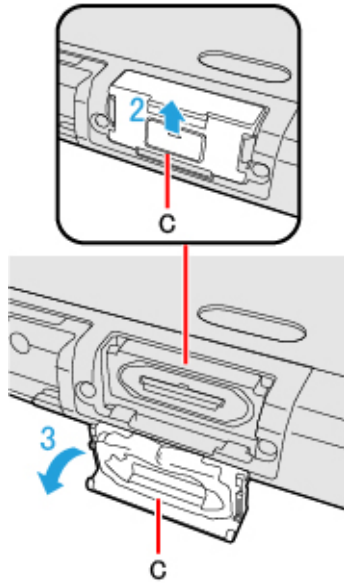
1. Click  on the system tray and click .
2. Select the card.
 - These steps are not necessary when:
 - Removing the card after turning off the computer.
 -  is not displayed.
 - The card does not appear in the list.

2. **Slide the cover (C) to the arrow direction.**

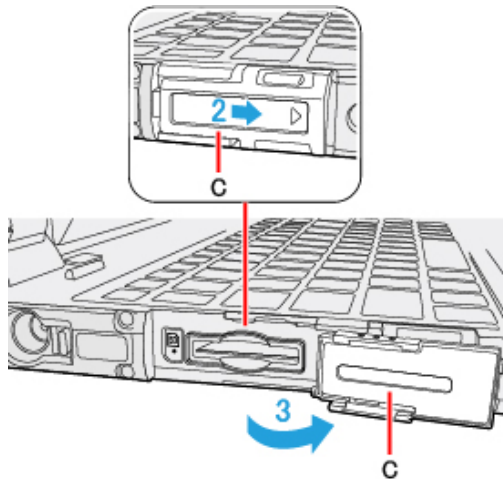
The cover is unlocked.

3. **Open the cover (C).**

Tablet



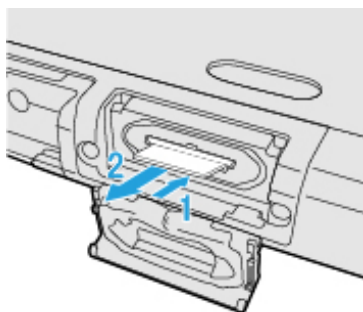
Keyboard Base



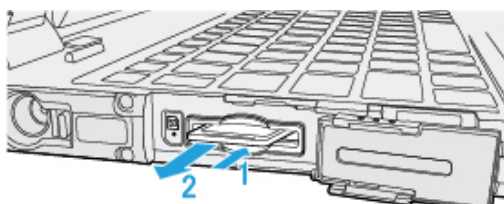
4. **Remove the card.**

1. Press the card so it comes out of the slot.
2. Draw it straight out.

Tablet



Keyboard Base



5. Close the cover (C).

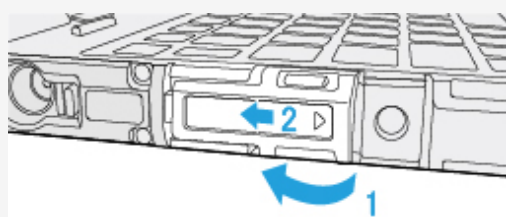
IMPORTANT

- After pressing the SD memory card, do not release your finger suddenly. The SD memory card may jump out.

NOTE

- When closing the cover, slide it while pressing as described in the illustration below. After that, make sure that the cover has been closed properly.

(The illustration shows the cover on the keyboard base, for example.)



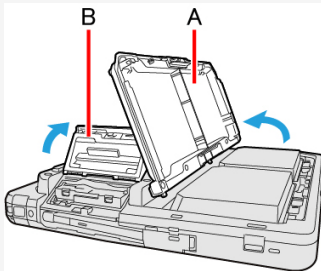
Smart Card

<Only for model with Smart Card slot>

You need software to use a Smart Card.

IMPORTANT

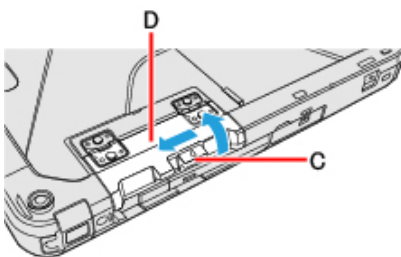
- **Do not:**
 - Hit, bend, or drop the card.
 - Touch the contact part with fingers or metal object.
 - Place the card in very hot location for a long time.
 - Remove the card immediately after inserting it.
- **<Only for Removable-SSD model>**
Do not open the battery cover (A) while the slot cover (B) is open. Damage may result.



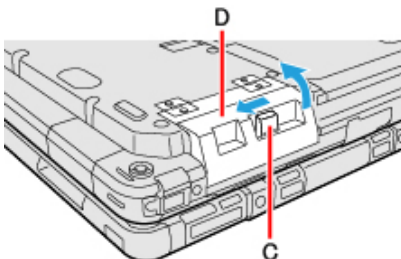
Inserting/Removing the Smart Card

Inserting the card

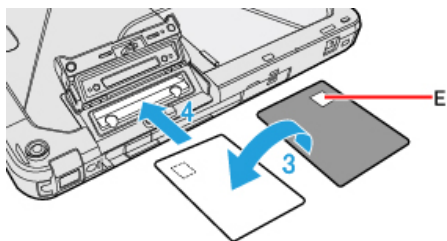
1. **<For tablet> Turn your tablet over.**
Make sure no foreign objects are under the tablet.
2. **While sliding the latch (C) to the left arrow direction, open the cover (D) to the up arrow direction.**



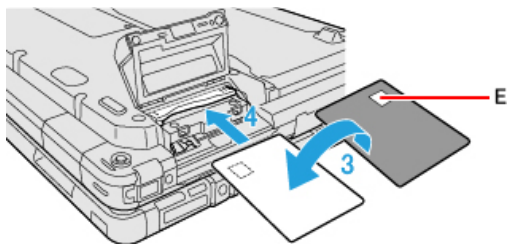
<Only for Removable-SSD model>



3. **Reverse the Smart Card.**
4. **Insert the Smart Card until it surely fits in the slot.**
 - Smart Card must be inserted with the chip portion (E) down.



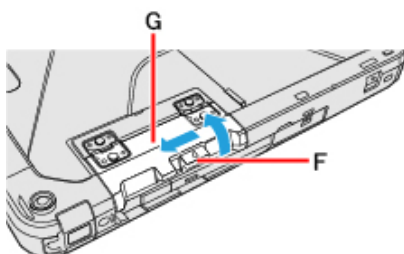
<Only for Removable-SSD model>



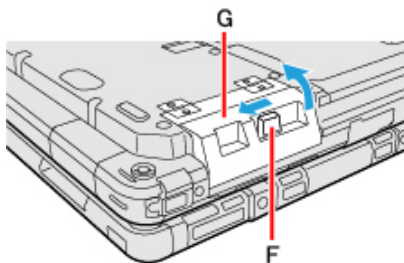
5. Close the cover (D) until it clicks.

Removing the card

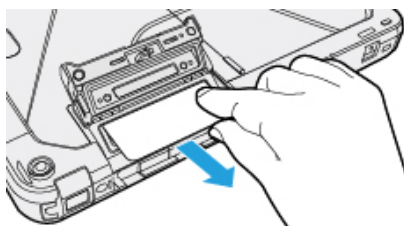
1. <For tablet> Turn your tablet over.
Make sure no foreign objects are under the tablet.
2. While sliding the latch (F) to the left arrow direction, open the cover (G) to the up arrow direction.



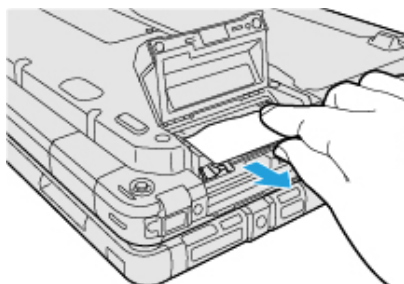
<Only for Removable-SSD model>



3. Draw the card straight out using your fingers.



<Only for Removable-SSD model>



4. Close the cover (G) until it clicks.

External Display

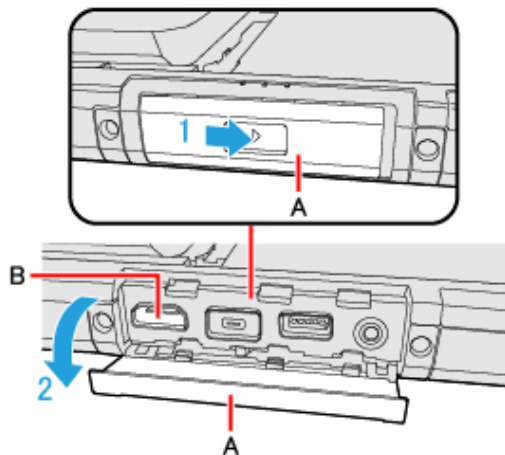
The external monitor (HDMI/VGA) connected to the keyboard base cannot display until Windows starts up.

HDMI Port

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

Tablet

1. **Slide the cover (A) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (A).**
3. **Connect the HDMI port (B) and the HDMI display using an HDMI cable.**



<Only when connected to port replicator>

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

Before switching the computer on, connect the HDMI display to the HDMI 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"](#).

<Only when connected to cradle>

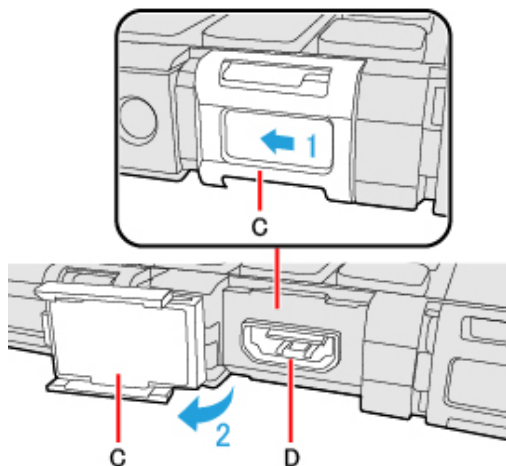
You can switch the output destination to an external HDMI display.

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

For further information of the connection with terminals, refer to ["Cradle"](#).

Keyboard Base

1. **Slide the cover (C) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (C).**
3. **Connect the HDMI port (D) and the HDMI display using an HDMI cable.**

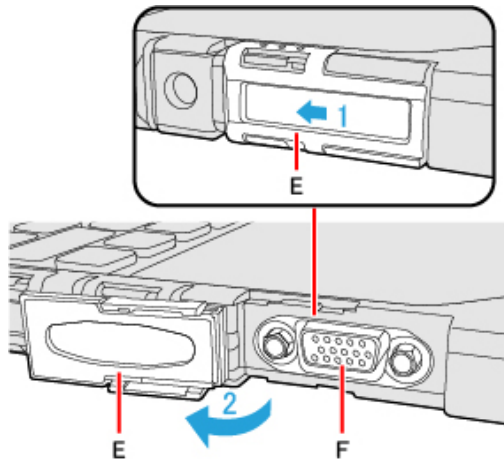


VGA Port

You can switch the output destination to an external analog display.

Keyboard Base

1. **Slide the cover (E) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (E).**
3. **Connect the VGA port (F) and the external display using a VGA cable.**



NOTE

- If you connect VGA display after connecting high resolution HDMI display, such as 4K display, images could not be displayed. In such cases, connect VGA display first, and then connect high resolution HDMI display.

USB Type-C Port

You can switch the output destination to an external display.

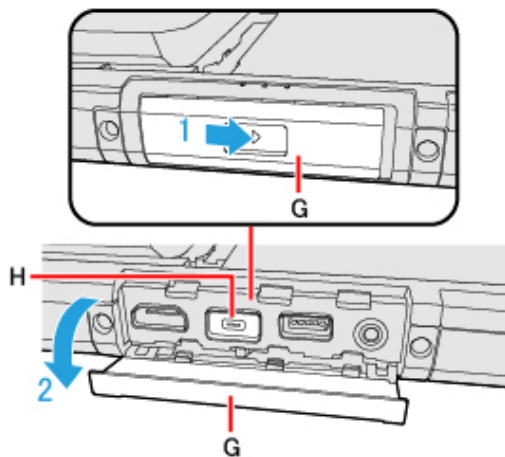
The USB Type-C port of this computer complies with the following standards.

- **Thunderbolt 4**
This is one of the Alternate Modes, extended standard of USB. Data can be transferred at a maximum of 40 Gbps (theoretical value).
- **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 Type-C port.
- **USB Power Delivery (→ USB Power Delivery)**

Tablet

1. **Slide the cover (G) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (G).**

3. Connect the USB Type-C port (H) and the external display using a USB Type-C cable.




NOTE

- When using a Thunderbolt 4-compatible display, use a cable that supports Thunderbolt 4. Depending on the cable, output may not be performed correctly.
- 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>

1. Press <<  >> key + << P >> or << Fn >> + << F3 >>.
2. Select the display mode.

Using the [Display settings]

1. Click  (Start) - [Settings] - [System] - [Display].
2. Select the display mode.

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 using the HDMI or VGA of the keyboard base for extended display, the extended display may appear on the tablet side after resuming from sleep or hibernation. Switch the setting.
- 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] - [Advanced display].
2. Click [Display adapter properties for Display *].
* is a display number.
3. Click [Monitor] - [Properties] - [Driver] - [Update Driver].
4. Following on-screen instructions.

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 << Fn >> 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 3.2 (Type-A) port

Support USB 3.2 Gen 1.

■ USB Type-C port

The features of the supported standards are as follows.

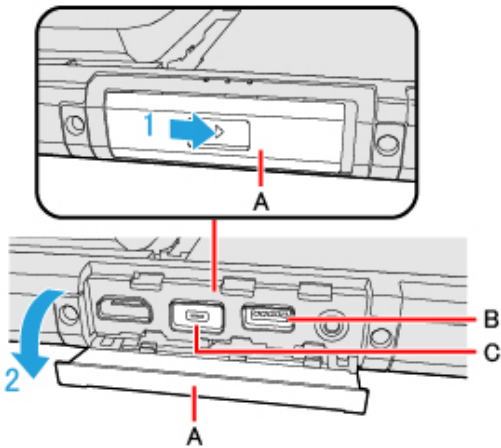
- **USB Power Delivery** ( [USB Power Delivery](#))
- **Thunderbolt 4**

Connecting/Removing USB Devices

■ Connecting the USB device

Tablet

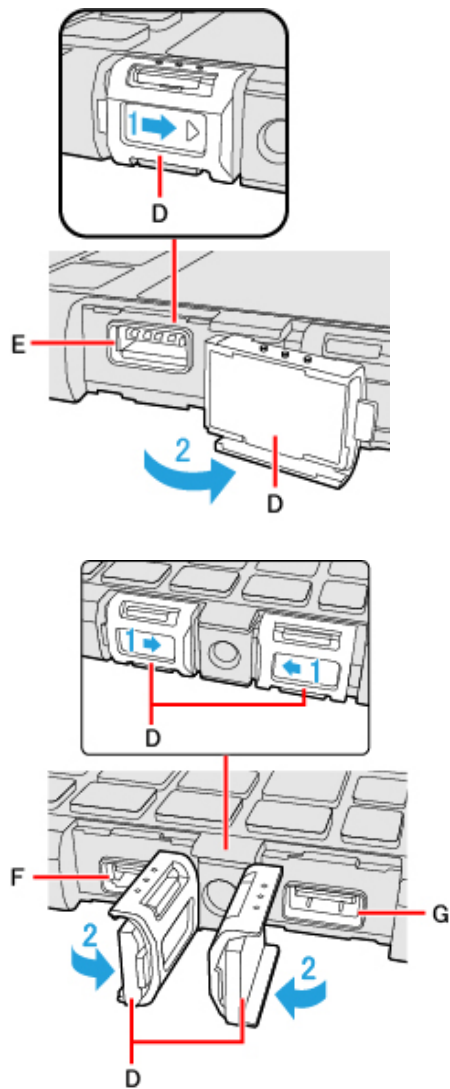
1. **Slide the cover (A) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (A).**
3. **Connect the USB device to the USB 3.2 (Type-A) port (B) or the USB Type-C port (C) on the computer.**



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




Keyboard Base

1. **Slide the cover (D) to the arrow direction.**
The cover is unlocked.
2. **Open the cover (D).**
3. **Connect the USB device to the USB 2.0 (Type-A) port (E) or the USB 3.2 (Type-A) ports (F) or (G) on the computer.**



Removing the USB device

1. Disable the USB device.

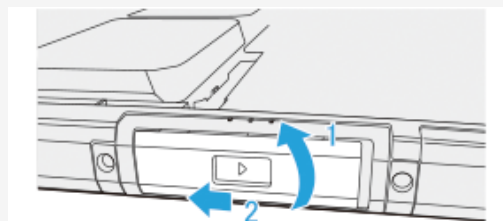
1. Click  on the system tray and click .
2. Select the USB device.
 - These steps are not necessary when;
 - Removing the device after turning off the computer.
 -  is not displayed.
 - The device does not appear in the list in step 2.


2. Remove the USB device.

NOTE

- When closing the cover, slide it while pressing as described in the illustration below. After that, make sure that the cover has been closed properly.

(The illustration shows the cover on the tablet, for example.)



- 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,  may appear in the Device Manager and 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 3.2 (Type-A) port equipped with the continuous power supply function and USB Type-C port allow 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.

Enabling or Disabling Power-Off Charging

1. Click  (Start) - [All apps] -  (Panasonic PC Settings Utility) -  (Settings) -  (USB).
2. Add or remove a check mark to [Enable Always on Charging].

NOTE

- Charging of some USB devices may not be possible. Therefore, check the device before charging it.
- Charging time varies depending on the USB device.
- Connect the USB device directly to the USB port. If connection is via a USB hub, charging may not be possible.
- For devices which do not require charging, connect them to other ports.
- If the computer is not connected to the AC adaptor, its battery power will be consumed quickly.
- Do not insert any foreign object into the USB port.
- When the computer resumes from sleep or hibernation, it may not be able to detect the USB device. If this happens, removing and then reconnecting the USB device may enable the computer to detect the device.
- USB charging is not performed if you press the power switch for more than 10 seconds to turn off the power, or if you reconnect the AC adaptor and battery after removing them in power-off state.
- With USB charging during power-off enabled, if an external keyboard or external mouse is connected to the port allowing USB quick charging, then they cannot be used to resume the computer from sleep.
For USB devices which do not require charging, connect them to other ports.
- If charging is done when the computer is powered by battery, charging automatically stops when the battery level drops below 10 %.

Enabling or Disabling USB Quick Charging

1. Set [Quick Charging] to [Enabled] in the sub-menu of [USB Charge Settings] in the [Main] menu of the Setup Utility.

NOTE

- If USB quick charging is set to be always enabled, the following problems may occur.
 - USB device cannot be detected as a USB device.
 - Charging is not possible.
- For some USB devices in USB quick charging, even though the computer is connected to the AC adaptor, it may temporarily switch to battery operation. If this happens, disable USB quick charging.
- Depending on the USB device, its charging may not be possible.
- Charging time varies depending on the USB device.
- Connect the USB device directly to the USB port. If connection is via a USB hub, charging may not be possible.
- For USB devices which do not require charging, connect them to other ports.
- If the computer is not connected to the AC adaptor, its battery power will be consumed quickly.
- Do not insert any foreign object into the USB port.
- When the computer resumes from sleep or hibernation, it may not be able to detect the USB device. If this happens, removing and then reconnecting the USB device may enable the computer to detect the device.

Charging with USB Type-C port

This computer can send a maximum power of 15 W.

The USB Type-C port enables charging even if the computer is turned off, regardless of the [Enabling or Disabling Power-Off Charging](#) setting.

IMPORTANT

- When using a USB Power Delivery-compatible device, 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

Connect the USB device to the USB 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: 15 W or more
- 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 Type-C port of this computer supports the USB Power Delivery.

