

Tablet Computer Model No. FZ-M1 Series Operating Instructions - Reference Manual



We recommend that this Reference Manual be printed.

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# Illustrations and Terminology in this Manual

- This manual explains using the default setting.
- Some illustrations and display examples may look different from the actual product.
- 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.

Terms and illustrations in these instructions.

- CAUTION: Conditions that may result in minor or moderate injury.
- NOTE: Useful and helpful information.
- The display of the key may be different from this manual according to the keyboard used. (e.g. "Delete" instead of "Del")
- Touch U

This description instructs the user to touch

(Start) first, and touch



tructs the user to touch (Start) first, and touch (Power

<Only when connected to the external keyboard>

- ≪ Enter ≫: This means to press the ≪ Enter ≫ key.
- « Alt» + « Del» :

This means to press and hold ≪ Alt≫ key, and then press ≪ Del≫ key.

In these instructions, the names are referred as follows.

- "Windows 10 Pro" as "Windows" or "Windows 10"
- "Multilanguage User Interface" as "MUI".
- The computer screen supporting touching methods (your fingers) is referred to as the "screen".
- In this manual, microSIM card is collectively referred to as SIM card.

# **Regarding Windows 10**

### Tablet mode and Desktop mode

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

The mode can be switched by touching



(Notification), and then touching



(Tablet mode)

#### NOTE

- Displaying the task tray notification icons ( ) in tablet mod
  - 1. Touch and hold on an empty location on the task bar.
  - 2. Touch [Show all notification icons] on the menu that appears.



appears on the task tray. Touch



to display the notification icons.

#### Screen messages

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

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

#### **Displaying Apps**

1. Touch (All apps).

Alternatively, touch

(Start) at the bottom left corner in the desktop mode.

#### Opening the Control Panel

On the Start screen, proceed as follows.

Touch

(All apps) - [Windows System] - [Control Panel].

Alternatively, touch

(Start) - [Windows System] - [Control Panel] in the desktop mode.

#### Opening the "Settings" screen

1. Touch (Settings).

Alternatively, touch

(Start) -

(Settings) in the desktop mode.

### Opening the Panasonic PC Settings Utility

On the Start screen, proceed as follows.

1. Touch (Panasonic PC Settings Utility).

Alternatively touch



. \_\_\_\_

(Panasonic PC Settings Utility) in the desktop mode.

#### Notification area

The notification area is on the right side of the screen.

To display the notification, touch [ (Notification) on the task tray.

### Latest Information on Windows 10

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

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

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

## Sound and Video

- Sound (e.g. MP3, WMA) and video (e.g. MPG, WMV) recorded in microSD 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. Touch and hold (Speaker) on the task tray, and touch [Sounds].
  - 2. Remove the check mark from [Play Windows Startup sound], and touch [OK].

### When high-frequency sound occurs

If high-frequency sound occurs while using the computer, check the settings for the USB power saving function.

- Set [USB selective suspend setting] to [Enabled].
   1. Touch (Settings) [System] [Power & sleep] [Additional power settings].
  - Alternatively, touch (Start) (Settings) [System] [Power & sleep] [Additional power settings] in the desktop mode.
  - 2. Touch [Change plan settings] of the current power plan.
  - 3. Touch [Change advanced power settings].
  - 4. In [Advanced settings], double-touch [USB settings].
  - 5. Double-touch the displayed [USB selective suspend setting].
  - 6. Change settings of [On battery] and [Plugged in] to [Enabled].
  - 7. Touch [OK] and exit the "Power Options" screen.

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

Alternatively, touch (Start) - (Settings) - [System] - [Display] in the desktop mode.

2. Add the check mark to [Change brightness automatically when lighting changes] under "Brightness and color".

# **Windows Update**

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

Touch (Settings) - [Update & Security] - [Windows Update].

Alternatively, touch (Start) - (Settings) - [Update & Security] - [Windows Update] in the desktop mode.

2. Touch [Check for updates].

Do not apply "Driver Updates" even if a message to update a driver appears. If a driver update is required, contact your technical support office.

### Create a Recovery Disc

You can make a recovery disc for preinstalled software.

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

#### Preparation

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

### NOTE

■ If the recovery partition is deleted, you cannot create recovery disc(s).

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

- Any previously existing data stored on the USB storage device will be deleted.
- USB storage devices with capacities insufficient for creating a recovery disc cannot be used.
- USB storage devices that are partitioned cannot be used.
- USB storage devices that are recognized as SCSI (i.e., UASP\*1 devices) cannot be used.
  - \*1: USB Attached SCSI Protocol.
- USB memory device can also be used as a recovery disc.
- Do not perform the following operations until creating the recovery disc is complete.
  - Shut down or restart Windows.
  - Enter sleep or hibernation.
  - Remove the commercially available optical drive or USB storage device being used for recovery disc creation.
- If you interrupted creating a recovery disc, a message of failure may appear in step 10 screen below. In this case, restart the computer, and create a new recovery disc again.
- 1. Sign in to Windows as an administrator.
- 2. Connect the device being used to create the recovery disc to the unit.
  - For DVD media
    - 1. Connect the commercially available optical drive to the USB Port.
    - 2. Insert the disc into the commercially available optical drive.
  - For USB storage devices
    - 1. Connect the USB storage device to the USB port.
- 3. Touch (Panasonic PC Recovery Disc Creation Utility).

If the "User Account Control" screen appears, touch [Yes].

- 4. Touch [Next].
- 5. Confirm on-screen information ([Select OS Image] and [Number of discs required]), and then touch [Next].
- 6. Select the drive, and in the case of DVD media, select the disc type.
- 7. Touch [Next].
- 8. In the case of DVD media, select the [Write speed].

#### 9. Touch [OK]

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

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

# NOTE

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

# About the Partition Structure

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

# Flash Memory Backup/Restore Function

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

# Creating a Backup of the Flash Memory Data

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

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



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

- 1. Open the Control Panel, and then touch [System and Security] [File History].
- 2. Touch [System Image Backup].
- 3. Touch [Create a system image]. Follow the on-screen instructions.

### NOTE

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

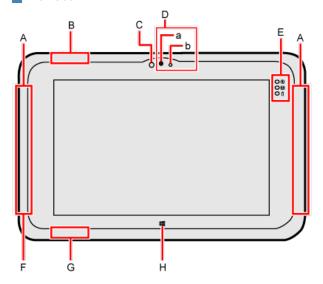
### Restoring the Flash Memory Data

- (Settings) [Update & Security] [Recovery].
- Touch [Restart now] under "Advanced startup" \*1.
- 3. Touch [Troubleshoot] [Advanced options].
- Touch [System Image Recovery]. Follow the on-screen instructions.
- \*1: Screen messages are explained in [English (United States)].

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

# **Description of Parts**

### Front side



### A. Wireless WAN Antenna

<Only for model with wireless WAN>



# B. Wireless LAN Antenna / Bluetooth Antenna

- <Only for model with wireless LAN>
- <Only for model with Bluetooth>



### C. Ambient Light Sensor

The ambient light sensor is equipped with an automatic brightness adjustment function that adjusts the display screen. (

Automatic brightness adjustment)

## D. Front Camera



- a. Camera Lens
- b. Camera Indicator

#### E. LED Indicators



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



: Battery Indicator (Battery status)

( When the battery indicator does not light on)
( Battery Power)

#### ( \_\_\_\_\_\_\_

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



# G. Wireless LAN Antenna

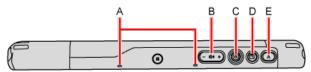
<Only for model with wireless LAN>



# H. Windows Button







- A. Microphone
- B. Volume Button



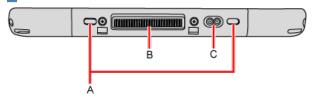
- C. Power Switch
- D. Rotation Lock Button



E. A Button



#### Bottom



### A. Security Slot

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

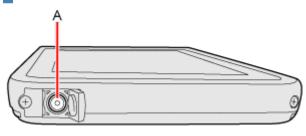
B. Expansion Bus Connector



C. External Antenna Connector

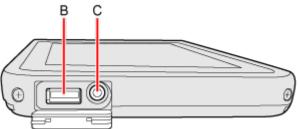
<Only for model with wireless WAN>





A. DC-IN Jack

Right side



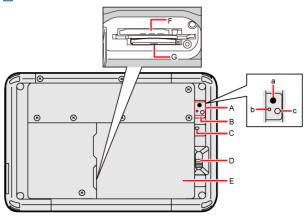
B. USB 3.0 port



C. Headset Jack

A headset or headphone can be connected.









- a. Camera Lens
- b. Camera Indicator
- c. Camera Light
- B. Speaker
- C. Battery Indicator

<Only for model with Built-in Bridge Battery>

D. Battery Latch



- E. Battery Pack
- F. microSIM Card Slot

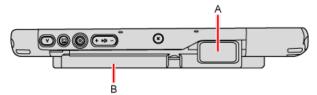
<Only for model with wireless WAN>

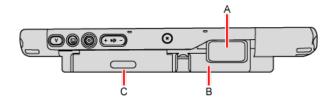


G. microSD Memory Card Slot



Top (optional)





A. Barcode Reader / Serial Port (Only for FZ-M1J-series models) / LAN Port

<Only for model with Barcode Reader>



# <Only for FZ-M1J-series models>

<Only for model with Serial Port>



<Only for model with LAN Port>



B. Built-in Bridge Battery

<Only for model with Built-in Bridge Battery>

C. Smart Card Reader / Magnetic Stripe Card Reader / Contactless Smart Card Reader <Only for model with Smart Card Reader>



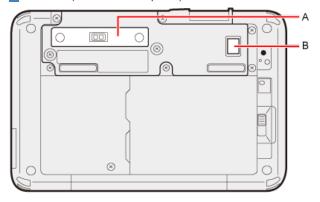
<Only for model with Magnetic Stripe Card Reader>



<Only for model with Contactless Smart Card Reader>



# Rear side (When installed options)



# A. 3D camera

<Only for model with 3D camera>

B. **Thermography Camera** <Only for model with Thermography Camera>

# Turning On / Turning Off

# **Turning On**





until the power indicator lights. ( Description of Parts)

### NOTE

<Only for FZ-M1G-series models> The LED may turn off for a few seconds immediately after the computer is turned on. This is not a malfunction.

- Do not press the power switch repeatedly.
- The computer will forcibly be turned off if you press and hold the power switch
- Once you turn off the computer, wait for ten seconds or more before you turn on the computer again.



- Do not perform the following operation until the drive indicator
  - Connecting or disconnecting the AC adaptor
  - Pressing the power switch
  - Touching tablet buttons, screen or external mouse

# **Turning Off**

Shut down the computer.



(Start) at the bottom left corner.



(Power) - [Shut down].

### NOTE

To turn off the computer completely, proceed as follows.



- Touch [Restart now] under "Advanced startup".
- 3. Touch [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 tablet buttons, screen or external mouse

- To conserve power, the following power saving methods are set at the time of purchase.
  - The screen automatically turns off after:
    - 10 minutes (when AC adaptor is connected) of inactivity 5 minutes (when operating on battery power) of inactivity
  - The computer automatically enters sleep\*1 after :
    - 20 minutes (when AC adaptor is connected) of inactivity 15 minutes (when operating on battery power) of inactivity
  - $\hbox{$^*1:$ Refer to $\underline{^*Sleep/Hibernation Functions"}$ 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.

The computer supports, using your fingers and the dedicated pen (optional).

### NOTE

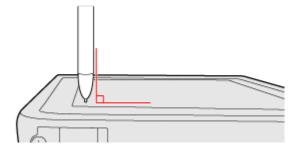
- This computer has adopted a capacitance type touch screen. Note that the touch screen may respond to the following:
  - Putting the dedicated pen (optional) or finger close to the screen.
  - Liquid or metallic objects other than the dedicated pen (optional) or finger.

### To operate "touch and hold"

Touch and hold the object with your fingers, or the dedicated pen (optional), and release it when a flame surrounding the object appears.

### Using the dedicated pen (optional)

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



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

# Operation by touching the screen

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

This computer supports multi touch of ten points or less at the same time.

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.

Touch the screen with your fingers or the dedicated pen (optional).

When touching the screen, use only your fingers or the dedicated pen (optional) on the surface.

Touching the screen with objects (e.g. fingernail, metallic object, or other hard or sharp objects) other than specified may scar or stain the surface, causing 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 operate the computer when such things as dust are on the screen.
   Do not allow contact with substances that could dirty the screen, such as oil.

### **Touch Screen Mode**

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



(Panasonic PC Settings Utility) -



(Settings) -



(Touch Screen)

2. Select the operation mode under "Touch Screen Mode".

#### [Pen] mode

- Suitable for the dedicated pen (optional) operation.
- Use this mode when not operating with finger.
- Using this mode may cause accidental response to metal objects close to the screen.
- Unless you have the dedicated pen (optional), operation will not be possible.

### [Pen/Touch] mode

- Use this mode when using both finger and the dedicated pen (optional).
- If both the dedicated pen (optional) and finger touch the screen at the same time, the dedicated pen (optional) operation takes priority.
- Using this mode may cause accidental response to metal objects close to the screen.

#### [Touch] mode

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

#### [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.
- 3. Select the "Windows button in Touch (Water)".

- [Enable]: The (Windows Button) is enabled even when "Touch Screen Mode" is set to [Touch (Water)].
- [Disable]: The (Windows Button) is disabled when "Touch Screen Mode" is set to [Touch (Water)].
- 4. If a confirmation message appears, touch [Yes].

#### NOTE

- You cannot use the pen regardless of the setting before Windows is started up.
- You cannot use the pen with the operations other than the Windows (PIN input of Bitlocker, operating screen from Recovery Drive, etc.) even if the pen operation mode is set.
- When "Touch Screen Mode" is set to [Touch (Water)], multi touch input is reduced to 2 points.
- When "Touch Screen Mode" is set to [Touch (Water)], the (Windows Button) is disabled.
  - You can keep the setting as [Enable] even if the default setting is [Disable] on "Windows button in Touch (Water)".
  - Settings can be made by using the Panasonic PC Settings Utility.
- You can reset the touch screen by pressing Windows button when the touch screen cannot be used or the pen cannot be used in the [Pen] / [Pen/Touch] mode.

# Calibrating the Screen

Pen input and touch input are properly configured under default settings, so calibration is not necessary under normal circumstances.

If accurate pen input or touch input is no longer possible after changing the LCD resolution, for example, perform calibration as follows.

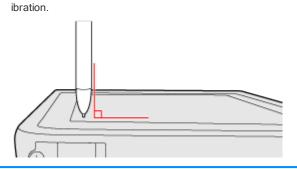
Change the display mode to the landscape before starting screen calibration. If calibration is performed other than the landscape, it
may not be possible to touch the target marks correctly.

# NOTE

- At first, sign in to Windows as an administrator, and perform this calibration.
- 1. Set the touch screen mode to [Pen] / [Pen/Touch] / [Touch]. ( Touch Screen Mode)
- 2. Open the Control Panel, and then touch [Hardware and Sound] [Tablet PC Settings].
- Touch [Calibrate].
   If [User Account Control] is displayed, touch [Yes].
- 4. Using your finger or the dedicated pen (optional), touch each of the "+" target marks one by one, and then touch [Yes].

### NOTE

■ When using the dedicated pen (optional), make sure dedicated pen (optional) is perpendicular to the screen to get the most accurate cal-



- 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 touching [Control Panel] [Hardware and Sound] [Tablet PC Settings] [Reset], and perform calibration again. (Be sure to delete the calibration data as an administrator.)

# NOTE

- 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 only when an external keyboard is connected.
- If you cannot touch the desired position, perform calibration again and restart the computer.

# **About Touch Operation Support**

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

### **Using Touch operation support settings**

#### Important usage notes

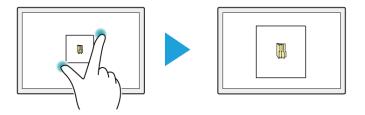
- This application will only operate on internal screen displays.
- Using the two-finger tap gesture may not display the zoom window in certain applications that handle touch operations independently (e.g., Microsoft Office Word, Internet Explorer and Paint).
- This application may take some time to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

#### Expanding a portion of the display

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

### Opening the zoom window

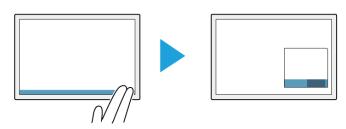
- Perform a two-finger tap on the area of the screen you want to expand.
   A rectangular zoom window with a diagonal length equal to the distance between the two tapped points appears.
  - (1) Perform two-finger tap.
- (2) Display expands.



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. 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 touch
- Drag (Drag by Left Button)
- Drag after Press and Hold (Drag by Right Button)
- Drag from inside to inside of the zoom window
- Drag from inside to outside of the zoom window
- Drag from outside to inside of the zoom window
- Drag from outside to outside of the zoom window

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

# NOTE

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

#### Closing the zoom window

1. Tap outside the zoom window.

The zoom window closes.



### NOTE

- If you are displaying the edge of the screen in the zoom window and you tap the edge of the screen outside the zoom window, an operation identical to that inside the zoom window may be performed and the zoom window may not close in some cases.
- The zoom window automatically closes when:
  - You disable the utility in the task tray menu
  - You rotate the screen
  - You change the resolution
  - Computer enters into the hibernation mode
  - The screen is locked
  - A user is switched
  - The desktop size (taskbar width, etc.) is changed
  - An additional zoom window is opened
  - Any of the applications that cannot be used together is launched

### Changing the position of the zoom window

The zoom window cannot be moved.

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

## Additional functions

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

#### Context menu displays

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

### NOTE

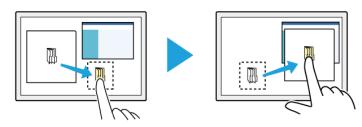
■ This function cannot be used in some applications.

#### Drag and drop operations

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

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

(1) Drag outside.



(2) Dotted line appears.

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

### **Changing settings**



(Panasonic PC Settings Utility)

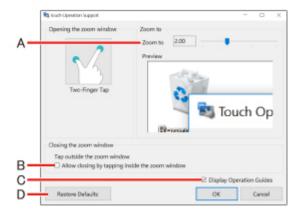






(Touch Screen)

- 2. Touch [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 touch [OK] to close the window, operation guides will appear the next time you perform a two-finger tap after signing in.
- D. Touch this to restore changed values to default settings.
- 4. Touch [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**



(Panasonic PC Settings Utility) -







(Touch Screen).

2. To disable "Touch Operation Support", remove a checkmark to "Support touch operation".

# **Tablet Buttons**

Button	Function
<b>(b)</b>	Power Start/Turn off the computer.
	Windows Same as Windows key.
	NOTE
	<ul> <li>The Windows button does not function when pressed together with a specific key on the external keyboard.</li> <li>You can enable or disable the key with Setup Utility.</li> </ul>
( d)) +)	Volume
	NOTE
	You can set the key to either Volume Up/Down or Brightness Up/Down with Setup Utility.
<b>a</b>	Rotation Lock ( Display Rotation)  Automatic display rotation ON/OFF.
A	A Panasonic PC Settings Utility ON/OFF. <only [concealed="" [enabled]="" is="" mode]="" set="" to="" when=""></only>
	Concealed Mode ON/OFF. ( Concealed Mode)
	<ul> <li>You can select on/off of LCD Backlight, LED, Sound, Wireless Radio, Camera light, Camera Flash*1 and Touch Screen. The camera indicator cannot be turned off.</li> <li>*1 : Only for FZ-M1J-series models.</li> </ul>
	NOTE
	You have to set [Concealed Mode] to [Enabled] in Setup Utility to control Concealed Mode with this button operation.
	You can set the devices turned off in [Concealed Mode] with Setup Utility.
	If you press in succession, the Concealed Mode may not be switched. More than 4 seconds interval is necessary to switch on/off.
	<only [concealed="" [disabled]="" and="" barcode="" for="" is="" mode]="" model="" only="" reader="" set="" to="" when="" with=""> Read the barcode.</only>

# NOTE

• You can use the Tablet buttons instead of following keys when the Windows screen is not displayed.

