DENSO

BHT-1408QUMWB

Operator's Guide

조작 가이드

操作指南

RF Tag Handy Terminal
BHT-1408QUMWB

Thank you for using the DENSO WAVE RF Tag Handy Terminal (BHT).
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.
https://www.denso-wave.com/en/

DENSO WAVE 의 RF Tag Handy Terminal (BHT) 을 사용해 주심에 감사드립니다.
본제품의 기능을 충분히 이용하기 위하여 조작 전 본서 읽어주시길 바랍니다.
또한, 필요한 때는 언제든지 참조할 수 있도록 잘 보관바랍니다.
본서에는 조작에 필요한 기본적인 내용만을 기재하고 있습니다.
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조작 전반에 관한 상세한 내용은 취급설명서를 참조바랍니다. 취급설명서는 당사 홈페이지로부터 무상으로 다운로드가능합니다.
https://www.denso-wave.com/en/

496487-8651

SAFETY PRECAUTIONS

Be sure to observe all these safety precautions.

⚠ **DANGER** **Alerts you to those conditions that could imminently lead to serious bodily injury or death if the instructions are not followed correctly.**

Handling battery

Failure to follow all instructions listed below may cause electrical shock, overheating, smoking, fire, rupture, or leakage.

- Never disassemble or modify the battery.
- Do not stick a needle into the battery, hammer at it, or tread on it.
- Avoid dropping or throwing the battery or letting it undergo any shock or impact.
- Do not use significantly damaged or deformed batteries. Do not use batteries when they are subject to the impact, for example, a drop impact.
- Never connect the positive and negative terminals of the battery with a wire or other metallic materials.
- Do not carry or store the battery together with ballpoint pens, necklaces, coins, hairpins, or anything else metallic.
- Never burn or heat up the battery.
- Do not use or leave the battery in places where there is excessively high temperature (60°C or higher) such as near fire or heater.
- Do not use or store the battery in places exceeding the service or storage temperature.
- Never place the battery into or soak it in water or seawater.
- Never charge the battery near a fire or anywhere exposed to direct sunlight. If the battery becomes hot, protective device may be activated, which may cause the insufficient recharging, damage to the protective device, heat emission, rupture, or fire of the device.
- Never charge or use the battery where any inflammable gases may be emitted.
- If the battery is exposed to extremely low pressure, it may explode or leak flammable liquids or gases.
- Never apply solder directly to the battery.
- Do not use batteries other than the specified ones.
- If the battery fluid leaked from the battery gets into the eyes, wash thoroughly with clean water such as tap water without rubbing and obtain medical treatment immediately. Failure to do so will result in eye injuries.
- During use, charging, or storage of the battery, if odors come from the battery, the battery is overheated, discolored, deformed, or anything unusual is found, unload the battery from the BHT or charger. Do not use the battery.
- Use of any battery other than the specified battery can cause malfunction, explosion, etc.

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

Handling the BHT

Incorrect handling of the BHT could cause electric shock, impaired vision, skin problems, injury, burns and generation of heat and smoke from the BHT. Be sure to observe the following to use the device correctly.

- Never disassemble or modify the BHT.
- Do not let the battery undergo any shock or impact or throw it at something hard.
- When the BHT is subject to the strong impact, for example, a drop impact, check the case for any damage and the battery for damage and leakage. Never use a damaged case. Never use a damaged or leaked battery. If battery fluid leaks from the battery and it gets into your eyes, rinse

them with clean water thoroughly without rubbing and consult a doctor as soon as possible. Otherwise, you may damage your eyes.
- Do not insert any foreign materials into inside.
- Do not get the BHT wet or put it in water or seawater.
- Never put the BHT in a microwave oven or high-pressure container. Never put it on the induction cooktop.
- 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.
- Avoid using the BHT in extremely humid or dusty areas, or where there are drastic temperature changes.
- If smoke, abnormal odor or noise comes from the BHT, immediately turn off the power and remove the battery cartridge from the BHT.
- If the LCD screen is broken by mistake, care must be taken not to get the liquid crystal into your eyes or mouth or drop it on your skin.
- Be careful of broken glass if the LCD screen is accidentally cracked or broken. It may cause bodily injury.
- If the LCD screen is broken by mistake, care must be taken not to get the liquid crystal into your eyes or mouth or drop it on your skin. Be careful of broken glass if the LCD screen is accidentally cracked or broken. It may cause bodily injury, if the liquid leaks out from the broken LCD.
- Do not look into the light source from the reading window or do not point the reading window at other people's eyes. Eyesight may be damaged by direct exposure to this light.

