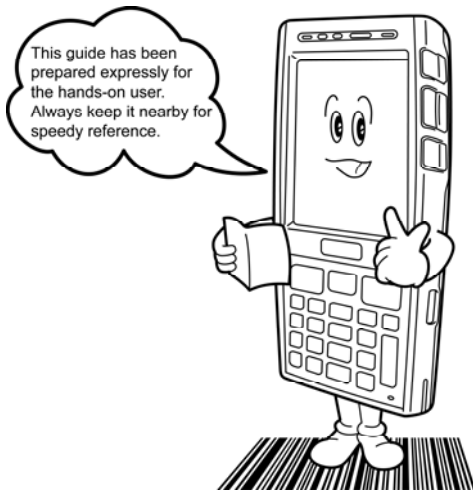


# DENSO

## BHT-710BB-CE

Bar Code Handy Terminal

Operator's Guide



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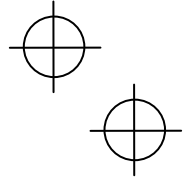
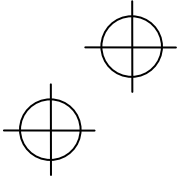
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**Troubleshooting**



Thank you for using the BHT-710BB-CE DENSO WAVE Barcode Handy Terminal.

Please read this manual thoroughly prior to operation to ensure full use of the product's functionality, and store safely in a convenient location for quick reference even after reading.

This manual contains only the basic details required for operation.

Please refer to the User's Manual for further details on general operation.

The User's Manual can be downloaded free of charge from the DENSO WAVE Web site (QBnet).

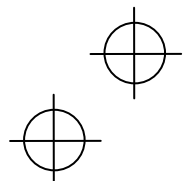
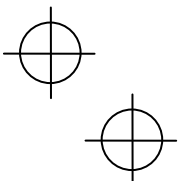
Microsoft, ActiveSync, Windows and the Windows logo are trademarks or registered trademarks of Microsoft Corporation of the US or other countries.

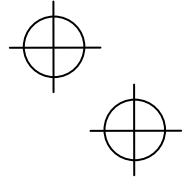
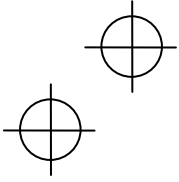
Bluetooth® is a trademark owned by its proprietor. DENSO WAVE uses Bluetooth® wireless technology under license.

Other company names or product names contained in this manual are trademarks or registered trademarks of their respective holders.

The latest precision manufacturing technology yields LCD panels with an effective resolution of 99.99% or higher. The downside, however, is that up to 0.01% of the pixels can remain permanently dark or lit on today's state-of-the-art panels.

A thin Newton's ring (rainbow-like patterns) may appear on the touch panel. This does not necessarily indicate a problem with the touch panel.





## About this Manual

- Due to improvements and so on, the content of this manual may be subject to change without prior notice.
- The reproduction or duplication of the whole or part of this manual is strictly prohibited without prior consent.
- Please contact DENSO WAVE if this manual is lost.
- Every attempt has been made to ensure that the content of this manual is thorough and up to date, however, we kindly ask that any questionable content, mistakes, or omissions be reported to DENSO WAVE.

### Related Manuals

The following manuals can all be downloaded free of charge from the DENSO WAVE Web site (QBnet).

- **BHT-710BB-CE User's Manual**

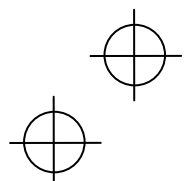
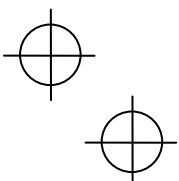
This manual contains detailed instructions for use of the BHT-710BB-CE handy terminals and communication unit (CU-700).

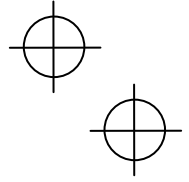
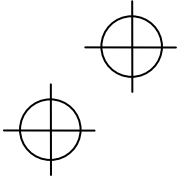
- **BHT-710BB-CE API Reference Manual**

This manual contains instructions for developing application programs for the handy terminal in Microsoft eMbedded Visual C++ 4.0.

- **BHT-710BB-CE Class Library Reference Manual**

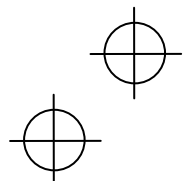
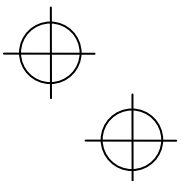
This manual contains instructions for developing application programs for the handy terminal in Microsoft Visual BASIC and Microsoft Visual C#.

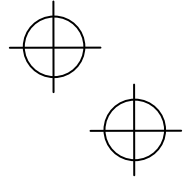
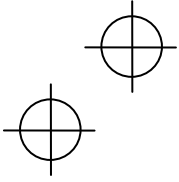




## **Liability Limitations**

- DENSO WAVE INCORPORATED does not assume any product liability (including damages for lost profits, interruption of operations, or the loss of business-related information) arising out of, or in connection with, the use of, or inability to use the BHT system software or related manuals.
- DENSO WAVE INCORPORATED ("DENSO WAVE") takes reasonable precautions to ensure its products do not infringe upon any patents or other intellectual property rights of other(s), however, DENSO WAVE cannot be responsible for any patent or other intellectual property right infringement(s) or violation(s) arising from any of the following.
  - (1) The use of DENSO WAVE's products in connection or in combination with other components, products, devices, data processing systems or software not supplied by DENSO WAVE.
  - (2) The use of DENSO WAVE's products in a manner for which they were not intended nor designed.
  - (3) The modification of DENSO WAVE's products by parties other than DENSO WAVE.
- If it is judged by DENSO WAVE INCORPORATED that malfunction of the product is due to the product having been dropped or subjected to impact, repairs will be made at a reasonable charge even within the warranty period.





## Customer Registration

To allow us to provide our customers with comprehensive service and support, we request that all customers complete a Member Registration Form. Registered members will be offered the following privileges.

- The latest upgrade information
- Free exhibition and event information for new products
- Free Web-information service "QBnet."

### QBnet Service Contents

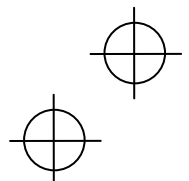
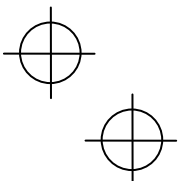
Information searching service (FAQ)	Offers detailed information on each product.
Download service	Offers downloads of repair modules for the latest BHT Series systems or software, and sample programs.
E-mail inquiries	Product related queries can be sent in by e-mail.

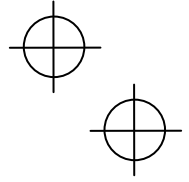
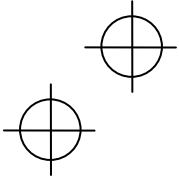
\* Please note that these privileges may be subject to change without prior notice.

### How to Register

Access the URL below and follow the instructions provided.

<http://www.denso-wave.com/en/adcd/support/>





## SAFETY PRECAUTIONS

### Be sure to observe all these safety precautions.

Strict observance of these warning and caution indications are a **MUST** for preventing accidents which could result in bodily injury and substantial property damage. Make sure you fully understand all definitions of these terms and related symbols given below, before you proceed on to the text itself.



#### **WARNING**

Alerts you to those conditions which could cause serious bodily injury or death if the instructions are not followed correctly.



#### **CAUTION**

Alerts you to those conditions which could cause minor bodily injury or substantial property damage if the instructions are not followed correctly.

### Meaning of Symbols



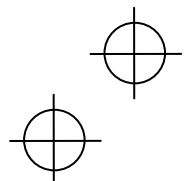
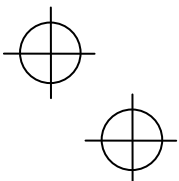
A triangle ( $\Delta$ ) with a picture inside alerts you to a warning of danger. Here you see the warning for electrical shock.

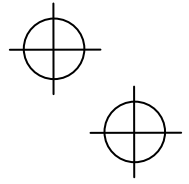
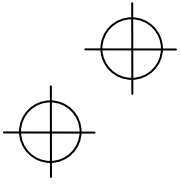


A diagonal line through a circle ( $\text{⊘}$ ) alerts you to something you should not do; it may or may not have a picture inside. Here you see a screwdriver inside the circle, meaning that you should not disassemble.






A black circle ( $\bullet$ ) with a picture inside alerts you to something you **MUST** do. This example shows that you **MUST** unplug the power cord.



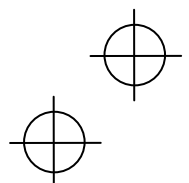
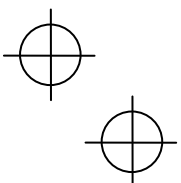


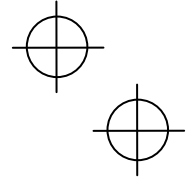
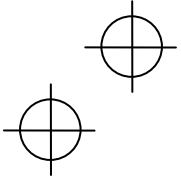
### Handling the battery cartridge

 <b>WARNING</b>	
	<ul style="list-style-type: none"><li>• Never disassemble or heat the rechargeable battery cartridge, nor put it into fire or water; doing so could cause battery-rupture or leakage of battery fluid, resulting in a fire or bodily injury.</li><li>• Do not carry or store the battery cartridge together with metallic ballpoint pens, necklaces, coins, hairpins, etc. Doing so could short-circuit the terminal pins, causing the batteries to rupture or the battery fluid to leak, resulting in a fire or bodily injury.</li><li>• Avoid dropping the battery cartridge or letting it undergo any shock or impact. Doing so could cause the batteries to break, generate heat, rupture or burn.</li><li>• Never charge the rechargeable battery cartridge where any inflammable gases may be emitted; doing so could cause fire.</li></ul>
	<ul style="list-style-type: none"><li>• Only use the dedicated charger for charging the rechargeable battery cartridge. Using a different type of charger could cause battery-rupture or leakage of battery fluid and result in a fire, bodily injury, or serious damage to property.</li></ul>

### Handling the BHT

 <b>WARNING</b>	
	<ul style="list-style-type: none"><li>• Do not poke at the eyes with the stylus that comes with the BHT.</li></ul>





## FCC Regulations:

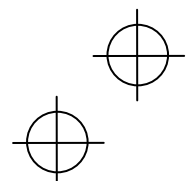
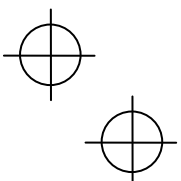
● This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

● This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

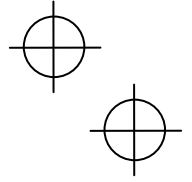
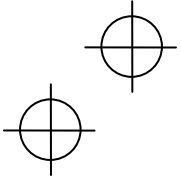
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The antenna(s) used for this transmitter must not be co-located or







operating in conjunction with any other antenna or transmitter.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

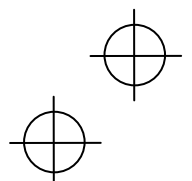
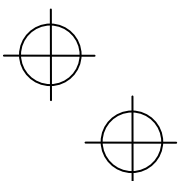
This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**IMPORTANT NOTE:**



**IC Radiation Exposure Statement:**

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.