Tablet Buttons	Keyboard	
(- a(1)) +)	↓ and →	

Tablet Buttons	Keyboard
#	≪ Enter≫
<b>(5)</b>	≪ F2≫* <sup>2</sup>
A	≪ F12≫ *²

<sup>\*2:</sup> Can be changed using [A Button] or [Rotation Lock Button] in the [Main] menu - [Tablet Buttons Configuration] of the Setup Utility.

■ 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, the tablet buttons are enabled and work in default irrespective of the settings you made.

### To change the button functions

You can change the functions of





) buttons







(Button / Key)

- 2. Touch [Settings] under "Tablet Buttons".
- Select the "Tablet button" and touch [Change].
   Alternatively you can open "Tablet PC Settings" by the following procedure:
   Open the Control Panel, and then touch [Hardware and Sound] [Tablet PC Settings] [Buttons].
- 4. Select the function in [Press:] and [Press and hold:].
  - In the case of tablet button "A", touch [Browse] to select the application if you select [Start a program].
- 5. Touch [OK].
- 6. Touch [OK].

### NOTE

- If you touch [Reset], the setting will be the factory default.
- You can also open the setting screen by the following steps.
  - Touch (All apps) [Windows System] [Control Panel] [Hardware and Sound] [Set tablet buttons to perform certain tasks] under "Tablet PC Settings".

### **Important Battery Tips**

### NOTE

<Only for model with Built-in Bridge Battery>

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

#### How to use the battery with minimal deterioration

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

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

To minimize deterioration of the battery and ensure a longer battery life, you must 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

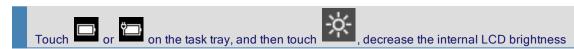
With this computer, in order to reduce the number of charges, the battery will not be recharged immediately after it has been fully charged unless the remaining charge has fallen to less than 95 %.

### 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



Decreasing the brightness reduces the power consumption.

Before stepping away from your computer, enter the sleep or hibernation mode

Refer to Entering/Resuming from Sleep or Hibernation.

Touch or on the task tray, and then move the "Power mode" slider (1) to the left to set the "Power mode" to "Best battery life".

This will reduce power consumption.

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

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

Remove peripheral devices (USB devices, external mouse, etc.) when not in use

When the network communication is not working, turn off the wireless LAN

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

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

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

### Things to keep in mind when using the battery pack

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

- Do not install or remove the battery pack while the computer is in the sleep mode. (Only for model without built-in bridge battery)
   Removal of the battery pack in this mode cause the data to be erased and cause the computer to malfunction.
- Do not touch the terminals on the battery pack.
   If the terminals are dirty or damaged, the battery may not function properly or the computer may not operate properly.

#### Charging time and discharging time differs depending on the computer's power status and temperature

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

# **Battery Indicator**



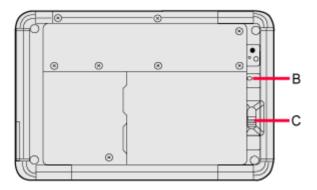


Battery indicator	Battery status	
Not lit	The battery pack is not inserted or not being charged.	
	Concealed Mode is set to ON.	
Orange	Charging is in progress.	
	If Battery Charging Indicator in the [Main] menu of the Setup Utility is set to [Flashing], the indicator will altern-	
	ately become lighter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

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

Battery indicator (B)

Latch (C)



When the latch (C) is slid with the AC adaptor disconnected

Battery indicator	Battery status	
Not lit	The battery pack can be replaced	
Lights in green	The battery pack can be replaced	
Blinks in red	The battery pack cannot be replaced	

When the latch (C) is not slid with the AC adaptor disconnected and without battery pack

Battery indicator	Battery status
Lights in green	Built-in bridge battery discharges

While the AC adaptor connected, shutdown, hibernation

Battery indicator	Battery status
Not lit	The battery pack can be replaced

# NOTE

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

# Charging

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

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

# **Checking the Remaining Battery Power**

To check the remaining battery power on the screen

(After signing in to Windows)

1. Touch or on the task tray.
The remaining battery power is displayed.

# NOTE

- The battery display may not correspond to the actual remaining battery charge 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 notification area. 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> <li>Displays a message that the battery level is low.</li> </ul>	<ul> <li>The computer enters hibernation.</li> </ul>
Charge the battery.	Connect the AC adaptor or replace the battery to start up the computer.
<ul> <li>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.</li> <li>If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again.</li> </ul>	<ul> <li>Connect the AC adaptor and charge the battery.</li> <li>If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again.     When the computer enters hibernation with the battery down and you resume the operation without charging the battery, the Windows Resume Loader starts up. Follow the on-screen instructions. After that, however, Windows may not start up normally, or the [Low battery level]/[Critical battery level] function may not work normally.</li> </ul>

### NOTE

Battery goes to sleep 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.



- 3. At the confirmation message, touch [OK].
- Touch [OK].

The computer restarts, and the "Battery Recalibration Utility" screen appears.

- 5. Touch [OK].
- 6. Touch [Yes].

The "Executing Battery Recalibration" screen appears, and start the battery recalibration. After the battery recalibration is finished, normal charging starts.

### NOTE



- To cancel the battery recalibration, press power switch
- 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.
- 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.
- 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.)
- <Only for model with Built-in Bridge Battery>
   The battery recalibration cannot be performed for the built-in bridge battery.

# 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.

- 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.
- Make sure no foreign objects are under the computer.
- In sleep, do not remove/replace the battery pack. Otherwise your data will be lost and the computer may be damaged.
- Do not use without inserting battery pack.
- If the computer is wet, wipe them off and open the cover. Make sure to dry off the computer, replace/remove the battery pack.

#### NOTE

- <Only for model with Built-in Bridge Battery>
  If the built-in bridge battery has enough remaining power, you can replace the battery pack without turning off the computer (Hot swap) and during sleeping the computer (Warm swap).
- 1. Turn off the computer.

Do not use the sleep function.

2. Turn your computer over and remove/insert the battery pack.

Make sure no foreign objects are under the computer.

To remove

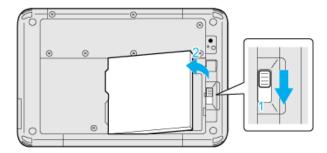
Push and slide the latch to the unlocked position, and raise the battery pack.

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

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

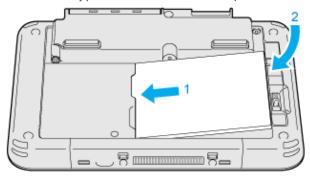
When the battery indicator on the rear of the computer doesn't light; Shutdown, Hibernation and while the AC adaptor is connected to the computer.

- In the case of a hot swap, finish replacing the battery within a minute. Depending on the built-in bridge battery status, the computer may enter hibernation within one minute. Replace the battery pack as soon as possible.
- If you start a hot swap with the AC adaptor connected, do not disconnect the AC adaptor until the battery pack has been replaced. If you unplug the AC adaptor ,even if Built-in Bridge Battery is charged, the computer will turn off.



#### To insert

Close the battery pack until it touch to the secured position.



### Be careful about the battery pack direction.

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

- Make sure the latch is securely locked, otherwise the battery pack may fall when you carry the computer.
- Do not remove the battery pack forcibly when the latches are locked. Doing so may damage the battery pack.

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

- If the built-in bridge battery has not enough remaining power, you cannot replace the battery pack without turning off the computer. Turn off your computer before replacing the battery pack.
- Do not leave the computer in sleep mode with its battery pack removed for 3 minutes or longer.
- Do not bring magnets or objects with strong magnetic fields near the computer. Doing so may result in the computer erroneously detecting the battery pack as removed.

# **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.

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

# **Setting Sleep or Hibernation**

#### Sleep

- 1. Touch and hold or on the task tray, and then touch [Power Options].
- 2. Touch [Change plan settings] of the power plan you want to change.
- 3. Select the setting for "Put the computer to sleep", and then touch [Save changes].
  - The setting for hibernation may change unexpectedly when you change the setting for sleep. Confirm that the time to enter hibernation is 180 minutes (default setting) or longer (below).

#### Hibernation

- 1. After the step 2 of "Sleep" setting (above), touch [Change advanced power settings].
- 2. Double-touch [Sleep], and double-touch [Hibernate after].
- 3. Touch the item and select the setting.
- 4. Touch [OK].

#### **Precautions**

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



- When the drive indicator
- When playing/recording audio files or displaying motion video such as MPEG files.
- When playing a DVD-Video.
- When writing to a disc.
- 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 touching down].



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

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

• Failing the password input while resuming from hibernation:

# **Entering/Resuming from Sleep or Hibernation**

The computer automatically enters sleep after:

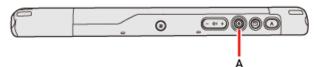
- 20 minutes (when AC adaptor is connected) of inactivity
- 15 minutes (when operating on battery power) of inactivity

### To enter sleep or hibernation

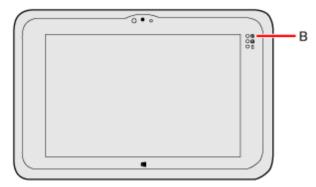
In order to enter sleep or hibernation by following procedure, change the power option settings first so that the "Power and sleep button settings" operation is set to sleep or hibernation. ( Setting Sleep or Hibernation)

### Using hardware functions

1. Press the power switch (A)



Sleep: The power indicator (B) light blinks green. Hibernation: The power indicator (B) light goes off.



#### Alternative method

### Using Windows function

You can alternatively enter sleep using Windows function.



2. Touch [Sleep].

# 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. Touch and hold on the task tray, and then touch [Power Options].
  - 2. Touch [Choose what the power button does] [Change settings that are currently unavailable].
  - 3. Add check mark for [Hibernate] and touch [Save changes].

#### While the computer is entering sleep or hibernation

- Do not:
  - Use an external mouse or other peripheral devices.
  - Disconnect the AC adaptor.
  - Insert and remove the microSD 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 button 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 longer than 4 seconds, the computer will forcibly shut down.

Unsaved data will be lost regardless of which option is selected under the "Control Panel" - [Hardware and Sound] - [Power Options] - [Choose what the power button does] - "When I press the power button".

#### 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.

#### To resume from sleep or hibernation

1. Press the power switch (A).

<Only for FZ-M1G-series models>

The LED may turn off for a few seconds immediately after the computer is turned on. This is not a malfunction.

- 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 screen or power switch.
  - Use an external mouse or other peripheral devices.
  - Connect or disconnect the AC adaptor.
  - Attach or remove the battery pack.
  - Shut down or restart Windows.
  - Enter sleep or hibernation.
- If the computer enters the sleep mode while an external keyboard or mouse is connected, touching the external keyboard keys or mouse may resume the computer.

# Panasonic PC Settings Utility

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

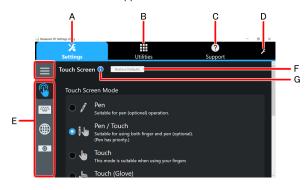
When starting up this application for the first time, connect to the Internet for initial setup. If it is first started up without Internet connection, the initial setup may take time, and several minutes may be required for startup.

# Starting Panasonic PC Settings Utility



Touch Panasonic PC Settings Utility).

The screen to the below appears.



- A. Settings
- B. Utilities
- C. Support
- D. This Application Settings
- E. Menu Select the items.



- F. Restore Defaults
  Restore the settings to the default values.
- G. Information Display help.
- 2. Make the operation.



Settings



Touch Screen

Touch Screen:

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



• [Pen]

- [Pen/Touch]
- [Touch]
- [Touch (Glove)]
- [Touch (Water)]
- Windows button in Touch (Water)

You can select whether the (Windows Button) is enabled or disabled when "Touch Screen Mode" is set to [Touch (Water)].

Touch Operation Support:

When you use a two-finger tap gesture to specify the area in which you want to perform touch operations, the area is displayed in a zoom

window. To use this function, add a checkmark to [Support touch operation].

( About Touch Operation Support)

Tablet Buttons:



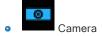
( Setting the Tablet Buttons)

Button / Key



Wireless LAN:





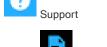
Camera Device:

- Front Camera
- Rear Camera <Only for model with single rear camera>
   Enable or Disable the built-in camera. To switch the option, the administrator right is required.
   If the camera is disabled by the Setup Utility, you cannot enable the camera by touching [Enabled].





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



Manual

[Launch Manual Selector]

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

- 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.
- 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.
- LIMITED USE LICENSE AGREEMENT



[Launch PC Information Viewer]





[Perform battery recalibration]

( Correcting the Battery Display (Battery Recalibration))



**Urgent Notice** 

[Settings]

Display the "Emergency notification setting" installation screen.



Recovery Disc Creation

[Launch Recovery Disc Creation Utility]





This Application Settings

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

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

# To add or delete functions

To add or delete functions, follow the procedure below.



- 2. Select [Panasonic PC Settings Utility], touch [Change].
- 3. Touch [Add or Remove Features], and then touch [Next].
- 4. Add or delete checkmarks, and then touch [Next].

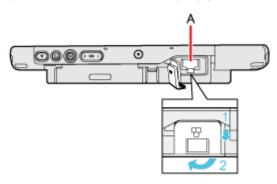
# NOTE

• If "This program might not have uninstalled correctly" is displayed, follow the on-screen instructions.

<Only for model with LAN>

# **Connecting LAN**

- Do not connect the telephone cable to the LAN port.
- 1. Turn off the computer.
  - Do not use sleep or hibernation.
- 2. Connect the cable.
  - Open the cover and connect the LAN port (A) and the network system (e.g., server, HUB) using a LAN cable.



3. Turn on the computer.

# **Disabling/Enabling Wireless Communication**

<Only for model with wireless LAN, Bluetooth, wireless WAN, GPS on wireless WAN, and/or 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

# Using airplane mode\*1

(For wireless LAN (Wi-Fi), Bluetooth, wireless WAN, and GPS on wireless WAN / dedicated GPS)

- 1. Touch (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"\*1 to [On] (for wireless LAN).
  - set "Bluetooth" to [On] (for Bluetooth).
  - set "GPS" to [On] (for GPS on wireless WAN).
  - set "GPS/GNSS" to [On] (for dedicated GPS).
- \*1: Screen messages are explained in [English (United States)].

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

### Turning wireless communication on/off quickly

(For wireless LAN (Wi-Fi), Airplane mode)

## Turning on/off the Wi-Fi

- 1. Touch on the task tray.
- 2. To turn off the Wi-Fi, touch (Wi-Fi )

The icon changes to \_\_\_\_\_, and then the icon \_\_\_\_\_ on the task tray changes to \_\_\_\_\_

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

# Turning on/off the airplane mode\*2

- 1. Touch an on the task tray.
- 2. To turn on the airplane mode, touch (Airplane mode).

The icon changes to and then the icon and on the task tray changes to



\*2 : Screen messages are explained in [English (United States)].

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

# **Using Network & Internet settings**

(For wireless LAN (Wi-Fi), wireless WAN, Bluetooth, and GPS on wireless WAN / dedicated GPS)

- 1. Touch an on the task tray.
- 2. **Touch [Network & Internet settings].** "Network & Internet" screen appears.
- 3. Touch the menu "Wi-Fi"\*3, "Cellular" or "Airplane mode"\*3, and turn on/off each wireless function.
  - \*3: Screen messages are explained in [English (United States)].

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

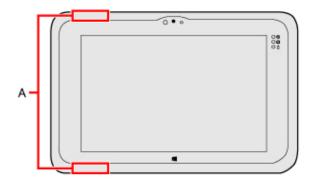
# Wireless LAN

<Only for model with wireless LAN>

- 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] of [Wireless Configuration] to [Enabled] (default) 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. Turn the wireless LAN on.
- 2. Touch or on the task tray.
- 3. Select an access point, and touch [Connect].
- 4. Input the key you set for the access point to recognize the computer, and touch [Next]. Wait for the computer to connect to the wireless LAN access point.
  When the icon on the notification area 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.

- Touch on the task tray, and then touch [Hidden network].
- 2. Touch [Connect], enter the necessary information such as the network name (SSID), and touch [Next].

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

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



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

### NOTE

- In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law.
- If IEEE802.11a is enabled or disabled while the computer is connected to an IEEE802.11b/g access point, the connection will be temporarily interrupted.

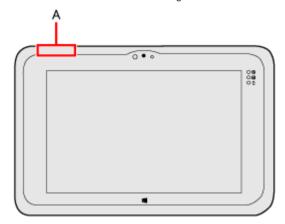
### **Bluetooth**

#### <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] of [Wireless Configuration] to [Enabled] (default) in the [Advanced] menu of the Setup Utility.
- The transmission rate will be lower when a microwave oven is used near by.

# **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. Touch (Settings) [Network & Internet] [Airplane mode] to [Off].
- To turn off the Bluetooth communications, set "Bluetooth" to [Off].
   To turn on the Bluetooth communications, set "Bluetooth" to [On].
  - \*1: Screen messages are explained in [English (United States)].

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

### To check the Bluetooth communication status

Touch (Settings) - [Devices] - [Bluetooth & other devices].

### NOTE

You can also touching on the task tray, and then touch the communication status.

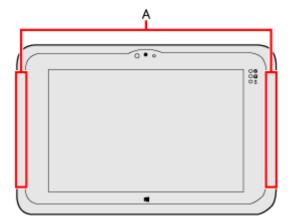
# Wireless WAN

#### <Only for model with wireless WAN>

This computer is equipped with the Wireless WAN enabling you to communicate using radio frequencies.

### 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] of [Wireless Configuration] to [Enabled] (default) 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 microSIM card adapter.
- Do not insert microSIM cards on which labels or stickers are affixed. Failure to obey may result in malfunction.

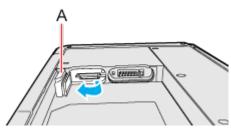
# Inserting/Removing a SIM Card

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

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

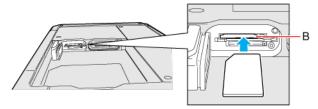
#### To insert a SIM card

- 1. Turn off the computer and disconnect the AC adaptor.
- Turn over the computer
   Make sure no foreign objects are under the computer.
- 3. Remove the battery pack (Replacing the Battery Pack).
- 4. Open the cover (A).



Do not open the cover by using the dedicated pen (optional). The dedicated pen may be destroyed.

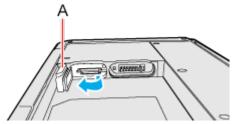
5. Insert the SIM card into the SIM card slot (B) with the contact side facing downward and with the cut corner oriented as shown in the illustration.



- Do not insert the SIM card upside down.
- 6. Close the SIM card slot cover.
  - If the cover is not closed, the SIM card may jump out when the computer falls.
- 7. Insert the battery pack and connect the AC adaptor.

### To remove a SIM card

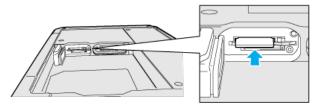
- 1. Turn off the computer and disconnect the AC adaptor.
- Turn over the computer
   Make sure no foreign objects are under the computer.
- 3. Disconnect the AC adaptor, remove the battery pack.
- 4. Open the cover (A).



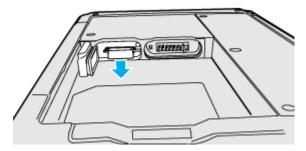
Do not open the cover by using the dedicated pen (optional). The dedicated pen may be destroyed.

5. Push the card.

It will come out of the slot a little bit.



6. Pull the card all the way out.



- 7. Close the SIM card slot cover.
- 8. Insert the battery pack and connect the AC adaptor.

### Connect/Disconnect to a network

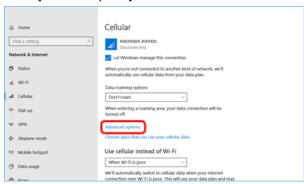
### Connecting to a network

If the APN setting is completed automatically after inserting the SIM card, Internet connection will be possible. In such cases, the following settings are not necessary.

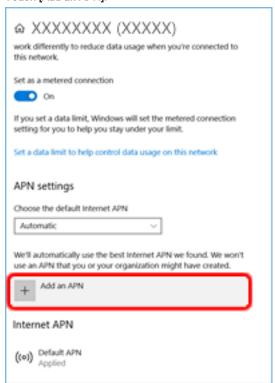
### Adding an APN

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

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



4. Touch [Add an APN].



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



- 6. **Touch [OK].** Internet connection will be possible.
- 7. If you are not connected to the Internet, select created APN profile, and then touch [Apply].