You can also use the Power Delivery of the USB 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
- If the battery indicator blinks orange or turns off, check the status of the battery indicator. (➡ [Battery Indicator](#))

Serial Port

Connecting Serial device

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

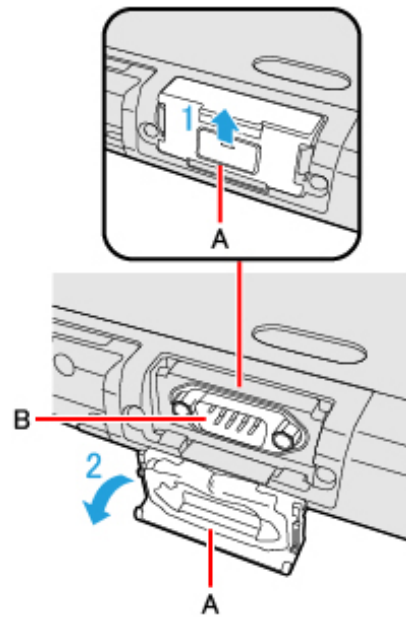
The cover is unlocked.

2. Open the cover (A).

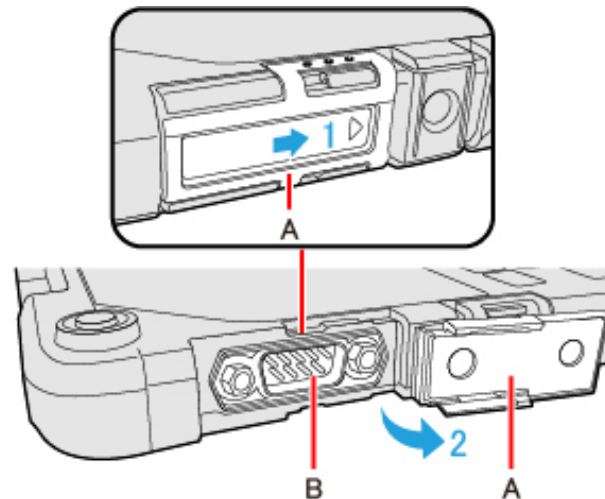
3. Connect the serial cable to the serial port (B).

Tablet

<Only for model with serial port>



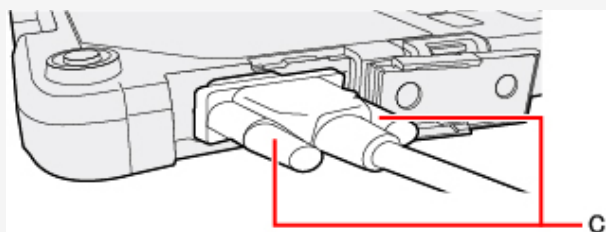
Keyboard Base



4. Connect the serial device to the connector of the serial cable.

NOTE

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



- Plug size thickness: Max. 15.5 mm

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] - [Brightness].
2. Add the check mark to [Change brightness automatically when lighting changes].

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

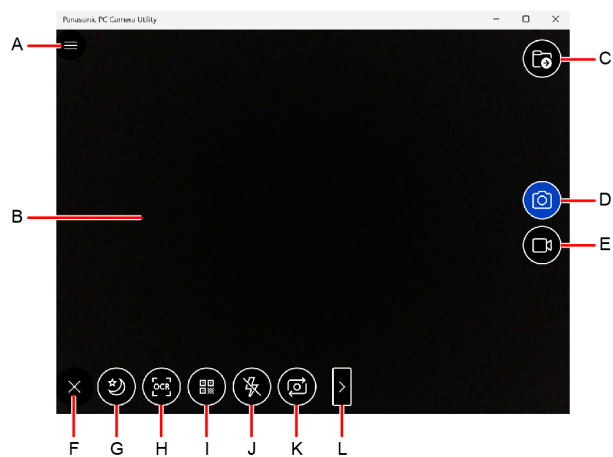
- If you use this utility and other multi-media software at the same time, an error may occur. Close all multi-media software including this utility and restart this utility.
- If an error message appears and nothing is displayed, restart this utility.
- When the computer has resumed from sleep and hibernation, 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) - [All apps] -  (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. Switch camera <Only for model with multiple cameras>
- L. Zoom <Only for model with rear camera>


Shooting Photos and Videos

Shoot photos	<ol style="list-style-type: none"> Click . <ul style="list-style-type: none"> You cannot shoot photos when the save destination storage space is less than 10 MB.
Start/Stop shooting videos	<ol style="list-style-type: none"> Click . The camera switches to the video shooting mode. Click . <p>During shooting, the icon is shown as .</p> <ol style="list-style-type: none"> To stop shooting, click . <ul style="list-style-type: none"> If the save destination storage space becomes less than 100 MB during video shooting, shooting will automatically stop. <div data-bbox="528 1709 1489 1839"> <p>NOTE</p> <ul style="list-style-type: none"> Shooting will stop when you minimize the application window, or put the computer into the sleep mode during video shooting. </div>

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


1. Click .

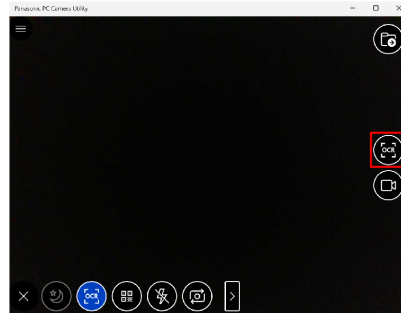
The recorded data will be saved in the displayed folder named the recording date.

OCR Scanning

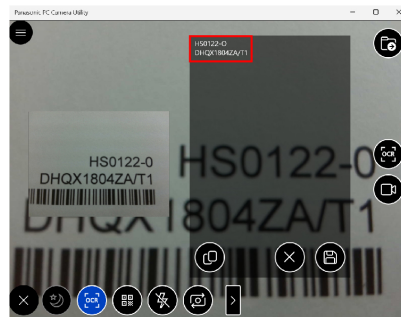
<Only for model with rear camera>

1. Click . The icon is shown as .
2. Point the window at the target text you want to scan, and click  on the right side of the screen.

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



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




Copy the OCR text to the clipboard.



Retry OCR scanning.




Save the OCR text.

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.**


1. Click  (Start) - [Settings] - [Time & language] - [Language & region].
2. Click [Add a language] in "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.
5. Select the "Windows display language" to be used with the OCR feature.
6. Sign out and sign in once.

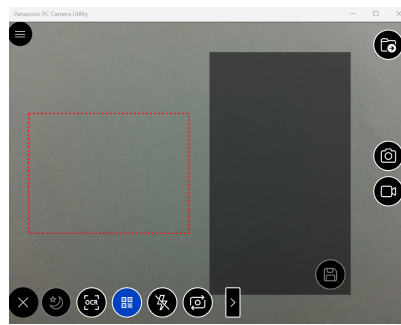
- **OCR feature can't be used in some languages which Windows doesn't support OCR feature.**

Barcode Reader

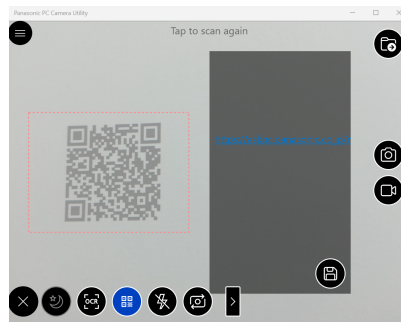
<Only for model with rear camera>

1. Click . 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.

Turn the light ON/OFF

<Only for model with rear camera>

You can turn on/off the light.

- When the still photo shooting mode.



Turn on the light.



Turn off the light (Flash available).



Turn off the light.

- When the video shooting mode, barcode reading mode or OCR scanning mode (where flash is not available).



Turn on the light.



Turn off the light.

Switch camera

<Only for model with multiple cameras>

Switch between the front and rear cameras.

1. Click .

Zoom

<Only for model with rear camera>

To enlarge or reduce the camera image.

1. Use the Zoom slider for adjustment.

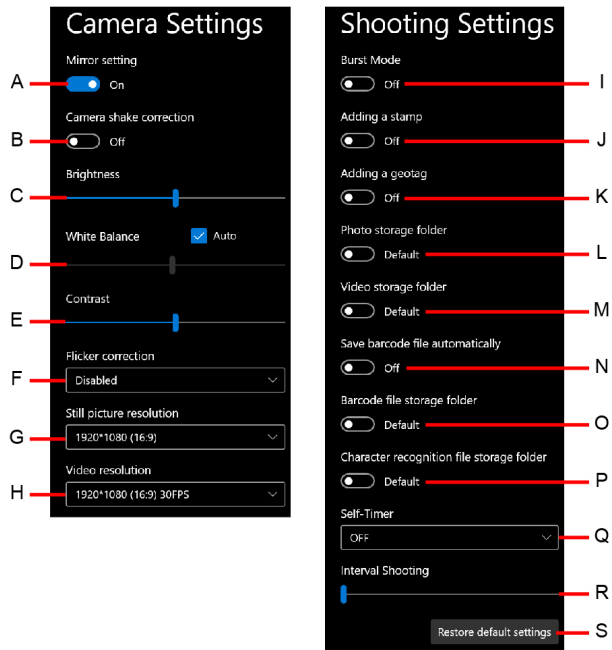


If the slider is not displayed, click .

Changing the Settings

1. Click  - .

The “Setting” menu is displayed.



- Mirror setting <Only for model with front camera>**
Make the preview screen mirror-reversed (flip horizontal). (Recorded images will not be reversed)
- Camera shake correction <Only for model with front camera>**
Enable the image stabilizer when shooting photos.
- Brightness**
Change the brightness of camera images.
- White Balance**
Change the white balance of camera images. To set manually, uncheck the [Auto] option.
- Contrast**
Change the contrast of camera images.
- Flicker correction**
Set the flickering correction of camera images.
- 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.
- 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.
- 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.
- Adding a stamp**
Add geolocation and time stamps to still images.
- Adding a geotag**
Add geotagging to the Exif data of still images.
- Photo storage folder**
Specify the destination of recorded photo data to save. The default value is the “Pictures” folder.
- 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  (Start) - [Settings] - [System] - [Storage] - [Advanced storage settings] - [Where new content is saved].

Barcode Reader

<Only for model with Barcode Reader>

Preparation

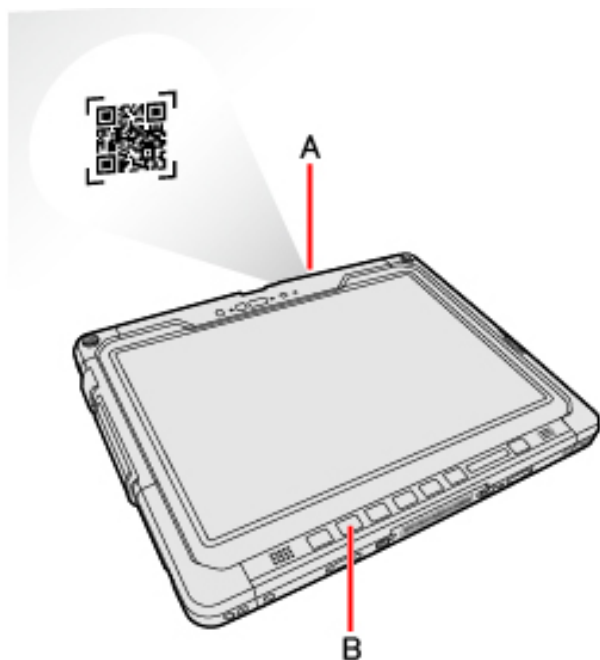
<To make a BEEP sound when reading a barcode>


1. Click  (Start) - [All apps] -  (Panasonic PC 2D Barcode Key Emulator).
2. Click  on the system 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.



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).
While the button is pressed, 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

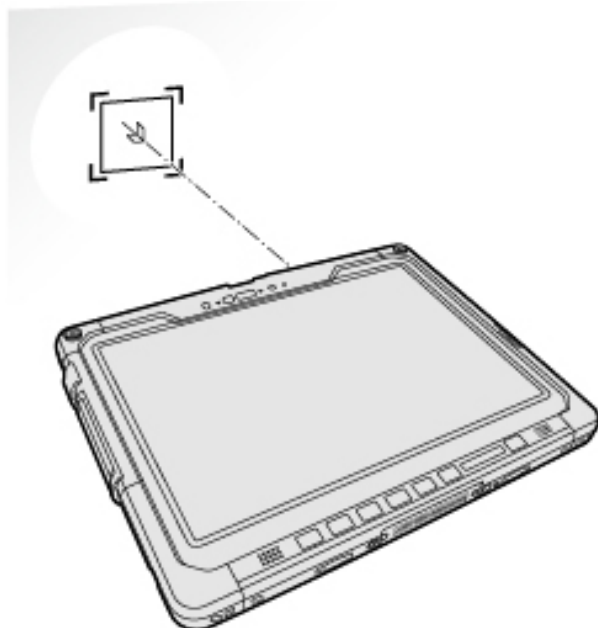
- When the barcode read operation is finished, please wait about 3 seconds to start the next reading. You may press the button immediately, even if you set to release, it takes several seconds to light to light actually.

- If an error message appears and nothing is displayed, restart this utility.
- You can change the function assigned to the Rotation Lock button to [Barcode Reader Trigger].

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

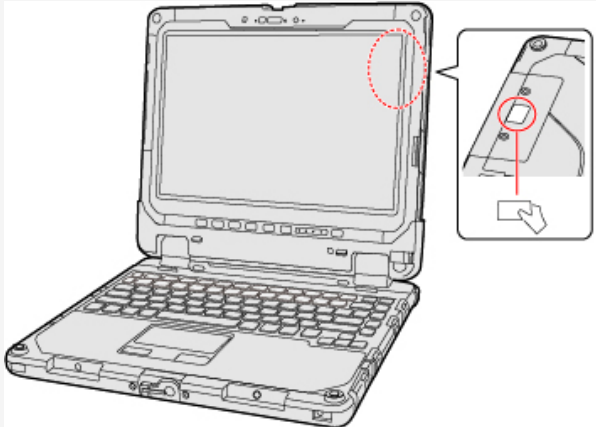
<Only for model with Contactless Smart Card Reader>

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.

Fingerprint Reader

<Only for model with Fingerprint Reader>


Fingerprint Authentication Function

Use fingerprint authentication to improve security and convenience by replacing the conventional password entry required to sign in to windows.

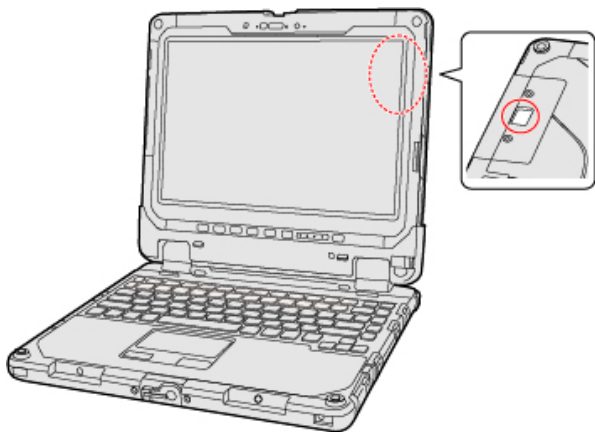
IMPORTANT

- <Only for model with Fingerprint Reader (Windows Hello, Multi User authentication)>

Before using the fingerprint reader (Windows Hello, Multi User authentication), you need to change following settings.

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Restart now] in "Advanced startup".
3. Click [Restart now] on the "We'll restart your device so save your work" screen.
4. Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [Restart].
The computer restarts, and the Setup Utility screen appears.
5. Select the [Exit] menu, and then double-click [Load Default Values].
If the "Load Optimized Defaults" is displayed, click [Yes].
6. Select the [Security] menu, and then confirm [Enhanced sign-in security] is set to [Disabled].
7. Select the [Exit] menu, and then double-click [Save Values and Reboot].
If the "Save Values and Reboot" is displayed, click [Yes].

Fingerprint Reader Location



Fingerprint Authentication Function Features

You can use the fingerprint authentication function by using the Windows Hello.

- **Pre-boot authentication (PBA)**
Perform fingerprint authentication before the computer starts up. Set the Supervisor Password for the Setup Utility beforehand.
- **Sign in fingerprint authentication**
Use fingerprint authentication to unlock your computer and sign in to Windows.

IMPORTANT


For Security When Using Fingerprint Authentication

- **Fingerprint authentication does not guarantee complete user authentication and identification. Please note that we cannot accept liability for any loss or damage incurred from your use or inability to use fingerprint authentication. Please be forewarned.**
- **We cannot accept liability for any loss of data due to malfunction of the fingerprint reader.**
- **Registration may be impossible if there is insufficient fingerprint or other information to identify an individual.**


Erasing Fingerprint Data

There are following erase methods.

- **To delete Windows Hello Fingerprint authentication for an account:**

1. Click  (Start) - [Settings] - [Accounts] - [Sign-in options] - [Fingerprint recognition (Windows Hello)] - [Remove].

- **To delete Windows Hello Fingerprint authentication and Windows Hello Face recognition for an account:**

1. Click  (Start) - [Settings] - [Accounts] - [Sign-in options].
2. For Microsoft accounts, set "For improved security, only allow Windows Hello sign-in for Microsoft accounts on this device (Recommended)" to [Off].
3. Click [PIN (Windows Hello)] - [Remove] - [Remove].
 - If the "First, verify your account password." is displayed, enter your account password and click [OK].

- **To erase all fingerprint data when transferring or disposing the computer:**

1. Select [Clear the fingerprint data] in [Fingerprint Security] in the [Security] menu of the Setup Utility, and select [Yes].

Fingerprint Reader Handling

- **Avoid the following. Failure to do so may result in malfunction or damage to the fingerprint reader.**
 - Do not rub or scratch the reader with hard materials or poke it with small pointed objects that could cause scratches.
 - Do not touch the surface with dirty fingers.
 - Do not soil or cover the reader with a sticker.
- **In the following cases, fingerprint reader sensitivity may be degraded, impeding or preventing authentication and registration.**
 - If the surface of the fingerprint reader is soiled with dirt, skin oil, or sweat
 - If the surface of the fingerprint reader is wet by moisture or condensation
 - If your finger is too wet or too dry
 - If your finger is wounded or inflamed
 - If your fingerprint grooves have become too shallow due to wear
 - If you touch the fingerprint reader while sliding your finger
 - If you touch the fingerprint reader with a finger at an angle
 - If the pressing force to touch the fingerprint reader is weak
 - If your finger is swollen, such as from bathing
 - If your fingerprint has changed due to weight loss or gain
- **Fingerprint reader sensitivity may be restored by the following.**
 - Wipe the fingerprint reader with a soft cloth.
 - Wash and wipe your hands.
 - Use another finger for registration and authentication.
 - If your finger is extremely dry, moisten it using hand cream.
- **Static electricity can cause the fingerprint reader to malfunction. To discharge static electricity, touch a metal surface before touching the fingerprint reader. Be especially careful about static electricity in the winter and in other dry conditions.**
- **When a faulty fingerprint reader is repaired, previously saved passwords may be reset in the process. Please be forewarned.**

SSD Pack

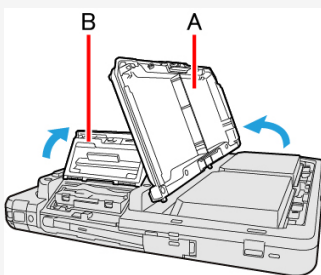
<Only for Removable-SSD model>

Attaching/Detaching the SSD Pack

You can replace the SSD pack.

IMPORTANT

- Back up all the important data before detaching the SSD pack.
- 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.
- Do not open the battery cover (A) while the slot cover (B) is open. Damage may result.