This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

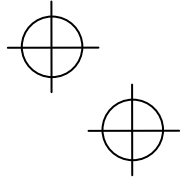
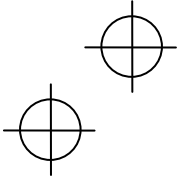




### Handling the rechargeable cartridge

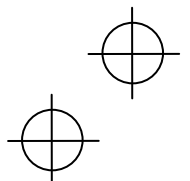
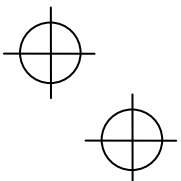
 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• Never charge a wet or damp rechargeable battery cartridge. Doing so could cause the batteries to break, generate heat, rupture or burn.</li></ul>

### Handling the BHT

 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• If smoke, abnormal odors or noises come from the BHT, immediately turn off the power, pull out the battery cartridge, and contact your nearest dealer. Failure to do so could cause smoke or fire.</li><li>• If foreign material or water gets into the BHT, immediately turn off the power, pull out the battery cartridge, and contact your nearest dealer. Failure to do so could cause smoke or fire.</li><li>• If you drop the BHT so as to damage its housing, immediately turn off the power, pull out the battery cartridge, and contact your nearest dealer. Failure to do so could cause smoke or fire.</li><li>• Do not use batteries or power sources other than the specified ones; doing so could generate heat or cause malfunction.</li></ul>
 Never disassembly	<ul style="list-style-type: none"><li>• Never disassemble or modify the BHT; doing so could result in an accident such as break or fire.</li></ul>
	<ul style="list-style-type: none"><li>• Never put the BHT in places where there are excessively high temperatures, such as inside closed-up automobiles, or in places exposed to direct sunlight. Doing so could affect the housing or parts, resulting in a fire.</li><li>• Avoid using the BHT in extremely humid or dusty areas, or where there are drastic temperature changes. Moisture or dust will get into the BHT, resulting in malfunction, fire or electrical shock.</li></ul>



 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• In environments where static electricity can build into significant charges (e.g., if you wipe off the plastic plate with a dry cloth), do not operate the BHT. Doing so will result in malfunction or machine failure.</li><li>• Touch (tap) the LCD only with the stylus that comes with the BHT. Using the tip of a pen or any pointed object will result in a damaged or broken LCD.</li></ul>



## Declaration of Conformity (For European Union)

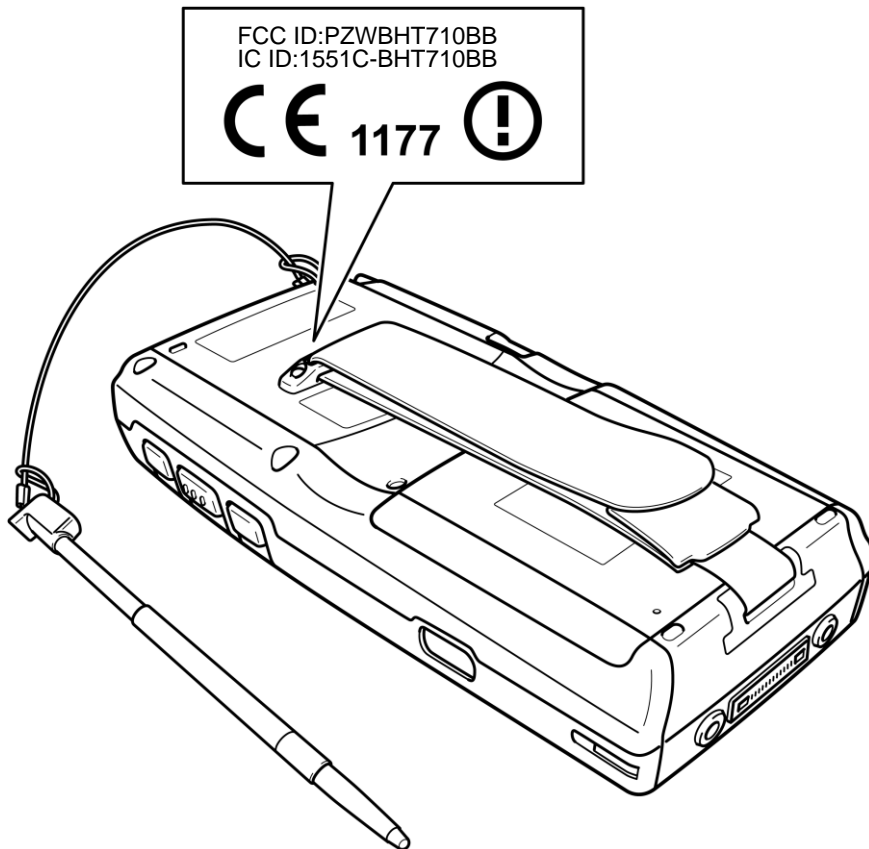
Hereby, DENSO WAVE INCORPORATED, declares that this BHT-710BB-CE, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

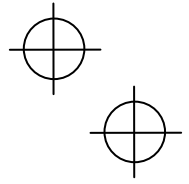
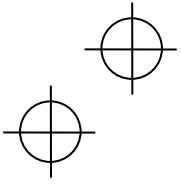
### FCC and IC marking:

FCC ID: PZWBHT710BB

IC ID: 1551C-BHT710BB

### LABELING:

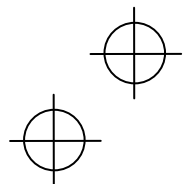
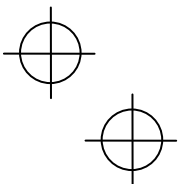




## **Usage Precautions**

If the BHT is left with the battery cartridge discharged or with no battery cartridge loaded, or if the battery cartridge is replaced incorrectly, data stored in the BHT may be lost.

By performing a full reset (refer to “Resetting and Full Resetting”), all data stored in the RAM will be lost. It is therefore recommended that important data be either saved to the “FLASH” folder or backed up at the computer.





## Usage Precautions

### Usage environment restrictions

- **Do not use the BHT where it may be exposed to fire, high temperatures, or direct sunlight.**

(Failure to observe this may result in damage, overheating, explosion, or fire.)

\* When the BHT is stored in a high-temperature, high-humidity environment of 50 to 60° C, leave to sit in a location at room temperature and normal humidity for at least 1 day prior to use. Failure to observe this may cause a scanning failure or damage the BHT.

- **Do not use the BHT in places with extreme temperature variations.**

(Failure to observe this may lead to BHT malfunction due to condensation.)

\* Leave the BHT for a short while prior to use when moved from a cold to a warm environment.

- **Do not use the BHT in places where it may be exposed to strong impact or significant static electricity.**

### Avoid light interference.

Infra-red communication may not be possible due to light interference. Ensure to observe the following when performing infra-red communication.

- **Do not operate remote control units for televisions and so on nearby.**
- **The BHT should not be exposed to light interference such as strong illumination (especially the inverter fluorescent lamp) or sunlight.**

Introduction

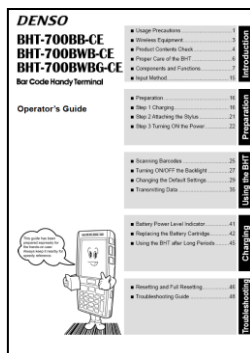
## Product Contents Check

Ensure you have all of the following items prior to use. Contact your dealer in the event that any items are missing or damaged.

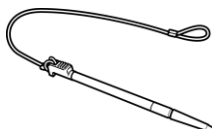
Handy terminal  
(BHT-710BB-CE)

Operator's Guide  
(this manual)

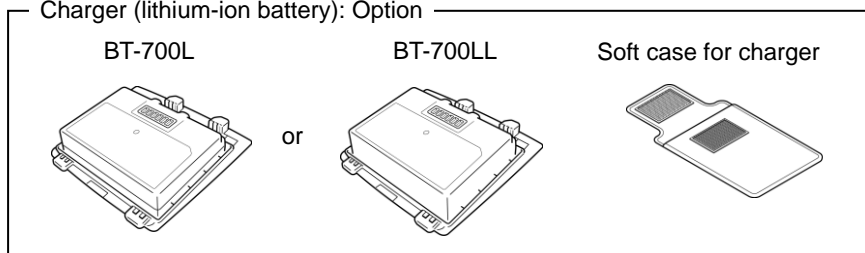
User's Manual  
(for BT-700L/700LL)



Stylus



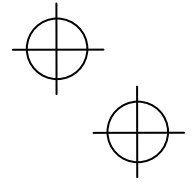
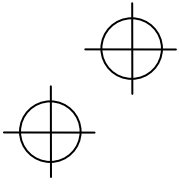
Charger (lithium-ion battery): Option



Refer to page ii for details of related manuals such as the User's Manual.

### Request

Avoid inserting the connector at an angle or pulling the adapter cable strongly.



## Proper Care of the BHT

Introduction

Ensure to turn OFF the BHT before cleaning.

### • BHT terminal, charger terminal dirt

Periodically wipe any dirt from the BHT or battery terminals with a cotton swab and so on.

### • Housing dirt

Wipe any dirt from the housing with a dry, soft cloth.

If excessively dirty, wipe with a soft cloth that has been soaked in soapy water (always use neutral detergent) and wrung out thoroughly.

Never use substances such as benzene or alcohol, as this may cause the housing to be marred or paint to peel off.



### • LCD screen dirt

Never rub or strike the LCD screen with anything hard, as this may result in scratches on the screen or breakage.

### • Keypad dirt

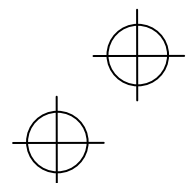
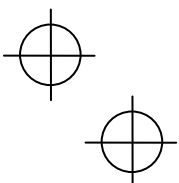
When cleaning the keypad, do not scrub the surface too hard or pull on the keys, as this may break the keys.

### • Barcode reading window dirt

Any dirt or dust adhering to the clear plate of the barcode reading window will adversely affect reading performance.

When using in dusty areas, perform periodic inspections to check whether any dust has accumulated on the clear plate of the barcode reading window, and if so, first blow the dust away with an airbrush, and then gently wipe the plate with a cotton swab or similar soft object.