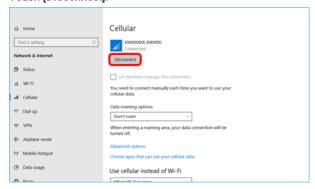
### NOTE

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

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

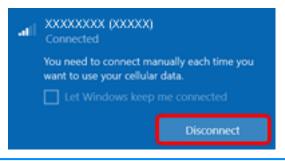
### Disconnecting to a network

- Touch (Settings) [Network & Internet] [Cellular].
- 2. Touch [Disconnect].



# NOTE

You can also touch on the task tray, and then touch [Disconnect].



### <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.

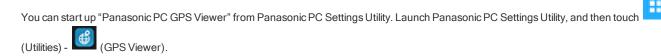
For the differences, refer to the table below.

Devices	Device name	Support system
GPS on wireless WAN	EM7430/EM7455	GPS/GLONASS/BeiDou
	EM7305	GPS/GLONASS
Dedicated GPS	U-blox8 (M8N)	GPS/GLONASS/SBAS

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

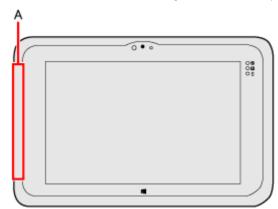
To use the "Panasonic PC GPS Viewer", proceed the following operation.

1. Touch [GPS Viewer].



# NOTE

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



When the u-blox Virtual COM Port is included in Ports (COM & LPT) under Device Manager, the following ports cannot be used.
For EM7430/EM7455:

Sierra Wireless Snapdragon TM X7 LTE-A NMEA Port

For EM7305:

Sierra Wireless NMEA Port

## Saving Power

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

### **Reducing Power Consumption**

Use the methods below to reduce power consumption.

Change the Power mode to "Best battery life".



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

Decrease the internal LCD brightness to reduce power consumption.



2. Touch to decrease the brightness

Power management using the ambient light sensor.

Automatically adjust the internal LCD brightness based on the ambient light.



2. Touch the [Change brightness automatically when lighting changes] checkbox to select it.

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

Touch (Power) - [Sleep] to set the computer to sleep when you have to leave the computer. This shuts down computer operation to reduce power consumption.

Only for model with LAN>

Disable Wake Up from wired LAN function when it is not needed.

This reduces power consumption in Sleep/Hibernation.

To confirm current settings:

- Touch and hold (Start) at the bottom left corner, and then touch [Device Manager].
- 2. Double-touch the Ethernet device (ex: Realtek USB FE Family Controller) under "Network adapters", and then touch [Power Management].
- 3. Check the setting of [Allow this device to wake the computer].
- 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, touch and hold the desktop, touch [Personalize] [Lock screen] [Screen saver settings] and touch the title of the screen saver.

# **Configuring Power Saving Settings**



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

# **Customizing the Power Setting**

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

# Changing the Power Plan Setting

- 1. Touch and hold or on the task tray, and then touch [Power Options].
- 2. Touch [Change plan settings] of the power plan you want to change.
- Change the settings.
  - [Change advanced power settings]: You can make more detailed settings.
- 4. Touch [Save changes].

### **Creating Your Own Power Setting**

- 1. Touch and hold or on the task tray, and then touch [Power Options].
- 2. Touch [Create a power plan], touch the basic plan and input the name of power plan.
- 3. Touch [Next].
- 4. Change the settings and touch [Create].
  - To change the settings or to make more detailed settings. ( Changing the Power Plan Setting)

### **Deleting the Power Plan**

- 1. Touch and hold or on the task tray, and then touch [Power Options].
- Touch [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.
- 3. Touch [Delete this plan], and then touch [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. Touch [Security] menu.
- 3. Double-touch [Set Supervisor Password] or [Set User Password].
- Enter your password in [Create New Password] and touch ≪ Enter ≫.
  - When the password has been set, you need to enter your password in [Enter Current Password] and touch ≪ Enter ≫.
  - To disable the password, leave the input field empty and touch ≪ Enter ≫.
- 5. Enter your password again in [Confirm New Password] and touch ≪ Enter≫.
- Touch ≪ F10≫, and then select [Yes] and touch ≪ Enter≫.
   When using the on-screen keyboard ≪ F10≫ key, touch [SYM] [F10].
- Do not forget your password. If you forget your Supervisor Password, you will not be able to use your computer. Contact Panasonic Technical Support.
- When running the Setup Utility, do not leave and go away from your computer even for a short time, since other people may set or change the password.
- When running the Setup Utility, inputting from the keyboard and on-screen keyboard is based on the English keyboard layout. Pay attention of inputting if you use other keyboard layouts than English.

### NOTE

- The password will not be displayed on the screen.
- You can use up to 32 alphanumeric characters (including spaces).
  - The case (upper/lower) is distinguished.
  - Use only the upper horizontal row of numeric keys to input your password.
  - You cannot use ≪ Ctrl≫ to input a password.
- Disabling the Supervisor Password also disables the User Password.

# **Setting the Windows Password**

To set the password, proceed as follows.

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

- 1. Touch (Settings) [Accounts] [Sign-in options].
- 2. Touch [Add] under "Password".
- 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. Touch (Settings) [Time & language] [Region & language].
- 2. Touch a language and touch [Options].
- 3. Touch [Add a keyboard] and choose a keyboard from the list.
- Remember your password. If you forget the password, you cannot use Windows. Creating a password reset disk beforehand is recommended.

# **Preventing Your Computer from Unauthorized Use**

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

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

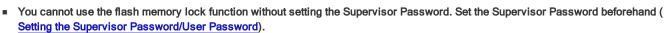
### NOTE

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

# Preventing Your Flash Memory Drive from Being Read or Written

The flash memory lock function protects the flash memory data from being read or written by removing the flash memory from the computer. (Note that the flash memory lock does not guarantee complete protection of the data.)

1. Select [Enabled] in [Hard Disk Lock] in the [Security] menu of the Setup Utility.





- When you have your flash memory drive repaired.
  - Contact Panasonic Technical Support.
  - Before sending back the flash memory drive, be sure to set the [Hard Disk Lock] to [Disabled].

### NOTE

- The flash memory lock function works with the built-in flash memory. It does not work with the external hard disk.
- We recommend you to set [Password On Boot] to [Enabled] to ensure security though it is not required to enable the flash memory lock.
- Note that the flash memory lock does not guarantee complete protection of the data.

## **Disabling USB Devices**

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

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

1. Select [Disabled] in [Cradle USB Port]/[Legacy USB Support]\*1 in the [Advanced] menu of the Setup Utility.

\*1: Only for FZ-M1J-series models.

<Only for FZ-M1J-series models>

# **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>\*2

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.

\*2: It is not supported by the factory OS.

#### About TPM

<Only for model that supports TPM>

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

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.

- Touch (Settings) [Update & Security] [Device encryption] [BitLocker settings].
- 2. Touch [TPM Administration].

# **Display Rotation**

The built-in acceleration sensor detects the computer's inclination, and the screen display rotates automatically. Definition of rotation angles are shown below.

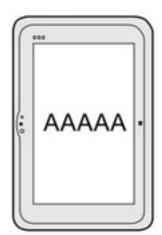
Primary Landscape



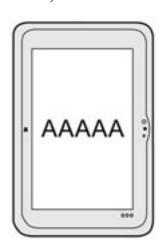
Secondary Landscape



Primary Portrait



Secondary Portrait



# **Rotation Lock**

The Rotation Lock button allows you to lock the screen display.

Press the Rotation Lock button





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

1. Touch (Notification) on the task tray, and then touch (Rotation lock) or

### 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.



- While the display is rotated:
  - Do not use the Extended Desktop. The touchpad, touchscreen, or dedicated pen (optional) may not work properly.
  - Do not set the resolution larger than that of the internal LCD.
  - The computer's performance is slightly lowered.
  - The touchpad scroll functions do not work.
- While the display is set to rotate automatically, 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 primary 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, Camera Flash\*1, Barcode Reader light\*2 and TouchScreen.

- \*1: Only for FZ-M1J-series models.
- \*2: Only for model with Barcode Reader.
  - Concealed Mode is disabled as the factory default.
  - The camera indicator cannot be turned off.

# **Switching the Concealed Mode**

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



# NOTE

If you press 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] of [Concealed Mode Configuration] to [Enabled] or [Disabled] in the [Main] menu of the Setup Utility.

### Change the settings

This function is effective when the computer is restarted.

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

### NOTE

■ When set [LCD Backlight] to [Minimum] and [LED] to [ON], the LED may become dark.

### **Setup Utility**

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

# Starting the Setup Utility



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

- 2. Touch [Restart now] under "Advanced startup" 11.
  - \*1: Screen messages are explained in [English (United States)].

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

3. Touch [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

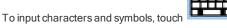
- Note the following:
  - In the [Advanced] and [Boot] menus, you cannot make the settings of all items.
  - In the [Security] menu, you can change only the User Password when [User Password Protection] is set to [No Protection]. You cannot
    delete the User Password.
  - In the [Exit] menu, you cannot make the setting of [Load Default Values] and [Boot Override].
  - ≪F9≫ (Setup Defaults) does not function.

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:



at the upper right corner of the Setup Utility screen to display the on-screen keyboard.

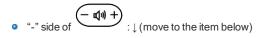


To operate special keys such as a function key, touch [SYM] on the on-screen keyboard so that the key is highlighted as illustrated below.

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

### Using tablet buttons:

The tablet buttons operates at follows.







• Setup Utility screen is displayed on the internal LCD even when an external display is connected to the computer.

# **Information Menu**

Underlined items are the factory presets.

Language	English French
	Japanese

Product Information

Model No.	Computer information (cannot be changed.)
Serial No.	

System Information

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

BIOS Information

BIOS	Computer information (cannot be changed.)
BIOS Configuration	
Embedded Controller	
Intel(R) ME Firmware <only for="" fz-m1j-series="" models=""></only>	
Intel(R) TXE Firmware <only for="" fz-m1g-series="" models=""></only>	
Accumulative Operating Time	
Access Level	

# Main Menu

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

System Date	[xxx xx/xx/xxxx]
<ul> <li>Day of the Week, Month/Day/Year.</li> </ul>	
You can touch Month/Day/Year to move the cursor.	
System Time	[xx:xx:xx]
• 24-hr. style.	
You can touch Hours/Minutes/Seconds to move the cursor.	

Main Configuration

► Tablet Button Configuration	Enter the sub-menu.
-------------------------------	---------------------

 $Sub-menu\ displayed\ when\ "Tablet\ Buttons\ Configuration"\ is\ selected$ 

A Button* <sup>2</sup>	Disabled  Application1 Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader, and this is the factory-preset when [Concealed
Preboot Key Binding  • Key assignment during startup.	Mode] is set to [Disabled].)  Not Assigned  F1  F2  F3  F4  F5  F6  F7  F8  F9  F10  F11
Up/Down Buttons	Disabled Volume Up/Down Brightness Up/Down
Windows Button	Disabled Enabled
Rotation Lock Button	Disabled Application2 Ctrl+Alt+Del Barcode Reader Trigger (Only for model with Barcode Reader, and only when [A Button] is not set to [Barcode Reader Trigger]) Rotation Lock
Preboot Key Binding  Key assignment during startup.	Not Assigned F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

<sup>\*2:</sup> When [Concealed Mode] is set to [Enabled], it becomes Concealed Mode Trigger.

# Table of Preboot Key Bindings

A 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.
Battery Charging Indicator	On Continuous Flashing
Power On AC	<u>Disabled</u> Enabled
Concealed Mode Configuration	Enter the sub-menu.

# Sub-menu (Concealed Mode Configuration)

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

Concealed Mode	Disabled Enabled
LCD Backlight*3	OFF           Minimum           ON
LED*3  • Except for the camera indicator and the LED of external devices.	OFF           ON
Sound*3	OFF           ON
Wireless Radio*3	OFF           ON
Camera Light*3	OFF           ON
<only barcode="" for="" model="" reader="" with=""> Barcode Reader*<sup>3</sup></only>	OFF ON
TouchScreen*3	OFF           ON

<sup>\*3:</sup> Can only be configured when [Concealed Mode Configuration] is set to Enabled.

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

# **Advanced Menu**

Underlined items are the factory presets.

► CPU Configuration	Enter the sub-menu.
The sub-menu appears when this item is selected.	

# Sub-menu (CPU Configuration)

<only for="" fz-m1j-series="" models=""></only>	Disabled*4
Intel(R) Hyper-Threading Technology	<u>Enabled</u>

<sup>\*4:</sup> The following settings can be made when [Disabled] for "Intel(R) Hyper-Threading Technology" is selected.

Intel(R) Virtualization Technology  • Can be changed only when [Intel(R) VT-d] is set to [Disabled].	Disabled Enabled
Intel(R) VT-d	Disabled Enabled
<only for="" fz-m1j-series="" models=""> Intel(R) Trusted Execution Technology <ul> <li>Can be changed only when [Intel(R) VT-d] is set to [Enabled].</li> </ul></only>	<u>Disabled</u> Enabled
<only for="" fz-m1j-series="" models=""> Intel(R) Turbo Boost Technology 2.0</only>	Disabled Enabled
Intel(R) Software Guard Extensions	Software Controlled Enabled Disabled
Processor Reserved Memory	Disabled 32MB 64MB 128MB

# Peripheral Configuration

Serial Port Serial Port	Disabled
Only for model with Serial Port.	<u>Enabled</u>

► Wireless Configuration	Enter the sub-menu.
The sub-menu appears when this item is selected.	

LAN	Disabled
Only for model with LAN	<u>Enabled</u>
Power On by LAN	Disabled
Can be changed only when LAN is set to [Enabled].	Enabled

# Sub-menu (Wireless Configuration)

Wireless LAN*5  Only for model with wireless LAN	Disabled Enabled
Wireless WAN  Only for model with wireless WAN	Disabled Enabled
Bluetooth  Only for model with Bluetooth	Disabled Enabled
GPS  Only for model with dedicated GPS	Disabled Enabled

<sup>\*5 : &</sup>lt;Only for FZ-M1J-series models> for Wireless LAN <Only for FZ-M1G-series models>

for Wireless LAN radio

microSD Card Slot	Disabled
	<u>Enabled</u>

Extension Port	Disabled
	<u>Enabled</u>
USB Port	Disabled
	Enabled
SuperSpeed USB	Disabled
	<u>Enabled</u>
Cradle USB Port	Disabled
	Enabled
SuperSpeed USB	Disabled
	Enabled
<only for="" fz-m1j-series="" models=""></only>	Disabled
Legacy USB Support	Enabled

# Camera Configuration

Camera (Front)	Disabled Enabled
Camera (Rear)	Disabled Enabled

# **Boot Menu**

Underlined items are the factory presets.

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].	Normal Compatible
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 ▶ UEFI Priorities
 Enter the sub-menu.

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

# UEFI Priorities

Boot Option #1	Windows Boot Manager	
	Recovery Partition	
	Windows Recovery Environment	
	UEFI: PXE IP4 Realtek USB FE Family Controller*6	
	UEFI: PXE IP6 Realtek USB FE Family Controller*6	
	UEFI: PXE IP4 Realtek USB Ethernet Controller*7	
	UEFI: PXE IP6 Realtek USB Ethernet Controller*7	
	Disabled	

Boot Option #2	Windows Boot Manager  Recovery Partition  Windows Recovery Environment  UEFI: PXE IP4 Realtek USB FE Family Controller*6  UEFI: PXE IP6 Realtek USB FE Family Controller*6  UEFI: PXE IP4 Realtek USB Ethernet Controller*7  UEFI: PXE IP6 Realtek USB Ethernet Controller*7  Disabled
Boot Option #3	Windows Boot Manager Recovery Partition  Windows Recovery Environment  UEFI: PXE IP4 Realtek USB FE Family Controller*6  UEFI: PXE IP6 Realtek USB FE Family Controller*6  UEFI: PXE IP4 Realtek USB Ethernet Controller*7  UEFI: PXE IP6 Realtek USB Ethernet Controller*7  Disabled
Boot Option #4	Windows Boot Manager Recovery Partition Windows Recovery Environment  UEFI: PXE IP4 Realtek USB FE Family Controller*6  UEFI: PXE IP6 Realtek USB FE Family Controller*7  UEFI: PXE IP6 Realtek USB Ethernet Controller*7  UEFI: PXE IP6 Realtek USB Ethernet Controller*7  Disabled
Boot Option #5	Windows Boot Manager Recovery Partition Windows Recovery Environment UEFI: PXE IP4 Realtek USB FE Family Controller*6 UEFI: PXE IP6 Realtek USB FE Family Controller*6 UEFI: PXE IP4 Realtek USB Ethernet Controller*7 UEFI: PXE IP6 Realtek USB Ethernet Controller*7 Disabled
Boot Option #6	Windows Boot Manager Recovery Partition Windows Recovery Environment UEFI: PXE IP4 Realtek USB FE Family Controller*6 UEFI: PXE IP6 Realtek USB FE Family Controller*7 UEFI: PXE IP4 Realtek USB Ethernet Controller*7 UEFI: PXE IP6 Realtek USB Ethernet Controller*7 Disabled
Boot Option #7	Windows Boot Manager Recovery Partition Windows Recovery Environment UEFI: PXE IP4 Realtek USB FE Family Controller*6 UEFI: PXE IP6 Realtek USB FE Family Controller*7 UEFI: PXE IP4 Realtek USB Ethernet Controller*7  UEFI: PXE IP6 Realtek USB Ethernet Controller*7 Disabled

<sup>\*6 :</sup> Only for model with LAN or when connected to Cradle.
\*7 : Only when connected to Cradle or for model with LAN.

# **UEFI Boot Device Control**

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

UEFI Boot from Hard Disk	Disabled Enabled
UEFI Boot from LAN	Disabled Enabled
UEFI Boot from USB	Disabled Enabled

# To change the boot order

- 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. Connect the external keyboard before the boot and press ≪ Esc≫ 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**

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

### Boot Prompt Configuration

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

Set Supervisor Password	Enter the sub-menu.
Hard Disk Lock  Can be changed only when [Set Supervisor Password] is set.	<u>Disabled</u> Enabled
User Password Protection	No Protection Protected
Set User Password  • Can be changed only when [Set Supervisor Password] is set.	Enter the sub-menu.
SW KB Support for Encryption	<u>Disabled</u> Enabled
SW KB Support for BitLocker	Disabled Enabled

► Embedded Security (TPM)	Enter the sub-menu.
Only for model that supports TPM.	
Can be changed only when [Set Supervisor Password] is set.	
Sub-menu items:	
<ul><li>Sub-Menu Protection</li></ul>	
<ul> <li>TPM State (Depending on the models, this item is not displayed.)</li> </ul>	
<ul> <li>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.</li> <li>Current TPM Status Information (Depending on the models, this item is</li> </ul>	
not displayed.)	
<only for="" fz-m1j-series="" models=""></only>	Enter the sub-menu.
AMT Configuration	
<ul> <li>Only for model that supports Intel(R) AMT.</li> </ul>	
Can be changed only when [Set Supervisor Password] is set.	
► Secure Boot	Enter the sub-menu.
The sub-menu appears when this item is selected.	
If you change factory default setting, preinstalled-OS may not operate correctly.	

# **Exit Menu**

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

# Save Options

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

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

# Boot Override

Windows Boot Manager	Boot from preinstalled OS.
Recovery Partition	Erase your flash memory or restore the computer to its original factory default image.
Windows Recovery Environment	Boot from Windows Recovery Environment.

Depending on the hardware constructions, some device names are different.

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

# **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.
- <Only for model with Built-in Bridge Battery>
   Do not put sources of strong magnetism such as magnet close to the computer. Malfunction may occur.

## **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, Smart Cards and other protruding objects.
  - Do not drop or hit the computer against solid objects.
  - Do not grip the display part.
- 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.
- Avoid any harmful substances such as oil from getting into the touchscreen. The pointer may not work correctly.
- Use only the dedicated pen (optional) 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).
- Touch the screen with your fingers or the dedicated pen (optional).

When touching the screen, use only your fingers or the dedicated pen (optional) on the surface.

- Touching the screen with an object other than your fingers or the dedicated pen (optional) (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 use the screen when dust or dirt (e.g., oil) is on the screen.

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

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.