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] - [System] - [Recovery].
2. Click [Restart now] in "Advanced startup".
3. Click [Restart now] on the "We'll restart your device so save your work" screen.
4. Click [Turn off your PC].

2. <For tablet> Turn your tablet over.

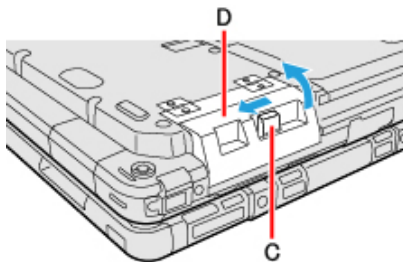
Make sure no foreign objects are under the tablet.

3. Remove the battery pack. (➡ [Replacing the Battery Pack](#))

4. Attach/Detach the SSD pack.

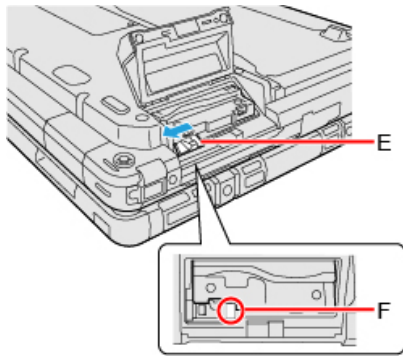
- To detach

1. While sliding the latch (C) to the left arrow direction, open the cover (D) to the up arrow direction.

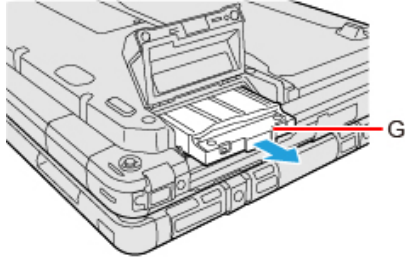


2. Slide the lock (E).

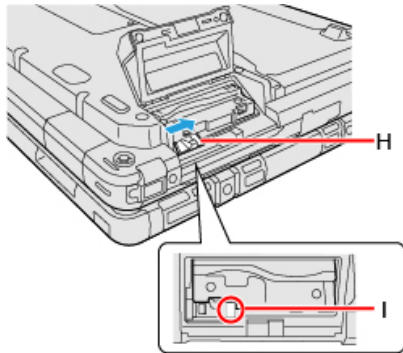
The orange-colored sign appears in the indicator (F).



3. Pull the SSD pack (G) all the way out as illustrated below.



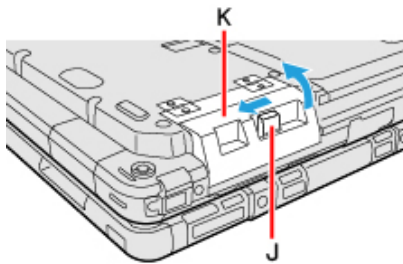
4. Slide the lock (H).
- The orange-colored sign disappears in the indicator (I).



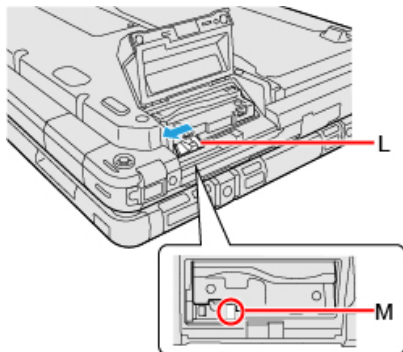
5. Close the cover (D) until it clicks.

- To attach

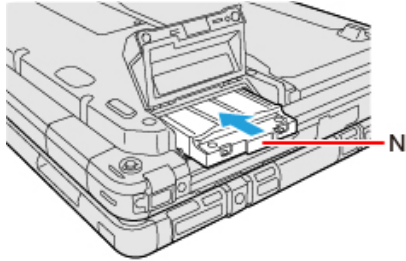
1. While sliding the latch (J) to the left arrow direction, open the cover (K) to the up arrow direction.



2. Slide the lock (L).
- The orange-colored sign appears in the indicator (M).

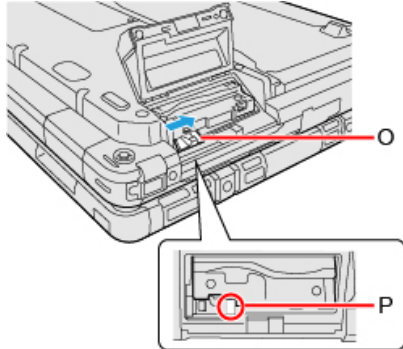


3. Insert the SSD pack (N) into the slot until it clicks to the secured position.



4. Slide the lock (O).

The orange-colored sign disappears in the indicator (P).



5. Close the cover (K) until it clicks.

5. Insert the Battery Pack.

IMPORTANT

- Confirm that the 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.

Erasing SSD Pack Data

You can erase the data before changing the SSD pack.

1. Select [Start "Secure Wipe"] in the sub-menu of [Secure Wipe] in the [Security] menu of the Setup Utility.

Port Replicator

<Only for model with Keyboard Base>

You can use an optional port replicator (CF-VEB331 series). 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 on the bottom of the computer. ( [Description of Parts](#))

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.

NOTE

- Use only the specified port replicator (CF-VEB331 series).

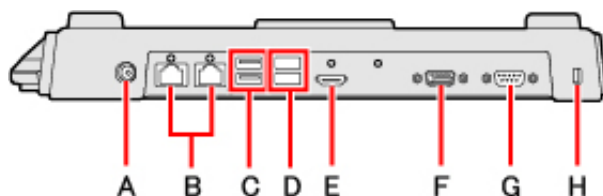
Description of Parts

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. DC-IN Jack
- B. LAN Ports (2 ports)
- C. USB 3.2 Gen 1 (Type-A) Ports (2 ports)
- D. USB 2.0 (Type-A) Ports (2 ports)
- E. HDMI Port

Connect the HDMI compatible digital display.

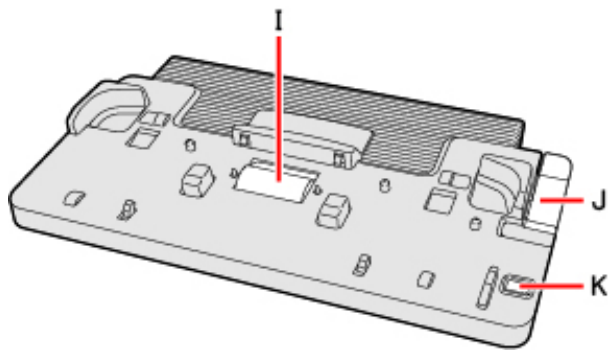
- It is not compatible with the analog display.
- The display specifications of the maximum resolution, etc. that can be output differ according to the specifications of the device connected. For details, refer to the specifications of the device connected.

- F. VGA Port
- G. Serial Port
- H. Security Slot

A Kensington cable can be connected.

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

<Front>



I. Expansion Bus Connector

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

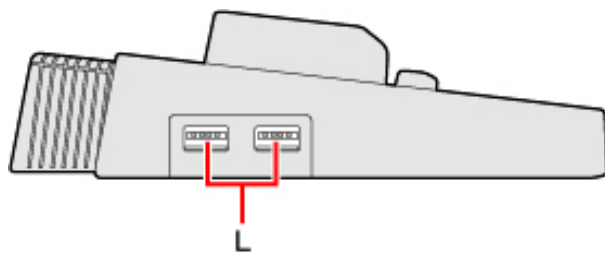
J. Lever

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

K. Power Switch

This operates identically to the power switch on the computer.

<Left>



L. USB 2.0 (Type-A) Ports (2 ports)

NOTE

- As for external displays you can use at the same time, refer to the table below.

	Without Port replicator	With Port replicator
Tablet	HDMI × 1, Thunderbolt™ 4 (Type-C) × 1	HDMI × 1, Thunderbolt™ 4 (Type-C) × 1
Keyboard Base	HDMI × 1, VGA × 1	(Not available)
Port replicator		HDMI × 1, VGA × 1

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 mode (i.e., when the power indicator is blinking).

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.

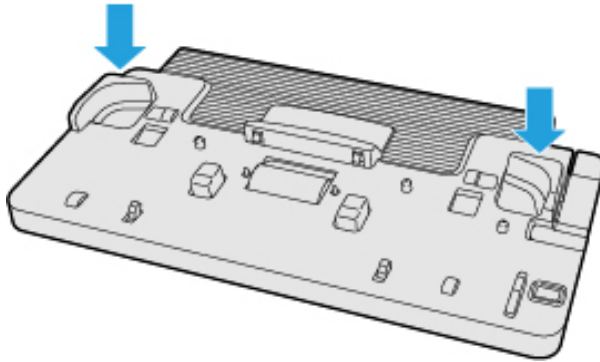
Connect the AC cord to the AC adaptor, and connect to an AC outlet.

IMPORTANT

- Refer to the **OPERATING INSTRUCTIONS** accompanying computer for information on proper handling of the AC adaptor and AC cord.

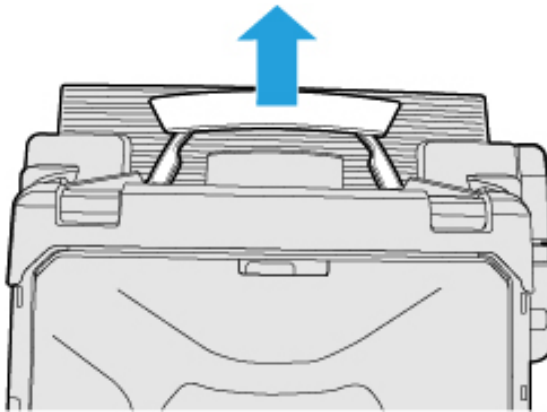
3. Place the corners of the computer in the latches of the port replicator (as shown by the arrows below).

- Make sure to close all connector covers of the computer. 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. Pull out the handle of the computer.

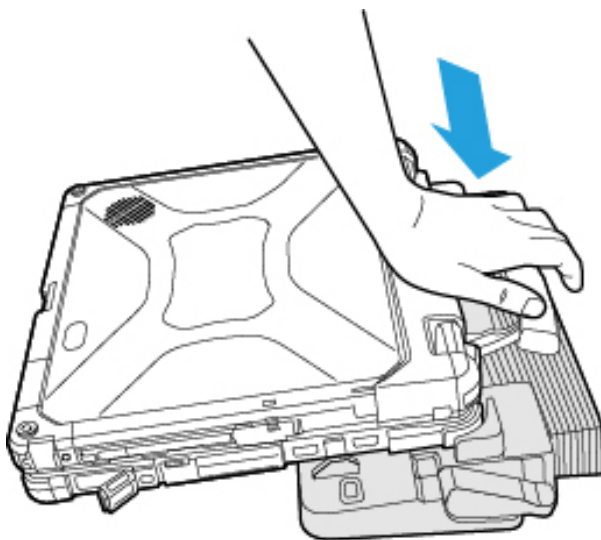
- If you do not pull out the handle before opening the display, the computer may fall over due to the weight of the display.



5. 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. If the computer operates normally, the port replicator may be malfunctioning. Contact Panasonic Technical Support.

NOTE

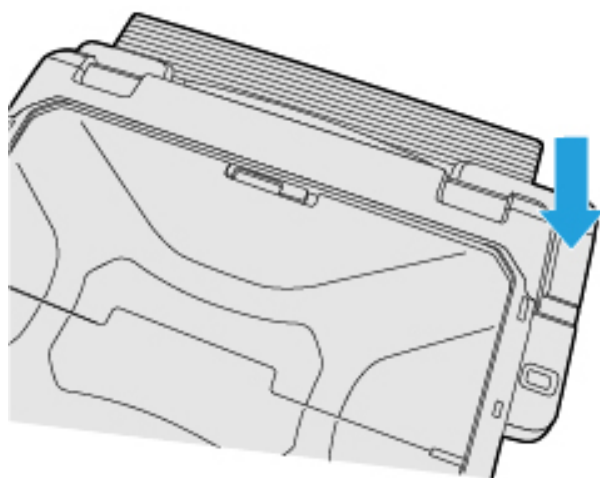
- See other chapters in this manual for connecting and setting USB devices, external displays and LAN.

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. Push the lever.

The computer's connector is disengaged from 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

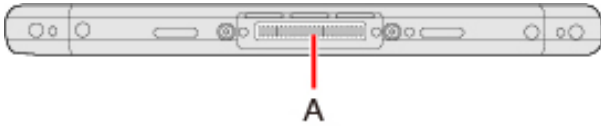
- If it is difficult to disconnect the computer, push the lever while holding the computer from top for easy disconnection.

Cradle

You can use an optional cradle. This device frees you from being bothered by a lot of cable connections when you carry the CF-33 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 tablet and cradle, you can connect variety of devices.

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

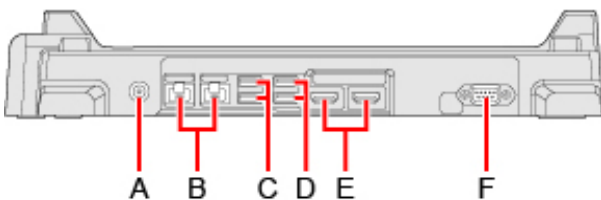
- [Names and Functions of Parts](#)
- [Connecting/Disconnecting the Tablet](#)
- [Battery Charging](#)

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 Ports (2 ports)
- C. USB 3.2 Gen 1 (Type-A) Ports (2 ports)
- D. USB 2.0 (Type-A) Ports (2 ports)
- E. HDMI Ports (2 ports)

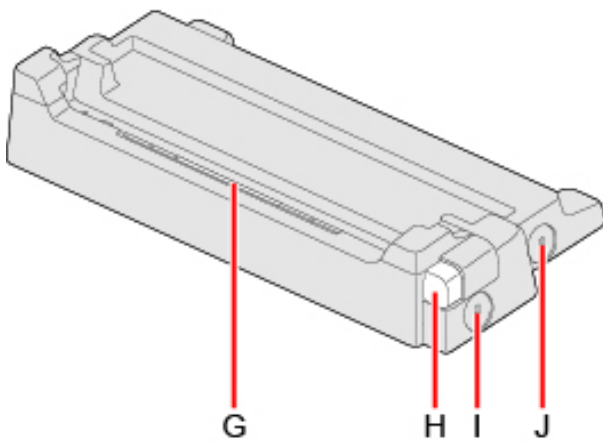
Connect the HDMI compatible digital display.

- 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. Serial Port

<Front>



G. Expansion Bus Connector

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

H. Button

Use this button when disconnecting the cradle from the tablet.

I. Security slot (Side front)

A Kensington cable can be connected.

If the cable for security is connected to this security slot after the tablet is connected, the tablet cannot be disconnected because the button is locked.

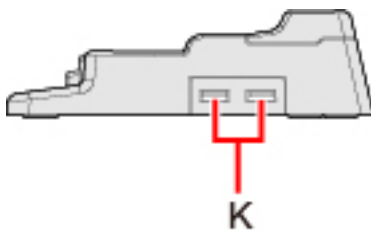
- For more information, read the manual that comes with the cable.

J. Security slot (Side back)

A Kensington cable can be connected.

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

<Left>



K. USB 2.0 (Type-A) Ports (2 ports)

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.

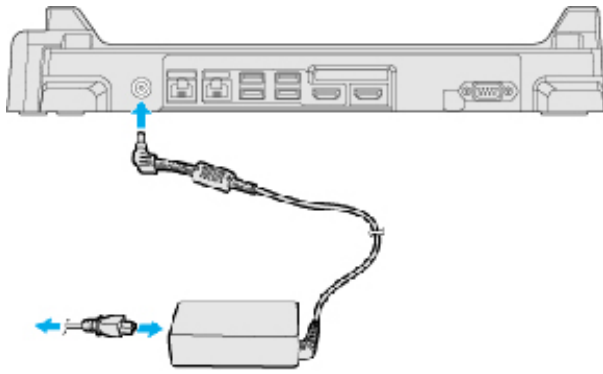
Disconnect all the devices and cables and close the terminal cover.

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.

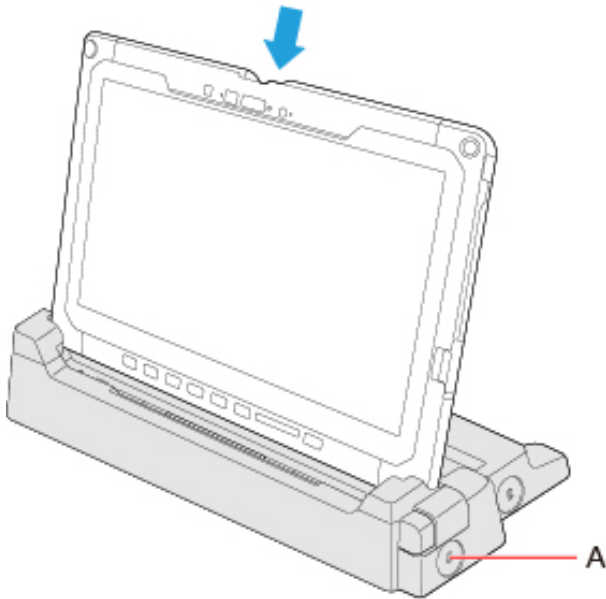
Connect the AC cord to the AC adaptor, and connect to an AC outlet.

- 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 from above the cradle and push the upper center of the tablet all the way in.

- 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.



4. When locking the button for disconnection, connect the cable for security to the security slot (A) on the side.

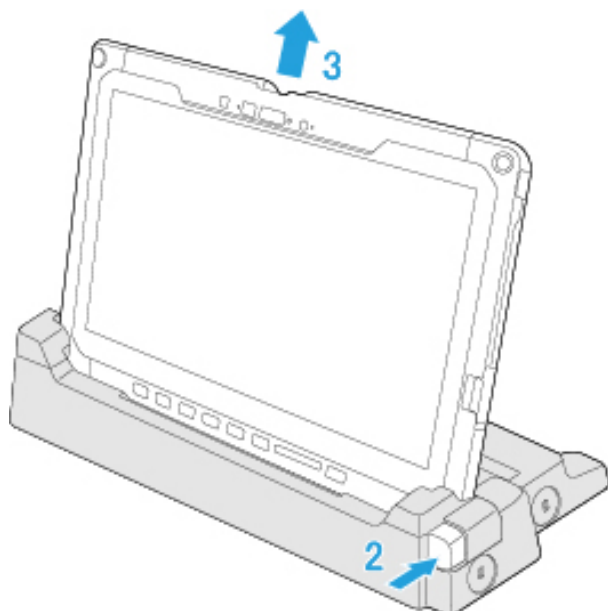
IMPORTANT

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

Disconnecting

- 1. Turn off the tablet.**
 - If the cable has been connected to the security slot on the side, remove the cable.
- 2. Push the button in.**

3. Lift the tablet up.



NOTE

- If it is difficult to disconnect the tablet, push the button while holding the tablet from top for easy disconnection.

Battery Charging

The battery can be charged using the cradle.

When you connect the tablet to the cradle connected with AC Adaptor (➡ [Connecting/Disconnecting the Tablet](#)), the battery attached to the tablet is automatically charged.

Vehicle Dock Adaptor

You can use an optional vehicle dock adaptor (CF-VVK33 series). The Vehicle Dock Adaptor is the device to connect the CF-33 series (tablet) to the legacy Vehicle Dock. For models with the Slim Keyboard, the keyboard can be detached.

Read the instruction manual of the vehicle dock adaptor before using.

For attaching the vehicle dock adaptor to the vehicle dock, read the instruction manual of the vehicle dock.

IMPORTANT

- Connect or disconnect the vehicle dock adaptor while the tablet is turned off.

NOTE

- The USB cable^{*1} supplied with the Vehicle Dock Adaptor can be used only for connecting between the Slim Keyboard and Vehicle Dock Adaptor, and between the Slim Keyboard and Vehicle Dock. Do not use it for connecting between the Slim Keyboard and tablet.