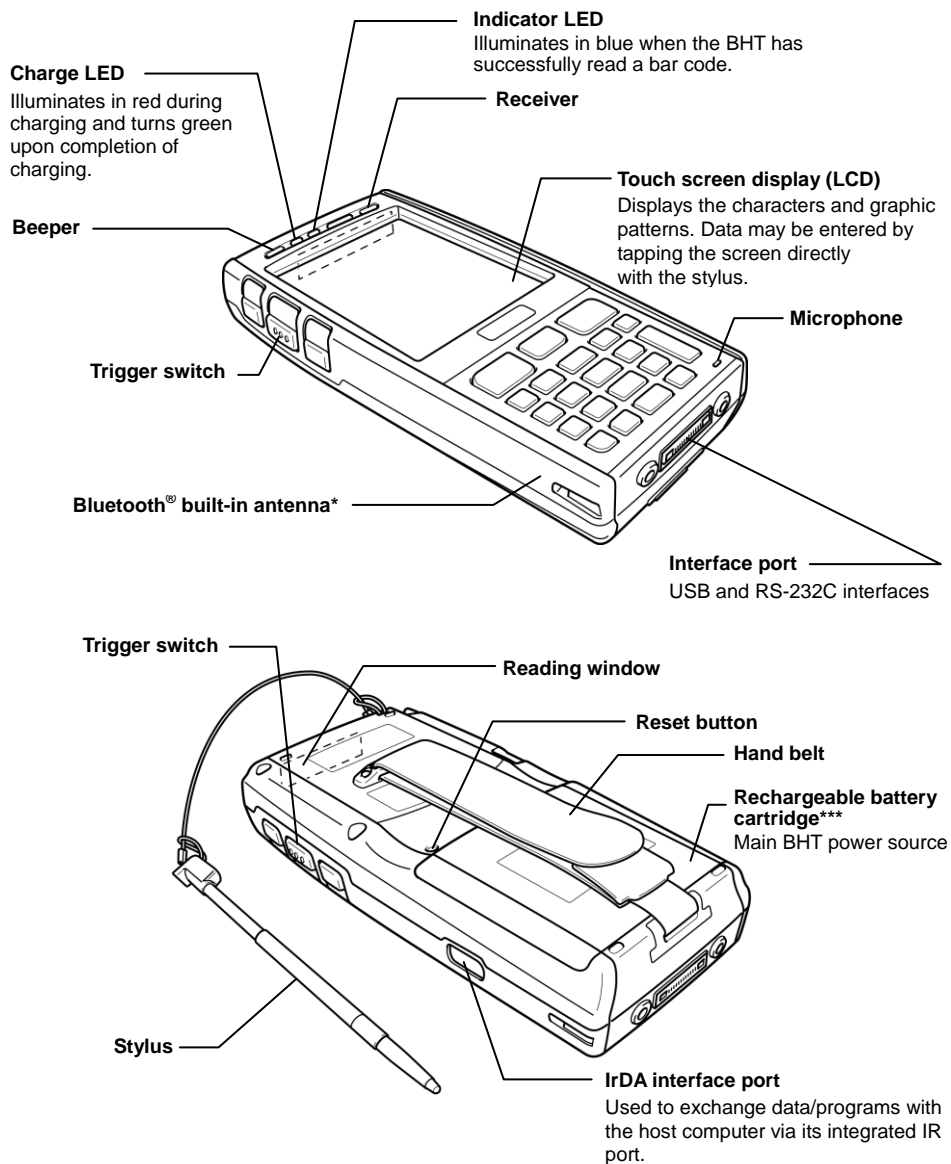
If sand or hard particles have accumulated, rubbing the plate will result in scratches. Blow the particles away with an airbrush or wipe with a soft brush.





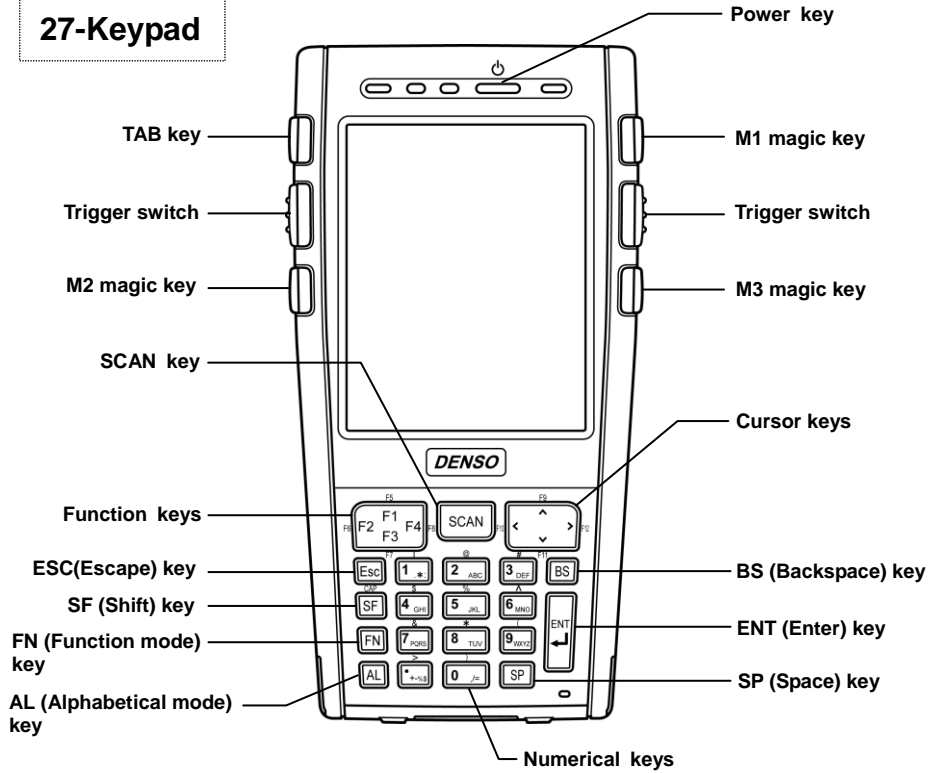
## Components and Functions

### 27-Keypad




## Components and Functions











### 27-Keypad



Introduction

	Function keys	Used to select functions. * Function key functions are assigned at user programs. Refer to the "BHT-700-CE API Reference Manual" or "BHT-700-CE Class Library Reference Manual" for further details.
	M1, M2, M3 magic keys	<ul style="list-style-type: none"> <li>The SF and ENT key functions can be assigned to these magic keys by making settings at the SYSTEM MENU.</li> <li>Character strings can be assigned at user programs.</li> </ul> * Refer to the User's Manual for details on how to operate the SYSTEM MENU.
	Trigger switch	<ul style="list-style-type: none"> <li>Press when scanning a barcode.</li> <li>The SF and ENT key functions can be assigned to these magic keys by making settings at the SYSTEM MENU.</li> <li>Character strings can be assigned at user programs.</li> </ul> * Refer to the User's Manual for details on how to operate the SYSTEM MENU.

## Components and Functions

	Scan key	Press to scan barcodes. (This key performs the same function as a full-press of the trigger switch.)
	Cursor keys	Used to move the cursor and select menus.
	Numerical keys	Used to enter data.
	Tab key	Used to enter a tab character.
	Enter key	Press to finalize entered data or execute operations.
	Backspace key	Moves back one character.
	Space key	Enters a space
	Alphabetical mode key	Switches to alphabet entry mode.
	Power key	Turns the BHT power ON and OFF.
	Function mode key	Switches to Function mode.
	Shift key	Used in combination with other keys such as the numerical keys, BS key, or power key for special input procedures.
	Escape key	Cancels the operation.

## Components and Functions

### Screen Display













Depending on user settings and so on, the Windows desktop in the screens in this Operator's Guide may differ a little from that in the actual BHT screen.

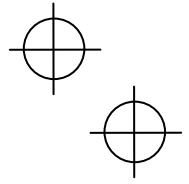
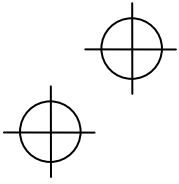


Note: The taskbar may also be a little different from that in the actual screens.

	Indicates the current battery power level. (See page 41.)
	Indicates the wireless connection status. : The BHT is connected to a wireless network. : The BHT is not connected to a wireless network.
	Indicates the wireless device open status and radio field intensity. : Displays when the wireless device is open. →  →  : Indicates the radio field intensity by the number of bars. Strong → Weak
	Indicates the Bluetooth® power status. : Appears when the Bluetooth® device is powered on. (Blue.) : Appears when the Bluetooth® device is powered off. (Grey.)
	Displays when the  key is pressed and the keys are in the shift status.
	Displays when the  key is pressed and the keys are in the function status.
	Displays when the BHT is communicating with the computer via Microsoft ActiveSync.

## Components and Functions

  	<p>Displays when in alphabet entry mode. (The entry mode can be changed by pressing the ALP key.)</p> <p>Pressing a numerical key when in alphabet entry mode displays the letter assigned to that key in this ALP window.</p>
	<p>Tap this icon while an application is running to display the desktop. Tap again to return the original application execution screen.</p>
	<p>Used to display/hide the software keyboard.</p> <p>: Tap this icon to display the software keyboard.</p> <p>: Tap this icon to hide the software keyboard.</p>
	<p>Indicates the software keyboard status. (Tap this icon to display/hide the software keyboard, or switch the keyboard status ON/OFF.)</p> <p>: Displays when ON.</p> <p>: Displays when OFF.</p> <p>(This icon does not display by default, but can be displayed by changing the setting at the System Menu or user programs.)</p>
	<p>Displays when the CPU switches to standby. (This icon does not display by default, but can be displayed by changing the setting at the System Menu or user programs.)</p>
	<p>Displays when Caps Lock is pressed at the software keyboard.</p>



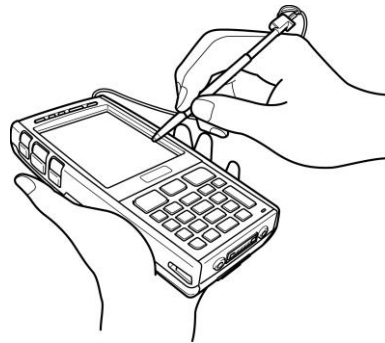
## Input Method

Introduction

### Using the Stylus

The BHT liquid crystal display (LCD) is a touch screen. Buttons, menus and so displayed on the screen can be selected using the stylus provided.

Always perform touch screen adjustments before operating the touch screen. (See page 23.)

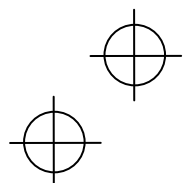
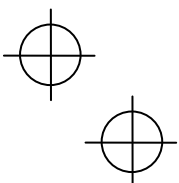


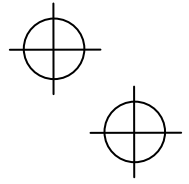
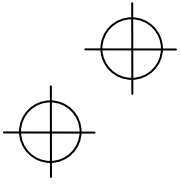
### Touch Screen Operation

Select the LCD touch screen buttons and menus and so on using the stylus provided.

Action	Description
Tap	This involves tapping the touch screen once. This function is the equivalent of a "click" with a mouse on a computer.
Double-tap	This involves tapping the touch screen twice in quick succession. This function is the equivalent of a "double-click" with a mouse on a computer.
Drag	This involves moving the stylus to an object while pressing the touch screen. This function is the equivalent of "dragging" with the mouse on a computer.

- Always use the stylus provided to operate the touch screen. Never use fingernails or any pointed or hard objects, or apply strong pressure or impact to the touch screen. This may result in damage or a malfunction.
- If dirty, clean the touch screen and stylus tip prior to operation. Failure to observe this may result in scratches to the LCD screen or hinder smooth movement of the stylus.