Storing the battery
- Remove the battery from BHT, or charger and store at cool and dry place, when you don't use your BHT for an extended period of time.
- Check the condition of battery on the following points before you store it for a long time:
  - If the battery is full charged (a state right after charge is completed), and
  - If the remaining battery level is very low (there is not enough power left to activate BHT).
  Long-term storage under these conditions may deteriorate the performance and life of the battery. You are recommended to ensure that the battery is at least at the 🔋 charge level required for long-term storage.
  In addition, even you don't use the battery for a long term, keep this power level by recharging once a year in order to maintain the battery performance.
- The battery may swell over the years.
  This is a natural characteristic of a lithium-ion battery and is not safety hazard. Nevertheless, replacing the battery sooner is recommended.

Handling battery
Failure to follow all instructions listed below may cause electrical shock, overheating, smoking, fire, rupture, or leakage.
- The battery is exclusively for the BHT. Do not use the battery for purposes other than charging the BHT.
- To charge the battery, be sure to use the specified charger, the charging cable.
- The battery may be warm immediately after charging or use.
- If abnormal odor, heat, discoloration, deformation or any other abnormal conditions are noticed when the battery is in use, being charged, or is in storage, remove it from the BHT or charger and avoid further use.
- If the battery does not finish recharging within the specified time, stop recharging.
- Battery life is when the BHT becomes available for less time even after a properly charged battery is loaded. Please purchase a new battery.

Main specifications

Battery type	Nominal voltage	Nominal capacity	Ambient temperature
Lithium-ion battery BT-110L	3.7 VDC	3450mAh	During charging 0°C to 40°C (32°F to 104°F) During discharging -20°C to 60°C (-4°F to 140°F)

Specifications and external appearance are subject to change without notice.

Battery 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. Contact your nearest rechargeable battery recycling center or local sales office for information on disposal procedures.

When putting any used battery in a recyclable material container at the recycling center, observe the following instructions:

- When disposing of used battery 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.

Handling the BHT using a laser light

- The BHT uses a laser light for indicating the scanning range. Though the intensity of the laser light is too low to inflict bodily injury, you must observe the following precautions when handling the BHT equipped with laser light.
  1) Never stare into the laser light.
  2) Never point the code reading windows at someone's eyes.

Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Code reading window (Laser light emission window)

Label *
LASER LIGHT CLASS 1 LASER PRODUCT

* Detail of Label

LASER LIGHT CLASS 1 LASER PRODUCT IEC60825 -1: 2014
雷射光 Class 1 雷射製品 IEC60825 -1: 2014

COMPLIES WITH 21 CFR 1040.10 AND 1040.11 EXCEPT FOR CONFORMANCE WITH IEC 60825-1 ED.3, AS DESCRIBED IN LASER NOTICE No.56, DATED MAY 8,2019.
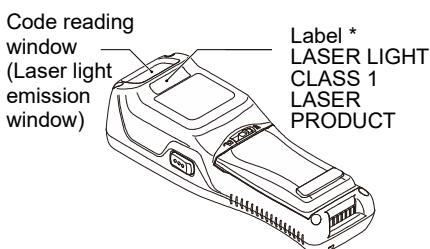
Handling products with RF tags

Regarding implantable medical devices

This product is an RFID device reader/writer using radio waves. Therefore, it may affect the performance of the medical devices around it depending on its use and location. To reduce the effects of this product on the medical devices, please observe the precautions described below while it is in use. Keep the RF tag antenna at least 22 cm away from the site of implantable medical devices.
Note: The above description is based on the guidelines of Japan (JAISA). Please check the guidelines for user's country.

Regarding human body exposure

This product is an RFID device reader/writer using radio waves. Therefore, it may affect the body of any user depending on its use and location. To reduce the effects of this product on the user's body, please observe the precautions described below while it is in use.
Keep the RF tag antenna at least 9 cm away from the part of the user's body.

Note: The above description is based on the guidelines of Japan (JAISA). Please check the guidelines for user's country.

Code reading window —————— ————— RF tag antenna
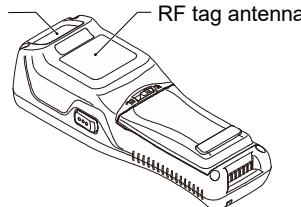
<To System Designers>
- When introducing BHTs in those systems that could affect human lives, develop applications carefully through redundancy and safety design which avoids the feasibility of affecting human lives even if a data error occurs.

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

Handling the BHT

Incorrect handling of the BHT could cause generation of heat and smoke from the BHT, and malfunction. Be sure to observe the following to use the device correctly.
- When using the hand strap or neck strap, exercise due care to avoid getting them caught in other objects or entangled in rotating machinery.
  Failure to do so could result in accident or injury.
- Keep your ears away from the speaker when a loud sound comes out of it. Failure to do so could lead to hearing difficulty.
- Do not operate the BHT in environments where static electricity can build into significant charges. Doing so could result in malfunction or mechanical failure.
- Avoid dropping the battery cartridge or letting it undergo any strong shock or impact. Doing so could result in malfunction or mechanical failure.
- Do not use the BHT near a wireless transmitter such as a ham radio. Doing so could result in malfunction or mechanical failure.
- Do not touch BHT with oily hands or gloves containing oil such as machine oil and grease. Doing so may cause the deformation and discoloration of a device.
- This product incorporates connectors for microSD card. Do not insert anything other than these cards. Do not insert a card inversely, diagonally and with twisted. If a card is inserted forcibly, this could damage a card or a connector.
- Do not attach a wet BHT or rechargeable battery cartridge to Battery Charger.
- Do not use excessive force when inserting or removing the battery cartridge. Doing so could result in malfunction or mechanical failure.
- Keep magnetic cards such as a cash card or a credit card away from the BHT. Failure to do so could cause loss of magnetic data.