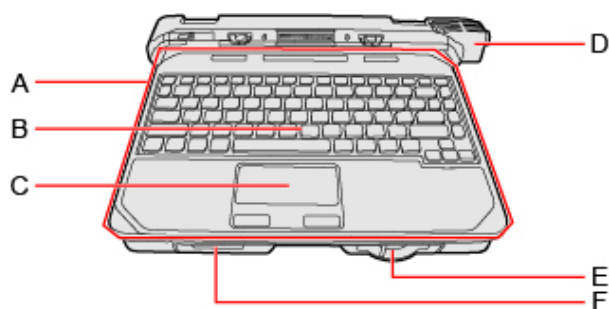
^{*1}: Not included with some models.

Description of Parts

When connecting each device to the vehicle dock adaptor, carefully read the appropriate chapters for the device in this manual.

Descriptions in this chapter are based on the models with the Slim Keyboard.

<Front>



A. Slim Keyboard

B. Keyboard

C. Touchpad

D. Security Lock

E. Release Lever

Used to detach the Slim Keyboard.

F. USB 2.0 (Type-A) Port

Attaching/Detaching the Tablet

IMPORTANT

- Do not connect or disconnect the vehicle dock adaptor while the tablet is powered on, or in the sleep or hibernation mode.
- Make sure that there are no foreign objects between the vehicle dock adaptor and the tablet.

Attaching the tablet to the vehicle dock adaptor

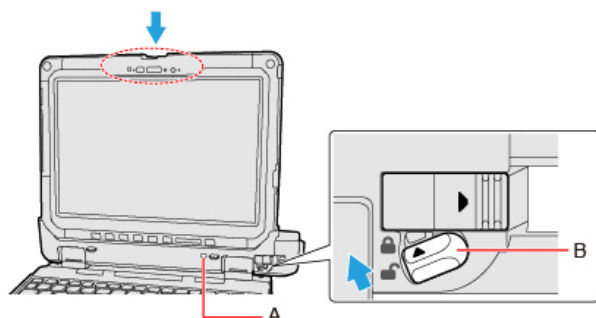
1. Turn off the tablet.

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. Hold the area enclosed by the dashed circle in the illustration, and push the tablet downward.

The detach indicator (A) will turn black.



3. Lock the detach lock (B).

IMPORTANT

- Confirm that the detach indicator (A) has turned black.
- Be careful not to get your hands caught between the tablet and the vehicle dock adaptor when attaching the tablet.
- If the tablet malfunctions when the vehicle dock adaptor is attached, disconnect the vehicle dock adaptor and check to see if the tablet operates normally. If the tablet operates normally, the vehicle dock adaptor may malfunction. Contact Panasonic Technical Support.

NOTE

- For connecting and setting USB devices, see the other chapter in this manual.

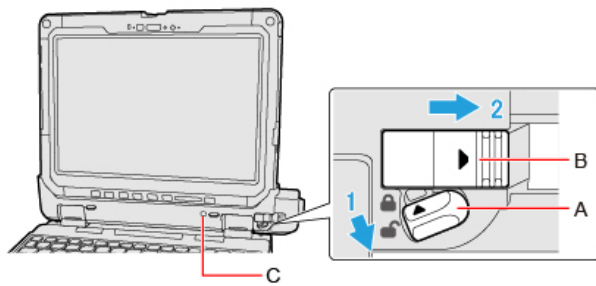
Detaching the tablet from the vehicle dock adaptor

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.
- Do not detach the tablet in the conditions below.
 - When the SD memory card indicator is on.
 - When playing/recording audio files or displaying motion video such as MPEG files.
 - When using communication software or network functions.

To detach the tablet while it is turned on, perform the following.

1. Release the detach lock (A).
2. Slide the release lever (B) in the direction of the arrow.

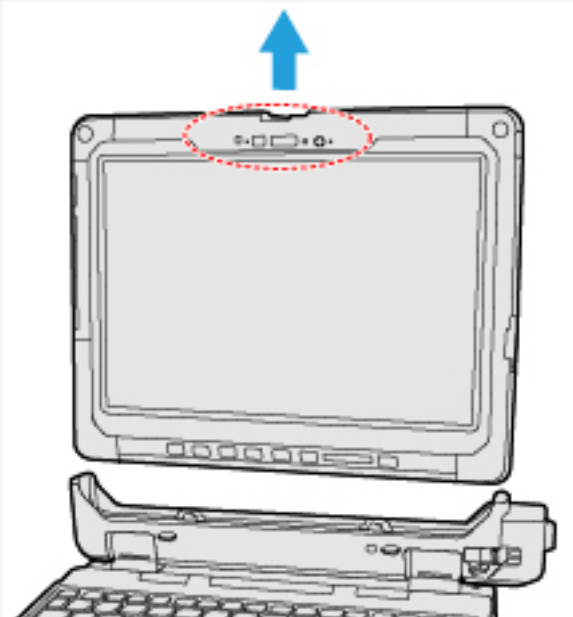


The detach indicator (C) will turn orange.

3. Detach the tablet from the vehicle dock adaptor.

IMPORTANT

- When detaching the tablet from the vehicle dock adaptor, hold the position at the locations dashed line circled in the illustration.



- Attach/detach the tablet on a flat location.
- While holding the vehicle dock adaptor with hand, attach/detach the tablet.

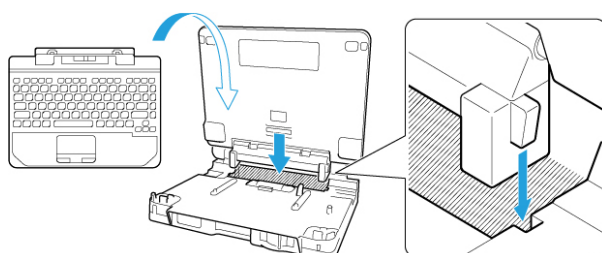
Attaching/Detaching the Slim Keyboard

IMPORTANT

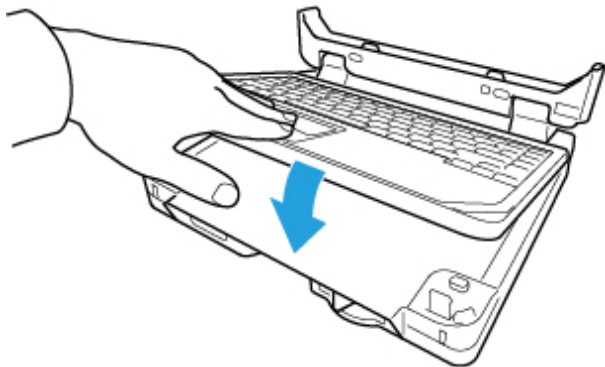
- Make sure that there are no foreign objects between the vehicle dock adaptor and the slim keyboard.

Attaching the slim keyboard to the vehicle dock adaptor

1. Attach the Slim Keyboard by fitting its stand parts into the slits of the vehicle dock adaptor.
Push it all the way to the bottom.



2. Press the Slim Keyboard from above.

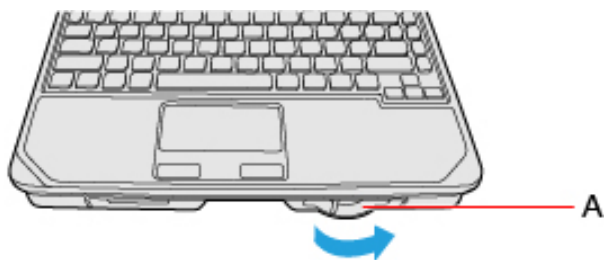


3. When attaching the slim keyboard to the vehicle dock adaptor, press hard the area enclosed by the circle in the illustration.



Detaching the slim keyboard from the vehicle dock adaptor

1. Slide the release lever (A).



2. Detach the slim keyboard.

Slim Keyboard

You can use an optional slim keyboard (CF-VKB33 series). The slim keyboard can be attached not only to the Vehicle Dock Adaptor, but also to the CF-33 series (tablet) directly.

Read the instruction manual of the slim keyboard before using.

Connecting/Disconnecting the Tablet

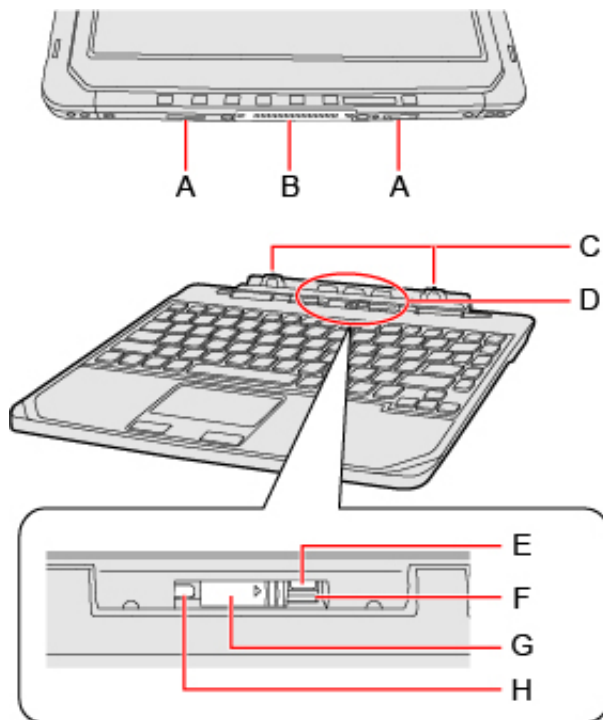
Connecting

Connect the slim keyboard to the tablet according to the following steps.

Preparation

- Place the slim keyboard as shown below.
Make sure that there are no foreign objects under the slim keyboard.

- Align the connect guide holes (A) of the tablet with the connect guides (C) of the slim keyboard.

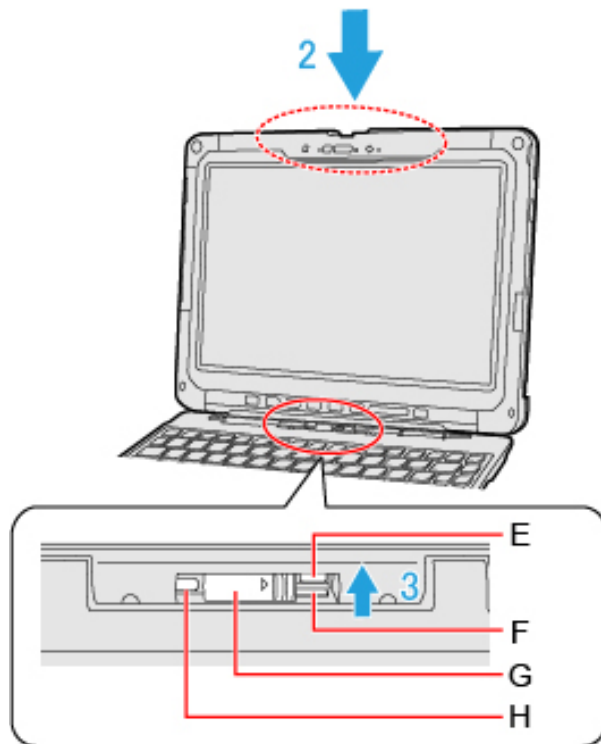


IMPORTANT

- Do not touch either the expansion bus connector of the tablet (B), or the expansion connector of the slim keyboard (D).

- Hold the area enclosed by the dashed circle in the illustration, and push the tablet downward.
The orange-colored sign (H) will be hidden.
- Raise the detach lock (F) upward.

The orange-colored sign (E) will be hidden.



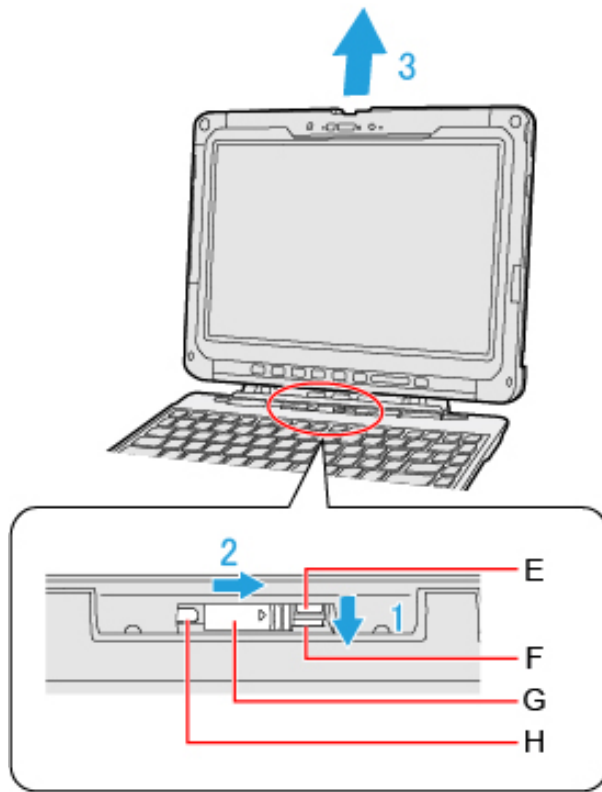
IMPORTANT

- Do not incline the display more outwardly than necessary. Doing so may result in the tablet falling over due to the display weight.
- Confirm that the orange-colored sign (E) has been invisible.

Disconnecting

1. **Release the detach lock (F).**
The orange-colored sign (E) will be shown.
2. **Slide the release lever (G) in the direction of the arrow.**

3. Detach the tablet from the slim keyboard.



Hand Strap

Attaching the straps (hand strap/shoulder strap/rotate hand strap) helps you stably hold the tablet.

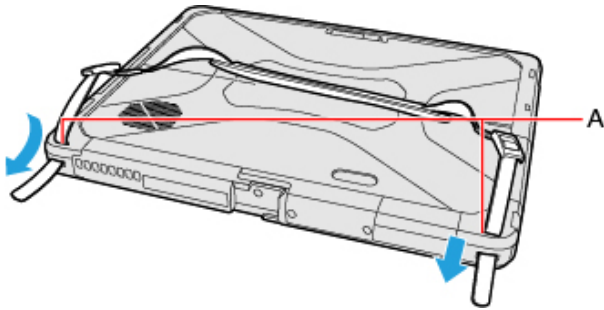
Attaching the Hand Strap and the Shoulder Strap

1. <Only for model with Keyboard Base>
Detach the tablet from the keyboard base.
2. Turn the tablet over.

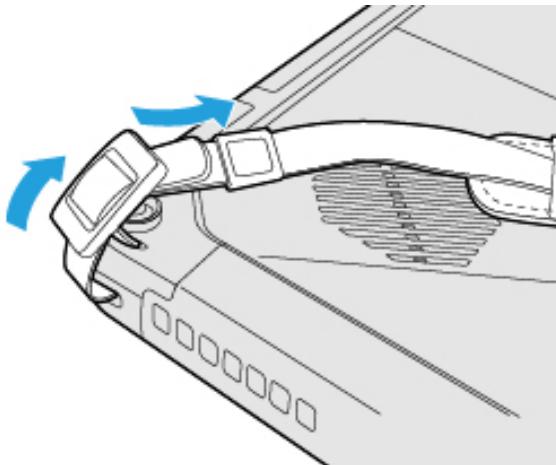
IMPORTANT

- 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. Put the belt through the strap holes (A) of the tablet.



4. Put the belt through the adjuster and securely tighten it so as not to loosen.



IMPORTANT

- Do not use the strap to carry items heavier than the tablet. Doing so may cause the strap to become loose.
- Do not use the strap if it becomes worn or damaged.

Installing the Rotate Hand Strap

NOTE

- When you mount the tablet on the vehicle dock to use it, carefully read the Operating Instructions of the vehicle dock.

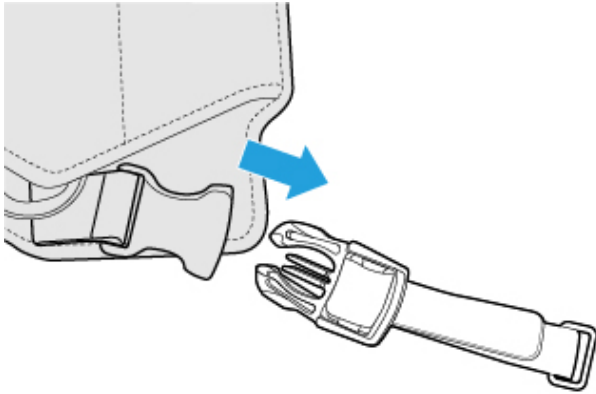
Preparation

1. <Only for model with Keyboard Base>
Detach the tablet from the keyboard base.
2. Turn the tablet over.

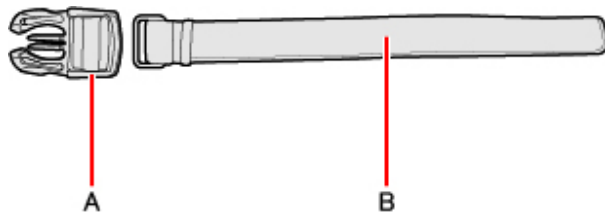
IMPORTANT

- Place the tablet on a soft cloth with the panel side down. In addition, make sure that there are no objects under the tablet.

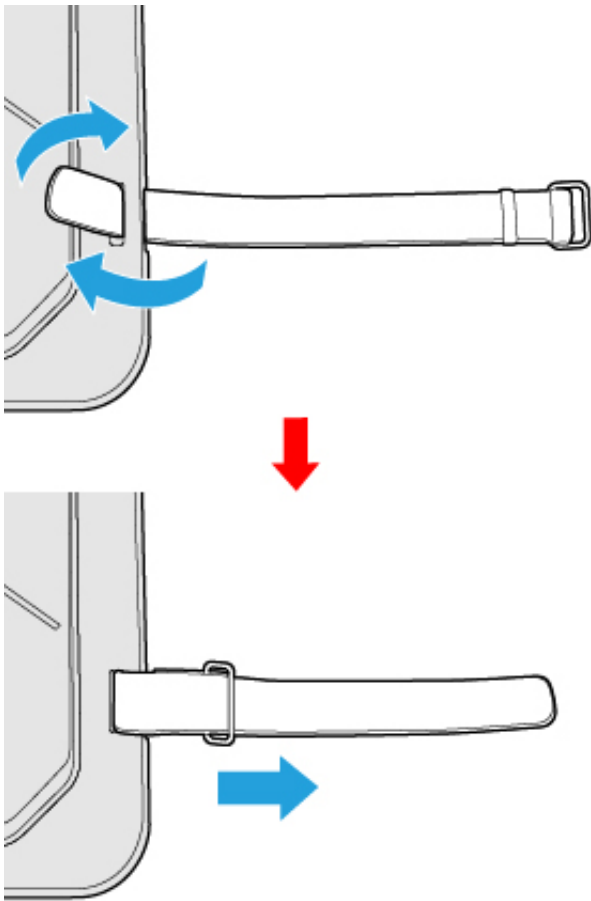
3. Remove the release buckle and fixed tether from the rotate hand strap.



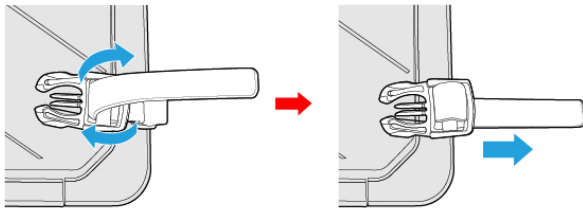
4. Remove the release buckle (A) from the fixed tether (B).