## Preparation

Follow the steps below to prepare the BHT for use.

### Step 1 Charging (Page 16)

First charge the battery.



### Step 2 Attaching the Stylus (Page 21)

Attach the stylus to prevent it from being lost.



### Step 3 Turning ON the Power (Page 22)

Preparation is now complete.

Preparation

## Step 1 Charging

The BHT battery is not charged when purchased and must therefore be charged prior to use.

The following chargers can be used with the BHT.

Communication units: CU-733, CU-714

Battery chargers: CH-751, CH-704

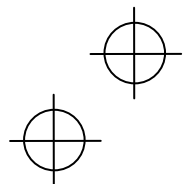
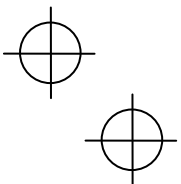
\* The CH-704 charger is used for charging individual batteries, and the CH-751 is a stand-type (same type as CU (communication unit) charger.)

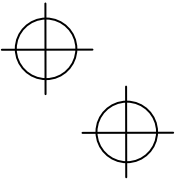
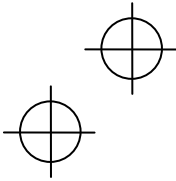
**The charge time is approximately 3 hours (standard rechargeable battery cartridge) or 6 hours (large-capacity rechargeable battery cartridge).**

- An almost completely discharged battery cartridge should take this time to become fully charged.

#### Charging Precautions

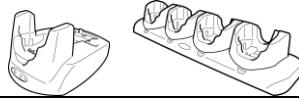
- Do not touch the BHT, battery, or charger terminals by hand or stain them. Doing so could result in a contact failure or prevent charging.
- Never charge the battery near fire or in a high-temperature environment. High-temperatures may activate the charger's protective device, preventing charging, and lead to protective device damage, overheating, blowout or combustion.
- Terminate charging if not completed even after the specified time has elapsed.





### Step 1 Charging

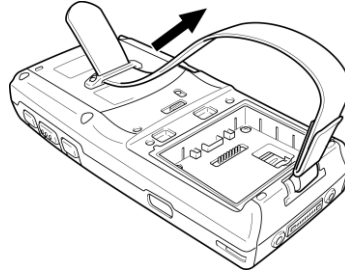
Charging with the communication unit (CU-733, CU-714) or battery charger (CH-751)



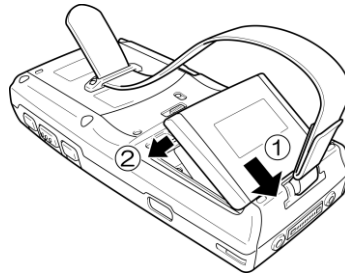
\* The battery cartridge shown in the drawing is the BT-700L.

## Preparation

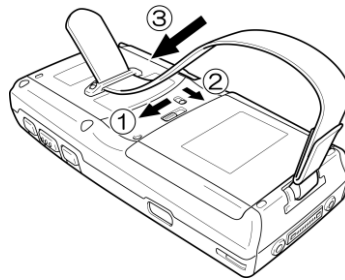
**1** Disconnect the hand belt.



**2** Insert the battery cartridge cover (1) tabs into the BHT and load the cartridge in the direction shown by the arrow (2).

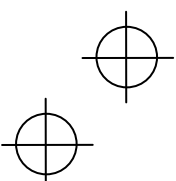
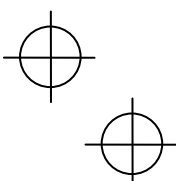
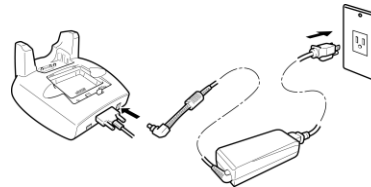


**3** Slide the battery cartridge cover release buttons (1)/(2) in the direction shown by the arrows and return the hand belt (3) to its original position.



**4** Connect the dedicated AC adapter to the DC input connector on the charger and plug the adapter into the wall socket.

The charger Power LED (green) turns ON.





## Step 1 Charging

5

Place the BHT on the charger.

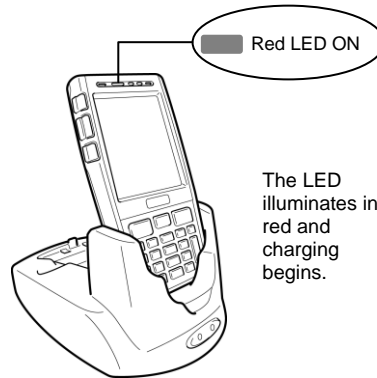
### Point

After placing the BHT on the charger when using the BHT for the first time or when left unused for long periods of time, do not remove from the charger for approximately 3 hours (standard rechargeable battery cartridge) or 6 hours (large-capacity rechargeable battery cartridge).

### Note:

The BHT is equipped with a back-up battery used to back-up the internal memory and calendar clock. The internal back-up battery is charged first when charging is commenced.

Do not remove the BHT from the charger for at least 2 days when using the BHT for the first time or when using after long periods of time.



The LED illuminates in red and charging begins.

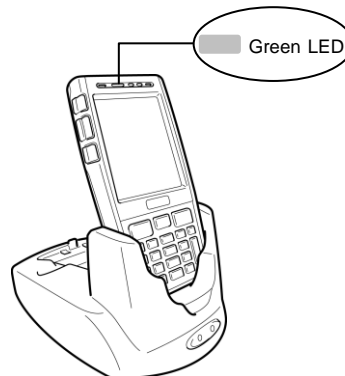
Preparation

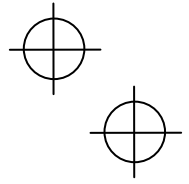
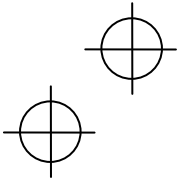
6

The BHT indicator LED will change to green when charging is complete.

### Point

- Charging takes approximately 3 hours (standard rechargeable battery cartridge) or 6 hours (large-capacity rechargeable battery cartridge).
- An only slightly discharged battery cartridge should take this time to become fully charged.





### Step 1 Charging

#### Charging with the battery charger (CH-704)

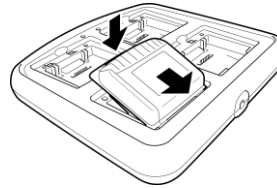


\* The battery cartridge shown in the drawing is the BT-700LL.

## Preparation

1

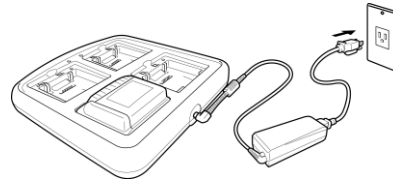
Check the battery cartridge terminals and insert the cartridge.



2

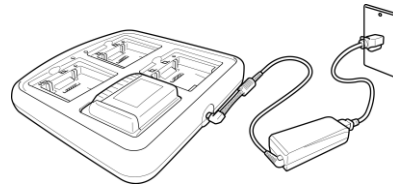
Connect the power cable to the CH-704 and connect the plug to a commercial AC power source (100 V AC).

The LED will turn red when charging is commenced.



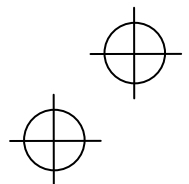
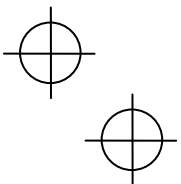
3

The red LED flashes slowly (1 second ON, 1 second OFF) when charging is complete.



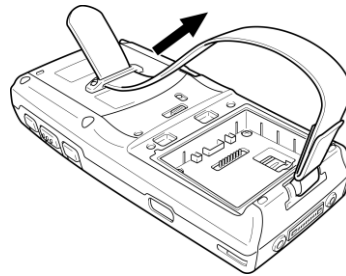
#### Point

- Charging takes approximately 3 hours (standard rechargeable battery cartridge) or 6 hours (large-capacity rechargeable battery cartridge).
- An only slightly discharged battery cartridge should take this time to become fully charged.

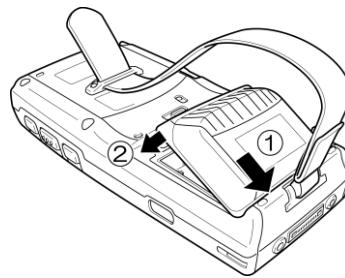


Step 1 Charging

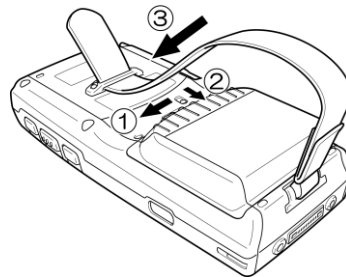
**4** Disconnect the hand belt.



**5** Insert the battery cartridge cover (1) tabs into the BHT and load the cartridge in the direction shown by the arrow (2).



**6** Slide the battery cartridge cover release buttons (1)/(2) in the direction shown by the arrows and return the hand belt (3) to its original position.



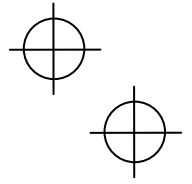
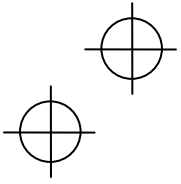
Preparation

**Note:**

The BHT is equipped with a back-up battery used to back-up the internal memory and calendar clock.

The internal back-up battery is charged first a charged battery cartridge is inserted.

Do not remove the BHT from the charger for at least 2 days when using the BHT for the first time or when using after long periods of time.



## Step 2 Attaching the Stylus

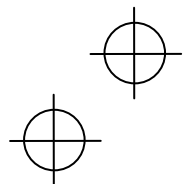
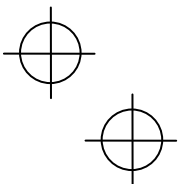
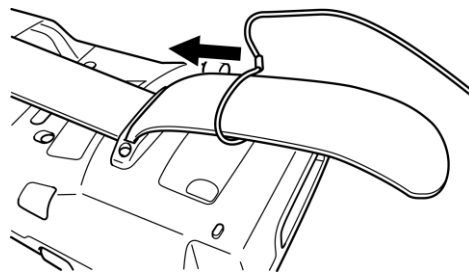
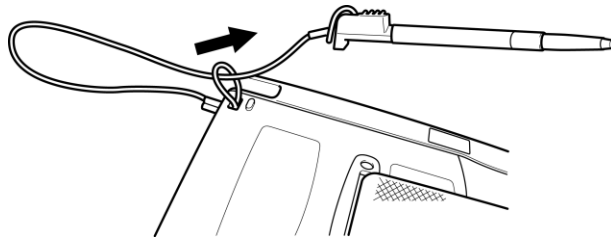
Attach the stylus to prevent it from being lost.