#### 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 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  $5 \,^{\circ}$ C  $\{41^{\circ}F\}$ , 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 dedicated pen (optional)

- Clean the dedicated pen tip and screen prior to operation.
   Foreign particles can scratch the screen and impede the operation of the dedicated pen.
- Use only the dedicated pen to touch the screen.
   Using it for any other purpose may damage the dedicated pen and result in scratches on the screen.
- The pointer cannot follow the dedicated pen movement if you move the dedicated pen too quickly.

### 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.

#### **Battery Recalibration**

The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction.

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

<Only for FZ-M1J-series models>

- Full charge: Approximately 2.5 hours (with FZ-VZSU94W) / Approximately 4.5 hours (with FZ-VZSU95W (optional)
- Complete discharge: Approximately 2.5 hours (with FZ-VZSU94W) / Approximately 5.0 hours (with FZ-VZSU95W (optional)

<Only for FZ-M1G-series models>

- Full charge: Approximately 2.5 hours (with FZ-VZSU94W) / Approximately 4.5 hours (with FZ-VZSU95W (optional)
- Complete discharge: Approximately 4.0 hours (with FZ-VZSU94W) / Approximately 9.0 hours (with FZ-VZSU95W (optional)

When performing "Battery Recalibration" without shutting down Windows, it may take more time to charge / discharge.

### **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:

Status	Discharge period			
	FZ-M1J-series		FZ-M1	G-series
	FZ-VZSU94W	FZ-VZSU95W	FZ-VZSU94W	FZ-VZSU95W
When power is off	Approx. 7 weeks	Approx. 16 weeks	Approx. 6 weeks	Approx. 14 weeks
In sleep	Approx. 7 days	Approx. 17 days	Approx. 10 days	Approx. 4 weeks
In hibernation	Approx. 7 weeks	Approx. 17 weeks	Approx. 6 weeks	Approx. 14 weeks

The battery duration while the USB port continuous charging function is not used.

The above value is the holding time at room temperature.

### 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.

#### Automatic brightness adjustment

The computer is equipped with an automatic brightness adjustment function that adjusts the display screen based on the ambient light sensor. You can configure the automatic adjustment function as follows.

- 1. Touch (Settings) [System] [Display].
- 2. Add the check mark to [Change brightness automatically when lighting changes] under "Brightness and color".
- The [Change brightness automatically when lighting changes] item may not be available in some cases. In such cases, touch the arrow to the left of [Settings] at the top left of the screen, and perform the operation from [System] [Display] again.

The ambient light sensor is located at the top of LCD.

The ambient light cannot be detected properly if this area is obstructed or dirty.

#### Magnetic sensor

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

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

The magnetic directions indicated by the magnetic sensor may not be accurate immediately after purchase or in environments with poor magnetic fields.

In such cases, turn on the computer and move it as follows.

- 1. Hold the computer so that its screen side is facing upward and level.
- 2. While keeping the computer level, rotate it 90 degrees or more clockwise.
- 3. Return the computer to position 1, and rotate it 90 degrees or more counterclockwise.

- 4. Return the computer to position 1.
- 5. Tilt the computer 90 degrees or more to the left so that the left side of the computer tilts down.
- 6. Return the computer to position 1, and tilt it 90 degrees or more to the right so that the right side of the computer tilts down.
- Hold the computer firmly when moving it. Strong shocks from dropping the computer may result in damage.

#### Tether for Stylus (Optional)

When using the stylus with tether (optional), do not pull the tether with excessive force. The dedicated pen (optional) may hit the computer, person's body or other objects when released.

### **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 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).
- 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.
  - While wiping the LCD panel, 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 dedicated pen (optional) to operate the screen?
  - Is the surface clean?
  - Is the soft cloth clean?
  - Are your fingers clean?
  - Are you using the dedicated pen (optional) with the tip extended?
  - Is the tip of the dedicated pen (optional) 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

- 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.

# microSD Memory Card

The microSD memory card slot on this computer accepts microSD/microSDHC/microSDXC memory cards.

# Inserting/Removing microSD Memory Card

- 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 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.

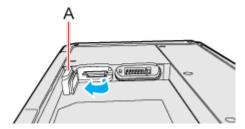
#### To insert the card

1. Turn off the computer.

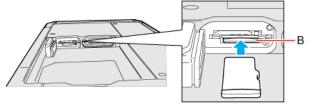
## NOTE

- When the AC adapter is connected, it is not necessary to turn off the computer.
- 2. Turn over the computer and remove the battery pack ( Replacing the Battery Pack).

  Make sure no foreign objects are under the computer.
- 3. Open the cover (A).



4. Insert the microSD memory card to the microSD memory card slot (B).



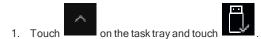
5. Close the cover (A).

## To remove the card

## Preparation

Save the data and close all applications.

1. Disable the card function.

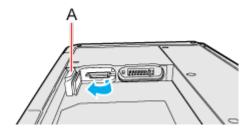


- 2. Select the card.
  - These steps are not necessary when:
    - Removing the card after turning off the computer.

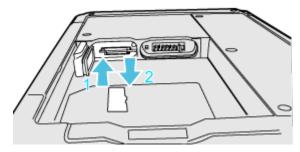


- The card does not appear in the list.
- 2. Turn off the computer.

- When the AC adapter is connected, it is not necessary to turn off the computer.
- 3. Turn over the computer and remove the battery pack (Replacing the Battery Pack). Make sure no foreign objects are under the computer.
- 4. Open the cover (A).



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



- 6. Close the cover (A).
- After pressing the microSD memory card, do not release your finger suddenly. The microSD memory card may jump out.

# **Smart Card**

## <Only for model with Smart Card slot>

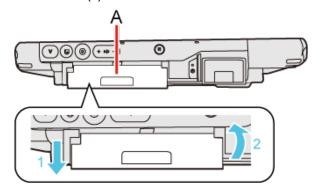
You need software to use a Smart Card.

- 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.

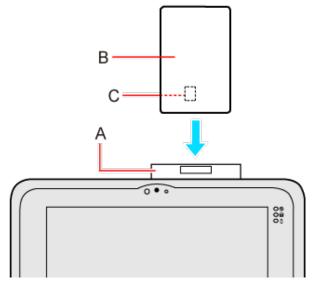
# Inserting/Removing the Smart Card

## To insert the card

1. Slide the cover (A).

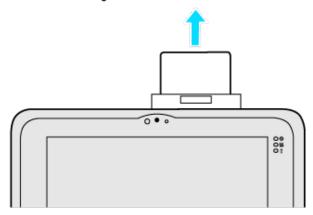


- 2. Open the cover (A) and insert the Smart Card (B) to the slot with the contact part (C) located on the back side.
  - Insert the card until it securely fits into the slot.



- 3. Close the cover (A).
- The card stops halfway. Do not push the card forcibly furthermore.

1. Draw the card straight out.



2. Close the cover.

# **Magnetic Stripe Card Reader**

<Only for model with Magnetic Stripe Card Reader>

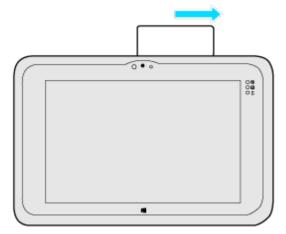
You need software to use a Magnetic Stripe Card Reader.

- 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.

# **Reading Magnetic Stripe Card**

Insert the magnetic tape part of the card into this unit's card reading part and slide it.

- Face the magnetic tape of the card to the computer side.
- You can slide the card from both sides to read.



- Slide the card parallel to the rail.
- Slide the card at a constant speed.
- Inserting the card at an angle to slide or removing the card at an angle after insertion may lead to incorrect reading.

## **Barcode Reader**

<Only for model with Barcode Reader>

# Preparation

Before using the barcode reader, you need to install the Barcode Integrated Utility.

#### Installing the Barcode Integrated Utility



- 2. Touch [File Explorer], and open the "c:\util\bcr\_integrated" folder.
- Touch and hold [setup.exe] in the "bcr\_integrated" folder, and touch [Run as administrator].
   When the extension is not displayed, touch [View] in Explorer, and add the checkmark to [File name extensions].

Follow the on-screen instructions.

## **Setting the Language**

To enter correct character strings, set the language of the barcode reader according to the Default Input Local using the Barcode HID Language Setting. This setting is necessary only for the first time use.



- 2. Set the language of the barcode reader according to the Default Input Local.
  - "SUCCESS" on screen appears.
- 3. Touch [OK].



- If the barcode cannot be read following the above steps, change the language of the barcode reader according to the Input Locale of the application to be used. If none of them is applicable, set "English (United States)" both for the barcode reader and the application. Following are the languages that can be set for the barcode reader.
  - English (United States)
  - French (France)
  - German (Germany)
  - French (Canadian Legacy)
  - French (Canadian)
  - Spanish (Spain)
  - Italian (Italy)
  - Swedish (Sweden)
  - English (United Kingdom)
  - Japanese
  - Portuguese (Portugal)
  - Portuguese (Brazil)
  - Czech (QWERTY)
  - Czech (QWERTZ)
  - Slovakian (QWERTY)
  - Hungarian (101-key)
  - German (Switzerland)French (Switzerland)
  - French (Belgium)

- Danish
- Norwegian
- Hungarian
- Dutch (Netherlands)
- IBM/NCR Terminals

## Setting the USB Mode

Use in the [USB HID Keyboard] mode normally. If the barcode cannot be read with this mode, the application may be compatible with [USB HID POS]. In this case, change the mode according to the following steps.



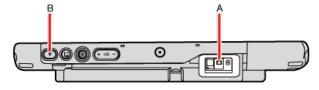
When using POS API: Touch and add a check mark for [USB HID POS], and then touch [OK].
 When not using POS API: Touch and add a check mark for [USB HID Keyboard], and then touch [OK].

# Reading the Barcode

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

[2D Barcode Key Emulator] enables:

- it makes sound when reading barcode is successful.
- it reads barcode with 2 bytes code.





- 2. Touch [Connection to Barcode (Always-On)].
- 3. Open the software for reading a barcode, and put the cursor on it.
- 4. Aim the Barcode Reader (A) at the barcode.
- 5. Press button (B).

  The Barcode Reader lights red to indicate the reading position.
- COM Port of Barcode Module is occupied during reading barcode by Barcode Key Emulator. When reading barcode by Barcode Key Emulator is not necessary, touch [Connection to Barcode (Always-On)] in [2D Barcode Key Emulator].

- When the barcode read operation is finished, please wait about three 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.
- <only when [Concealed Mode] is set [Disabled]>
   Set [A Button] to [Barcode Reader Trigger] in the [Tablet Button Configuration] of [Main] menu of the Setup Utility.

- <only when [Concealed Mode] is set [Enabled]>
   Set [Rotation Lock Button] to [Barcode Reader Trigger] in the [Tablet Button Configuration] of [Main] menu of the Setup Utility.
- If an error message appears and nothing is displayed, restart this utility.



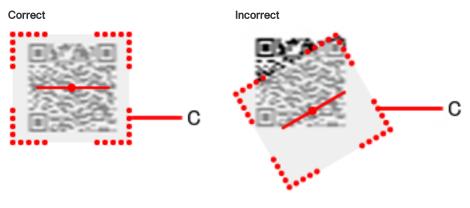
- To disable the automatic rotation of the screen when reading the barcode, press the Rotation Lock Button
- When the computer has resumed from sleep and hibernation, an error may appear and the connection with this utility may be lost. If this occurs, perform step 1.

# To Correctly Read a Barcode with This Computer, Observe the Following

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.



C. 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, EAN 128, Code 39, DataMatrix, Interleaved 2 of 5, PDF417, QR Code, RSS-14, RSS Limited, RSS Expanded, UPC-A, UPC-E, EAN-8, EAN-13

Following symbologies also can be used by specifying them with Barcode Configuration Utility.

Codablock A, Codablock F, Code 11, Code 128 French CIP, EAN 128 Irregular, ISBT, Code 93, EAN.UCC Composite CC-A/B, EAN.UCC Composite CC-C, EAN.UCC Composite Linear, ISBN, ISMN, ISSN, Matrix, Maxicode, MicroPDF417, MSI, Plessey, Standard 2 of 5, Telepen, UPC-E1, TLC 39, Australian Post, BPO, Dutch Post, Japan Post, Planet, Postnet, Canada Post, Infomail, Sweden Post

# **Using Software**

#### **Barcode Setting Utility**

Barcode Setting Utility applies the barcode configuration file (\*.INI file) to the Barcode Key Emulator or Barcode Reader module.

#### **Barcode Configuration Utility**

Using the Barcode Configuration Utility, you can create and perform the configuration files to set up the settings.

1. Sign in to Windows as an administrator.



If the "User Account Control" screen appears, touch [Yes].

If you want to reflect/create a barcode configuration file, touch [Barcode Configuration Utility].

3. Touch target model, and then touch [OK].

Usually choose [2D Barcode Reader Type B Series].

- 4. Make necessary setting.
  - If you want to set the type of symbology (type of barcode)
    - 1. Touch [Symbology Configuration] tab.
    - 2. To deploy the symbology you want to set.
    - 3. Select [Disable] or [Enable] in [ACTIVATE].
  - If you can set up a data editing function of barcode reader
    - 1. Touch [Data configuration] tab.
    - 2. Make necessary settings.

You can specify the setting contents using the edit boxes and pull-down lists for each setting item.

- Revert to the factory default state of the machine settings
  - 1. Touch [Set Baseline Settings] button on each tab.
  - 2. At the confirmation message, select [Yes].

## NOTE

In each setting tab, only items that need to be set, please put a check in the check box. If you do not want to change any settings, please do not put it in check.

#### <For Barcode Key Emulator (optional)>

■ [Barcode Software Tool] tab is added on the Barcode Configuration Utility for Barcode Key Emulator.

- 5. Create and reflect the barcode configuration file.
  - When creating a barcode configuration file
    - 1. Touch [File] [Save as].
    - 2. Save the barcode configuration file.
  - Barcode Configuration file (that created by the Barcode Configuration Utility) can be reflected in the barcode reader module by dragging and dropping to the Barcode Setting Utility (Direct application of the barcode configuration file)
  - When creating and reflecting the barcode configuration file

- 1. Touch [Tool] [Apply Configuration].
- 2. Save the barcode configuration file.

The setting of the barcode configuration file will be reflected.

- If you want to reflect the barcode configuration file you created
  - 1. Touch [File] [Open], open the barcode configuration file.
  - 2. Touch [Tool] [Apply Configuration].
- 6. Touch [File] [Exit].

At the confirmation message, select [Yes].

# Direct application of the barcode configuration file

- 1. Create the barcode configuration file (\*.INI file) using Barcode Configuration Utility.
- 2. Drag and drop the \*.INI file to the following application file.
  - C:\Program Files (x86)\Panasonic\BCR2D\_B\_Set\BCR2D\_B\_Set.exe
- 3. If the "User Account Control" screen appears, touch [Yes].

# **External Display**

#### <Only when connected to Cradle>

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

Before switching the computer on, connect the HDMI/VGA display to the HDMI/VGA port and the AC adaptor to the DC-IN jack on the Cradle. For further information of the connection with terminals, refer to "Cradle".

# Switching the display mode



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

2. Settings the "Multiple displays".

#### NOTE

- After switching the display mode, the display resolution may change.
- After resuming from sleep or hibernation, or restarting the computer, the output destination may not be the same as selected in the previous status.
- When you change the display after Windows starts up, do not press any button until switching is complete.
- 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. Touch (Settings) [System] [Display].
  - 2. Touch [Advanced display settings] under "Multiple displays".
  - Touch [Display adaptor properties for Display \*].
     \* is a display number.
  - 4. Touch [Monitor] [Properties].
  - 5. Touch [Driver] [Update Driver].
- 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.

## To Change the Display Settings

1. Touch on the task tray, and then touch (Intel® Graphics Settings) - [Intel® Graphics Settings].

Alternatively, touch and hold the desktop, and then touch [Intel® Graphics Settings] in the desktop mode.

- 2. Touch [Display].
- 3. Set the display color and resolution etc.
- 4. Touch [Apply].
- 5. Touch [Yes].

# NOTE

- It may not be possible to use the extended desktop with some software applications.
- When you touch 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.
- 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 screen. The pointer will move on the primary display when you touch the internal LCD.

#### To Change the Sound Output Destination

When an HDMI display is connected, you can specify sound to be output via the speakers of the personal computer or via the speakers of the HDMI display.

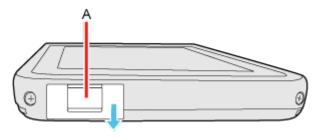
Make sure your HDMI display is equipped with speakers.

- 1. Open the Control Panel.
- 2. Touch [Hardware and Sound] [Sound].
- 3. Select the sound output destination.
- 4. If you have changed the sound output destination, touch [Set Default], and then touch [OK].

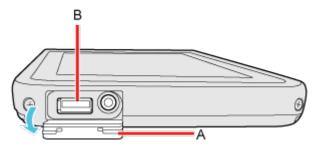
# Connecting/Removing USB Devices

#### To connect the USB device

1. Slide the cover (A).



2. Open the cover (A) and connect the USB device to the USB 3.0 port (B).



For further information, refer to the instruction manual of the USB device.

#### To remove the USB device

1. Disable the USB device.





- 1. Touch on the task tray at the bottom right corner of the screen and touch
- 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.

## <Only for model with Smart Card slot>

If you double-touch [USB Smart Card Reader] is displayed in the list, but do not select this item. Removing this item is not possible. Restart the computer in case you select this.

- 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.
- 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, 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 the sleep mode while an external keyboard or mouse is connected, touching the external keyboard keys or mouse may resume the computer.

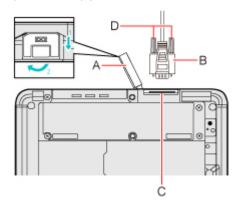
# **Serial Port**

Only for FZ-M1J-series models

<Only for model with serial port>

# **Connecting Serial device**

- 1. Connect the cable.
  - Open the cover (A), and connect the serial conversion cable (B) (included) to the serial port (C).



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

- When connecting a cable, be sure to secure it with screws (D).
- It does not support serial mouse.

# **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.

# 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

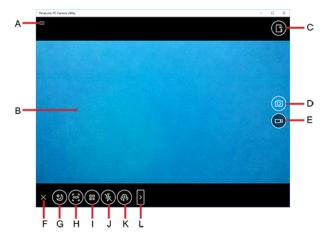
- If you use this utility and other multi-media software at the same time, an error may occur. Close all multi-media software including this utility and restart this utility.
- If an error message appears and nothing is displayed, restart this utility.
- When the computer has resumed from sleep and hibernation, 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



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 FZ-M1J-series models with rear camera>

# **Shooting Photos and Videos**

Touch focus / auto exposure adjustment	<ol> <li>Touch the subject in the preview screen.</li> <li>The focus is adjusted to the subject, and the exposure is adjusted automatically.</li> </ol>
Shoot photos	Touch     You cannot shoot photos when the save destination storage space is less than 10 MB.
Start/Stop shooting videos	1. Touch The camera switches to the video shooting mode.  2. Touch  During shooting, the icon is shown as  3. To stop shooting, touch  If the save destination storage space becomes less than 100 MB during video shooting, shooting will automatically stop.
	<ul> <li>Shooting will stop when you minimize the application window, or put the computer into the hibernation mode during video shooting.</li> </ul>
Turn the Night Mode ON  To make the dark viewing image brighter	1. Touch  .  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



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

<Only for model with rear camera>



Touch \_\_\_\_\_. The icon is shown as





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





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.