5. Put the fixed tether through the strap hole of the tablet.



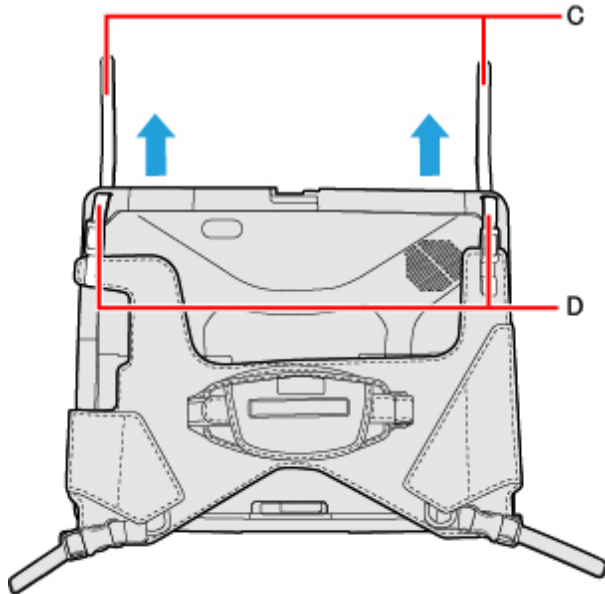
6. Attach the release buckle to the fixed tether, and secure it.



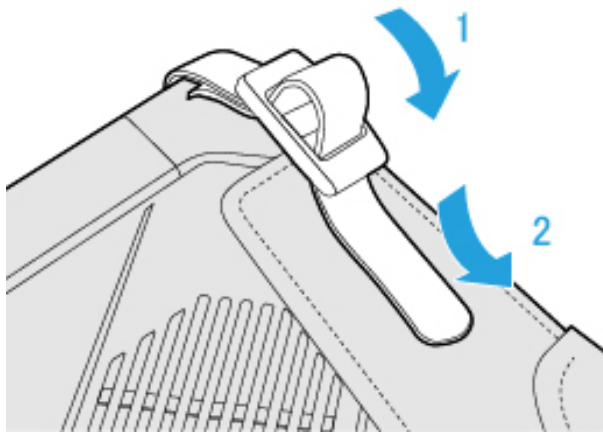
In the same way as above, attach the release buckle and fixed tether on the opposite side of the tablet.

Attaching the Rotate Hand Strap

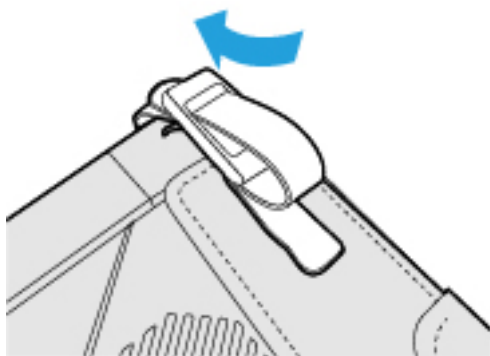
1. Put the belts with the adjusters (C) attached through the strap holes (D) located on the upper side of the back of the tablet.



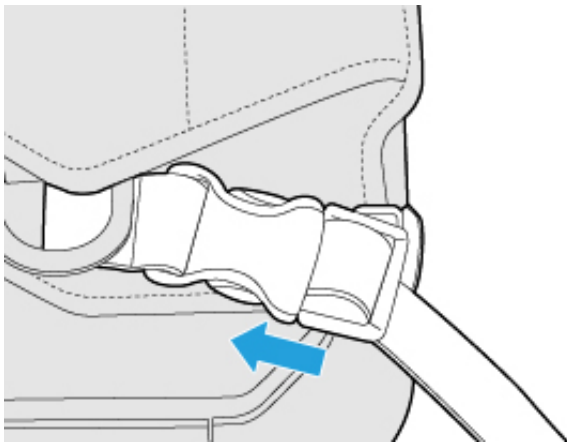
2. Put the belt through the adjuster, and securely tighten it so as not to loosen.



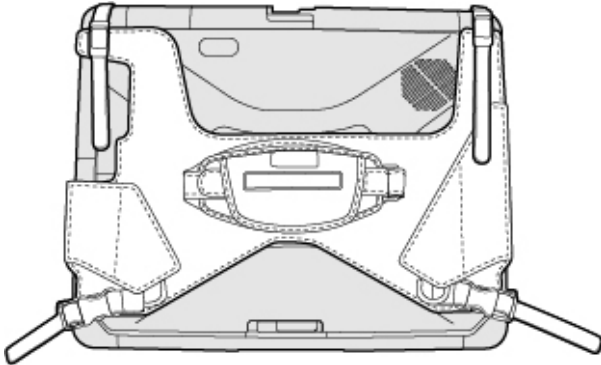
If the belt is too long, you can also put the belt through the adjuster again as illustrated below.



3. Connect the release buckle to the belt.

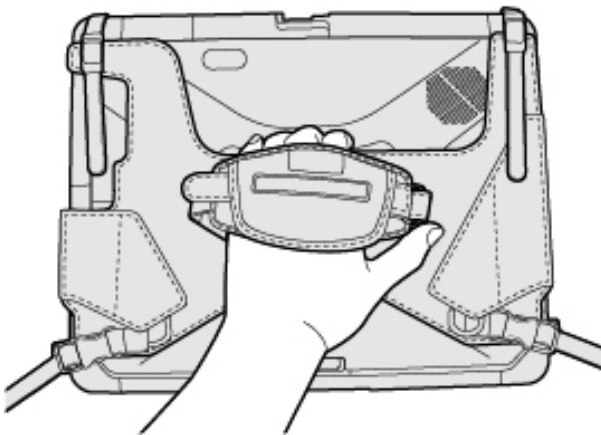


4. Make sure that the strap has been installed without looseness.

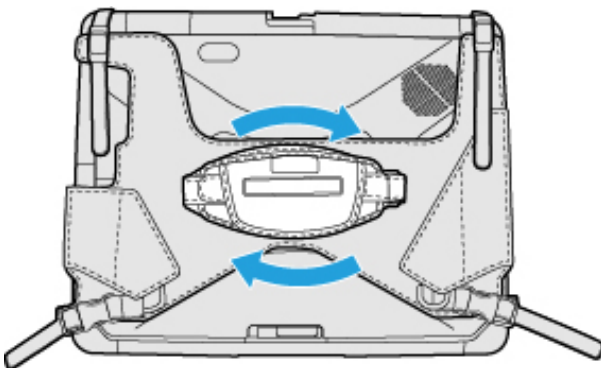


Using the Rotate Hand Strap

1. When holding the tablet in one hand and using it, insert your hand to the rotate hand strap.



2. Fix the rotate hand strap firmly enough to support the tablet, and turn it over.
3. Adjust the angle of the rotate hand strap, if necessary.

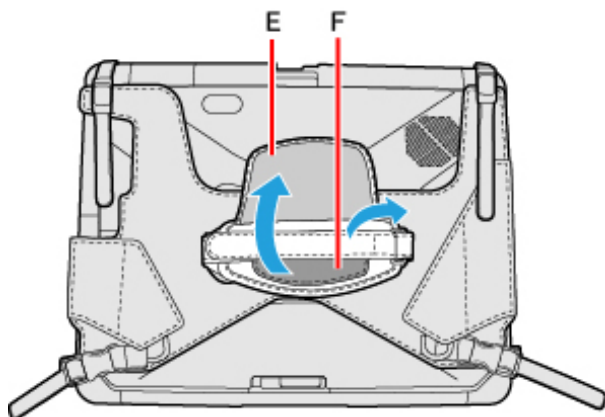


IMPORTANT

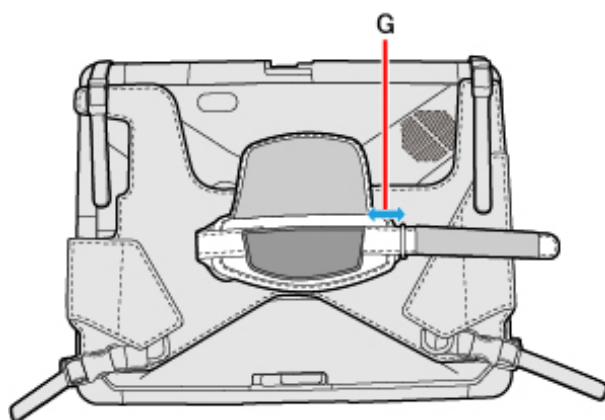
- If the hand is not securely fixed to the rotate hand strap, the tablet may drop.

When the rotate hand strap is too loose or too tight, adjust the rotate hand strap according to the instructions below.

1. Remove (E) from the strap joint, and then remove (F).



2. Move (F), and then adjust the position (G).



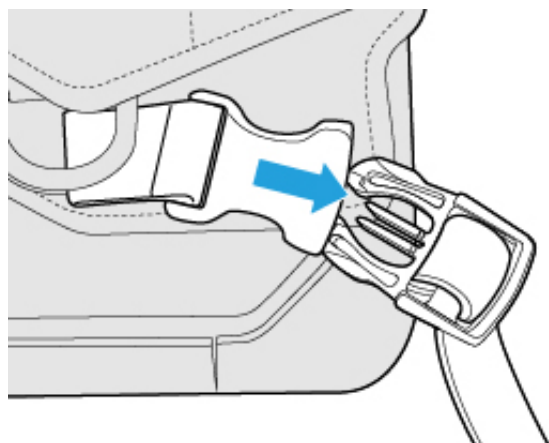
3. Attach (F), and then attach (E) to the joint.
 - Firmly attach the hand strap so as not to loosen.

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.

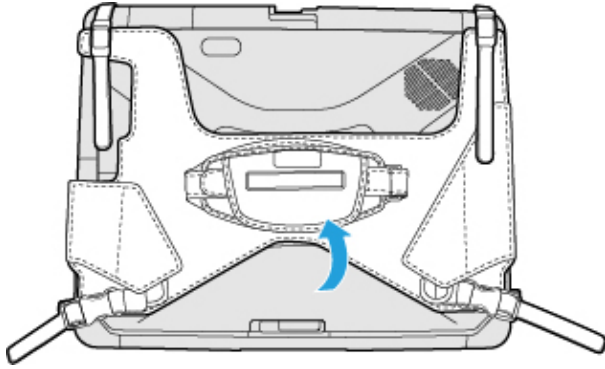
1. Remove the release buckle.



2. Raise the upper side of the rotate hand strap.

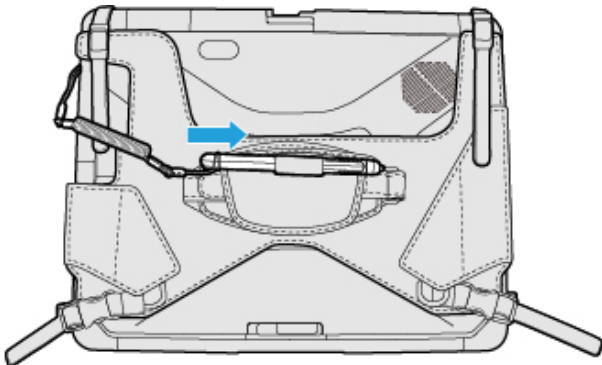
With the upper side of the rotate hand strap lifted up, remove the back cover.

- Refer to [Replacing the Battery Pack](#).



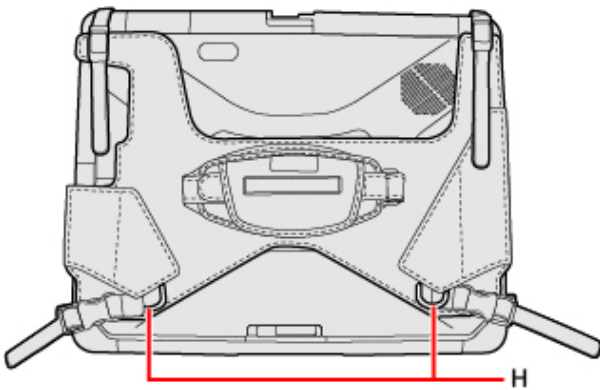
Attaching the pen to the Rotate Hand Strap

The pen can be attached to the rotate hand strap.



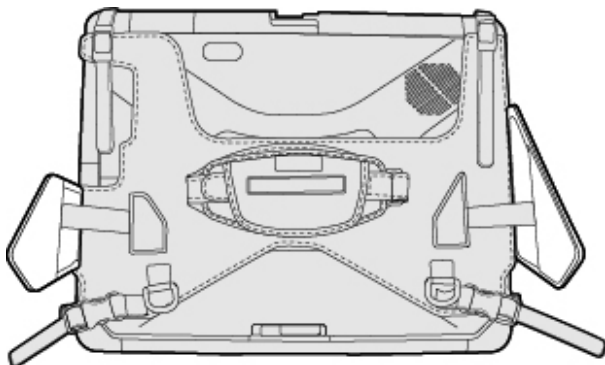
Attaching the shoulder strap to the Rotate Hand Strap

The shoulder strap can be attached to the rings (H) of the rotate hand strap.

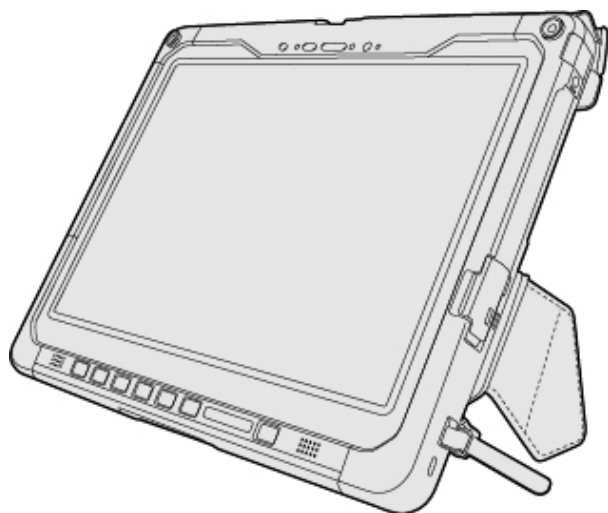


Using the tablet stand

1. Unfold the stands on the both sides.



2. Stand the tablet as illustrated below.

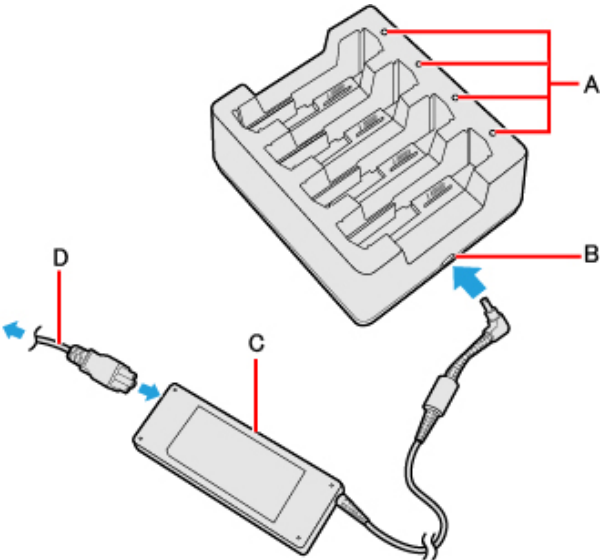


Battery Charger

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.

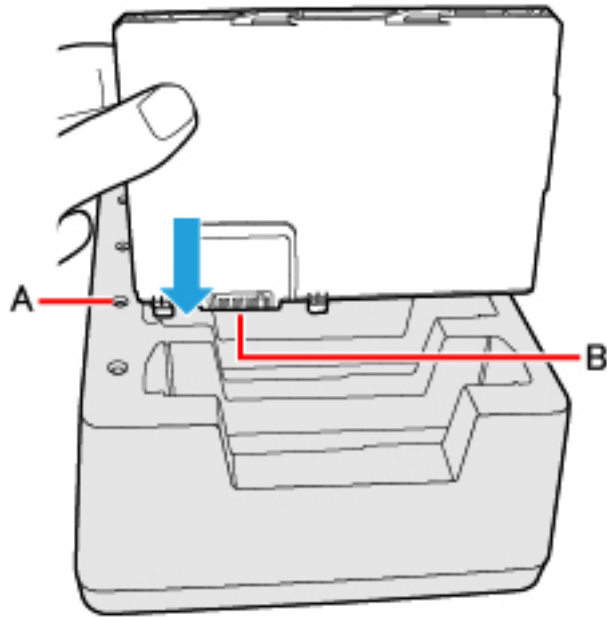
Indicators

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: <ul style="list-style-type: none">• 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 battery connector (B) facing the indicator (A) of the charger.

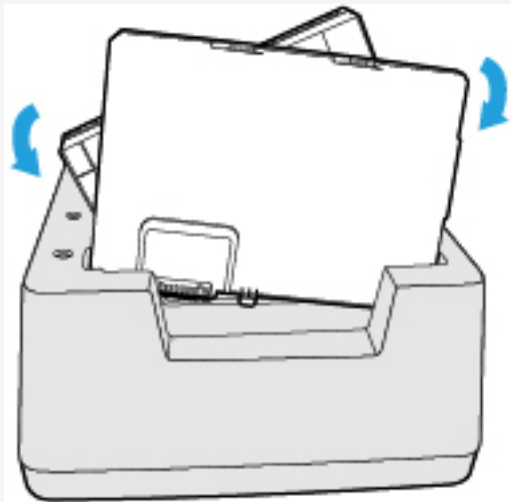


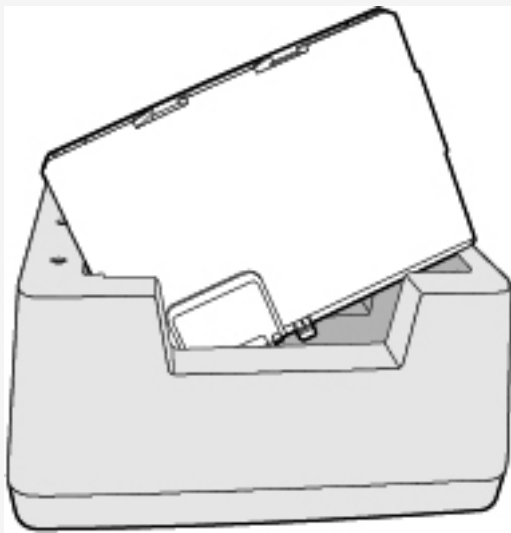
Four battery packs can be inserted simultaneously. Each of them can be inserted in any slot.
Charging begins automatically.

IMPORTANT

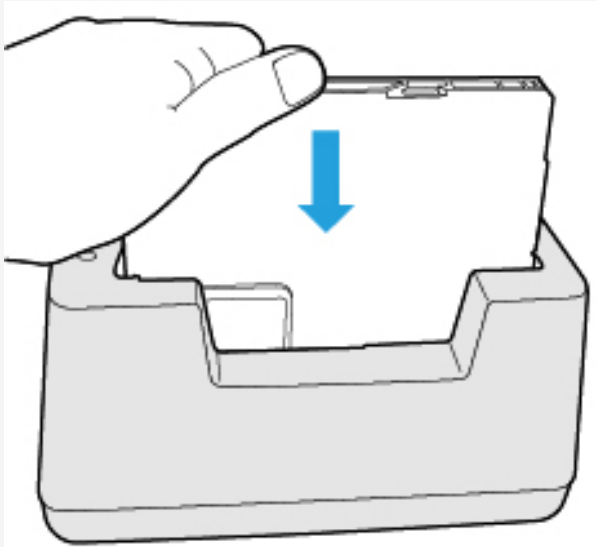
- Inserting the battery pack vertically or at an angle may damage the terminal of the battery charger.

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 battery indicator is not lit.	<ul style="list-style-type: none">• Connect the AC adaptor.• 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>> to turn off the concealed mode.
Cannot turn on the computer. The computer does not resume from sleep. (The battery indicator blinks green and orange alternately.)	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• 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 appears.	<ul style="list-style-type: none">• If a device is connected to the USB port, disconnect the device, or set [Tablet Left USB Port (Type-C)], [Tablet Left USB Port (Type-A)] or [Keyboard Base 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.
Windows startup and operation is slow.	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• One of the following operations may have been carried out. Press the power switch turn on the computer. Data not saved will be lost.<ul style="list-style-type: none">• In sleep mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected.• The power switch was pressed for 10 seconds or longer to forcibly turn off the computer.• The battery is exhausted. Sleep and hibernation consumes some power.