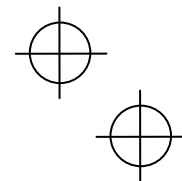
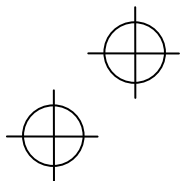
### Stylus Attachment

Attach the stylus as shown below.

#### 27-key pad

Preparation

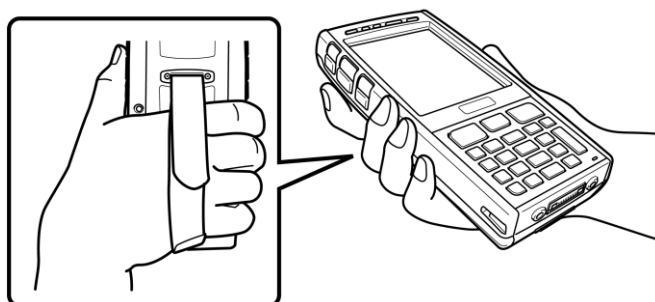




## Step 2 Attaching the Stylus

### Holding the BHT

Insert your hand into the hand belt and hold the BHT as shown below.



Preparation

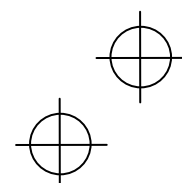
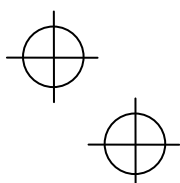
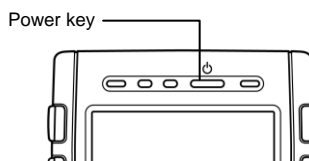
## Step 3 Turning ON the Power

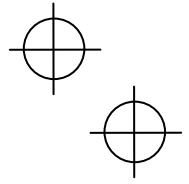
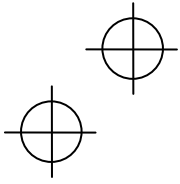
It is necessary to perform touch screen calibration and set the date and time when turning ON the BHT power for the first time. Press the **power** key to turn ON the BHT power. The calibration screen should then display.

If the calibration screen does not display, first perform a "full reset". Refer to "Resetting and Full Resetting" (page 46) for details of the full reset method.

1

Press the **power** key to turn ON the BHT power.



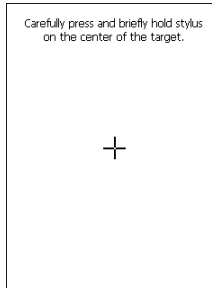


Preparation

Step 3 Turning ON the Power

2

Tap the "+" that displays at the calibration screen in the center with the stylus for approximately 1 second. Next touch the center of the "+" each time it moves. (The "+" mark moves from the center of the screen to the upper left, lower left, lower right and upper right, making a total of 5 positions.)

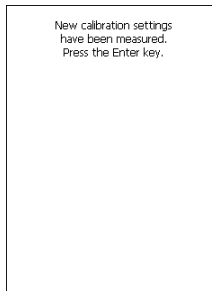


Point

The power cannot be turned OFF by pressing the power key during touch screen calibration. Press the power key when calibration is complete.

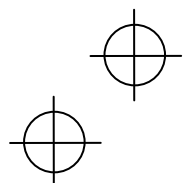
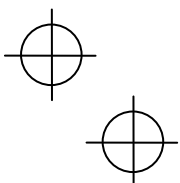
3

Press the ENT key or tap the screen to complete touch screen calibration and display the data and time setting screen.



4

Set the date, time and time zone and then tap the OK button.



## Turning the Power OFF

Use one of the following three methods to turn OFF the BHT power.

- (1) Normal power OFF: Press the **power** key.
- (2) Turning the power OFF after registry back-up: Hold down the **SF** key and press the **power** key.
- (3) Auto power OFF: The power turns OFF automatically when the BHT is not used for a set length of time.

### (1) Normal power OFF

Press the **power** key.

The BHT power turns OFF after the message right displays.

#### Point

Do not remove the battery cartridge while the message on the right is displayed.

Failure to observe this may result in data stored in the BHT being lost.

Shutdown  
in progress.  
Do not remove  
the battery.

Preparation

### (2) Turning the power OFF after registry back-up

Hold down the **SF** key and press the **power** key.

The message right displays and registry back-up is commenced.

The power turns OFF automatically when the back-up is complete.

#### Point

Do not remove the battery cartridge while the message on the right is displayed.

Failure to observe this may result in data stored in the BHT being lost.

Now saving  
Registry.  
Do not remove  
the battery.

### (3) Auto power OFF

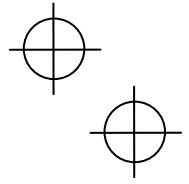
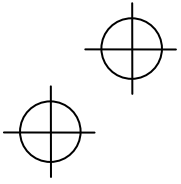
The power turns OFF automatically when the BHT is not used for the length of time set at the user program. The default time is set to 3 minutes when the BHT is shipped from the factory.

\* Refer to the User's Manual for further details of auto power OFF.

#### Point

Do not remove the battery cartridge while Auto power OFF is processing.

Failure to observe this may result in data stored in the BHT being lost.

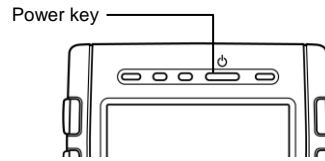


# Scanning Barcodes

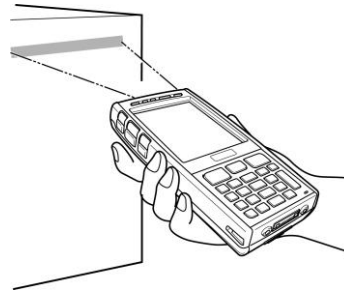
Follow the procedure below to scan barcodes.

## Procedure

**1** Turn the BHT power ON.



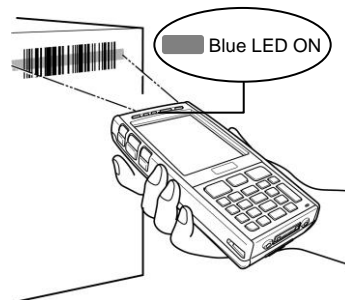
**2** Bring the barcode reading window to a barcode to be scanned, and press the trigger switch.



**3** The BHT turns on the illumination LED to scan the barcode.

When the BHT has read the barcode successfully, the indicator LED will illuminate in blue.

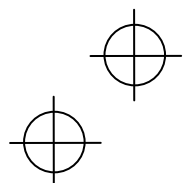
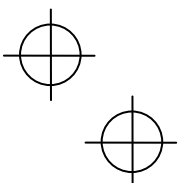
Barcodes can be read also by pressing the **Scan** key.



### Point

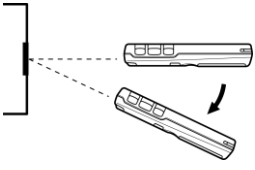

The barcode scanning method may differ depending on the application. Perform scanning in accordance with the instructions provided in the application User's Manual.

Using the BHT





**When Unable to Successfully Read Barcodes**

	Cause	Countermeasure
Specular reflection	When the illumination LED is focused on the printed surface of the barcode from directly above, there are times when scanning is unsuccessful due to specular reflection.	Change the BHT scanning angle and try again. 
Distance from barcode	Scanning may be unsuccessful if the BHT reading window is too close to or too far from the barcode, even when the barcode is within the illumination LED range.	Move the BHT slowly toward or away from the barcode and try again. The illumination LED range is only a guideline. Barcodes can be read at a maximum distance of 62 cm from the BHT reading window. 
Barcode surface curvature	Scanning may be unsuccessful if the barcode surface is curved.	Scan the barcode at the center of the barcode reading window.
Barcode surface dirt	Scanning may be unsuccessful if the barcode surface is dirty.	Wipe the dirt from the barcode and try again.
Barcode reading window dirt	Scanning may be unsuccessful if the barcode reading window is dirty.	Blow any dust away with an airbrush, and then gently wipe the reading window with a cotton swab or similar soft object.
Direct sunlight, ambient light	Barcode scanning may be adversely affected by direct sunlight or the brightness of the surrounding light.	Perform barcode scanning away from direct sunlight. Try adjusting the brightness of the surrounding light when scanning indoors.

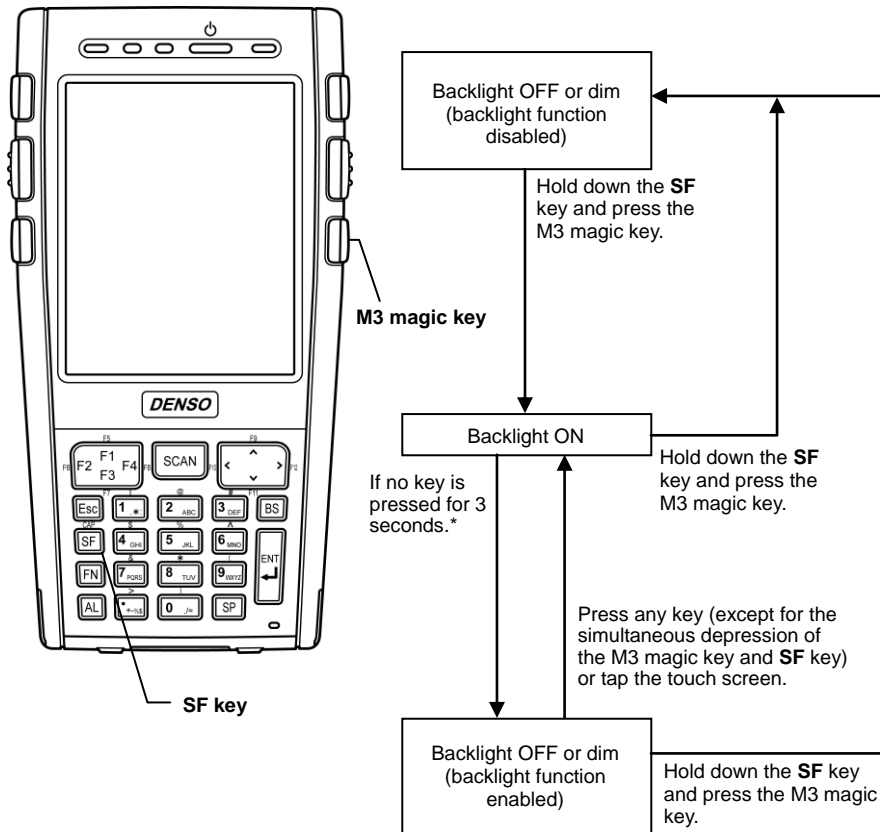
**Using the BHT**

# Turning ON/OFF the Backlight

## 27-Keypad

To turn the backlight ON or OFF, hold down the **SF** key and press the M3 magic key.

Using the BHT



\* Under 1 minute if the BHT is placed on the CU.

- Point -
- The backlight function enable/disable key (simultaneous pressing of **SF** key and M3 magic key set as default) and time until auto OFF can be set at user programs.
  - As opposed to pressing the backlight function enable/disable key, the backlight function can be enabled or disabled at the Backlight settings menu.