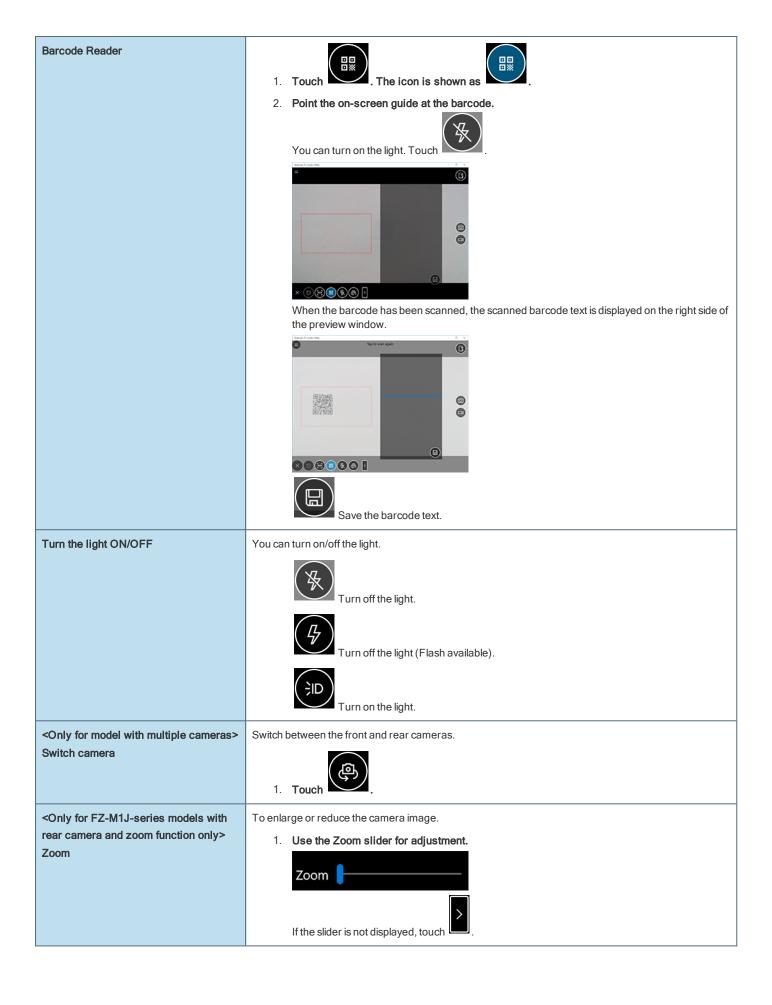


Save the OCR text.



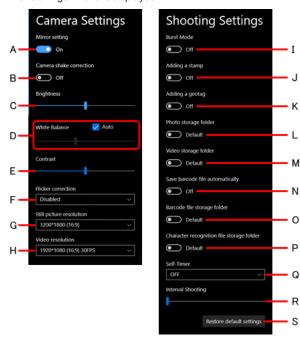
To stop scanning, touch

- 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. Touch (Settings) [Time & Language] [Region & language].
  - 2. Touch [Add a language] under "Languages".
  - 3. Select a language to install, and then touch [Next].
  - Change the "Install language features" if necessary, and then touch [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.





The "Settings" menu is displayed.



#### A. Mirror setting

<Only for front camera>

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

#### B. Camera shake correction

<Only for front camera>

Enable the image stabilizer when shooting photos.

#### C. Brightness

Change the brightness of camera images.

#### D. White Balance

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

#### E. Contrast

Change the contrast of camera images.

#### F. Flicker correction

Set the flickering correction of camera images.

#### G. Still picture resolution

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

#### H. Video resolution

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

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

#### I. Burst Mode

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

You cannot shoot continuously when using the Night Mode.

#### J. Adding a stamp

Add geolocation and time stamps to still images.

#### K. Adding a geotag

Add geotagging to the Exif data of still images.

#### L. Photo storage folder

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

#### M. Video storage folder

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

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

#### N. Save barcode file automatically

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

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

#### P. Character recognition file storage folder <Only for model with rear camera>

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 "Settings" menu, touch



on the upper left of the screen, or touch 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.



(Settings) - [System] - [Storage], and then touch [Change where new content is saved] under "More storage settings".

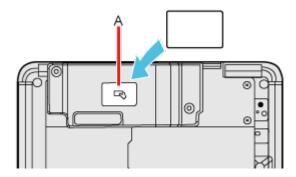
# Contactless Smart Card Reader/RFID Reader

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

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

# NOTE

■ This sensor is typically used with specialized applications. For further information, ask the system administrator.



1. Align the RFID tags / Smart Card with the mark (A) and wave the RFID tags / Smart Card.

A Smart Card can be read from its front or reverse side. Try moving its position if it cannot be read.

• Continue operation by using the specialized applications.

# NOTE

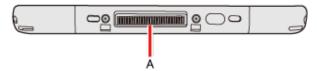
■ Operation distance depends on RFID tag / Smart Card.

## Cradle

You can use an optional cradle. 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 cradle to the expansion bus connector (A) on the bottom side of the computer.

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



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

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

- Names and Functions of Parts
- **▶**Connecting/Disconnecting the Computer
- **▶** Battery Charging

#### NOTE

■ This manual is shared between FZ-VEBM11 series and FZ-VEBM12 series. Illustrations of FZ-VEBM12 series are used. For parts provided only for a specific model, the model number is shown.

# Names and Functions of Parts

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

# <Rear> A B C D E F

- A. USB 3.0 ports (2 ports)
- B. LAN Port
- C. HDMI Port <Only for FZ-VEBM12 series>

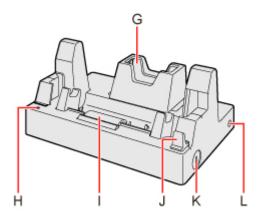
Connector for HDMI compatible digital display.

- It is not compatible with the analog display.
- The display specifications of the maximum resolution, etc. that can be output differ according to the specifications of the device connected.
- D. VGA Port <Only for FZ-VEBM12 series>
- E. Serial Port < Only for FZ-VEBM12 series>
  - It does not support serial mouse.
- F. Security Slot (Rear)

A Kensington cable can be connected.

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

<Front>



- G. Battery charging slot <Only for FZ-VEBM12 series> Insert the battery packs to charge.
  - Charging is possible while the battery packs are attached to the computer.
  - If the battery charging slot gets dust, wipe the dented parts off with such as dry cloth.
- H. Charging status indicator <Only for FZ-VEBM12 series>
- I. Expansion Bus Connector

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

I Lavar

Use this lever when disconnecting the cradle from the computer.

K. Security Slot (Side)

A Kensington cable can be connected.

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

- For more information, read the manual that comes with the cable.
- L. DC-IN Jack

# Connecting/Disconnecting the Computer

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

## Connecting

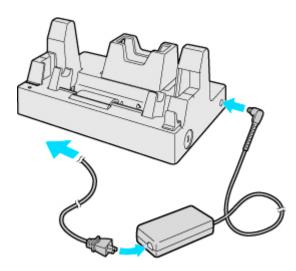
1. Turn off the computer.

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

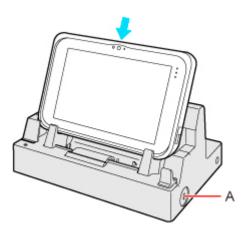
2. Connect the AC adaptor to DC-IN jack of the Cradle.

Connect the AC cord to the AC adaptor (included or optional), and connect to an AC outlet.

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



- 3. Insert the computer from above the cradle and push the upper center of the computer all the way in.
  - Do not attempt to make connections if there is any object between the computer and the Cradle. Doing so could damage the computer and the Cradle.



- 4. When locking the lever for disconnection, connect the cable for security to the security slot (A) on the side.
- Do not attempt to move the Cradle while connecting the computer to the Cradle.
- When connecting USB devices, headset or headphones to the computer connected to the cradle, make sure that the computer does not come off the cradle.
- If the computer malfunctions while the Cradle is attached, disconnect the Cradle and check to see if the computer operates normally. If the computer operates normally, the Cradle may be malfunctioning. Contact Panasonic Technical Support.

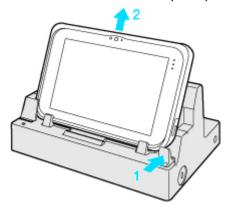
## NOTE

- <Only for FZ-VEBM12U series>
  When connecting external displays to both HDMI port and VGA port, the screen will not appear on the external display connected to the VGA port.
- If the image of the external display connected to the cradle has stopped, remove the computer from the cradle, and then reconnect it.
- Does not guarantee operation of all HDMI-compatible peripherals.

## Disconnecting

- 1. Turn off the computer.
  - If the cable has been connected to the security slot on the side, remove the cable.

2. Push the lever in and lift the computer up.



# NOTE

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

# **Battery Charging**

The battery can be charged using the cradle.

<Only for FZ-VEBM12 series>

Using the battery charging slot can also charge the battery removed from the computer.

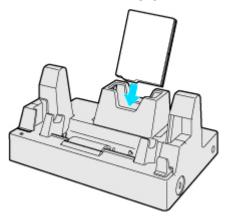
## Charging the battery pack attached to the computer.

When you attach the computer with the AC adaptor attached to the Cradle ( Connecting/Disconnecting the Computer), the battery attached to the computer is automatically charged.

## Charging the battery pack attached to the Cradle.

#### <Only for FZ-VEBM12 series>

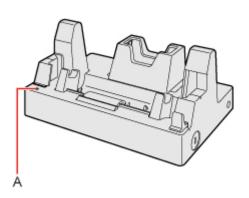
- 1. Connect the AC adaptor to the Cradle.
- 2. Remove the battery pack from the computer. ( Replacing the Battery Pack)
- 3. With the connector side of the battery pack facing down, insert it into the battery charging slot and push it firmly.
  - Check that the charging status indicator illuminates in orange (below).



# Charging status indicator's operation

#### <Only for FZ-VEBM12 series>

Soon after the battery is inserted, the charging status indicator (A) illuminates in orange for a few seconds. Then, the current status is shown.



Charging status 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> <li>Its internal temperature is out of the acceptable range.</li> <li>The power supply is not enough because software applications or peripheral devices are consuming a</li> </ul>
	large amount of power.

- If you set [Battery Charging Indicator] to [Flashing] on the [Main] Menu of Setup Utility, the charging status indicator of the cradle does not flash.
- Connect or disconnect the cradle while the computer power is turned off.
- To boot the computer from a USB optical drive, be sure to connect the USB drive to the USB port on the computer, not to the USB port on the cradle.

# **Hand Strap**

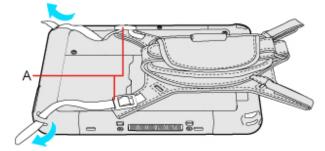
Model No.: FZ-VSTM11U/FZ-VSTM12U/FZ-VSTM11AU/FZ-VSTM12AU

Attaching the hand strap helps you stably hold the computer.

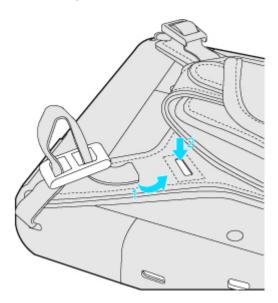
The following descriptions are for FZ-VSTM12U/FZ-VSTM12AU with a rotating handle and FZ-VST11U/FZ-VSTM11AU with a fixed handle. Illustrations of FZ-VSTM12U are used.

## Installing the hand strap

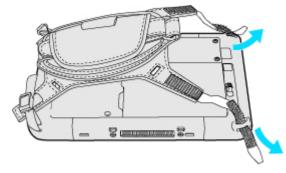
- Place the computer on a soft cloth with the panel side down. In addition, make sure that there is no item under the computer.
- 1. Pass the belt which has an adjuster (A) through the strap hole located on the left side of the back of the computer.



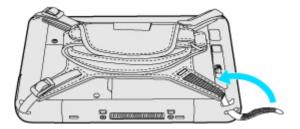
- 2. Pass the belt through the adjuster and securely tighten it so it does not loosen.
  - Only for FZ-VSTM12U/FZ-VSTM12AU> Insert the tip of belt into the cut hole of the hand strap.



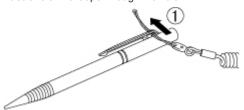
3. Pass the belt which has the Velcro straps through the strap hole located on the right side of the back of the computer.



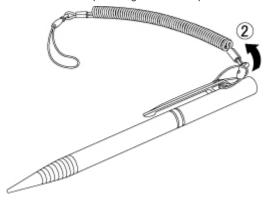
- 4. Securely attach the bonded part of the belt so it does not loosen.
  - Only for FZ-VSTM12U/FZ-VSTM12AU> Insert the tip of belt into the cut hole of the hand strap.



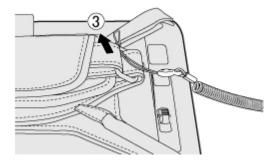
- $5. \quad \hbox{<Only for model with the tether> Attaching the tether to the hand strap.}$ 
  - 1. Pass one of the loops through the hole.



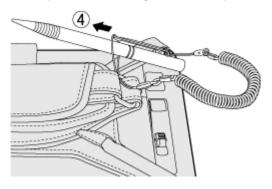
 $2. \quad \hbox{Pass one of the loops through another loop}.$ 



3. Pass the loop through the ring of the hand strap.

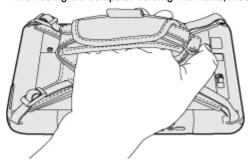


 $4. \quad \text{Pass the pen and tether through the second loop}.$ 

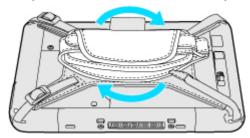


# Using the hand strap

1. When using the computer holding with hand, insert your hand to the hand strap.



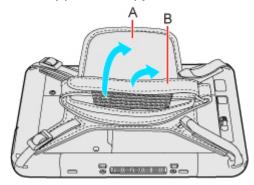
- 2. Fix the hand strap firmly so that the computer does not come off, and then turn it over.
- 3. <Only for FZ-VSTM12U/FZ-VSTM12AU> Adjust the angle of the hand strap if it is necessary.



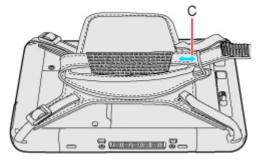
If the hand is not securely fixed to the hand strap, the computer may drop.

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

1. Remove (A) from the strap joint and next remove (B).



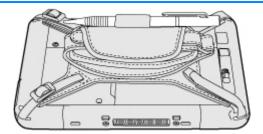
2. Move (B) and adjust the position (C).



- 3. Attach (B), then (A) to the joint.
  - Attach the hand strap firmly so that the strap does not come off.

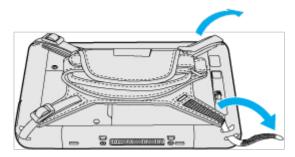
# NOTE

■ The dedicated pen (optional) can be stored in the hand strap as below.



# When Inserting/Removing the Battery Pack

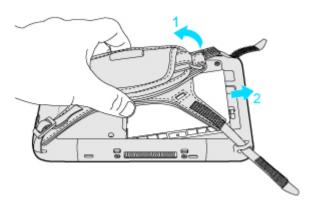
- Place the computer on a soft cloth with the panel side down. In addition, make sure that there is no item under the computer.
- 1. Remove the Velcro straps part of the hand strap.



2. Raise the right side of the hand strap.

With the right side of the hand strap lifted up, insert/remove the battery pack.

• For information about remove the battery pack, refer to "Replacing the Battery Pack".



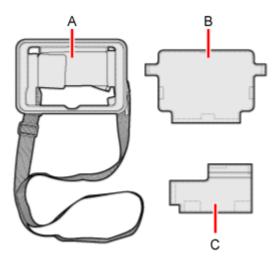
# NOTE

■ If it is difficult to replace the battery pack, take the right side of the hand strap off the computer body and turn up the hand strap.

# **Shoulder Case**

Model No.: FZ-VNSM12U

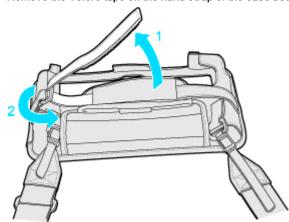
# Accessories



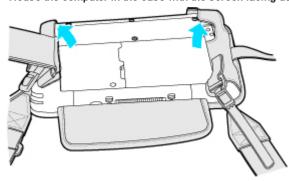
- A. Case body
- B. Front cover
- C. Rear cover

# Installing the shoulder case

1. Remove the Velcro tape on the hand strap of the case body, and then pull out the belt.

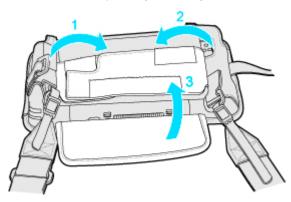


2. House the computer in the case with the screen facing downward.



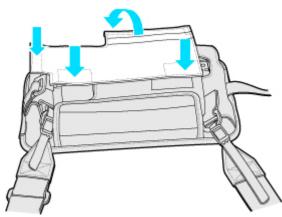
Make sure that there is no item under the computer.

- 3. Attach the Velcro tapes on the rear side of the computer.
  - Attach the tapes firmly so that they do not come off.

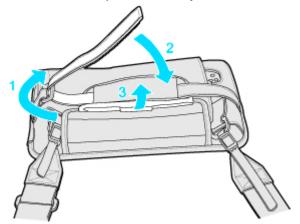


# NOTE

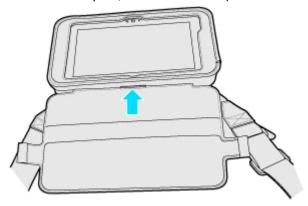
- If a high-capacity battery pack is mounted, adjust the Velcro tape position.
- 4. Attach the rear cover to the case body using the Velcro tapes.
  - Attach the tapes firmly so that they do not come off.



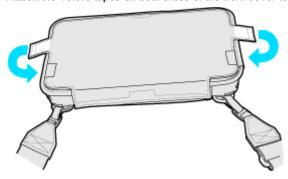
- If optional items are attached on the rear surface, adjust the Velcro tape position or do not attach the rear cover when using.
- 5. Attach the hand strap of the case body.



6. Reverse the computer, and attach the lower part of the front cover to the case body using the Velcro tape.

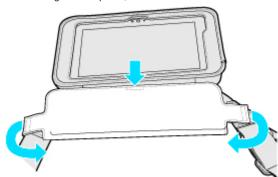


7. Attach the Velcro tapes on both sides of the front cover to the case body cover.

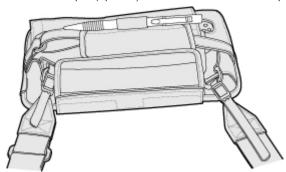


# NOTE

• When using the computer, remove the front cover or fold as shown below.



■ The dedicated pen (optional) can be stored in the hand strap as below.

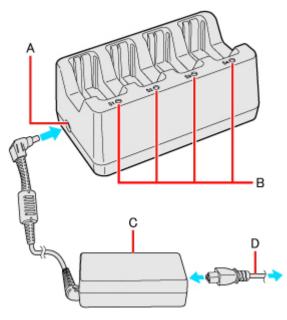


### **Battery Charger**

Model No.: FZ-VCBM11U

The battery charger is designed for charging the battery pack (Model No.: FZ-VZSU94W/FZ-VZSU95W/FZ-VZSU0HW/FZ-VZSU0JW) for the Panasonic computer series. To recharge a battery pack, you will need the AC adaptor and AC cord included with the computer. Read both this Operating Instructions and the computer's Operating Instructions before using.

### Connection



- A. DC-IN Jack
- B. Battery Indicator (1 to 4)
- C. AC adaptor (Model No.: CF-AA6503A)
- D. AC cord

■ The AC cord may vary depending on the country.

### Indicators

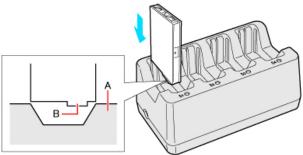
The power indicator on the battery charger lights green when the power is being supplied (when the adaptor is connected).

Battery Indicator	Battery status		
Not lit	The battery pack is not inserted or not being charged.		
Orange	Charging is in progress.		
Green	The battery is fully-charged.		
Blinking red	The battery pack or the charging circuit is not operating properly.		
Blinking orange	The battery cannot be charged temporarily due to the following reasons:  Its internal temperature is out of the acceptable range.		

### Charging the battery pack

- 1. Connect the AC Adaptor.
- 2. Insert the battery pack(s).