Other startup problems.	<ul style="list-style-type: none"> 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. <ol style="list-style-type: none"> Remove all peripheral devices including an external display. Right-click  (Start) - [File Explorer]. Click [This PC]. Right-click [Windows (C:)], and click [Properties]. Click [Tools] - [Check]. <ul style="list-style-type: none"> A standard user needs to enter an administrator password. Follow the on-screen instructions.
Cannot turn off the computer.	<ul style="list-style-type: none"> Remove all peripheral devices. It may take 1 or 2 minutes to turn off the computer.
Cannot enter sleep or hibernation.	<ul style="list-style-type: none"> 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.
Cannot enter sleep or hibernation automatically.	<ul style="list-style-type: none"> Remove 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.	<ul style="list-style-type: none"> Supervisor Password or User Password: Ask the system administrator. Administrator password: <ul style="list-style-type: none"> If you have a password reset disk, you can reset the administrator password. Set the disk and enter any wrong password, then follow the on-screen instructions and set a new password. If you do not have a password reset disk, reinstall ( Installing Software) and set up Windows, and then set a new password.
Even after entering the password, password input screen is displayed again.	<ul style="list-style-type: none"> The computer may be in ten-key mode. If the Num Lock indicator  lights, press << Num Lock>> to disable the ten-key mode, and then input. The computer may be in Caps Lock mode. If the Caps Lock indicator  lights, press << Caps Lock>> to disable the Caps Lock mode, and then input. 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 resuming from hibernation.	<ul style="list-style-type: none"> Select [Enabled] in [Password on Resume] in the [Security] menu of the Setup Utility.





Cannot sign in to Windows using the face recognition for Windows Hello outdoors.	<ul style="list-style-type: none"> 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. <ol style="list-style-type: none"> Sign in to Windows. Click  (Start) - [Settings] - [Accounts] - [Sign-in options]. Click [Facial recognition (Windows Hello)] - [Improve recognition]. When the "Windows Hello setup" screen is displayed, click [Get started]. "Making sure it's you" is displayed, input PIN number. Since additional registration of face recognition starts, follow the on-screen instructions. If you cannot register the face recognition outdoors properly, try to take the following measures. <ul style="list-style-type: none"> 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.
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Display




No display.	<ul style="list-style-type: none"> The external display is selected. Press << Fn>> + << F3>> or <<  >> + << P>> to switch the display. Then click the display mode. When using an external display, <ul style="list-style-type: none"> Check the cable connection. Turn on the display. Check the settings of external display. The display is turned off by the power-saving function. 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.	<ul style="list-style-type: none"> Press << Fn>> + << F2>> and adjust the brightness. As you increase the brightness, battery consumption increases. Press << Fn>> + << F8>> 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.	<ul style="list-style-type: none"> Changing the number of display colors and resolution may affect the screen. Restart the computer. Connecting/disconnecting an external display may affect the screen. Restart the computer. 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.	<ul style="list-style-type: none"> When using the Extended Desktop, use the same display colors for the external display as those used by the LCD. If you continue to experience problems, try changing the display.
The external display does not work normally.	<ul style="list-style-type: none"> If the external display does not support the power saving function, it may not work normally when the computer enters the power saving mode. Turn off the external display. Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.).
The screen does not become bright.	<ul style="list-style-type: none"> 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.	<p>The following are not malfunctions.</p> <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> Use the screen saver. <ol style="list-style-type: none"> Right-click the desktop, and then click [Personalize] - [Lock screen] - [Screen saver]. Select any screen saver. Set the time to turn off the display. <ol style="list-style-type: none"> Click  (Start) - [Settings] - [System] - [Power & battery] - [Screen and sleep]. Change the setting.



Sound

No sound.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Performing << Fn>> key combinations sometimes causes sound distortion. Stop and restart playback.
Cannot change the volume by pressing << Fn>> + << F5>> , << Fn>> + << F6>> or tablet buttons.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Adjust the volume of the microphone according to the following steps.: <ol style="list-style-type: none"> Right-click  (Speakers) on the system tray, and click [Sound settings] - [More sound settings]. 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.	<ul style="list-style-type: none"> Use a condenser microphone.
When signing in (e.g., resuming the computer), audio is distorted.	<ul style="list-style-type: none"> Perform the following steps to change the audio settings to prevent audio output. <ol style="list-style-type: none"> Right-click  (Speakers) on the system tray, and click [Sound settings] - [More sound settings] - [Sounds]. Remove the check mark from [Play Windows Startup sound].
The feedback noise may occur.	<ul style="list-style-type: none"> To stop microphone's monitoring output. <ol style="list-style-type: none"> Right-click  (Speakers) on the system tray, and click [Sound settings] - [More sound settings]. Click [Recording] - [Microphone Array] - [Properties], and then remove a check mark for [Listen to this device] in [Listen].



Keyboard

Only numbers can be input.	<ul style="list-style-type: none"> When the indicator  is on, the keyboard is in ten-key mode. Press << Num Lock>> to cancel.
Only capital letters can be input.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Use the character map. <ol style="list-style-type: none"> Click  (Start) - [All apps] - [Windows Tools] - [Character Map].

Network

Cannot connect to a network.	<ul style="list-style-type: none"> Set the device ([Tablet LAN] / [Wireless LAN] / [Wireless WAN]) to [Enabled] in the [Advanced] menu of the Setup Utility. 												
Cannot check the computer's MAC address.	<ul style="list-style-type: none"> Follow the steps below. <ol style="list-style-type: none"> Click  (Start) - [Settings]. Click [Network & internet] - [Advanced network settings] - [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. <table border="1" data-bbox="687 976 1485 1323"> <thead> <tr> <th>Device</th><th>Connection name</th></tr> </thead> <tbody> <tr> <td>LAN</td><td>Ethernet</td></tr> <tr> <td>LAN (Keyboard Base)</td><td>Ethernet 2</td></tr> <tr> <td>Wireless LAN</td><td>Wi-Fi</td></tr> <tr> <td>Bluetooth</td><td>Bluetooth Network Connection</td></tr> <tr> <td>Wireless WAN</td><td>Cellular</td></tr> </tbody> </table> <p>*The content displayed will vary depending on the device and model.</p> Click  to close the window. 	Device	Connection name	LAN	Ethernet	LAN (Keyboard Base)	Ethernet 2	Wireless LAN	Wi-Fi	Bluetooth	Bluetooth Network Connection	Wireless WAN	Cellular
Device	Connection name												
LAN	Ethernet												
LAN (Keyboard Base)	Ethernet 2												
Wireless LAN	Wi-Fi												
Bluetooth	Bluetooth Network Connection												
Wireless WAN	Cellular												

Wireless Communication (only for model with wireless LAN/Bluetooth/wireless WAN)




Cannot connect to a network.	<ul style="list-style-type: none"> 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 a 5 GHz network, confirm "Switching the frequency band of the wireless LAN". Restart the computer.
Access point is not detected.	<ul style="list-style-type: none"> Shorten the distance between the computer and the access point, and try the detection again. Confirm the following settings: <ul style="list-style-type: none"> [Wireless LAN] in the [Advanced] menu of the Setup Utility <ul style="list-style-type: none"> Confirm that [Wireless LAN] of [Wireless Configuration] is set to [Enabled]. Check the channel being used by the access point.





<p><Only for model with wireless WAN> Cannot communicate.</p>	<ul style="list-style-type: none"> Confirm the following settings: <ul style="list-style-type: none"> [Wireless WAN] in the [Advanced] menu of the Setup Utility <ul style="list-style-type: none"> 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/nanoSIM Switching". <p>If communication is not established after proceeding with the above remedies, the wireless WAN device may not be correctly recognized. Restart the computer.</p>
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Display Rotation

Cannot rotate the display.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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. When you set [Keyboard Base and Port Replicator] to [Disabled] in the [Advanced] menu of the Setup Utility, USB ports of port replicator are also disabled. The computer may not recognize the connection/removal of some devices, or may not operate normally with some devices. <ol style="list-style-type: none"> 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.) <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Check the mouse connection. Install the driver compatible with the connected mouse.
You do not know the address map for IRQ, I/O port address, etc.	<ul style="list-style-type: none"> You can check with the following procedure. <ol style="list-style-type: none"> Right-click  (Start) - [Device Manager]. Click [View] - [Resources by type].

<p><Only for model with serial port> The device connected to the serial port does not work.</p>	<ul style="list-style-type: none"> • Check the connection. • The device driver may not work. Refer to the instruction manual of the device. • 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.
<p><Only for model with dedicated GPS / GPS on wireless WAN> GPS does not work.</p>	<ul style="list-style-type: none"> • You can check the GPS status. ( GPS) • Set airplane mode to OFF. <ul style="list-style-type: none"> • Airplane mode <ul style="list-style-type: none"> • Confirm that GPS is [On]. • Confirm that Wireless WAN (Cellular) is [On]. • If a USB 3.2 compatible device is used, GPS information may not be correctly received. In this case, do any of the following. <ul style="list-style-type: none"> • Set [Tablet Left USB Port (Type-A)] or [Keyboard Base and Port Replicator] 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.
<p><Only for model with wireless LAN> Wireless LAN does not work.</p>	<ul style="list-style-type: none"> • You can check the Wireless LAN status. ( Wireless LAN) • Set airplane mode to OFF. <ul style="list-style-type: none"> • Airplane mode <ul style="list-style-type: none"> • Confirm that Wireless LAN (Wi-Fi) is [On]. • If a USB 3.2 compatible device is used, Wireless LAN Antenna may not be correctly received. In this case, do any of the following. <ul style="list-style-type: none"> • Set [Keyboard Base and Port Replicator] 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.
<p><Only for model with Bluetooth> Bluetooth does not work.</p>	<ul style="list-style-type: none"> • You can check the Bluetooth status. ( Bluetooth) • Set airplane mode to OFF. <ul style="list-style-type: none"> • Airplane mode <ul style="list-style-type: none"> • Confirm that Bluetooth is [On]. • If a USB 3.2 compatible device is used, Bluetooth Antenna may not be correctly received. In this case, do any of the following. <ul style="list-style-type: none"> • Set [Keyboard Base and Port Replicator] 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.
<p><Only for model with LAN> LAN transmission speed slows down noticeably. <Only for model with wireless LAN> Wireless LAN connection is cut.</p>	<ul style="list-style-type: none"> • Change the power mode to [Best performance]. ( Configuring Power Saving Settings)

Touchpad / Touchscreen

<p>The pointer does not work.</p>	<ul style="list-style-type: none"> • Connect the external mouse correctly. • Restart the computer using the keyboard. • If the computer does not respond to keyboard commands, read "No response".
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<Only for model with Keyboard Base> Cannot input using the touchpad.	<ul style="list-style-type: none"> The touchpad may be disabled by some mouse drivers. Check your mouse's operating instructions.
Cannot point the correct position using the pen (included) and fingers.	<ul style="list-style-type: none"> Perform the Calibrating the Screen.


SD Memory Card

Cannot use an SD Memory Card.	<ul style="list-style-type: none"> This computer does not support the maximum speed some types of SD/SDHC/SDXC memory cards guarantee.
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Smart Card (only for model with Smart Card slot)

Cannot use a Smart Card.	<ul style="list-style-type: none"> Insert the Smart Card correctly. To use a Smart Card, you need a specified software and driver.
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Barcode Reader (only for model with Barcode Reader)

Reading is not possible.	<ul style="list-style-type: none"> Confirm that the barcode is readable (without damage, etc.). Confirm that the barcode (symbol) 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 setting if it is not assigned. ( Tablet Button Configuration)
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Fingerprint Reader (only for model with Fingerprint Reader)

The reader does not enroll or authenticate my fingerprint.	<ul style="list-style-type: none"> If pop-up or other messages appear on the desktop screen, fingerprint entry may be inhibited temporarily. In such cases, click outside of the Fingerprint Authentication window, and then click again back inside it. The reader enrolls or authenticates no fingerprint, or performs authentication poorly, despite the correct way of finger touching when your finger is in any of the conditions stated below: <ul style="list-style-type: none"> Rough skin, or injured finger (with a cut or a skin inflammation) Extremely dry Soiled with mud or oil Fingerprint has been worn and has faded Wet with water or sweat <p><You can improve enrolling and authentication sensitivity by taking the following steps when any of the conditions described above exists></p> <ul style="list-style-type: none"> Wash your hands or wipe them dry. Use a different finger for registration or authentication. Treat your finger with a hand cream when it is rough skin or dry. <ul style="list-style-type: none"> Clean the fingerprint reader. For further information, refer to Fingerprint Reader Handling. The fingerprint reader may be malfunctioning when it continues to perform poorly after the steps described above have been performed. Contact Panasonic Technical Support.
User cannot use enrolled finger. (e.g. injury)	<ul style="list-style-type: none"> If none of your enrolled fingers can be used, follow this procedure: <ol style="list-style-type: none"> When fingerprint authentication screen is displayed, switch to password input by pressing the << Esc >> key. Sign in to Windows. You can always access the computer by using your Windows sign in password. Add another finger, or uninstall the fingerprint authentication function.

User Switching

Some applications do not work properly.

- 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.


- The indicators does not light.
- No sound.
- Screen is dark.

- Concealed mode is set to ON ( [Concealed Mode](#)).

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) - [Installed apps].

- Click  - [Uninstall] for the program you want to 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.
 - Click  (Start) - [Settings] - [Time & language] - [Date & time], and select [Off] in "Set time automatically".
 - Click [Change] in "Set the date and time manually", 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) - [All apps] -  (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
Click [Save all the information] and click [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.

2. Press  + .

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.

Only for tablet is subject to the diagnostic check.

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 << →>> << ←>> << ↑>> << ↓>> ( (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>>

- 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.

NOTE

- When the video diagnostic check is running, the display may be distorted. This is not malfunction.
- When the sound diagnostic check is running a loud beep will sound, so do not use headphones as this time. (The beep will not sound if mute is using in Windows or [Sound] is turned off in [Concealed Mode Configuration].)

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 not be displayed or 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.**

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Restart now] in "Advanced startup".
3. Click [Restart now] on the "We'll restart your device so save your work" screen.
4. Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [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.

3. **Press << F9>> .**

At the confirmation message, select [Yes] and press << Enter>> .

4. **Press << F10>> .**

At the confirmation message, select [Yes] and press << Enter>> .

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.

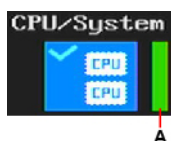
NOTE





- 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 [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:
 -  : Start the diagnostic check from the beginning.
 -  : Stop the diagnostic check (After the process is stopped, you cannot resume it by selecting ).
 -  : 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.

1. Click  to stop the diagnostic check, and click the hardware icon to configure the diagnostic.

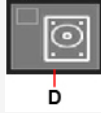
- Standard display (B): Perform diagnostic check.




- “Full” display (C): Perform extended diagnostic check. (“Storage”, “Keyboard” and “Touch Screen” only)

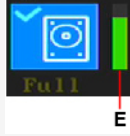


- Gray display (D): Do not perform diagnostic check.




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 Invisible or 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.
- **When Wireless WAN and Bluetooth are grayed out:**
Turn on the wireless function.

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 and SD memory card, etc.
- Connect the AC adaptor and do not remove it until installation is complete.

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Reset PC] in “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?”, “Delete eSIM profiles?” (displayed only for some models) 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. 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.

The “You’re about to be signed out” screen will appear, and restart after a while.
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.

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, reinstallation from the SSD cannot be performed.**

To check the recovery partition, perform the following methods.

1. 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 and SD memory card, etc.
- Connect the AC adaptor and do not remove it until installation is complete.

1. Start the Setup Utility.

1. Click  (Start) - [Settings] - [System] - [Recovery].
2. Click [Restart now] in “Advanced startup”.
3. Click [Restart now] on the “We’ll restart your device so save your work” screen.
4. 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. Press <<F10>> .

At the confirmation message, select [Yes] and press <<Enter>> .


The computer will restart.

4. Press <<F2>> or <> 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].

Click [CANCEL] to abort the operation.

7. **Confirm the contents of “EULA”, and click [Accept.] if you continue.**

8. **Click [Disk 0 : xxx GB].**

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.
The “You’re about to be signed out” screen will appear, and restart after a while.
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

In the following cases, reinstall using the recovery disc.

- Installation is not complete. The recovery partition in the flash memory may be broken.

When the computer is reinstalled using the recovery disc, the Windows included on the recovery disc is installed.


For information on the creation method of recovery discs, see the following web page.

<https://pc-dl.panasonic.co.jp/itn/support/recv/win11recv-dls.html>

“Windows 11 Recovery Image Download Service”


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	<p>An error has occurred in the memory of system settings. This occurs when the memory content is changed by an unexpected program operation, etc.</p> <ul style="list-style-type: none"> Start the Setup Utility and return the settings to the default values, and then change the settings as necessary. If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
System CMOS Checksum Error	
Invalid Year. System date restored to 01/01/20XX	<p>The date and time settings are not correct.</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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)	<p>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.</p>
Remove disks or other media. Press any key to restart	<ul style="list-style-type: none"> If a device is connected to the USB port, disconnect the device, or set [Tablet Left USB Port (Type-C)], [Tablet Left USB Port (Type-A)] or [Keyboard Base 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 Boot device or Insert Boot Media in selected Boot device and press a key	<p>The operating system is not properly installed in the flash memory that you are going to boot from.</p> <ul style="list-style-type: none"> 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. If it is recognized ("xxx GB" is displayed.), perform the reinstallation. If not ("Empty" is displayed.), contact Panasonic Technical Support. If a device is connected to the USB port, disconnect the device, or set [Tablet Left USB Port (Type-C)], [Tablet Left USB Port (Type-A)] or [Keyboard Base USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.
Disk error Press any key to restart	
Please use the recommended AC adaptor	<ul style="list-style-type: none"> Use the specified AC adaptor.
Problem Undocking From Keyboard Base	<p>Perform the following procedure.</p> <ol style="list-style-type: none"> Close the dialog box. 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](#))


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] - [System] - [Recovery].
2. Click [Restart now] in “Advanced startup”.
3. Click [Restart now] on the “We’ll restart your device so save your work” screen.
4. Click [Turn off your PC].

If you perform the following steps, the fast startup function becomes always disabled.

1. Click  (Start) - [All apps] - [Windows Tools] - [Control Panel].
2. Click [System and Security] - [Power Options].
3. Click [Choose what the power buttons do] - [Change settings that are currently unavailable].
4. Remove check mark 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.

Note that transferring of the ownership without uninstalling the commercial software will be a violation of the software's license agreement.

It is recommended to use commercially available dedicated software or services to erase the data.

You can also use the recovery disc to erase the data recorded in the SSD in such a way that it is difficult to restore.


For more information, see the following web page.

<https://pc-dl.panasonic.co.jp/itn/support/recv/win11recv-dls.html>

“Windows 11 Recovery Image Download Service”

Dispose of Computer

Preparation

- Remove all peripherals and SD memory card, etc.
- Erase the stored data. ( [Erasing data when disposing or transferring the computer](#))

When disposing of this product, accord with your national legislation.