## Changing the Default Settings

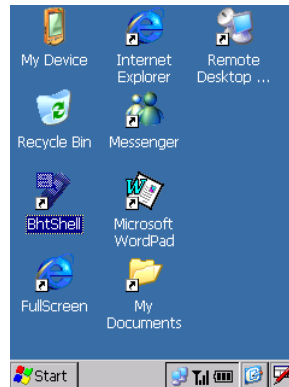
The beeper volume, switching between the beeper and vibrator, touch-screen calibration and backlight settings can be changed at the System Menu or Control Panel.

	Item	Details
(1)	Beeper volume, beeper/vibrator switching	Used to adjust the beeper volume and switch between beeper/vibrator.
(2)	Touch screen	Used to calibrate the touch screen.
(3)	Backlight	Used to set the LCD screen backlight brightness, keypad backlight and the length of time these backlight are turned OFF when not in use for energy saving purposes.

### (1) Beeper Volume, Beeper/Vibrator Switching

1

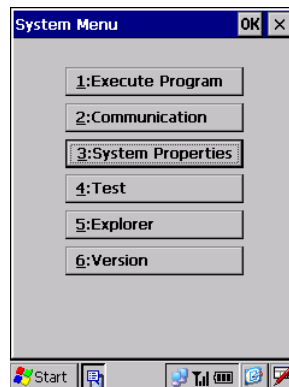
Double-tap the "BhtShell" icon on the desktop to call up the "System Menu."

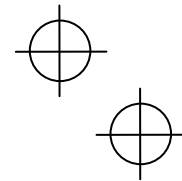
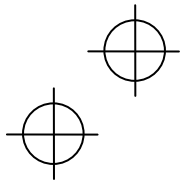


Using the BHT

2

Tap "3: System Properties".





3

Double-tap the "Beeper/Vibration" icon at the "Device Settings" menu that displays.

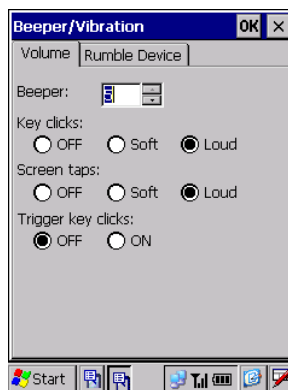
### Changing the Default Settings



4

Tap the "Volume" tabbed page at the "Beeper/Vibration" menu to display the screen on the right.

At this screen, use the "Beeper:" spin box to set the beeper volume. The volume can be set between 0 and 5. The greater the value, the higher the volume.

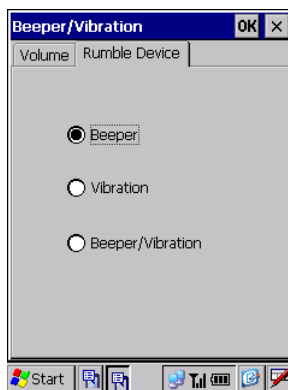


5

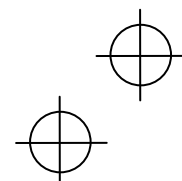
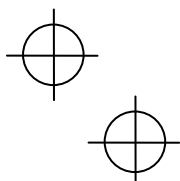
Tap the "Rumble Device" tabbed page at the "Beeper/Vibration" menu to display the screen on the right.

A selection can be made from beeper, vibrator, or both beeper and vibrator notification to inform the operator that barcodes have been scanned successfully.

- Beeper:                   Beeper notification
- Vibration:               Vibrator notification
- Beeper/Vibration:      Simultaneous beeper/vibrator notification



Using the BHT



Changing the Default Settings

## (2) Touch Screen

1

Double-tap the "Control Panel" icon at the "Device Settings" menu.



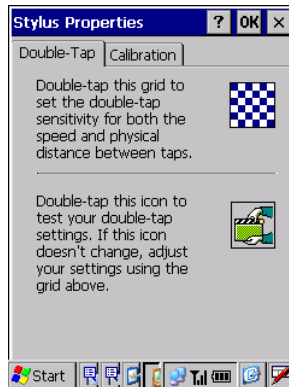
2

Scroll down and double-tap the "Stylus" icon.

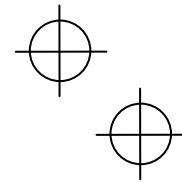
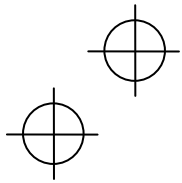


3

The "Stylus Properties" screen displays.



Using the BHT



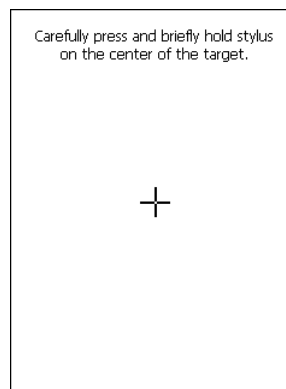
### Changing the Default Settings

**4** Tap the “Calibration” tabbed page.



**5** Tap the [Recalibrate] button to display the screen on the right.

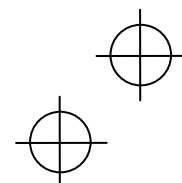
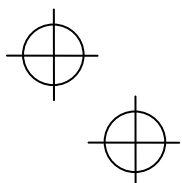
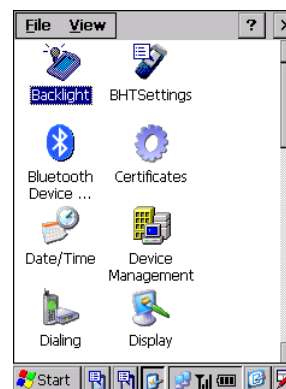
Follow the instructions displayed on the screen. (See page 23.)



Using the BHT

## (3) Backlight

**1** Double-tap the “Backlight” icon at the “Control Panel”.



## Changing the Default Settings

### 2

The “Backlight” screen displays.

Tap the “General” tabbed page at the “Backlight” menu to display the screen on the right.

#### Backlight (\*1)

Set whether to turn ON the backlight when keys are pressed or the screen tapped.

Enable: Backlight turns ON.

Disable: Backlight does not turn ON.

(\*1) Pressing the backlight function ON/OFF key (Default setting: simultaneous pressing of **SF** key and M3 magic key switches between the enabled and disabled states, regardless of the backlight function setting made at this screen.

#### Specify the illumination time(sec)

Set the length of time the backlight remains ON when keys are pressed or the screen tapped.

Battery Power: ON-duration when the BHT is not placed on the CU.

External Power: ON-duration when the BHT is placed on the CU.

#### Select the illumination part

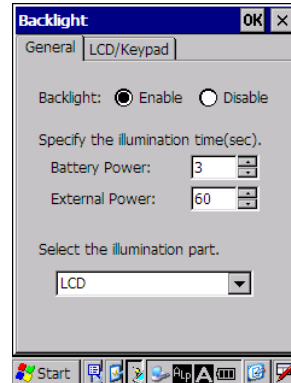
Select the location for which the backlight is to be illuminated when keys are pressed or the screen tapped.

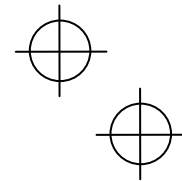
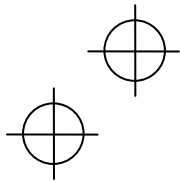
None

LCD

Keypad

LCD and Keypad





## Changing the Default Settings

3

Tap the "LCD/Keypad" tabbed page at the "Backlight" menu to display the screen on the right.

### LCD Backlight

#### **ON Level**

Select the brightness from one of the following four levels.

	(Dark)
Off	↑
Low Bright	
Mid Bright	
High Bright	↓
	(Bright)

#### **Power Save Level**

Change the settings for turning OFF the backlight after no keys have been pressed or the screen tapped for a specified period of time.

Dim: Dim (Backlight remains ON faintly.)

OFF: Backlight turns OFF.

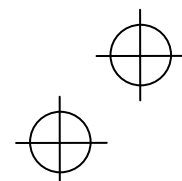
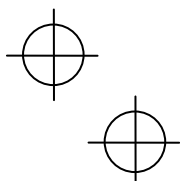
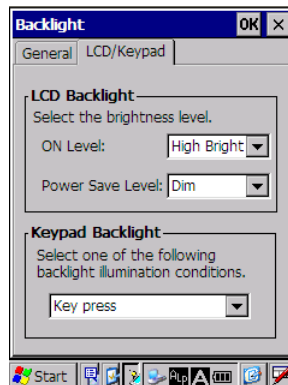
### Keypad Backlight

Select one of the following keypad backlight illumination conditions.

Key press or screen tap

Key press

Disable





## Transmitting Data

Data gathered by the BHT-710BB-CE can be transmitted to the host computer by connector communication, infrared communication, Bluetooth® communication.

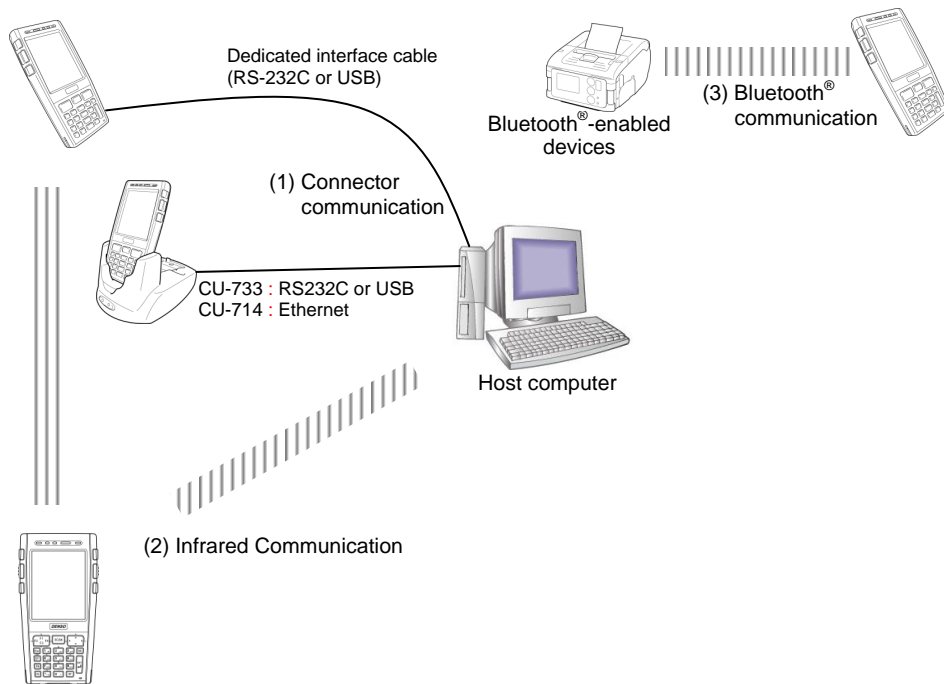
Infrared communication is used to transmit data to and from BHT-710BB-CE units.

The data transmission method and BHT-710BB-CE setting method will differ depending on the system used, and therefore the system administrator should be contacted for details of operation.