- The battery indicator lights when the battery pack is properly inserted with the AC adaptor connected.
- Four battery packs can be inserted simultaneously. Each of them can be inserted in any slot.
- When removing the battery pack, pull it out in the opposite direction of attaching the battery pack.
- Charging begins automatically.
- 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

Cannot start up. The power indicator or battery status is not lit.	<ul> <li>Connect the AC adaptor.</li> <li>Insert a fully charged battery.</li> <li>Remove the battery pack and the AC adaptor, and then connect them again.</li> <li>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 three minutes or more, and reconnect the AC cord.</li> <li>If a device is connected to the USB port, disconnect the device, or set [USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.</li> <li>Press</li> </ul>			
The power is turned on but "Warming up the system" appears	The computer is warming up before start up. Wait for the computer to start up (the maximum waiting time will be displayed on the screen). If, "Cannot warm up the system" is displayed, the computer failed to warm up and does not start. In this case, turn off the computer, leave it in an environment of 5 °C {41 °F} or higher temperature for about an hour, and then turn on the power again.			
Cannot turn on the computer. The computer does not resume from sleep. (The battery indicator blinks green and orange alternately.) (The power indicator blinks rapidly in green.)	Leave it in an environment of 5 °C {41 °F} or higher temperature for about an hour, then turn on the power again.			
"Remove disks or other media. Press any key to restart" or a similar message appears.	<ul> <li>If a device is connected to the USB port, disconnect the device, or set [USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.</li> <li>If the problem persists after disconnect the device, it may be a flash memory failure. Contact Panasonic Technical Support.</li> </ul>			
Windows startup and operation is slow.	<ul> <li>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.)     </li> <li>If you installed a resident software after purchase, turn off the residence.</li> </ul>			
It takes time for the power indicator to light up.	If the power switch is pressed immediately after the battery pack has been mounted on the computer, and while the AC adaptor is not connected, it may take about five 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.			

The date and time are incorrect.	Make the correct settings.			
The date and time are incorrect.	1. Touch (Settings) - [Time & Language] - [Date & time], and check [Off] in "Set time automatically".			
	Touch [Change], and then set the day and time.			
	<ul> <li>If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.</li> </ul>			
	<ul> <li><only for="" lan="" model="" with=""></only></li> <li>When the computer is connected to LAN, check the date and time of the server.</li> </ul>			
	<ul> <li>The 2100 A.D. or later year will not be correctly recognized on this computer.</li> </ul>			
Battery indicator blinking green.	In order to stop the battery from deteriorating, power supply from AC adaptor has been shut off, and the battery power is being consumed. Do not remove the battery pack in this status.			
"Executing Battery Recalibration" screen appears.	The Battery Recalibration was cancelled before Windows was shut down last time. To start up Windows, turn off the computer by the power switch , and then turn on.			
Other startup problems.	<ul> <li>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.</li> </ul>			
	Remove all peripheral devices.			
	Check to see if there was a disk error.			
	Remove all peripheral devices including an external display.			
	2. Touch (All apps) - [Windows System] - [This PC].			
	Touch and hold [Windows (C:)], and touch [Properties].			
	4. Touch [Tools] - [Check].			
	A standard user needs to enter an administrator password.			
	5. Follow the on-screen instructions.			

### **Entering Password**

Even after entering the password, password input screen is displayed again.	<ul> <li><only connected="" external="" if="" is="" keyboard="" the=""></only></li> <li>The computer may be in ten-key mode.         When Num Lock is on, press ≪ Num Lock ≫ to disable the ten-key mode, and then input.</li> <li>The computer may be in Caps Lock mode.         When Caps Lock is on, press ≪ Caps Lock ≫ to disable the Caps Lock mode, and then input.</li> <li>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</li> </ul>	
Forgot the password.	may differ.  Supervisor Password or User Password: Contact Panasonic Technical Support.  Administrator password:	
	<ul> <li>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.</li> <li>If you do not have a password reset disk, reinstall ( Installing Software) and set up Windows, and then set a new password.</li> </ul>	

### Shut Down

Cannot turn off the computer.	Remove all peripherals.	
	It may take 1 or 2 minutes to turn off the computer.	

### Sleep / Hibernation / Resume

Cannot enter sleep or hibernation.	Remove USB devices temporarily. If the problem persists, restart the computer.      It may take 1 or 2 minutes to enter sleep or hibernation.		
	<ul> <li>It may take 1 or 2 minutes to enter sleep or hibernation.</li> </ul>		
	<ul> <li>The computer does not enter sleep or hibernation immediately after resuming. Wait approx- imately 1 minute.</li> </ul>		
Cannot enter sleep or hibernation auto-	Disconnect peripheral devices.		
matically.	If you connect to a network using wireless LAN function, select the profile and connect to the		
	access point ( Disabling/Enabling Wireless Communication).		
	<ul> <li>If you do not use wireless LAN function, turn off wireless LAN function ( Disabling/Enabling Wireless Communication).</li> </ul>		
	Make sure that you are not using any software that regularly accesses the flash memory.		
The computer does not resume.	If you press and hold the power switch     for 4 seconds or longer, the power will be turned off forcibly and the computer will not resume. In this case, all unsaved data will be lost.		
	<ul> <li>You disconnected the AC adaptor and the battery pack while the computer was in sleep. If the computer's power supply is disconnected in sleep, unsaved data will be lost and the computer will not resume.</li> </ul>		
	The battery is exhausted. Sleep and hibernation consumes some power.		
	<ul> <li>An error may occur when the computer automatically enters the sleep or hibernation mode while the screensaver is active. In this case, turn off the screensaver or change the pattern of the screensaver.</li> </ul>		
[Enter Password] does not appear when resuming from sleep/hibernation.	Select [Enabled] in [Password On Resume] in the [Security] menu of the Setup Utility (     Setup Utility).		
	The Windows password can be used instead of the password set in the Setup Utility.		
	Add a password, and set up the following.		
	1. Touch (Settings) - [Accounts].		
	Touch [Sign-in options], and touch [Add] under "Password".		
	3. Create a password.		
	4. Touch .[Next].		
	5. Select [When PC wakes up from sleep] under "Require sign-in".		

### Display

<ul> <li>The display is turned off by the power-saving function.</li> <li>Touch the screen.</li> </ul>			
The computer entered sleep or hibernation by the power-saving function. To resume, press the power switch  power switch			
When using an external display,			
Check the cable connection.			
<ul> <li>Turn on the display.</li> </ul>			
<ul> <li>Check the settings of external display.</li> </ul>			

The screen is dark.	<ul> <li>The screen is darker when the AC adaptor is not connected. Touch or on the task tray, and then touch to adjust the brightness.         As you increase the brightness, battery consumption increases.</li> <li>Press to turn off the concealed mode.</li> <li>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. (Automatic brightness adjustment)</li> </ul>
Takes time to display "Power Options" screen.	<ul> <li>With the following steps, confirm whether [Copy of Panasonic Power Management] created when the Power Saving Utility is made has become 100 and more or not.</li> <li>Touch and hold on the task tray and touch [Power Options].</li> <li>Touch [Show additional plans].</li> <li>When more than one [Copy of Panasonic Power Management] is displayed, touch [Change plan settings] in the power plan to be deleted and touch [Delete this plan] to delete.</li> </ul>
The screen does not become bright.	<ul> <li>The brightness is set low to avoid malfunction where surrounding temperature is high. For proper operating temperature ( Specifications)</li> </ul>
There are red, green, or blue dots on the screen, or there is unevenness in colors and brightness on the screen.	<ul> <li>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).</li> <li>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.</li> </ul>
The screen is disordered.	<ul> <li>Changing the number of display colors and resolution may affect the screen. Restart the computer.</li> <li>Connecting/disconnecting an external display may affect the screen. Restart the computer.</li> <li>Resuming from sleep or hibernation may affect the screen of the external display. Restart the computer.</li> </ul>
During Simultaneous display, one of the screens becomes disordered.	<ul> <li>When using the Extended Desktop, use the same display colors for the external display as those used by the LCD.</li> <li>If you continue to experience problems, try changing the display.</li> </ul>
The external display does not work normally.	<ul> <li>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.</li> <li>Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.).</li> </ul>

### Sound

No sound.	● Press to cancel mute.  • Turn off the concealed mode. ( Concealed Mode)  • Restart the computer.  • Beeping sounds are not emitted by this device.
Distorted sound.	Stop and restart playback.
Cannot record with microphone	Use a monaural condenser microphone.
Cannot change the volume by pressing	<ul> <li>Activate the Windows sound function. When it is not active, the volume does not change even if slide bar is displayed.</li> </ul>

The microphone volume is small.	• Increase the volume of the microphone according to the following steps.:		
	1. Touch (All apps) - [Windows System] - [Control Panel].		
	<ol> <li>Touch [Hardware and Sound] - [Sound] - [Recording] - [Microphone Array] - [Properties], and then increase the volume of [Microphone Array] and/or [Microphone Boost] in [Levels].</li> </ol>		
When signing in (e.g., resuming the com-	Perform the following steps to change the audio settings to prevent audio output.		
puter), audio is distorted.	1. Touch and hold (Speaker) on the task tray, and touch [Sounds].		
	Remove the check mark from [Play Windows Startup sound].		
The feedback noise may occur.	To stop microphone's monitoring output.		
	1. Touch (All apps) - [Windows System] - [Control Panel].		
	Touch [Hardware and Sound] - [Sound] - [Recording] - [Microphone Array] - [Properties], and then remove a check mark for [Listen to this device] in [Listen].		

### Input Characters

Cannot enter special characters (ß, à, ç,	Use the character map.
etc.) and symbols.	Touch  (All apps) - [Windows Accessories] - [Character Map].
	2. Input "Character".

### Network

<only for="" lan="" model="" with=""> Cannot connect to a network.</only>	Set the device [Extension Port] to [Enabled] in the [Advanced] menu of the Setup Utility.			
<only cradle="" lan="" the="" using="" when="" with=""> Cannot connect to a network.</only>	Set [Cradle USB Port] to [Enabled] in the [Advanced] menu of the Setup Utility.			
Cannot check the computer's MAC address.	1. 2.	Touch [Network & Internet] - [Status] - Properties of each device appears. Write down the 12-digit address (alpha (MAC):" rows of each devices. The names of each of the devices are a	numeric) that appears for "Physical address	
		Device	Connection name	
		Wireless WAN	Cellular	
		<only for="" lan="" model="" with=""> Wired LAN</only>	Ethernet	
		·	Ethernet Wi-Fi	
		Wired LAN	Wi-Fi Bluetooth Network Connection	

Cannot connect to a network.	Set the device ([Wireless LAN] / [Bluetooth] / [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, follow the steps below.
	*1  1. Touch (Settings) - [Network & Internet] - [Airplane mode] .
	2. Set "Airplane mode"*1 to [Off], and then;
	set "Cellular" to [On] (for wireless WAN).
	cot with to [oii] (for wholese Edity).
	set "Bluetooth" to [On] (for Bluetooth).
	set "GPS" to [On] (for GPS on wireless WAN).
	<ul><li>set "GPS/GNSS" to [On] (for dedicated GPS).</li></ul>
	<ul> <li>If this computer cannot be connected to an IEEE802.11a network, confirm "Enabling/Disabling the Wireless LAN Standard IEEE802.11a (802.11a)".</li> </ul>
	Restart the computer.
Access point is not detected.	Shorten the distance between the computer and the access point, and try the detection again.
	Confirm the following settings:
	<ul><li>[Wireless LAN] in the [Advanced] menu of the Setup Utility</li></ul>
	<ul> <li>Confirm that [Wireless LAN] of [Wireless Configuration] is set to [Enabled].</li> </ul>
	<ul> <li>Airplane mode*1</li> </ul>
	<ul><li>Confirm that Wireless LAN (Wi-Fi) is [On].</li></ul>
	<ul> <li>This computer uses channels 1 through 13*2 when using IEEE802.11b/g/n. Check the channel being used by the access point.</li> </ul>
<only for="" model="" wan="" wireless="" with=""></only>	Confirm the following settings:
Cannot communicate.	[Wireless WAN] in the [Advanced] menu of the Setup Utility
	<ul> <li>Confirm that [Wireless WAN] of [Wireless Configuration] is set to [Enabled].</li> </ul>
	<ul> <li>Airplane mode*1</li> </ul>
	<ul><li>Confirm that Wireless WAN (Cellular) is [On].</li></ul>
	Confirm that the SIM card is inserted correctly.
	If communication is not established after proceeding with the above remedies, the wireless WAN device
	may not be correctly recognized. Restart the computer.

<sup>\*1:</sup> 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.)

### **Display Rotation**

Cannot rotate the display.	<ul> <li>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.</li> <li>When the automatic rotation is off, screen display does not rotate automatically.</li> </ul>
The operations of screen do not match the rotation angle.	<ul> <li>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.</li> <li>Change a screen setup to landscape.</li> </ul>

<sup>\*2:</sup> In the case of wireless communications, the frequency band being used can be divided into segments, so that different communications can be conducted on each band segment. A "Channel" refers to the individual frequency bandwidth divisions.

An error occurs while installing the driver.	<ul> <li>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.</li> </ul>
A peripheral device does not work.	<ul> <li>Install the driver.</li> <li>Contact the manufacturer of the device.</li> <li>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.</li> <li>When or is displayed in the Device Manager, remove and insert the device. If the problem persists, restart the computer.</li> <li>When you set [USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility, USB ports of cradle are also disabled.</li> <li>The settings of USB ports can be changed separately for the computer and the cradle (optional). In the [Advanced] menu of the Setup Utility, check both [USB Port] and [Cradle USB Port] settings.</li> <li>The computer may not recognize the connection/removal of some devices, or may not operate normally with some devices.</li> <li>Touch and hold (Start) at the bottom left corner, and then touch [Device Man-</li> </ul>
The connected mouse does not work.	ager].  2. Select the device, and remove the check mark for [Allow the computer to turn off this device to save power] in [Power Management]. (This item may be unavailable for some types of devices.)  In the case that a USB device does not work, remove the USB device and connect it again.  Check the mouse connection.
You do not know the address map for IRQ, I/O port address, etc.	<ul> <li>Install the driver compatible with the connected mouse.</li> <li>You can check with the following procedure.</li> <li>1. Touch and hold ager].</li> <li>2. Touch [View] - [Resources by type].</li> </ul>
<only for="" model="" port="" serial="" with=""> The device connected to the serial port does not work.</only>	<ul> <li>Check the connection.</li> <li>The device driver may not work. Refer to the instruction manual of the device.</li> <li>Set [Serial Port] to [Auto] in the sub-menu of [Serial Port Settings] in the [Advanced] menu of the Setup Utility.</li> </ul>
<only dedicated="" for="" gps="" model="" on="" wan="" wireless="" with=""> GPS does not work.</only>	<ul> <li>You can check the GPS status. ( GPS)</li> <li>Set airplane mode to OFF.</li> <li>Check the airplane mode setting.</li> <li>If a USB 3.0 compatible device is used, GPS information may not be correctly received. In this case, do any of the following.</li> <li><only 2.0="" for="" model="" port="" usb="" with=""></only></li> <li>Connect the USB device to the USB 2.0 port.</li> <li>Use an extension cable (separately sold) compatible with USB 2.0.</li> <li>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.</li> </ul>

### **Screen Operation**

Cannot operate the touchscreen.	If the screen is wet with water drops, wipe them off.	
	<ul> <li>When using this computer in the state where the screen is wet, wipe water drops. Then turn the computer on, set touch panel mode to [Touch (Water)] in <u>"Touch Screen Mode"</u>.</li> </ul>	
	Before the computer turn on, wipe water drops.	
The pointer does not work.	If the computer does not respond to keyboard commands, read "No response."	
Cannot point the correct position using fin-	Perform the Calibrating the Screen.	
gers or the dedicated pen (optional).	<ul> <li>When using a pen, please use the dedicated pen (optional).</li> </ul>	
	<ul> <li>You may not be able to point to the correct position on the Windows sign in screen when using the pen (optional).</li> <li>In such cases, use your fingers to sign in.</li> </ul>	

### microSD Memory Card

Cannot use a microSD Memory Card.	Set [microSD Card Slot] to [Enabled] in the [Advanced] menu of the Setup Utility.	
	<ul> <li>This computer does not support the maximum speed some types of microSD/- microSDHC/microSDXC Memory Cards guarantee.</li> </ul>	

### Smart Card (only for model with Smart Card slot)

Cannot use a Smart Card.	<ul> <li>Insert the Smart Card correctly.</li> </ul>	
	Set [Extension Port] to [Enabled] in the [Advanced] menu of the Setup Utility.	
	To use a Smart Card, you need a specified software and driver.	
Barcode Reader (only for model w	ith Barcode Reader)	

Reading is not possible.	<ul> <li>Confirm that the barcode is readable (without damage, etc.). Confirm that the barcode (symbology) is readable. If the barcode is Codablock A or ISBN, for example, configure the code so that it is readable using the Barcode Configuration Utility.</li> </ul>
	<ul> <li>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.</li> </ul>
	<ul> <li>Be sure the barcode is not placed closer than necessary to the reader.</li> </ul>
	<ul> <li><only [concealed="" [disabled]="" is="" mode]="" set="" when=""></only></li> <li>Set [A Button] to [Barcode Reader Trigger] in the [Tablet Button Configuration] of [Main] menu of the Setup Utility.</li> </ul>
	<ul> <li><only [concealed="" [enabled]="" is="" mode]="" set="" when=""></only></li> <li>Set [Rotation Lock Button] to [Barcode Reader Trigger] in the [Tablet Button Configuration] of [Main] menu of the Setup Utility.</li> </ul>
	Set [Extension Port] to [Enabled] in the [Advanced] menu of the Setup Utility.

### User Switching

Some applications do not work properly.	<ul> <li>When switching to a different user without signing out, some applications do not work properly.</li> <li>In this case, sign out the other users.</li> </ul>

### Others

Although the computer is turned on, the following problems occur.  The indicators do not light. No sound. Screen is dark.	The concealed mode is enabled (
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No response.	Open Task Manager and close the software application.	
	Touch and hold     (Start) at the bottom left corner, and then touch [Task Manager].	
	<ul> <li>An input screen (e.g., password input screen at startup) may be hidden behind another window. Touch the button on the task bar to check.</li> </ul>	
	Shut down by pressing and holding the power switch on the computer and open the application again.  for 4 seconds or longer, and turn	
	<ul> <li>If Windows runs correctly, but the application software does not start, uninstall the failing application software, then reinstall it.</li> <li>To uninstall, perform the procedure below.</li> </ul>	
	1. Touch (Settings) - [Apps] - [Apps & features].	
	Select the program you want to uninstall, and touch [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.	
"Battery not exist" is displayed.	Battery goes to sleep if the battery 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 touch [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**



(Panasonic PC Settings Utility)



(Support)



(System) - [Launch PC Information Viewer].

2. Select the item to display the detailed information.

#### To save the information as a text file

- 1. Display the information you wish to save.
- 2. Touch [Save].
  - To save the item that is displayed

Touch [Save only the information displayed] and touch [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

Touch [Save all the information] and touch [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],

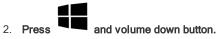
the records already recorded are also saved.

3. Select the folder to save the information, input the file name, and then touch [Save].

### To save 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.



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.

### NOTE

Alternatively, you can operate with an external keyboard.

### Hardware that can be checked using the PC-Diagnostic Utility

- CPU/System
- RAM XXXX MB
- Storage XXX GB
- <Only for FZ-M1J-series models>

Sound\*1

- USB
- SD (Only for model with microSD Card Slot)
- Touch Screen
- Wireless LAN (Only for model with wireless LAN)
- Video
- <Only for FZ-M1J-series models>
   Serial Port (Only for model with serial port)
- <Only for FZ-M1G-series models>
   Wireless WAN (Only for model with wireless WAN)
- Bluetooth (Only for model with Bluetooth)
- GPS (Only for model with dedicated GPS)

#### NOTE

■ When the video diagnostic check is running, the display may be distorted. This is not malfunction.

### Regarding the PC-Diagnostic Utility

Operations	Touch screen / External mouse oper- ations	External keyboard operations
Select icon	Place the cursor above the icon	$Press  \ll  \to  \gg  \ll  \leftarrow  \gg  \ll  \uparrow  \gg  \ll  \downarrow  \gg  ($ (close) cannot
		be selected)
Touch 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	Touch or click (close)	Press ≪ Ctrl≫ + ≪ Alt≫ + ≪ Del≫

<sup>\*1:</sup> When the PC-Diagnostic Utility 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 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.
  - Touch (Settings) [Update & Security] [Recovery].
  - 2. Touch [Restart now] under "Advanced startup".\*2
  - Touch [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.
  - \*2 : Screen messages are explained in [English (United States)].

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

3. Touch [Exit] menu, then double-touch [Load Default Values].

At the confirmation message, touch [Yes].