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, [Storage]: SSD size

Main Specifications

CPU	Intel® Core™ i5-1245U Processor (with Intel vPro® Technology) (P-core: Max Turbo Frequency 4.40 GHz, E-core: Max Turbo Frequency 3.30 GHz, Total cores: 10 cores, 12 MB* ¹ cache) / Intel® Core™ i7-1270P Processor (with Intel vPro® Technology) (P-core: Max Turbo Frequency 4.80 GHz, E-core: Max Turbo Frequency 3.50 GHz, Total cores: 12 cores, 18 MB* ¹ cache)	
Chip Set	Built-in CPU	
Video Controller	Intel® Iris® X ^e Graphics (16 GB / 32 GB) (Built-in CPU) / Intel® UHD Graphics (8 GB) (Built-in CPU)	
Main Memory* ^{1,2}	8 GB / 16 GB / 32 GB, LPDDR4x SDRAM	
Storage* ³	256 GB / 512 GB / 1 TB (SSD) Approx. <For localized OS model> 15 GB / <For MUI OS model> 25 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	12.0" QHD (2160 × 1440 dots), Aspect ratio 3:2, Anti-Reflection	
	Internal LCD* ⁵	Max. 16,777,216 colors (2160 × 1440 dots)
	External Display (HDMI/USB Type-C)* ⁶	Tablet: Max. 16,777,216 colors (4096 × 2160 dots) Keyboard Base: Max. 16,777,216 colors (1920 × 1080 dots)
Wireless LAN* ⁷	Intel® Wi-Fi 6E AX211 ( Wireless LAN)	
Bluetooth* ^{7,8}	( Bluetooth)	
LAN	Tablet / Keyboard Base: IEEE 802.3 10Base-T / IEEE 802.3u 100BASE-TX / IEEE 802.3ab 1000BASE-T	
Sound	Intel® High Definition Audio subsystem support, Stereo speaker	
Security Chip	TPM (TCG V2.0 compliant)	
SD Memory Card Slot* ⁹	Keyboard Base: SDXC, UHS-I	

Interface		<Tablet> USB Ports (USB 3.2 Gen 1 (Type-A) port × 1 / USB Type-C port (with USB Power Delivery, DisplayPort™ Alternate Mode, Thunderbolt™ 4) × 1) ^{*10} / LAN Port (RJ-45) × 1 / HDMI Port (Type A) × 1 ^{*11} / 3.5 mm Headset jack, Stereo Headphone: 4 mW/ch (32 Ω, 1 kHz), CTIA standard / External Antenna Connector × 2 ^{*12} <Keyboard Base> USB Ports (USB 3.2 Gen 1 (Type-A) port × 2 / USB 2.0 (Type-A) port × 1) ^{*10} / LAN Port (RJ-45) × 1 / HDMI Port (Type A) × 1 ^{*11} / VGA Port × 1 / Serial Port × 1 / Expansion Bus Connector (Dedicated 24-pin female) / External Antenna Connector × 2 ^{*12}
Sensor	Ambient light sensor ^{*13}	Equipped
	Digital compass	Equipped
	Gyro sensor	Equipped
	Acceleration sensor	Equipped
Keyboard / Pointing Device		87 Keys / Touchpad / Touchscreen: 10 Finger touch (Capacitive) / Digitizer
Power Supply		AC adaptor or Battery pack
AC Adaptor ^{*14}		Input: 100 V - 240 V AC, 50 Hz/60 Hz, Output: 15.6 V DC, 7.05 A
Battery Pack		<CF-VZSU1A series> Li-ion 11.1 V, 1990 mAh × 2 <CF-VZSU1B series> ^{*15} Li-ion 10.8 V, 4120 mAh × 2
	Operating Time ^{*16}	<CF-VZSU1A series × 2> With Keyboard Base: Approx. 6.5 hours For tablet: Approx. 7 hours <CF-VZSU1B series × 2> ^{*15} With Keyboard Base: Approx. 14 hours For tablet: Approx. 14.5 hours
	Charging Time ^{*17}	<CF-VZSU1A series × 2> Power Off: Approx. 2.5 hours Power On: Approx. 3 hours <CF-VZSU1B series × 2> ^{*15} Power Off: Approx. 2.5 hours Power On: Approx. 3 hours
Power Consumption ^{*18}		Approx. 45 W ^{*19} / Approx. 110 W (maximum when recharging in the ON state)
Physical Dimensions (W × D × H) ^{*20}		<CF-VZSU1A series × 2> With Keyboard Base: 313.0 mm × 288.4 mm × 46.1 mm {12.3" × 11.4" × 1.8"} (without protruding parts) For tablet: 308.0 mm × 243.6 mm × 21.6 mm {12.1" × 9.6" × 0.9"} (without protruding parts) <CF-VZSU1B series × 2> ^{*15} With Keyboard Base: 313.0 mm × 288.4 mm × 56.6 mm {12.3" × 11.4" × 2.2"} (without protruding parts) For tablet: 308.0 mm × 243.6 mm × 32.1 mm {12.1" × 9.6" × 1.3"} (without protruding parts)

Weight*20		<CF-VZSU1A series × 2> With Keyboard Base: Approx. 2.81 kg {Approx. 6.2 lbs.} For tablet: Approx. 1.55 kg {Approx. 3.4 lbs.} <CF-VZSU1B series × 2>*15 With Keyboard Base: Approx. 3.16 kg {Approx. 6.9 lbs.} For tablet: Approx. 1.90 kg {Approx. 4.2 lbs.}
Environment	Operating Temperature	-10 °C to 50 °C {14 °F to 122 °F} (IEC60068-2-1, 2)*21*22
	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 ^{*23}	Windows 11 Pro
Pre-installed Software	<ul style="list-style-type: none"> • PC Information Viewer • Microsoft Office Trial^{*24} • Emergency notification setting • Panasonic PC Camera Utility^{*25} • Panasonic PC Manual Selector • Panasonic PC Settings Utility^{*26} • Panasonic PC Day Night Mode Utility • Panasonic PC 2D Barcode Key Emulator^{*27} • Panasonic PC Support File Copy Utility • Panasonic PC Asset Tag Entry
	<ul style="list-style-type: none"> • Aptio Setup • PC-Diagnostic Utility • Hard Disk Data Erase Utility^{*28}

Wireless LAN*7

Data Transfer Rates ^{*29}	<div>IEEE802.11a : 54 Mbps</div> <div>IEEE802.11b : 11 Mbps</div> <div>IEEE802.11g : 54 Mbps</div> <div>IEEE802.11n : HT20 : 144.4 Mbps HT40 : 300 Mbps</div> <div>IEEE802.11ac : VHT20 : 173.3 Mbps VHT40 : 400 Mbps VHT80 : 866.7 Mbps VHT160 : 1.73 Gbps</div> <div>IEEE802.11ax : HE20 : 287 Mbps HE40 : 574 Mbps HE80 : 1.2 Gbps HE160 : 2.4 Gbps</div>
Standard Supported	IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n / IEEE802.11ac / IEEE802.11ax (In some countries, a 6 GHz wireless LAN can be used.)
Transmission Method	OFDM system, DSSS system

Standard Supported	IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n / IEEE802.11ac / IEEE802.11ax (In some countries, a 6 GHz wireless LAN can be used.)
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Transmission Method	OFDM system, DSSS system
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Bluetooth^{*7*8}


Bluetooth	Bluetooth v5.1 ^{*30}
	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 ^{*31*32}		LTE compatible
Dedicated GPS ^{*32}		Chip: u-blox NEO-M8 Series GPS/GLONASS/QZSS/SBAS Support
nanoSIM Card Slot ^{*33}		× 1
2nd USB 2.0 (Type-A) port ^{*10*34}		× 1
True Serial Port ^{*34}		× 1
Barcode Reader ^{*34}		× 1
microSD Memory Card Slot ^{*34*35}		× 1, microSDXC, UHS-I
Smart Card Slot ^{*36}		× 1
Contactless Smart Card Reader ^{*36}		× 1, RF frequency: 13.56 MHz, compatible with ISO/IEC14443 Type-A, ISO/IEC14443 Type-B, ISO/IEC18092
Fingerprint Reader (Windows Hello) ^{*36}		Image Size : 7.4 × 6.0 mm, Image Resolution : 363 DPI
Fingerprint Reader (Windows Hello, Multi User authentication) ^{*36}		Image Size : 11.9 × 16.9 mm, Image Resolution : 385 DPI
Camera	Front	Video: 1920 × 1080 pixels, 30 fps Still: 1920 × 1080 pixels Dual Microphone / with Camera Cover
	Rear	Video: 1920 × 1080 pixels, 30 fps Still: 3264 × 2448 pixels Camera Flash LED

Only for Removable-SSD model

Physical Dimensions (W × D × H) ^{*20}	<CF-VZSU1B series × 2> ^{*15} With Keyboard Base: 313.0 mm × 288.4 mm × 61.1 mm {12.3" × 11.4" × 2.4"} (without protruding parts) For tablet: 308.0 mm × 243.6 mm × 36.6 mm {12.1" × 9.6" × 1.4"} (without protruding parts)
Weight ^{*20}	<CF-VZSU1B series × 2> ^{*15} With Keyboard Base: Approx. 3.75 kg {Approx. 8.3 lbs.} For tablet: Approx. 2.49 kg {Approx. 5.5 lbs.}
Storage (Removable-SSD) ^{*3}	256 GB / 512 GB / 1 TB (SSD)
Smart Card Slot	× 1

- *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: Operation on all SD equipment is not guaranteed.
- *10: Does not guarantee operation of all USB-compatible peripherals.
- *11: Does not guarantee operation of all HDMI-compatible peripherals.
- *12: Only for model with External Antenna Connector.
- *13: Only for model with front camera.
- *14: <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.
- *15: Different parts, including another battery cover, are needed for the large battery option.
- *16: Measured by MobileMark® 25.
Varies depending on the usage conditions, or when an optional device is attached.
- OS Power Mode : Better Battery
 - Disable "VBS" function (Virtualization-based Security)
 - Firmware protection : OFF
- *17: Varies depending on the usage conditions, CPU speed, etc.
- *18: 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.
- *19: Rated power consumption.
- *20: Typical value. May differ depending on models and options.
- *21: 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.
- *22: <Only for North America>
UL 62368-1 Evaluated for use at ambient temperatures up to 35 °C {95 °F} when used with optional AC Power Adaptor and 40 °C {104 °F} when used without AC power adaptor.
- *23: 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.
- *24: To continue using this software after the end of the trial, purchase a license by following the on-screen instructions.
- *25: Only for model with camera.
- *26: Panasonic PC Settings Utility includes the following functions: Touchscreen Mode / USB Charge Settings / etc.
- *27: Only for model with Barcode Reader.
- *28: Perform on the recovery disc.
- *29: These are speeds specified in IEEE802.11a+b+g+n+ac+ax standards. Actual speeds may differ.
- *30: The Bluetooth version depends on the Windows OS version.
- *31: Only for model with wireless WAN. The specifications may differ depending on the model. There are models that support eSIM.
- *32: The model with dedicated GPS cannot use the function with GPS on wireless WAN.

*33: 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.



*34: Exclusively configurable by selecting one from True Serial Port, Barcode reader, 2nd USB 2.0 (Type-A) Port or microSD Memory Card Slot.

*35: Operation on all microSD equipment is not guaranteed.

*36: Exclusively configurable by selecting one from Smart Card Slot, Contactless Smart Card Reader, Fingerprint Reader (Windows Hello) or Fingerprint Reader (Windows Hello, Multi User authentication).

The model number is described on the computer

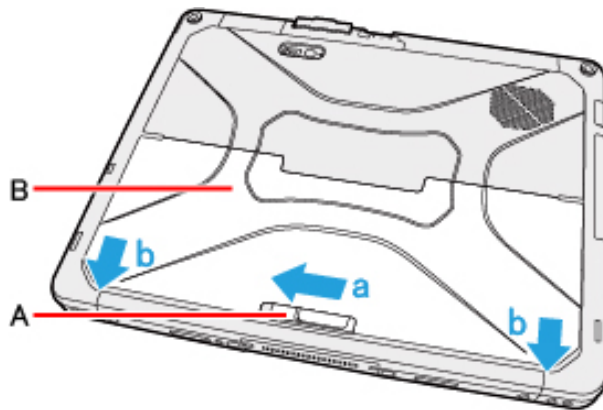
Check according to the procedure below.

1. <For tablet> Turn your tablet over.

Make sure no foreign objects are under the tablet.

Depending on the models, the shape of cover may differ.

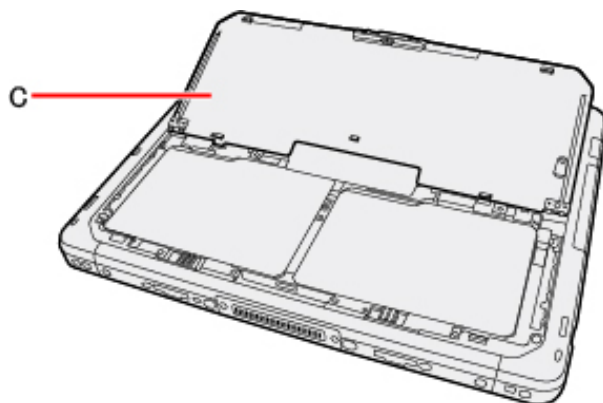
2. While sliding the release latch (A) to the left arrow (a) direction, slide the battery cover (B) to the down arrow (b) direction.



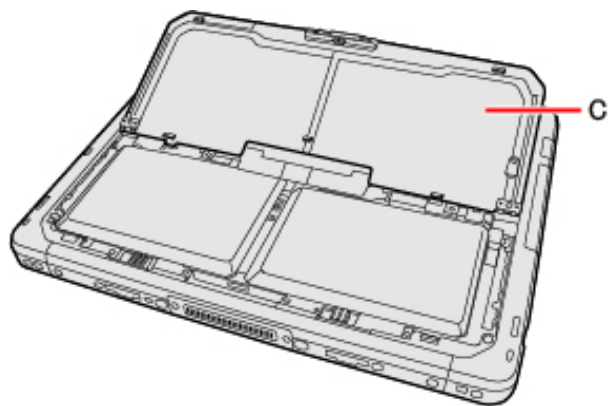
3. Open the battery cover.

4. Check the model number.

The model number (C) starting with "CF-33" is described.



<Only for L-Battery/Removable-SSD model>



- **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."

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>

Panasonic Connect Co., Ltd.

4-1-62 Minoshima, Hakata-ku, Fukuoka 812-8531, Japan

Authorised Representative in EU:

Panasonic Testing Centre

Panasonic Connect Europe GmbH

Winsbergring 15, 22525 Hamburg, Germany

<Only for model with wireless WAN>

Following are applied for CF-33T/U/4/5 series with EM7421.

Type of wireless	Communication Mode	Frequency band	Maximum transmit power
WWAN	W-CDMA	1920 - 1980 MHz (Band I)	24.0 dBm
	W-CDMA	880 - 915 MHz (Band VIII)	24.0 dBm
	LTE	1920 - 1980 MHz (Band 1)	23.5 dBm
	LTE	1710 - 1785 MHz (Band 3)	23.5 dBm
	LTE	2500 - 2570 MHz (Band 7)	23.0 dBm
	LTE	880 - 915 MHz (Band 8)	24.0 dBm
	LTE	832 - 862 MHz (Band 20)	24.0 dBm
	LTE	703 - 748 MHz (Band 28)	24.0 dBm
	LTE	2570 - 2620 MHz (Band 38)	23.0 dBm
	LTE	3400 - 3600 MHz (Band 42)	23.0 dBm
	LTE	3600 - 3800 MHz (Band 43)	23.0 dBm

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/* zlib.h -- interface of the 'zlib' general purpose compression library
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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 workmanship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

This is the only warranty Panasonic makes to you. Panasonic does not warrant that the functions contained in the Programs will meet your requirements or that the operation of the Programs will be uninterrupted or error free. Panasonic 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 caused by the use of non-approved Panasonic 3rd party accessories, including but not limited to, vehicle docks, mounting solutions, straps, cases, bags and power accessories

- 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

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

Scope of Coverage	Period of Coverage	Type of Failure Coverage
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<ul style="list-style-type: none"> Laptop Computers (except Battery) and AC Adaptor Factory/PCI installed options including Wireless WAN, GPS, Bluetooth, Finger-print reader, Backlit keyboard, Memory Card and Media Bay Drives (CD/DVD) Ultra-Mobile PC Tablet PC Mobile Wireless Display PDRC — LCD and Keyboard Assemblies Port Replicator 	Three (3) Years from Date of Original End User Customer Purchase Defective Materials or Workmanship	Defective Materials or Workmanship
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Standard or Digitizer Stylus Pen 	Ninety (90) Days from Date of Original End User Customer Purchase	Defective Materials or Workmanship
<ul style="list-style-type: none"> All consumable items including protection 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.

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

Failures caused by the use of non-approved Panasonic 3rd party accessories, including but not limited to, vehicle docks, mounting solutions, straps, cases, bags and power accessories.

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

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

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

Claim Procedure – In the event of a defect in material or workmanship in the media during the sixty (60) 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.

GENERAL

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

NO LIABILITY FOR CONSEQUENTIAL DAMAGES – IN NO EVENT SHALL PCI BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF THE LIMITED WARRANTIES SET OUT IN THIS DOCUMENT, OR FROM THE USE OF THE COMPUTER PRODUCT, INCLUDING, WITHOUT LIMITATION, LOSS OF DATA, BUSINESS, PROFIT OR GOODWILL. IN ANY EVENT, PCI'S MAXIMUM LIABILITY FOR ANY BREACH SHALL NOT EXCEED THE AMOUNT ACTUALLY PAID BY YOU FOR THE COMPUTER PRODUCT. NO ACTION, REGARDLESS OF ITS BASIS, MAY BE BEGUN AGAINST PCI MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION AROSE.

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

Pour le Canada

GARANTIE LIMITÉE – ORDINATEURS ET PÉRIPHÉRIQUES PANASONIC

Couverture - 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
<ul style="list-style-type: none">• Ordinateurs blocs-notes (sauf batteries) et adaptateur secteur• 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	Trois (3) ans à partir de la date d'achat original.	Défauts de pièces et de fabrication
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• Stylo pointe standard ou pour numériseur graphique	Quatre-vingt-dix (90) jours à partir de la date d'achat original.	Défauts de pièces et de fabrication
<ul style="list-style-type: none">• Tous les articles consommables incluant 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.

La garantie ne couvre pas les bris ou pannes causées par l'utilisation d'accessoires non-approuvés par Panasonic qui sont fabriqués par d'autres compagnies, y compris mais pas limité aux stations d'accueils pour véhicules, les solutions de montage, les étuis, les sacs et les accessoires électriques.

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

Emballer 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

Couverture – 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.

Réclamation – 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.

Garantie statutaires – Certaines juridictions interdisent de telles limitations ou exclusions; aussi, pourraient-elles ne pas s'appliquer.

A. Introduction

A.1 Overview

This document describes the standard service level provided by the TOUGHBOOK European Service Centre at Panasonic Manufacturing UK Ltd (hereafter called "Panasonic") to the TOUGHBOOK Customer during the standard Warranty period, and also the extended Warranty period. All processes and procedures are explained in order to provide a guide for the interactions between Panasonic and the Customer.

Service of TOUGHBOOK products can be carried out by a Panasonic Service Centre or by a Panasonic Authorised Service partner only.

A.2 Goal

Panasonic will provide Warranty service and support to all Panasonic TOUGHBOOK devices sold within the European Economic Area (EEA), Switzerland, Turkey and the United Kingdom based upon the appointed Warranty agreements respectively. (See Warranty information.)

A.3 Panasonic Service Centre – Facilities and Functions

Help desk

The help desk will be the first point of contact if a unit is found to be defective. Any queries will be answered by the help desk and any arrangements can be made for a unit to be returned to Panasonic for a repair.

Service Office

Dealing with all aspects of the administration and customer care, they will be your escalation point if you were to need further support or are not happy with any aspect of our service to you.

Logistics

The Logistics team is dedicated to receiving and sending out laptops in a safe and controlled way, using our logistics partner.

Warehouse

We hold a wide range of spare parts that allow us to have faster response times and ensure the best availability for repairs.