Refer to the User's Manual for details of each communication method.

### Request

Data gathered by the BHT should be promptly uploaded to the host computer.

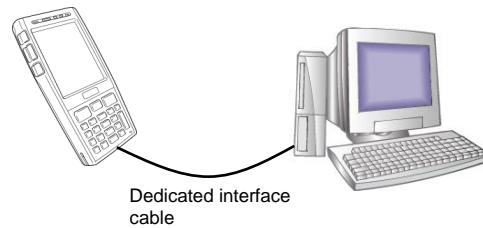


Using the BHT

## (1) Connector Communication

Connector communication can be performed by selecting either an RS-232C connection or USB connection depending on the host computer interface.

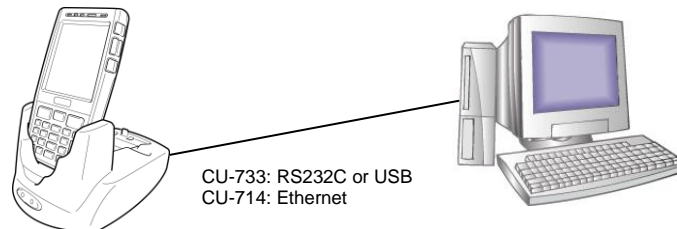
Connect the host computer and BHT with a dedicated interface cable and perform data communication.



### Requests

- Do not use a cable other than the dedicated interface cable.
- Avoid inserting the connector at an angle or pulling the cable strongly.

Place the BHT on the communication unit (CU-733, CU-714) and transmit data.



### Requests

Handling the CU-714

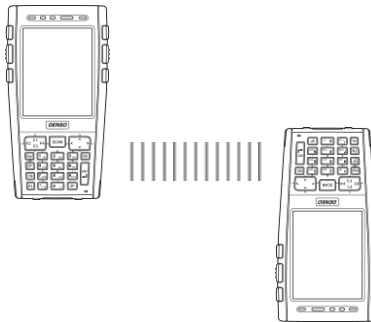
- A Category 5 (Cat 5) LAN cable or higher is required when using the CU-714 in 100BASE-TX networks. Successful communication may not be possible with other cables.
- Do not forcibly insert the LAN connector or pull the cable strongly. Failure to observe this may result in damage to the connector or cable.
- The MAC address is written on the nameplate on the rear of the CU-714.

## Transmitting Data

### (2) Infrared Communication

- When performing data communication between BHT-710BB-CE units

Point the BHT-710BB-CE infrared communication ports toward each other and perform communication.



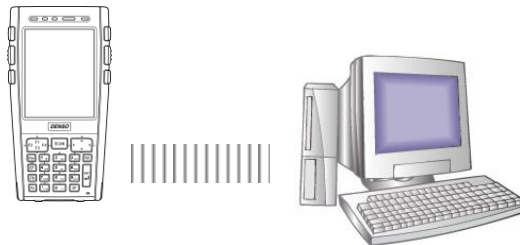
#### Requests

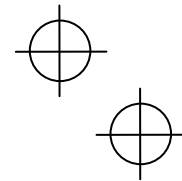
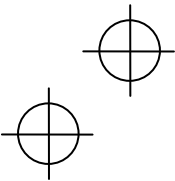
- Ensure that the light path between the BHT-710BB-CE and any target stations is not obstructed.
- Perform communication within the effective infrared emission range (15 cm).
- Do not operate remote control units for televisions and so forth in the vicinity of infrared communication. This may result in communication failure.
- Perform communication in locations where the BHT-710BB-CE units will not be exposed to light interference from sources such as intense ambient lighting (inverter-driven fluorescent lighting, in particular) or direct sunlight. This may result in communication failure.

Using the BHT

- When performing data communication with the host computer

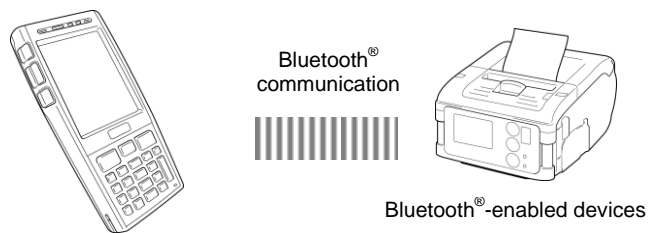
Data can be transmitted directly to the host computer if the computer is equipped with an infrared communication port.





### (3) Bluetooth® Communication

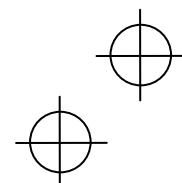
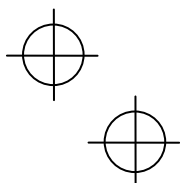
This interface permits wireless communications with other Bluetooth®-enabled devices.

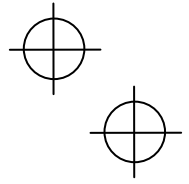
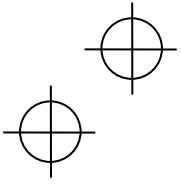


#### Request

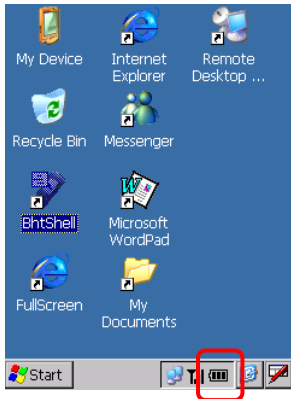
Pointing the BHT in the direction of the other device sometimes improves communications over the link.


Using the BHT








## Battery Power Level Indicator



The battery power level can be checked at the  icon that displays in the taskbar. The battery power displays in three levels.

The battery power level indicator is a guideline to notify the operator to charge the battery promptly when discharged.

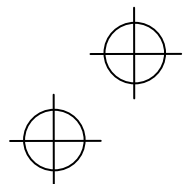
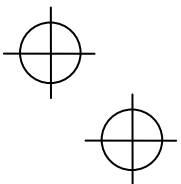
-  : Sufficient battery power remains.
-  : The battery power is partially depleted. Charge promptly.
-  : The battery power is almost fully depleted and should be charged immediately.

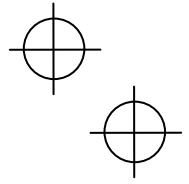
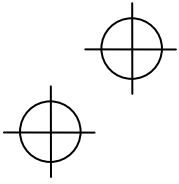
Note: There are times when the taskbar display differs from the display on the BHT LCD screen.

### About the Battery Level

- The battery power level indicator does not accurately reflect the battery residual power and should only be used as a guideline.
- The battery power level will fluctuate due to BHT operation, and therefore disparities may occur between the actual battery voltage and the display indicator.
- Ensure to charge the battery as soon as possible before the battery power is depleted.

Charging





# Replacing the Battery Cartridge

## Battery Cartridge Service Life

The battery cartridge is a consumable part and should be replaced after being charged approximately 300 times.

The performance of the battery cartridge's lithium-ion battery will deteriorate gradually with repeated charging, even during normal use. When the battery operation time becomes shorter even after charging for the specified length of time, replace the battery with a new one.

## Battery Cartridge Replacement Method

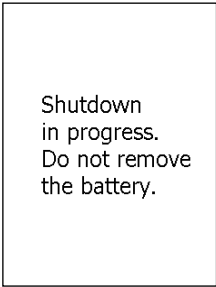
\* The battery cartridge shown in the drawing is the BT-700L.

**1** Press the **power** key to turn OFF the BHT power. The screen on the right displays.

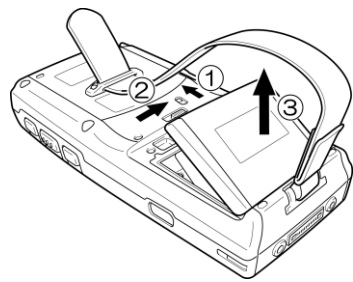
Turn OFF the power after the message below displays.

**Point**

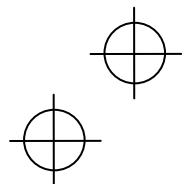
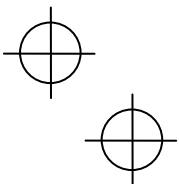
Do not remove the battery cartridge until the power turns OFF and the screen display clears.

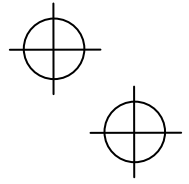
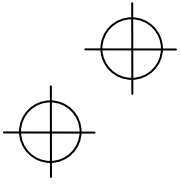


**2** Disconnect the hand belt.  
Slide the battery cartridge cover release buttons (1)/(2) in the direction shown by the arrows and remove the battery cartridge (3).



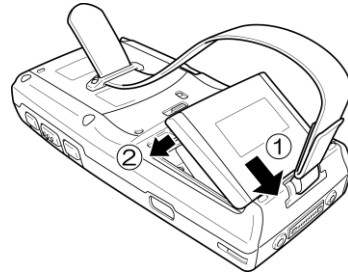
Charging





### Replacing the Battery Cartridge

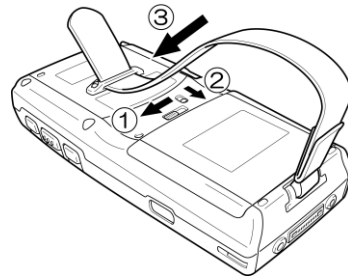
- 3** Insert the tabs on the cover for the new battery cartridge (1) into the BHT and load the cartridge in the direction shown by the arrow (2). (See “Step 1 Charging” on page 16.)



#### Point

Insert the new battery cartridge within **3 minutes** of removal to avoid data loss.

- 4** Slide the battery cartridge cover release buttons (1)/(2) in the direction shown by the arrows and return the hand belt (3) to its original position.



### Battery Cartridge Recycling Request

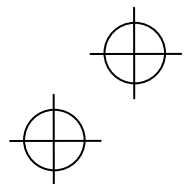
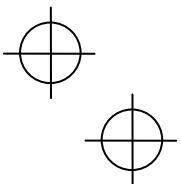
- This product uses a lithium-ion battery that contains scarce, recyclable resources. We kindly ask for your cooperation in recycling to ensure reuse of these resources.

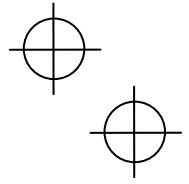
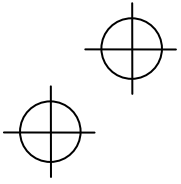


Li-ion

- Used battery cartridges must not be disposed of as combustibles.
- Contact your nearest rechargeable battery recycling center or DENSO WAVE sales office for information on disposal procedures.
- When disposing of used battery cartridges at your nearest recycle center, cover the terminals with vinyl tape to insulate and protect from overheating or fire due to a short-circuit.
- Never disassemble battery cartridges.