4. Touch [Exit] menu, then double-touch [Save Values and Reboot].

At the confirmation message, touch [Yes].

The computer will restart.

- 5. Touch the top left corner of the screen several times to display Setup Utility.
- 6. Touch [Exit] menu, and then double-touch [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.
- Only when connected to the external keyboard>

The keyboard may not be used when each hardware checking is running. While checking, a vertical green progress bar (A) is displayed on the right side of the hardware icon.



- You can perform the following operations by touching 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 touching
  - Display help (Touch the screen 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 is complete.

### NOTE

Using the following procedure, you can run a diagnostic check on a specified hardware component, or run an extended diagnostic check on the memory or the flash memory (The extended diagnostic check is only for the memory and the flash

memory). The extended diagnostic check is more detailed, and so requires a longer period of time to run.

- 1. Touch to stop the diagnostic check, and touch the hardware icon to configure the diagnostic.
  - Standard display (B): Perform diagnostic check.



• "FULL" display (C): Perform extended diagnostic check. ("Storage" and "Touch Screen" only)



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



- 2. Touch to start the diagnostic check.
  - Display during diagnostic check (E): Diagnostic check is in progress.



7. When all the hardware has been checked, 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, touch



(close) to restart the computer.

### When the Icon Becomes Gray and the Corresponding Device Cannot Be Checked

The device is disabled in the Setup Utility:
 Set the device to [Enabled] in the Setup Utility.

### Reset your computer

If operations on the unit become unstable, we recommend refreshing Windows. This involves reinstalling the operating system while retaining personal files and settings (Personalization).

#### Preparation

- Remove all peripherals and microSD memory card, etc.
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Touch (Settings) [Update & Security] [Recovery].
- 2. Touch [Get started] under "Reset this PC".
- 3. Select the option.
  - 1. [Keep my files]

Windows reinstallation can be completed in a short time (Approximately 30 minutes). Applications and other items that do not come with this computer will be removed.

[Remove everything]

Select [Yes] or [No] under the "Keep this PC set up for your workplace".

- [Just remove my files] (Approximately 30 minutes)
- [Remove files and clean the drive]
   By fully cleaning, the deleted files cannot be recovered easily and the security level will be increased. The processing time will be longer (Approximately 50 minutes).
- 4. Follow the on-screen instructions.

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.
- 5. 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.
- 6. Perform Windows Update.
- 7. <Only for model with TPM> Clear TPM.
  - Touch and hold (Start) at the bottom left corner.
  - 2. Touch [Run], then input "tpm.msc" and touch [OK].
  - 3. Touch [Clear TPM] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
  - Touch [Restart] of the "Manage the TPM security hardware" screen.
     TPM is cleared, and the computer will restart.

### 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.

Do not delete the recovery partition on the SSD. If it has been deleted, the recovery disc could not be created.

To check the recovery partition, perform the following methods.



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.

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 microSD memory card etc.
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Start the Setup Utility.
  - Touch (Settings) [Update & Security] [Recovery].
  - 2. Touch [Restart now] under "Advanced startup".
  - 3. Touch [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility.
- 3. Touch [Exit] menu, and then double-touch [Load Default Values].

At the confirmation message, touch [Yes].

4. Touch [Exit] menu, and then double-touch [Save Values and Reboot].

At the confirmation message, touch [Yes].

Computer will restart.

5. Touch the top left corner of the screen several times while "Panasonic" boot screen is displayed.

The Setup Utility starts up.

- If the password is requested, enter the Supervisor Password.
- 6. Touch [Exit] menu, and then double-touch [Recovery Partition].

Computer will restart.

7. Touch [Recovery]

Touch [CANCEL] to abort the operation.

- 8. Confirm the contents of "EULA", and touch [Accept] if you continue.
- 9. Touch [Disk 0].
- 10. Touch [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.
- 11. When the Ending process screen is displayed, touch [Shutdown.] to turn off the computer.
- 12. Turn on the computer.
  - If the password is requested, enter the Supervisor Password.
- 13. Perform Setup Windows ( POPERATING INSTRUCTIONS Read Me First).
- 14. Start the Setup Utility and change the settings as necessary.
- 15. <Only for model with TPM> Clear TPM.
  - Touch and hold (Start) at the bottom left corner.
  - 2. Touch [Run], then input "tpm.msc" and touch [OK].
  - 3. Touch [Clear TPM] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
  - 4. Touch [Restart] of the "Manage the TPM security hardware" screen. TPM is cleared, and the computer will restart.

### **Using Recovery Disc**

Use the Recovery Disc in the following conditions.

- You have forgotten the administrator password.
- Installation is not complete. The recovery partition in the flash memory may be broken.

#### Preparation

- Prepare the following items:
  - Recovery Disc ( Create a Recovery Disc)
  - When using DVD media to create a recovery disc, prepare the commercially available optical drive.
- Remove all peripherals (excluding the device that was used to create the recovery disc).
- Connect the AC adaptor and do not remove it until installation is complete.
- 1. Start the Setup Utility.
  - 1. Touch (Settings) [Update & Security] [Recovery].
  - 2. Touch [Restart now] under "Advanced startup".
  - 3. Touch [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility.
- 3. Touch [Exit] menu, and then double-touch [Load Default Values].

At the confirmation message, touch [Yes].

- 4. Insert the media that was used to create the recovery disc.
  - For DVD media
    - 1. Connect the commercially available optical drive to the USB Port.
    - 2. Insert the recovery disc into the commercially available optical drive.
  - For USB storage devices
    - 1. Connect the USB storage device used to create the recovery disc to the USB port.
- 5. Touch [Exit] menu, and then double-touch [Save Values and Reboot].

At the confirmation message, touch [Yes]. Computer will restart.

6. Touch the top left corner of the screen several times while "Panasonic" boot screen is displayed.

The Setup Utility starts up.

- If the password is requested, enter the Supervisor Password.
- 7. Touch [Exit] menu, and then double-touch your commercially available optical drive or USB storage device in "Boot Override".

The computer will restart.

- 8. Touch [Recovery].
- 9. At the confirmation message, touch [Accept.].
- 10. Confirm the contents of "EULA", and touch [Accept] if you continue.
- 11. Touch [Disk 0].
- 12. Touch [Recovery ALL Partitions.].
- 13. Touch [Remain Recovery Partition.].

Follow the on-screen instructions.

14. When the Ending process screen is displayed, remove the Recovery Disc and commercially available optical drive and then touch [Reboot].

Follow the on-screen instructions.

- 15. On the "Finish Recovery Process." screen, touch [Shutdown.].
- 16. Turn on the computer.
- 17. Perform Setup Windows ( OPERATING INSTRUCTIONS Read Me First).
- 18. Start the Setup Utility and change the settings as necessary.
- 19. **<Only for model with TPM> Clear TPM.** 
  - Touch and hold (Start) at the bottom left corner.
  - 2. Touch [Run], then input "tpm.msc" and touch [OK].
  - 3. Touch [Clear TPM] under "Actions" on the right of the "Trusted Platform Module (TPM) Management on Local Computer" screen.
  - Touch [Restart] of the "Manage the TPM security hardware" screen.
     TPM is cleared, and the computer will restart.

## **Error Message**

Follow the instructions below when an error message appears. If the problem persists or if the error message is not shown here, contact Panasonic Technical Support.

Error Message	Solution
Bad System CMOS	An error has occurred in the memory of system settings. This occurs when the memory content is changed by an unexpected program operation, etc.
System CMOS Checksum Error	<ul> <li>Start the Setup Utility and return the settings to the default values, and then change the settings as necessary.</li> <li>If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.</li> </ul>
Invalid Year. System date restored to 01/01/20XX	The date and time settings are not correct.  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	Write down the error details and start the Setup Utility. Change the settings if necessary.
Warming up the system (up to 30 minutes)	The computer is warming up before start up. Wait for the computer to start up (takes up to 30 minutes). If, "Cannot warm up the system" is displayed, the computer failed to warm up and does not start. In this case, turn off the computer, leave it in an environment of 5 °C {41 °F} or higher temperature for about an hour, and then turn on the power once more.
Remove disks or other media. Press any key to restart	<ul> <li>If a device is connected to the USB port, disconnect the device, or set [USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility.</li> <li>If the problem persists after removing the disk, it may be a flash memory failure. Contact Panasonic Technical Support.</li> </ul>
Please use the recommended AC adaptor	Use the specified AC adaptor.

### **Network Connections and Communications Software**

Close the communications software before using the power saving function.

- If the power saving function (sleep or hibernation) is activated while communications software is used, the network connection may be interrupted, or the performance may be adversely affected. In this case, restart the computer.
- In a network environment, set [Never] for [Sleep after] and [Hibernate after] ( Setting Sleep or Hibernation).

### **About Fast startup**

The fast startup is enabled as the factory default.

If the computer shut down by the following steps, the fast startup will be disabled at next boot-up.

- 1. Touch (Settings) [Update & Security] [Recovery].
- Touch [Restart now] under "Advanced startup" 1.
- 3. Touch [Turn off your PC].
- \*1: Screen messages are explained in [English (United States)].

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

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

- 1. Touch (Settings) [System] [Power & sleep] [Additional power settings] [Choose what the power button does].
- 2. Touch [Change settings that are currently unavailable].
- 3. Remove checkmark from [Turn on fast startup (recommended)] in "Shutdown settings".

### **Erasing Flash Memory Data**

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. Use the flash memory drive data erase function to erase the data completely.

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

### **Erasing Flash Memory Data**

The flash memory drive data erase function erases data using an overwriting method, but there is a possibility that due to malfunctions or other operational errors, data may not be completely erased. There are also specialized devices that may be able to read data that has been erased using this method. If you need to erase highly confidential data, we recommend that you contact a company that specializes in this process. Panasonic Corporation will bear no responsibility for losses or damages suffered as a result of the use of this function.

Connect the AC adaptor and do not remove it until flash memory data erase is complete.

### NOTE

- This function cannot be used to erase the data on the specified partition. However, the entire flash memory drive data including the data of the partition with recovery tools will be erased.
- The erasing disk menu is not displayed when using the recovery partition.

#### **Using Recovery Disc**

#### Preparation

- Recovery Disc ( Create a Recovery Disc)
- When using DVD media to create a recovery disc, prepare the commercially available optical drive.
- Connect the AC adaptor and do not remove it until flash memory drive data erase is complete.
- 1. Start the Setup Utility.
  - 1. Touch (Settings) [Update & Security] [Recovery].
  - 2. Touch [Restart now] under "Advanced startup".
  - 3. Touch [Troubleshoot] [Advanced options] [UEFI Firmware Settings] [Restart].
- 2. Write down all of the contents of the Setup Utility.
- 3. Touch [Exit] menu, and then double-touch [Load Default Values].

At the confirmation message, touch [Yes].

- 4. Insert the media that was used to create the recovery disc.
  - For DVD media
    - 1. Connect the commercially available optical drive to the USB Port.
    - 2. Insert the recovery disc into the commercially available optical drive.
  - For USB storage devices
    - 1. Connect the USB storage device used to create the recovery disc to the USB port.
- 5. Touch [Exit] menu, and then double-touch [Save Values and Reboot].

At the confirmation message, touch [Yes]. Computer will restart.

6. Touch the top left corner of the screen several times while "Panasonic" boot screen is displayed.

The Setup Utility starts up.

If the password is requested, enter the Supervisor Password.

- 7. Touch [Exit] menu, and then double-touch the commercially available optical drive or USB storage device in "Boot Override".

  The computer will restart.
- 8. Touch [Erase].
- 9. Touch [Erase the all data on the whole Disk.].
- 10. Touch [Start Erase Process.].

Erasing the flash memory drive data starts.

11. After the erasing is completed, remove the Recovery Disc and touch [Shutdown.].

### **Dispose of Computer**

#### Preparation

- Remove all peripherals and SD memory card, etc.
- Erase the stored data. ( Erasing Flash Memory Data)

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

<Only for model with Built-in Bridge Battery>

<For Europe and U.S.A./Canada>

#### **Attention Customers**

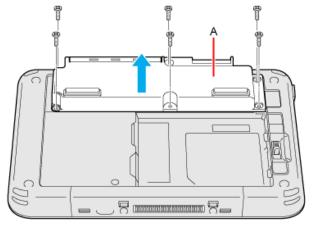
Don't remove the battery by yourself. The battery must be removed by qualified professionals. When disposing of this product, be sure to contact qualified professionals to remove the battery.

#### Attention Qualified professionals to remove the battery

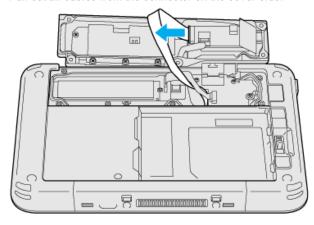
Dispose of this product correctly in accordance with the local regulations after removing the battery as shown in the following procedure.

#### Preparation

- Remove all peripherals and microSD memory card, etc.
- Erase the stored data. ( Erasing Flash Memory Data)
- Never disassemble the computer except before disposal.
- Refer to OPERATING INSTRUCTIONS Read Me First "Safety Precautions" for precautions when disposing of the computer.
- 1. Turn off the computer, and disconnect the AC adaptor.
- 2. Turn over the computer, remove the battery pack, and wait for about 3 minutes.
- 3. Remove the screws and the cover (A).



4. Pull out all cables from the connector on the cover side.



5. Dispose of the battery with the cover attached correctly in accordance with the local regulation.

### **Specifications**

This page provides the specifications for the basic model.

The model number is different according to the unit configuration.

To check CPU speed, memory size and the flash memory drive (SSD) size:

Run the Setup Utility ( Setup Utility) and select "Information" menu.

[Processor Speed]: CPU speed, [Memory Size]: Memory size, [Hard Disk]: SSD size

### To check the model number:



The model number is described on the computer)

### **Main Specifications**

CPU		<only for="" fz-m1j-series="" models=""> Intel® Core™ i5-7Y57 vPro™ Processor (4 MB*1 cache, 1.2 GHz up to 3.3 GHz with Intel® Turbo Boost Technology)</only>	
		<only for="" fz-m1g-series="" models=""> Intel<sup>®</sup> Celeron<sup>®</sup> Processor N4100 (4 MB<sup>*1</sup> cache, up to 2.40 GHz)</only>	
Chip Set		Built-in CPU	
Video controller		<only for="" fz-m1j-series="" models=""> Intel® HD Graphics 615, Premium (Built-in Chip Set)</only>	
		<only for="" fz-m1g-series="" models=""> Intel® UHD Graphics 600 (Built-in Chip Set)</only>	
Main Memory*1*2		<only for="" fz-m1j-series="" models=""> 4 GB / 8 GB on board, LPDDR3</only>	
		<only for="" fz-m1g-series="" models=""> 4 GB on board, LPDDR4</only>	
Storage*3		128 GB / 256 GB (SSD)  Approx. 10 GB is used as a partition with disk recovery tools. (Users cannot use this partition.)  Approx. 1 GB is used as a partition with system tools. (Users cannot use this partition.)	
Display Method		7.0 WXGA (1280 × 800 dots), Aspect ratio 16:10 AR Clear	
	Internal LCD*4	Max. 16,777,216 colors (1280 × 800 dots)	
Wireless LAN*5		<only for="" fz-m1j-series="" models=""> Intel Dual Band Wireless-AC 8265 (</only>	
		® Intel Wireless-AC 9560 ( Wireless LAN)	
Bluetooth*6		( Bluetooth)	
Sound		Intel® High Definition Audio subsystem support	
Security Chip		<only for="" fz-m1j-series="" models=""> TPM (TCG V2.0 compliant)</only>	
		<only for="" fz-m1g-series="" models=""> Build in CPU (TCG V2.0 compliant)</only>	

Camera	Front	HD, 1920 × 1080p, 30 fps (Video) / 1920 × 1080p (Still), Dual Microphone		
Rear*7		<only for="" fz-m1j-series="" models=""> 8MP MIPI, 3200 × 2400p, 15 fps (Video) / 3200 × 2400p (Still), with Camera Flash LED <only for="" fz-m1g-series="" models=""> 8MP USB, 3200 × 2400p, 15 fps (Video) / 3200 × 2400p (Still), with Camera LED Light</only></only>		
Sensor Acceleration sensor  Digital compass  Gyro sensor		Equipped		
		Equipped		
		Equipped		
	Ambient light sensor	Equipped		
microSD Memory Ca	ard Slot <sup>*8</sup>	microSDXC, UHS-I		
Interface		$USB~3.0~port\times1^{*9}/3.5mm~Headset~jack,~Stereo~Headphone:~4mW/ch~(32\Omega,1kHz),\\ Auto~Detect~of~OMTP/CTIA~Monaural~Microphone$		
Touchscreen		10 Finger touch (Capacitive) (2 Finger touch in water mode), Passive pen		
Power Supply		AC adaptor or Battery pack		
AC Adaptor*10		Input: 100 V - 240 V AC, 50 Hz/60 Hz, Output: 16 V DC, 4.06A		
Battery Pack		Li-ion 7.2 V, Typical 3220 mAh, Minimum 3050 mAh (with FZ-VZSU94W) Li-ion 7.2 V, Typical 7100 mAh, Minimum 6800 mAh (with FZ-VZSU95W (Optional))		
Operating Time*11		<pre><only for="" fz-m1j-series="" models=""> Approx. 8 hours (with FZ-VZSU94W) Approx. 18 hours (with FZ-VZSU95W (Optional)) <only for="" fz-m1g-series="" models=""> Approx. 10 hours (with FZ-VZSU94W) Approx. 22 hours (with FZ-VZSU95W (Optional))</only></only></pre>		
	Charging Time*12	<pre><only for="" fz-m1j-series="" models=""> When using FZ-VZSU94W <power off=""> Approx. 2.5 hours <power on=""> Approx. 3.5 hours When using FZ-VZSU95W (Optional) <power off=""> Approx. 4.5 hours <power on=""> Approx. 6.5 hours <only for="" fz-m1g-series="" models=""> When using FZ-VZSU94W <power off=""> Approx. 2.5 hours <power on=""> Approx. 2.5 hours When using FZ-VZSU95W (Optional) <power off=""> Approx. 4.5 hours <power off=""> Approx. 4.5 hours <power on=""> Approx. 4.5 hours</power></power></power></power></power></only></power></power></power></power></only></pre>		
Power Consumption*13		Approx. 15 W*14 / Approx. 60 W (maximum when recharging in the ON state)		
Physical Dimensions	s (W × D × H)*15	202.7 mm × 132 mm × 18 mm {8.0" × 5.2" × 0.7"}		
Weight*15		Approx. 540 g {1.2 lb.} (with FZ-VZSU94W, excluding the optional devices)		
Environment	Operating Temperature	- 10 °C to 50 °C {14 °F to 122 °F} (IEC60068-2-1, 2)*16		
	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*17	Windows 10 Pro 64-bit
Pre-installed Software	<ul> <li>PC Information Viewer</li> <li>Panasonic PC Recovery Disc Creation Utility</li> <li>Intel® PROSet/Wireless Software</li> <li>Microsoft Office Trial*18</li> <li>Wireless Manager Mobile Edition*19*20</li> <li>Emergency notification setting</li> <li>Barcode Integrated Utility (It includes Barcode Configuration Utility / Barcode HID Mode Setting Utility / Barcode HID Language Setting Utility / 2D Barcode Key Emulator)*19*21</li> <li>Panasonic PC Camera Utility</li> <li>Panasonic PC Manual Selector</li> <li>Panasonic PC Settings Utility*23</li> <li>Panasonic PC Thermal Viewer*24</li> <li><only for="" fz-m1j-series="" models=""> Intel® RealSense™ Calibration Tool*25</only></li> </ul>
	<ul> <li>Aptio Setup Utility</li> <li>PC-Diagnostic Utility</li> <li>Hard Disk Data Erase Utility*26</li> </ul>

## Wireless LAN\*5

Data Transfer Rates <sup>*27</sup>	IEEE802.11a: IEEE802.11b: IEEE802.11g: IEEE802.11n*28: IEEE802.11ac:	54 Mbps  11 Mbps  54 Mbps  HT20 = 144.4 Mbps  HT40 = 300 Mbps  VHT20: 173.3 Mbps  VHT40: 400 Mbps  VHT80: 866.7 Mbps <only for="" fz-m1g-series="" models="">  VHT160: 1733 3 Mbps</only>
Standard Supported	VHT160: 1733.3 Mbps  IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n / IEEE802.11ac	
Transmission Method	OFDM system, DSSS system	

## Bluetooth\*6

Bluetooth	<only for="" fz-m1j-series="" models=""> Bluetooth Ver.4.2</only>
	<only for="" fz-m1g-series="" models=""> Bluetooth Ver.5.0</only>
	Classic mode / Low Energy mode
Transmission Method	FHSS system
Wireless Channels Used	Channels 0 to 78 / Channels 0 to 39
RF Frequency Band	2.402 GHz - 2.480 GHz

#### **Optional Devices**

Wireless WAN*29	LTE compatible
microSIM Card Slot	×1
Smart Card Slot	×1, ISO 7816
USB 2.0 port*9*30	×1
LAN*30	× 1, IEEE 802.3 10Base-T / IEEE 802.3u 100Base-TX
<only for="" fz-m1j-series="" models=""> True Serial Port*30</only>	× 1, Dsub 9-pin male
Barcode Reader*30	×1
Magnetic Stripe Card Reader	× 1, ISO 7810 and ISO 7811/ AAMVA
Contactless Smart Card Reader/RFID Reader	× 1, RF frequency: 13.56 MHz, compatible with ISO-14443 Type-A, ISO-14443 Type-B
Dedicated GPS*31	Chip: u-blox NEO-M8N GPS/GLONASS/SBAS Support
Battery Hot Swap	Built-in bridge battery (not replaceable)
<only for="" fz-m1j-series="" models=""> 3D Camera</only>	×1, Intel <sup>®</sup> RealSense™ D410
Thermography Camera	×1, FLIR® Lepton 3.5

- \*1: 1 MB = 1,048,576 bytes / 1 GB = 1,073,741,824 bytes
- \*2: Memory size of the factory default depends on the model.