Workshop

The workshop consists of a team of engineers and technical specialists in Panasonic TOUGHBOOK, who can diagnose and repairing a wide range of faults and defects in the full range of Toughbook devices. They receive intensive training on all technologies used in Panasonic TOUGHBOOK products.

Panasonic also benefit from a dedicated support route to our Design and R&D (Research & Development) Teams in UK/Japan.

Customer Service Sales Engineers

Our Customer Service Sales Engineers will ensure that our service is at your convenience.

B. Contacts

B.1 General Contact Information

Main Office Telephone Number	+44 (0) 2920 542 150
Main Office Fax Number	+44 (0) 2920 736 250

B.2**Address**

TOUGHBOOK European Service Centre
 Panasonic Manufacturing (UK) Ltd
 Wynclyffe Road
 Pentwyn Industrial Estate
 Cardiff
 CF23 7XB
 United Kingdom

B.3**Web page**

<http://www.toughbook.eu>

TOUGHBOOK Service Cloud

<https://toughbook.custhelp.com/app/home>

B.4**Help desk phone numbers:**

English	+44 (0) 8000884324
French	+33 (0) 805636449
German	+49 (0) 8007235211
Italian	+39 (0) 800986915
Spanish	+34 (0) 900997990
Switzerland ITF	+41(0) 800002429 (German)
Switzerland ITF	+41(0) 800588017 (French)

E-mail address:

toughbooksupport@eu.panasonic.com

The Help desk is available Monday to Friday, 8:00 – 17:00 GTM (All Bank holidays in the relevant countries are covered, closed for Christmas Day, Boxing Day and New Year's Day). Maybe subject to change at the discretion of Panasonic.

C.**Warranty Information****C.1****Overview**

TOUGHBOOK (As packed in the original box)		Warranty period
TOUGHBOOK Products and AC adapters	All Laptop, Tablet	3 years ^{*7}
TOUGHBOOK Products and AC adapters	Handheld Products	1 year ^{*7}
Components (mechanical & electrical)	Internal drives, Display, HDD, Connectors, Ports, Standard keyboard, Touchpad, Mouse pad, Touch screen, Modem, Main board/Processor, Circuit board, Speakers	3 years for all laptops and tablets/ 1 year for hand-helds
Consumables	Battery ^{*8} , LCD protective film, Stylus etc	6 months
Recovery Media	Physical Media	60 days

ACCESSORIES (Delivered separately to original box or on separate order)	Warranty period
Car chargers	1 year ^{*7}
Battery chargers	
Port replicators	
Cradles / Docks	
External drives	
Cables	
Additional AC adapters or media bay devices	
Additional memory modules (after sales purchase of the TOUGHBOOK)	
Carrying Solutions (i.e. Hand straps)	
Any other accessory	

CONSUMABLES (Delivered separately to original box or on separate order)	Warranty period
Additional Batteries ^{*8}	6 months
Additional Pens	
LCD Protective Film	
Carrying Handle	
Any other Consumable	

*7: Extended Standard Warranty for all laptops and tablets can be purchased for years 4 and 5 but must be purchased before existing warranty expired. Extended Standard warranty for handhelds can be purchased for years 2, 3, 4 and 5 but must be purchased before existing warranty expired. Additional warranty is also available separately on selected accessories such as docking solutions. In such cases these Terms and Conditions may also be extended for the period of the additional Warranty.

*8: 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 administration and logistics charges. Extended Warranty is also available for batteries.

Service Availability & Continuity

Please note that Service Repair and Spare Parts availability is at Panasonic's discretion.

For End-of-Life devices Panasonic will endeavor to provide spare parts and to ensure continuity of service for up to a maximum of 5-years for In-Warranty devices in line with typical standard warranty usage. However, in certain circumstances, parts may become End-of-Life and unobtainable before the model series has entered its End-of-Life period. In such circumstances, where the device is still under warranty, Panasonic will offer the best possible alternative.

C.2 Definitions

- Warranty period** means the period agreed by contract.
- Repairer** means Panasonic Service Centre, or any other Authorised Service Centre.
- We/Us/Our** means Panasonic Manufacturing UK Ltd (Panasonic).
- Wear and Tear** means the gradual deterioration associated with normal use and age of the TOUGHBOOK and its components.
- You/Your/Yourself** means the customer.
- Product** means TOUGHBOOK device.
- End of life** means that the TOUGHBOOK Product concerned is discontinued and is no longer manufactured and/or sold by Panasonic Connect Europe GmbH

C.3 Warranty Conditions

The warranty starts at point of receipt by end user which is verified by the model and/or serial number. Proof of purchase may be requested.

Warranty claims must be reported immediately following the discovery of the fault to the Panasonic help desk.

C.4 Scope and Performance of Warranty Services

Panasonic will repair the product (other than software, which is treated in a different section of this Warranty) with new or refurbished parts, in the event of a defect in materials or workmanship.

The Warranty is limited to the manufacture of the hardware features and the condition of the original product prior to the defect. For this, it is sufficient when the affected product fulfils the test requirements in accordance with the Panasonic specifications for the original product in accordance with the product data sheet.

This Warranty only applies to new Products purchased in the European Economic Area (EEA), Switzerland, Turkey and the United Kingdom.

Panasonic will endeavour to process in-warranty repairs within 5 working days from collection of the faulty device.

This Warranty only covers failures due to defects in materials or workmanship that occur during normal use during the Warranty term. Exclusions from this warranty can be found at C.7.

The Warranty does not include the restoration of customer data or software. Neither Panasonic Connect Europe GmbH nor Panasonic Manufacturing UK Ltd, nor any other company within Panasonic Group - accepts any liability for the lost data or software.

Faulty parts shall be replaced with new or refurbished parts. The faulty parts removed from a product as part of a warranty case (or the original faulty unit in the case of a replacement being supplied) shall become the property of Panasonic. These parts can be returned to the end user upon request, and the repair will be deemed to be an out of warranty repair, for which Panasonic is then entitled to charge a corresponding amount.

For the Panasonic parts used in Warranty cases, the remaining Warranty period of the repair device still applies, should these parts be installed in a Product.

For the Panasonic parts used in out of Warranty cases, there is a 90-Day Warranty on the repair and spare parts used.

Please note: For EOL device or EOL replacement part Panasonic will use best endeavours to support.

Turkey only: For Turkey only there is a 6 months Warranty on the repair and spare parts used. With regards to out of Warranty repairs, if a fault occurs on the repaired or replaced product attributable to the services, maintenance, repair or mounting of the device within 1 year from the repair/replacement, no payment from the customer will be made unless due to customer misuse. Any replaced product will be limited by the warranty term of the sold product.

For data storage media and specific components, only the limited scope described separately in these terms and Warranty conditions shall apply.

Warranty services shall be provided by the Repairer during the working hours specified locally. The working hours may differ depending on national or regional customs.

C.5 Collect and Return Warranty

The customer reports a defective device to the help desk over the telephone or via TOUGHBOOK Service Cloud. If the help desk cannot solve a problem over the telephone, the customer will be informed to which Repairer the faulty device will be sent. The transportation cost both ways, the costs for the materials/spare parts and the labour costs shall be borne by Panasonic subject to the scope and performance of Warranty services as stated above. Panasonic will arrange to collect and return the unit to and from any specified address within the EEA, Switzerland, Turkey, the United Kingdom and Russia in which the customer is located.

C.6 Limited Warranty on Data Storage Media

Data Storage Media is the media on which the Operating System, drivers and programs ("Programs") originally installed by Panasonic on the main unit are stored. This media is originally provided with the unit (CD or DVD) or installed on the HDD or SSD for recovery processes.

Panasonic warrants only that the disk(s) or other media on which the Programs are furnished will be free from defects in material and workmanship under normal use for a period of sixty (60) days from the date of delivery from Panasonic. Panasonic Connect Europe GmbH and Panasonic Manufacturing UK Ltd's, entire liability and the customer's exclusive remedy under this Warranty shall be limited to the replacement of any defective disk or other media, which is returned to Panasonic's Authorised Service Centre.

Any application software is not the subject of this Warranty. Panasonic does not warrant that the functions contained in the application software 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 otherwise than on the Product or in the environment conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mis-handling, misapplication, installation, maladjustment of consumer controls, 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.

C.7 Warranty Exclusions

The following points are NOT covered by the Warranty:

Any repair or attempt to repair the product by anyone other than a certified technician from a Panasonic Authorised Repair Centre will deem the Warranty null and void.

No Fault Found (NFF)

Any costs incurred where it is found that the Product is functioning normally ("No Fault Found"). Panasonic reserves the right to charge the logistics cost and inspection fee for every NFF case directly to the customer.

Theft / Loss

Loss of use or theft of the Product or consequential loss of any kind.

Third Party Fees

Any associated charges levied by any provider to you.

Repairs and maintenance carried out by anyone other than the Repairer.

Tolerance on LCD defect

Some displays may contain isolated illuminated or dark pixels as an artefact of the manufacturing process. Panasonic do not cover LCD faults where the LCD has more than 99.998% of its pixels operating properly.

"Image retention" or "Ghosting". This type of image retention is characterized by artifacts belonging to a previous image being left over after changing the image on the LCD.

*Image persistence artifacts can be prevented by using the screen saver feature on your system.

Negligence, abuse, misuse, accidental damage

Failures caused by negligence, abuse or misuse in respect of the Product including but not limited to:

- failure to use or site the Product in accordance with our instructions and failure to follow maintenance and storage recommendations;
- the use of accessories or equipment not suitable for use or incorrect connections of signal leads or application of incorrect electrical supply;
- the use of non-approved Panasonic 3rd party accessories, including but not limited to vehicle docks, mounting solutions, straps, cases, bags and power accessories;
- the improper connection to accessories or other peripherals;
- the introduction of liquid or other foreign matter into the unit;
- faulty software or programming or electrical power surge or fluctuation.
- the cost incurred by improper installation, operation, maintenance, overhaul or modification.
- Impact damage.

Wear and Tear

The cost of remedying or making good solely due to:

- Wear and Tear, gradual deterioration or oxidation, gradually developing defects, cracks, flaws or fractures;
- Scratching or chipping of any surfaces.

War Risk and Terrorism

Failures directly or indirectly caused by or contributed to or arising from war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military or usurped power.

Nuclear Risk

Failures directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste, from the combustion of nuclear fuel, or the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

Sonic Booms

Failures directly or indirectly caused by, contributed to or arising from pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

Environmental Influences

Failures directly or indirectly caused by, contributed to or arising from environmental influences (electrical storms, magnetic fields etc.).

Data

Loss of or damage to external data carrying material and the value to you of data stored on your Product, external data carrying materials and any computer program or data information recorded thereon unless stated above.

Mobile Networks

Mobile network upgrades can cause incompatibility resulting in connectivity issues, Panasonic cannot be held responsible for 3rd party networks and has no control over these or such upgrades and is not responsible for its availability.

Virus

This Warranty does not cover loss, damage, destruction, distortion, erasure, corruption or alteration of electronic data from any Computer Virus or similar mechanism or as a result of any failure of the Internet, or loss of use, reduction in functionality, cost, expense of whatsoever nature resulting there from, regardless of any other cause or event contributing concurrently or in any other sequence to the loss.

Software and Settings

The costs of rectifying programming errors or design defects in software.

The maladjustment of consumer controls such as function settings including, but not limited to, corporate or personal passwords.

Manufacturer's Exclusion

Products whose serial number has been removed making the unit Warranty condition impossible to clearly determine.

C.8 Limitation of Liability

Any claims and cover not expressly named in these Warranty conditions are excluded. This is also true with regards to claims to the replacement and compensation of subsequent damage, lost profits, data or information loss or damage as the result of an interruption in operation.

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.

D. Reporting a Hardware Fault

To report a hardware fault on your Product or accessory, please follow the procedure in section D.2.

D.1 Data Storage Media

The Repairer will not be responsible for damage to or loss of any programs, data, or removable storage media.

The only effective protection for data stored on a Product, such as on a hard disk, is the regular backing up of that data by the Purchaser. The Repairer and its Authorised Service Partners shall not be responsible for any software programs, data or other information stored or used on any media or part of any Product returned to the Repairer for Service or other repair including the costs of recovering such programs or data. If during the Service or repair of the Product the contents of the hard disk or any other data storage media are altered, deleted, modified or lost, the Repairer cannot be held liable. Storage media replaced under Warranty is supplied with the software loaded, as it would have been when shipped as a new unit from our factory; replacement media will not contain software, which has been loaded by you the Customer, your supplier or any other third party.

We strongly recommend that you back up any important data prior to the Product being returned to the Repairer.

D.2 Logging a Service Call

- Please have the **full product model number** and **serial number** ready, as shown on the base of your Product.
- Confirm that the software or peripheral equipment such as a printer or modem etc. is not the cause of the problem.
- Panasonic recommend that you backup any data on your hard drive to avoid potential loss.

To log a hardware fault:

- Log onto <https://toughbook.custhelp.com> and go to 'Request a Repair'
- The Repairer will not accept return of Products without prior authorisation i.e. a Reference number.

E. In Warranty Repair Procedure

Procedure Requesting a Repair Under Warranty

- Customer logs onto <https://toughbook.custhelp.com>, following the instructions to request a repair. Opening times are Monday to Friday, 08:00 – 17:00 GMT (All Bank holidays across the EU are covered, closed for Christmas Day, Boxing Day and New Year's Day). Maybe subject to change at the discretion of Panasonic.
- If the unit is determined to have a hardware fault the help desk will book the unit in for repair and issue a Reference number to the customer.
- Whilst logging a unit for repair, the customer will need to supply the necessary information required for collection and return of the product including the address, contact name, phone number and email address, collection point, available pick-up and delivery times hours and invoicing address.
- Depending on the country, a transport box will be despatched using one of the following methods:
 - A dedicated courier of Panasonic will arrive with a transport box for the Product. The collection will be arranged at the specified collection point during business opening hours and from the specified consignee. The paperwork will be provided via email to the consignee.
 - Panasonic will arrange delivery of a transport box to the customer's specified address the next working day. The collection will be arranged the next working day at the specified collection point during business opening hours and from the specified consignee. The paperwork will be provided via email to the consignee.
- The consignee needs to place the Product inside the transport box and hand it over to the courier. Any damage occurring during transit (if the box has not been packed correctly by the consignee) is not covered by Panasonic.
- In addition to the point above, it is the customer's responsibility to ensure the device is packed securely (either using the Panasonic provided box or own packaging materials) and that it is packaged in line with UN3481 P1967 so that only 2 batteries are contained within each transport box.
- It is the customer's responsibility to ensure that the unit does not contain non-standard hardware, software including dual and military controlled items
- Upon arrival, Panasonic will inspect the unit and will use all reasonable endeavours to repair the product within 48 hours of its receipt in our service centre if the repair is covered under warranty. Please note that Saturdays, Sundays and public holidays are not included.
- Panasonic will return the product to the address specified by the customer upon the satisfactory completion of the repair. Return shipment is free of charge. The Repairer will perform due testing and cleaning before sending the unit back. A repair report is included in the box with the repaired product and additional copies are available, upon request, through the help desk.

F. Out of Warranty Repair Procedure

Quote Acceptance

- For each out-of-Warranty repair, a quote will be sent. Acceptance or rejection of any quote must be made within 30 days in written form. The Product will not be repaired or returned until Panasonic receives approval or rejection of the quote.
- The European Directive 2000/35/EC allows the seller to retain Title of the Goods for a period of 3 months. If, after this time, Panasonic has taken all reasonable steps to contact the customer but has still not received specific instructions, Panasonic can write to the customer informing them of the intention to dispose of the goods in an appropriate manner.
- After receipt of the faulty unit by our Service Centre, the Repairer will perform a complete inspection and determine whether the fault is covered by the Warranty or not. If the fault is not covered by the Warranty, then a quote will be generated. This quote will cover the cost of parts, labour and shipping charges. For Turkey only a report including whether there is a fault arising from the customers misuse or not will be made by latest 20 days from receipt of the faulty unit.
- **Note:** The quote is our initial evaluation and further faults, or damaged parts may be found during the repair process or final tests. If any further out of warranty faults are discovered, you may be re-quoted.
- While the quote is pending, the turn-around-time is suspended.
- Payments for the repair of the units can be made via PayPal, via bank transfer or a service credit account (subject to a successful credit check). Details of these payment options are provided with the quote sent via email to the customer. If a credit account is set up with us, the customer needs to provide a Purchase Order Number (PO) on company headed notepaper, stating the complete invoicing address and contact details. Panasonic will reject PO Numbers submitted to us if the complete invoicing details of the company are missing.
- A rejected quote from the customer's side is subject to an Evaluation and Shipping charge. Details of this charge can be found on the supplied quote and payments can be made as stated above.
- Title of goods will immediately pass to Panasonic if a customer rejects a quote and instructs Panasonic to recycle the device on their behalf under the WEEE Directive 2012/19/EU.
- Panasonic will return the product to the address specified by the customer upon the satisfactory completion of the repair. The Repairer will perform due testing and cleaning before sending the unit back. A repair report is provided and additional copies are available upon request through the help desk.
- Panasonic will endeavour to process out of warranty repairs within 10 working days from the quote approval.
- The invoice for the repair will be sent to the customer separately via mail.
- Invoices must be paid within 30 days from invoice date or by the 10th of the month following the invoice date.

Special case: No Fault Found

In case of no fault found, the customer will receive notification via email and will then be required to cover the Evaluation and Shipping costs in order to receive the Product back. Payments for these charges can be made as stated above.

G. Invoicing and Payments

G.1 Retention of Title

If, after a period of 3 months Panasonic has taken all reasonable steps to contact the customer but has still not received specific instructions, Panasonic will write to the Customer informing them of the intention to environmentally dispose of goods held.

G.2 Payment Terms

Invoices must be paid within 30 days from invoice date or by the 10th of the month following the invoice date.

G.3 Late Payment

There may be a statutory right in your country allowing to recover interest on any unpaid invoice (as per European Directive 2011/7/EU, in force from 15th March 2011). Unless otherwise agreed, we will apply that statutory right to that interest and the statutory rate will apply.

No reminder may be necessary in order to collect interest on arrears, since late payment constitutes in itself a Breach of Contract that should be automatically sanctioned.

The above clause will not apply to Turkey. In Turkey a written notice putting the debtor into default will be sent to the customer after the invoice due date. Receipt of the notice will be the start date of default interest payable. The debtor will be given reasonable time to make payment which will be stated in the notice. If this is not forthcoming, then executing proceedings will be initiated to recover the debt with interest.

G.4 Compensation of all relevant recovery costs

The Directive gives the right to Panasonic to claim full compensation for all relevant recovery costs, incurred when trying to obtain payment from their customers.

H. Escalation

H.1 Service Escalation

5.00	Service Help Desk
4.00	Customer Service Team Leader
3.00	Customer Service Manager
2.00	Head of Operations
1.00	Head of MSBD EU

H.2 Issue Definition

5.00 Enquiry, Support, RMA Logging – Day to Day Issues

All enquiries should be directed to the Service Help Desk in the first instance. The Help Desk will deal with all day-to-day issues.

4.00 Quality of Service

All problems regarding the quality of service should be addressed to the second level of escalation. The Customer Service Team Leader will assist the customer in resolving these issues. Contact details can be obtained through the help desk.

3.00 Major Issues

Any major complaint about the customer service will be escalated to the Customer Service Manager. Contact details can be obtained through the help desk.

2.00 Critical Issues

Any critical issue will have to be escalated to the Head of Operation. Contact details can be obtained through the help desk.

1.00 Unresolved Critical Issues

Any unresolved critical issues will have to be escalated to the Head of MSBD EU. Contact details can be obtained through the help desk.

H.3 Legal Compliance

These Terms and Conditions shall be governed by and construed in accordance with the law of England and Wales and the parties submit to the exclusive jurisdiction of the courts of England and Wales.