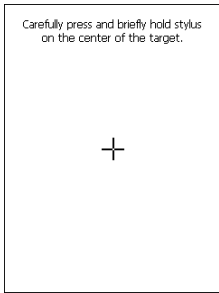
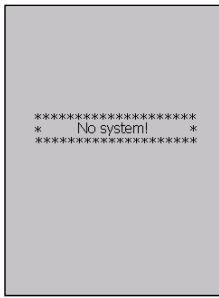
Charging



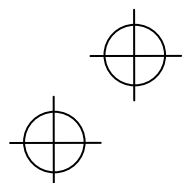
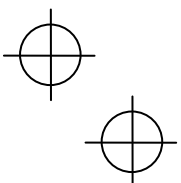


## Replacing the Battery Cartridge

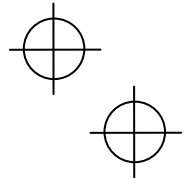
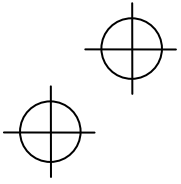
### If the Screen Below Displays Following Replacement...

Display	Handling
<p>Carefully press and briefly hold stylus on the center of the target.</p> 	<p>When the BHT power is turned ON after a long period of no use, it may be necessary to recalibrate the touch screen and reset the date and time.</p> <p>If this message displays, calibrate the touch screen and set the date and time. (See page 23.)</p>
	<p>Reboot the BHT if this message displays. Contact the system administrator if this error persists.</p>

Charging



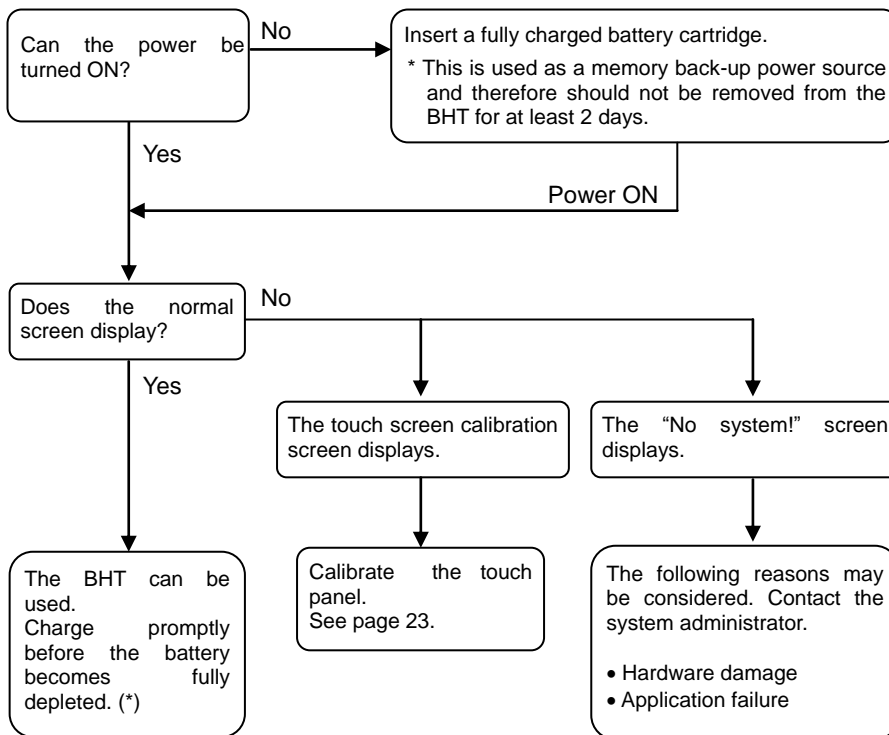




## Using the BHT after Long Periods

Data stored in the BHT may be lost and the calendar clock may stop if the BHT is left unused for long periods of time.

Take appropriate measures in accordance with the procedure below.

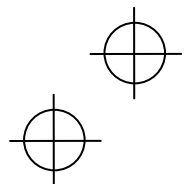
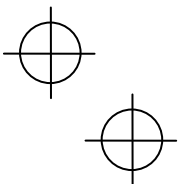


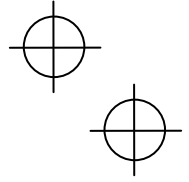
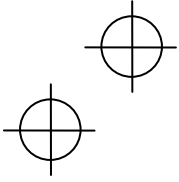
**Charging**

---

– Point – \*: Files may become corrupt if left for a long period of time without replacing the battery cartridge.

---





## Resetting and Full Resetting

### Reset

Reset the BHT in the following cases.

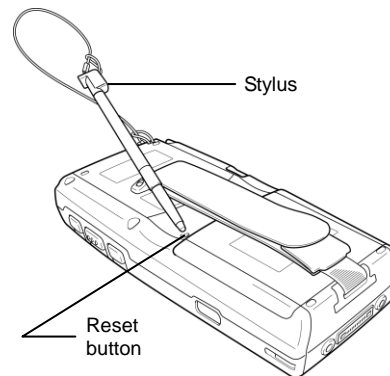
- The BHT makes no response to entry from the touch screen or keys.
- Programs in the BHT malfunction for some unknown reason.

### Reset Method

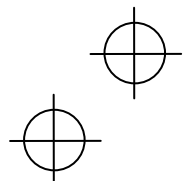
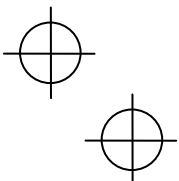
- 1 With the BHT power ON, press the reset button at the rear of the BHT with the stylus provided.

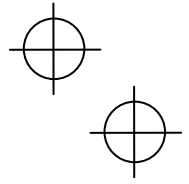
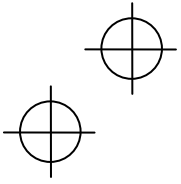
#### Point

Data stored in the memory will not be lost even after resetting. However, any data currently being edited will be lost.



Troubleshooting





## Resetting and Full Resetting

### Full Reset

Perform a full reset if the problem persists even after resetting.

### Full Reset Method

- 1 With the BHT power OFF, hold down the reset button at the rear of the BHT with the stylus and press the **power** key. Then release the reset button and **power** key and press the **power** key again to fully reset the BHT.

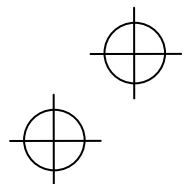
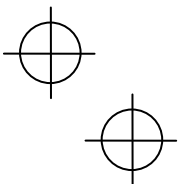
#### Point

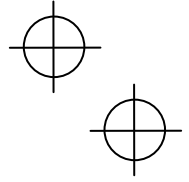
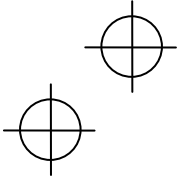
- All data stored in the RAM will be lost when performing a full reset. It is recommended that any important data be backed up to the "FLASH" folder or to the computer.

### Memory Contents after Reset/Full Reset

	Reset	Full Reset
Data in the "FLASH" folder	Data retained	Data retained
Data in other folders	Data retained	Data erased
Contents of the Registry	Data retained	Data erased <sup>(Note)</sup>
Data being edited	Data erased	Data erased

(Note) If the Registry has been backed up (see page 24.), the backed up Registry will be used.





## Troubleshooting Guide

**Problem** The BHT power does not turn ON.

- Ensure that the battery cartridge has been properly inserted into the BHT. (See page 17.)
- Check the battery power level (see page 41) and charge if necessary.
- Wipe any dirt from the battery cartridge and BHT terminals. (See page 6.)

If the power still does not turn ON after taking the above measures, there is a possibility that the BHT may be broken. Notify the system administrator.

**Problem** Unable to charge the BHT.

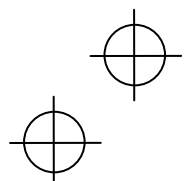
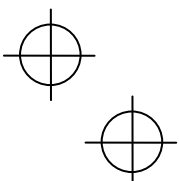
- Ensure that the dedicated battery charger is being used. (See page 16.)
- Ensure that the battery cartridge has been properly inserted into the BHT. (See page 17.)
- Ensure that the BHT has been properly placed on the charger.  
The BHT LED will turn red when properly placed on the charger.
- Wipe any dirt from the battery cartridge and BHT terminals. (See page 6.)
- When using an old battery cartridge that has been repeatedly charged 300 times or more, replace with a new one. (See page 42.)

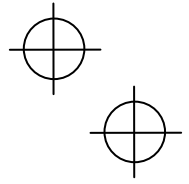
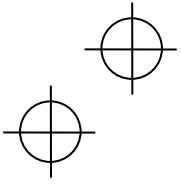
If still unable to charge the BHT after taking the above measures, there is a possibility that the charger may be broken. Notify the system administrator.

**Problem** The BHT power turns OFF immediately.

- Ensure that the battery cartridge has been charged (see page 41) and charge if necessary.
- If set to auto power OFF, the BHT power will automatically turn OFF if not used for the set length of time. (See page 24.)  
The auto power OFF setting can only be changed at user programs.

Troubleshooting





### Troubleshooting Guide

**Problem** Unable to read barcodes.

It may not be possible to read barcodes at the following times. Refer to page 26 and take appropriate measures.

- The barcode surface is dirty or curved.
- The barcode reading window is dirty.
- The scanning distance from the barcode is unsuitable.
- The BHT is unable to read barcodes due to specular reflection.
- Scanning is performed in a place where the direct sunlight or ambient lighting is too bright, or in a place that is too dark.

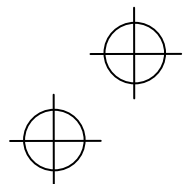
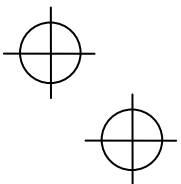
If still unable to read barcodes after taking measures to tackle the above problems, notify the system administrator.

**Problem** An error message displays.


The error messages that display on the screen and the causes and countermeasures to be taken if an error occurs when the power is turned ON or while running a program are shown below.

Message	BHT Response	Cause	Countermeasure
<pre>***** * No system! * *****</pre>	The beeper sounds 5 times (each beep lasts for 0.1 seconds) and then the power turns OFF.	System program abnormality	Notify the system administrator.
Battery voltage has lowered.	The BHT displays a warning for approximately 2 seconds while sounding the beeper 3 times (each beep lasts for 0.1 seconds) before returning to its normal operational status.	The battery voltage has dropped to a level that requires charging or battery cartridge replacement when turning the BHT ON, OFF or while running a program (System mode or application).	Replace or charge the battery cartridge.

**Troubleshooting**



**Troubleshooting Guide**

Message	BHT Response	Cause	Countermeasure
<p>Charge the Battery!</p>	<p>The beeper sounds 5 times (each beep lasts for 0.1 seconds) and then the power turns OFF. Depending on the battery consumption status, the beeper may not sound 5 times.</p>	<p>The battery voltage has dropped to a level that prevents BHT operation when turning the BHT ON, OFF or while running a program (System mode or application).</p>	<p>Replace or charge the battery cartridge.</p>
		<p>The back-up battery discharge count has exceeded the specified number of times and the battery power level has dropped below the stipulated level.</p>	<p>Replace the back-up battery. Refer to the User's Manual for details of the replacement method.</p>