You can physically expand the memory up to 8 GB, but the total amount of usable memory available will be less depending on the actual system configuration.

- \*3: 1 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.
- \*4: A 16,777,216 color display is achieved by using the dithering function.
- \*5: Only for model with wireless LAN.
- \*6: Only for model with Bluetooth. Does not guarantee operation of all Bluetooth peripherals.
- \*7: The specifications may differ depending on the model.

Depending on the specification of application software, the following cases may occur. In these cases, select a smaller resolution.

- Cannot select a large resolution.
- When selecting a large resolution, an error occurs.
- \*8: Operation has been tested and confirmed using Panasonic microSD/microSDHC/microSDXC Memory Cards with a capacity of up to 64 GB. Operation on other microSD equipment is not guaranteed.
- \*9: Does not guarantee operation of all USB-compatible peripherals.
- \*10: <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.

- \*11: Measured by MobileMark® 2014.
  - Varies depending on the usage conditions, or when an optional device is attached.
- \*12: Varies depending on the usage conditions.
- \*13: Approx. 0.5 W when the battery pack is fully charged (or not being charged) and the computer is OFF.
  - <When using with 115 V AC>

Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.15 W) simply by having the AC adaptor.

- \*14: Rated power consumption.
- \*15: Average value. May differ depending on models and options.

16: Do not expose the skin to this product when using the product in a hot or cold environment. ( POPERATING 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.

<Only for North America>

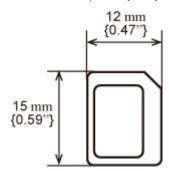
UL60950 - 1 Evaluated for use at ambient temperatures up to 35 °C {95 °F} when used with optional AC Power Adaptor and 40 °C {104 °F} when used without AC power adaptor.

- \*17: 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.
- \*18: To continue using this software after the end of the trial, purchase a license by following the on-screen instructions.
- \*19: Must be installed before use.
- \*20: For localized OS model. For information on Wireless Manager, refer to the "Supplementary Instructions" by the following procedure.
  - Touch and hold (Start) at the bottom left corner.
  - 2. Touch [Run], input "c:\util\wlprjct\Supplementary Instructions.pdf" then touch [OK].
- \*21: Only for model with barcode reader.
- \*22: Only for model with GPS or wireless WAN.
- \*23: Panasonic PC Settings Utility includes the following functions: Touch Screen Mode / Touch Operation Support / etc.
- \*24: Only for model with Thermography Camera.
- \*25: Only for model with 3D Camera.
- \*26: Perform on the recovery disc.
- \*27: These are speeds specified in IEEE802.11a+b+g+n+ac standards. Actual speeds may differ.
- \*28: Available when set to "WPA-PSK", "WPA2-PSK" or "none".

Only available when HT40 enabled by the computer and access point which associated supports HT40.

\*29: The specifications may differ depending on the model.

A microSIM card ( $12 \text{ mm} \{0.47^{\circ}\} \times 15 \{0.59^{\circ}\} \text{ mm}$ ) must be inserted in the microSIM card slot.



- \*30: Exclusively configurable by selecting one from Serial Port or LAN Port or Barcode reader or USB 2.0 Port.
- \*31: Exclusively configurable by selecting one from Wireless WAN (with GPS) and GPS.

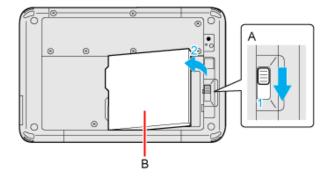
#### The model number is described on the computer

Check according to the procedure below.

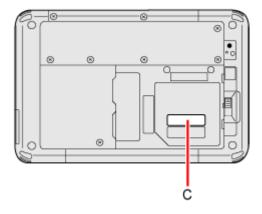
1. Turn over the computer.

Make sure no foreign objects are under the computer.

- 2. Remove the battery pack.
  - 1. Slide the latch (A).
  - 2. Remove the battery pack (B).



3. Check the model number. The model number (C) starting with "FZ-M1" is described.



### For U.S.A.

#### Panasonic System Solutions Company of North America (PSSNA)

#### **Computer Products - Worldwide Warranties**

#### Section 1: Limited Warranty - Hardware

PSSNA, 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.

- Laptop PC (CF-##) 3 Years
- Tablet PC / Handheld (FZ-## / JT-##) 3 Years
- Ultra-Mobile (CF-U#/CF-H# Series) 3 Years
- PDRC LCD & Keyboard Assembly 3 Years

#### **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 (Floppy, 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 2<sup>nd</sup> Hard Drive 1 Year
- External USB Drives (CD / DVD / Floppy / Hard Drive) 1 Year
- Optional Battery 1 Year
- Battery Charger / Multi-Bay Battery Charger 1 Year
- Stylus Pens, Digitizer & Standard 90 Days (physical damage excluded)

#### Section 2 - Limited Warranty - Software

Panasonic warrants to you only that the disk(s) or other media on which the Programs are furnished will be free from defects in material and work-manship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

This is the only warranty Panasonic makes to you. Panasonic does not warrant that the functions contained in the Programs will meet your requirements or that the operation of the Programs will be uninterrupted or error free. Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media.

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

#### Section 3 - Limited Warranty Exclusions - Specifically excluded from the warranty are:

- All consumable items; such as screen protection films, logo badges, labels, cleaning cloths, carry cases, manuals, cables, straps, belts, holsters, tethers, and harnesses and any other options and accessories not listed above or covered under a separate warranty
- The Warranty excludes 3 or less faulty pixels on the LCD screen
- Failures related to the product operating system, hard drive or solid state drive image, software setup, software program, virus, other program
  (s) or file(s) on any drive or in any computer memory location
- Failures due to BIOS settings or changes, as well as any cosmetic or physical damage to the unit
- Any unit or device with a missing or altered model number or serial number label
- Cosmetic damage or any damage which occurs in shipment
- Failures which are caused by products not supplied by Panasonic
- Failures which result from alteration, accident, misuse, introduction of liquid or other foreign matter into the unit, abuse, neglect, installation, maladjustment of consumer controls, improper maintenance or modification, use not in accordance with product use instructions
- Failures due to service by anyone other than a Panasonic Authorized Service Provider
- Failures caused by improper installation of options or accessories or due to integration by any company other than Panasonic or a Panasonic Authorized Service Center
- Damage, failure, or loss due to the unit being stolen, lost, misplaced, or used by anyone other than the original purchaser
- Damage that is attributable to acts of God

- \* Protection Plus and Ultimate Care warranty programs provide protection against accidental damage. Neither program is intended to provide
  product refurbishment due to normal wear and tear through normal use.
- \* Customers who have twenty (20) or more units requiring service are required to contact Panasonic at 800-527-8675 and request Field Engineering assistance to coordinate higher volume repairs.

This limited warranty only covers failures due to defects in materials or workmanship which occur during normal use. If a unit is sent to a Panasonic Authorized Service Center and no hardware failure is found, the customer will be billed for labor to correct a software issue or reimage the applicable Hard Disk, or Solid State Drive plus shipping and applicable administrative fees at the current rates set by the service provider.

THIS PRODUCT IS NOT INTENDED FOR USE AS OR PART OF NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, OR AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS<sup>\*1</sup>. PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

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

Other Limits and Exclusions: There are no other express warranties except as listed above.

PANASONIC SHALL NOT BE LIABLE FOR LOSS OF DATA OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. For technical support or to arrange for service on your Panasonic computer product, call our toll-free hotline at 1-800-LAPTOP5 [option 1] (800-527-8675).

#### For Canada

#### PANASONIC COMPUTER AND PERIPHERALS LIMITED WARRANTY

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

Scope	of Coverage	Period of Coverage	Type of Failure Coverage
•	Laptop Computers (except Battery) and AC Adaptor	Three (3) Years from Date of Original End User Customer Purchase Defective Materials or	Defective Materials or Workmanship
•	Factory/PCI installed options including Wireless WAN, GPS, Bluetooth, Finger print reader, Backlit keyboard, Memory Card and Media Bay Drives (Floppy, CD/DVD)	Workmanship	
•	Ultra-Mobile PC		
•	Tablet PC		
•	Mobile Wireless Display		
•	PDRC LCD and Keyboard Assemblies		
•	Port Replicator		
•	Hand-held Computers	One (1) Year from Date of Original End User	Defective Materials Workmanship
•	Battery	Customer Purchase	
•	Battery charger		
•	Auto Adaptor		
•	External USB Drives		
•	Standard or Digitizer Stylus Pen	Ninety (90) Days from Date of Original End User Customer Purchase	Defective Materials or Workmanship
٥	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.

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS,

AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, OR AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS\*2.

PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

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

#### IF YOU SHIP THE PRODUCT FOR WARRANTY SERVICE

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

#### SOFTWARE MEDIA LIMITED WARRANTY

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

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

<u>Couverture</u> - Panasonic Canada Inc. (« PCI ») garantit à l'acheteur original que ce produit informatique (à l'exclusion des supports des logiciels) est, au moment de sa vente par PCI ou d'un revendeur agréé par PCI, exempt de défauts de pièces et de fabrication dans les conditions normales d'utilisation, et ce, pendant la période de couverture de la garantie, sous réserve des modalités décrites ci-dessous.

Éléments couverts	Durée de couverture	Type de couverture	
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•	Ordinateurs blocs-notes (sauf batteries) et adaptateur secteur	Trois (3) ans à partir de la date d'achat original.	Défauts de pièces et de fabrication
•	Options installées en usine/par PCI incluant: WAN sans fil, GPS, Bluetooth, lecteur d'empreintes digitales, clavier rétroéclairé, carte mémoire et lecteurs (disquettes, CD/DVD)		
•	Ordinateurs personnels ultra-portables		
•	Ordinateurs tablettes		
•	Écran mobile sans fil		
•	Ensembles PDRC - ACL et clavier		
•	Duplicateur de port		
•	Ordinateurs de poche	Un (1) an à partir de la date d'achat original.	Défauts de pièces et de fabrication
•	Batterie		
•	Chargeur de batterie		
•	Adaptateur pour voiture		
•	Périphériques USB		
•	Stylo pointeur standard ou pour numériseur graphique	Quatre-vingt-dix (90) jours à partir de la date d'achat original.	Défauts de pièces et de fabrication
•	Tous les articles consommables inclu- ant les pellicules protectrices, chiffons de nettoyage, étuis de transport, longes et sangles	Aucune couverture	

Recours - Pour obtenir des informations sur la marche à suivre dans le cas où une réclamation en vertu de la garantie deviendrait nécessaire, communiquez par téléphone avec un représentant de PCI au 1-800-668-8386, entre 9h00 et 17h00 (heure de l'Est) du lundi au vendredi (sauf les jours fériés), avant l'échéance de la garantie applicable, en prenant soin d'identifier la nature de la défaillance.

Un reçu ou toute autre pièce justificative de la date d'achat original sera exigé avant toute réparation. Toute pièce défectueuse couverte par la présente garantie limitée sera réparée ou remplacée par une pièce neuve ou remise à neuf. Le remplacement ou la réparation sera fait conformément aux modalités de la présente garantie limitée pendant la durée restante de la période originale de la garantie.

Produits non couverts - La présente garantie limitée ne couvre pas les produits achetés à l'extérieur du Canada. Elle ne couvre pas non plus les dommages, la défaillance ou les défauts attribuables à une manutention inadéquate, une mauvaise installation, une utilisation anormale ou abusive, de la négligence, un accident, un déversement ou la pénétration d'un objet étranger, une modification, un cas fortuit ou une réparation effectuée par une personne non agréée par PCI. CE PRODUIT N'EST PAS DESTINÉ À ÊTRE UTILISÉ, EN TOUT OU EN PARTIE, COMME SYSTÈME/ÉQUIPEMENT NUCLÉAIRE, SYSTÈME/ÉQUIPEMENT DE CONTRÔLE DU TRAFFIC AÉRIEN OU SYSTÈME/ÉQUIPEMENT DE POSTE DE PILOTAGE D'AVION\*3. PANASONIC DÉCLINE TOUTE RESPONSABILITÉ CONCERNANT L'UTILISATION DE CE PRODUIT DANS LES CAS SUSMENTIONNÉS.

\*3 : Les SYSTÈMES/ÉQUIPEMENTS DE POSTE DE PILOTAGE D'AVION sont dotés de systèmes OEPP (organiseur électronique de poste de pilotage) de classe 2 et de classe 1 utilisés pendant des phases critiques de vol (par exemple, pendant le décollage et l'atterrissage) et (ou) montés sur l'avion. Les systèmes OEPP de classe 1 et de classe 2 sont définis par le circulaire d'information FAA: AC (Advisory Circular) 120-76A ou le feuilet n° 36 JAA: JAA TGL (Temporary Guidance Leaflets) No 36.

#### EXPÉDITION DU PRODUIT POUR SERVICE SOUS GARANTIE

Emballez soigneusement le produit, de préférence dans son emballage d'origine. Joignez une description de la défaillance de même qu'une pièce justificative de la date d'achat. Panasonic Canada Inc. ne peut être tenue responsable pour tout dommage ou perte subi pendant le transport si vous avez choisi le transporteur.

#### GARANTIE LIMITÉE - SUPPORTS DES LOGICIELS

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, pourraientelles ne pas s'appliquer.

### For Europe

# Panasonic System Communications Company Europe

Panasonic System Communications Company Europe (referred to as "Panasonic") will repair this product (other than software, which is treated in a different section of this warranty) with new or refurbished parts, from the date of original purchase in the event of a defect in materials or workmanship. This warranty only applies to new Panasonic Toughbooks purchased in the EEA and Switzerland and Turkey.

Panasonic (or its authorised Service Provider) target to repair your equipment within 48 hours from its receipt in our service centre.

Additional charges may apply for shipment to countries outside of the European Union. Panasonic will use all reasonable endeavours to ensure this service.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use for the applicable Service Agreement Period listed below. In the event that any product (or part thereof) is replaced, Panasonic shall transfer ownership of the replacement product (or part) to the customer and the customer shall transfer ownership of the replaced product (or part) to Panasonic.

#### Service Agreement Period - from original date of purchase

- Toughbooks (and every accessory included in the original packaging except the battery) 3 years
- Toughpads (and every accessory included in the original packaging except the battery) 3 years
- Accessories included in the original package 3 years
- Additional peripherals manufactured by Panasonic (including media bay devices such as CD-Rom drives) 1 year
- Batteries 6 months. Panasonic Warranty covers the battery for six months. A battery is considered good if it maintains 50% of its charge capacity
  during the warranty period. If a battery is returned under this contract and testing determines that it has charge capacity greater than 50%, the
  battery will be returned with an invoice for the retail purchase price of a new battery.

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

#### Limits and Exclusions:

This warranty does not cover and shall be void for:

- Broken or cracked LCD screen.
- Defective pixel in notebook displays and LCD screens within 0.002%
- Damage that is attributable to fire, theft or acts of God.
- Damage caused by environmental influences (electrical storms, magnetic fields etc.).
- Damage which has not been caused during normal operation
- Repair of damage that is cosmetic only or does not affect product functionality such as wear and tear, scratches and dents.
- Failures caused by products not supplied by Panasonic.
- Failures resulting from alteration, accidental damage, casualty, misuse, abuse or neglect.
- Introduction of liquid or other foreign matter into the unit.

- Improper installation, operation or maintenance.
- Improper connections with peripherals.
- Maladjustment of consumer controls such as function settings.
- Modification or service by anyone other than Panasonic or its approved Service Providers.
- Products used as short term rental or leased equipment.
- Products whose serial number has been removed making the unit warranty condition impossible to clearly determine.

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, OR AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS. PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

There are no other express warranties except as listed above.

We strongly recommend that customers backup their data before sending back their unit to an Authorised Service Provider.

Panasonic shall not be liable for loss of data or other incidental or consequential damages resulting from the use of this product, or arising out of any breach of this warranty. All express and implied warranties, including the warranties of satisfactory quality and fitness for a particular purpose are limited to the applicable warranty period set forth above. Panasonic shall not be liable for any indirect, special or consequential loss or damage (including without limitation any loss of profits) arising from the use of this product or for any breach of this warranty.

This limited warranty gives you specific legal rights, and you may have other rights that vary from country to country. You must consult the applicable country laws for a full determination of your rights. This limited warranty is in addition to, and does not affect any rights arising out of any contract of sale or by statute.

#### **Data Storage Media**

Data Storage Media is the media on which the Operating System, drivers and programs originally installed by Panasonic on the tablet are stored. This media is originally provided with the unit.

Panasonic warrants to you only that the disc(s) or other media on which the Programs are furnished will be free from defects in material and work-manship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

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

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

Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media otherwise than on the Product or in the environment conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mishandling, misapplication, installation, maladjustment of consumer 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.

Duration of implied warranties, if any is limited to sixty (60) days.

#### Pre-installed software

Pre-installed software means the software shipped pre-loaded by Panasonic, not that loaded by any third party or selling agent.

Panasonic and its suppliers makes no warranty, either express, implied or statutory, with respect to software provided with the Product and licensed to Purchaser, its quality, performance, merchantability, or fitness for a particular purpose. Panasonic does not warrant that the functions contained in the software will be uninterrupted or error free. Panasonic assumes no risk of and shall not in any case be liable for any damages, including, without limitation, any special, incidental, consequential, or punitive damages arising from breach of warranty or contract, negligence or any other legal theory, including, without limitation loss of goodwill, profits or revenue, loss of use of the Programs or Products or any associated equipment, cost of capital, cost of any substitute equipment, facilities, or services, downtime costs, or claims of any party dealing with such damages.

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

This limited warranty gives you specific legal rights and you may also have other rights that vary from country to country. You must consult applicable country laws for a full determination of your rights.

#### Contacts

Address Panasonic System Communications Company Europe

Panasonic Manufacturing U.K. Ltd.

Service Centre Building B4,

Wharfedale Road, Pentwyn Industrial

Estate, Cardiff, United Kingdom CF23 7XB

Web page https://business.panasonic.co.uk/computer-product/

### Help desk

English speaking service +44 (0) 800 0884324 French speaking service +33 (0) 80 5636449 +49 (0) 800 7235211 German speaking service Italian speaking service +39 800 986915 Spanish speaking service +34 (0) 901 101 157 Austria +43 (0) 800 006493 Switzerland (German) +41 (0) 800 002429 Switzerland (French) +41 (0) 800 588017

E-mail address toughbooksupport@eu.panasonic.com

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