<To system engineers>
- If you use a WAV file that cracks the sound, the speaker in BHT may be damaged.
  Check the sound when playing the WAV file and make adjust so that sound cracking does not occur when using the speaker in BHT.

安全注意事項

請務必遵守以下安全注意事項。

⚠ 危險　此標識表示如果無視此標識而進行錯誤操作，可能立即導致人員死亡或重傷。

電池的使用

不遵守下列所有指示可能會導致觸電、發熱、冒煙、起火或爆炸。

- 請勿拆解或改造電池。
- 請勿釘入釘子、用錘子敲打或踩踏。
- 避免電池掉落、投擲電池，或讓電池遭受任何形式的撞擊。
- 請勿使用嚴重破損或已經變形的電池。電池受到撞擊（例如掉落）時，請勿使用。
- 請勿用鐵絲或其他金屬材料連接電池之正（＋）與負（–）端。
- 請勿將電池與原子筆、項鍊、硬幣、髮夾、或任何其他的金屬製品一起攜帶或存放。
- 請勿將電池放入或浸泡於水或海水中。
- 請勿把電池放入火中或加熱。
- 請勿在火邊、爐子附近等高溫場所（60℃及以上）使用或放置電池。
- 請勿在超過工作溫度範圍的場所使用電池，以及將電池放置在超過儲存溫度值之處。
- 請勿在火邊或烈日強光下為電池充電。電池受熱溫度升高可能導致電池液滲漏、爆裂或燃燒。
- 請勿在任何可能產生易燃氣體之處充電或使用電池。
- 請勿直接對電池進行焊接。
- 請勿使用本公司指定以外的電池。
- 若電池漏出之液體進入眼睛，應立即用清水沖洗乾淨，不要揉搓，並立即就醫。否則，會對眼睛造成傷害。
- 在電池的使用、充電或儲存過程中，如有異味、電池發熱、變色、變形或其他異常情況，請將電池從 BHT 或充電器上卸下，不要繼續使用。
- 已超過規定之充電時間，而充電仍不能完成時，請停止充電。

⚠ 警告　此標識表示如果無視此標識而進行錯誤操作，可能導致人員死亡或重傷。

BHT 的使用

若 BHT 使用不當，BHT 燃燒產生的熱煙會導致觸電、視力受損、皮膚灼傷等問題。請務必按照以下安全注意事項正確使用機器。

- 請勿拆解或改造 BHT。
- BHT 受到強烈撞擊，如不慎掉落時，應檢查主機殼是否損壞，電池是否損壞和滲漏。
  請勿使用破損的外殼。
  請勿使用破損或滲漏的電池。
- 請勿將任何異物放入電池內。
- 請勿將 BHT 放入或浸泡於水或海水中。
- 請勿將 BHT 放入微波爐或高壓容器中。請勿把它放在電磁爐上。
- 請勿將 BHT 放置在車窗緊閉的汽車內或陽光直射等溫度過高的場所。
- 請勿在極端潮濕、多塵或溫度變化劇烈的場所使用 BHT。
- 如 BHT 冒煙、發出異味或噪音時，請立即關閉電源，並取出掃瞄器中的電池。
- 若不慎將液晶螢幕摔破，謹防液晶進入眼睛或口中，或滴到皮膚上。
- 若液晶顯示螢幕不慎摔破，請小心破碎的玻璃。它可能會導致人員傷害。
- 若不慎將液晶螢幕摔破，液體進入眼睛或口中，應立即用清水沖洗乾淨，然後就醫。

● 請勿直視讀取窗口。

電池的使用
不遵守下列所有指示可能會導致觸電、發熱、冒煙、起火或爆炸。
● 本電池是 BHT 專用電池。請勿將電池用於 BHT 充電以外的用途。
● 務必使用指定的充電器、充電電纜或推薦的無線充電器為電池充電。
● 電池在使用、充電、保管時，如果發現異臭、發熱、變色、變形等異常情況，請將電池從 BHT 或充電器中取出，不要再使用。

雷射掃瞄器的使用一些掃瞄器使用雷射光，指示掃瞄範圍。雖然雷射光的強度低，不會對人員造成傷害，但在使用裝有雷射掃瞄器的 BHT 時，仍需遵守下列注意事項。
1) 請勿直視雷射光。
2) 請勿將條碼讀取窗口朝向他人的眼睛。

激光扫描器的使用
● 一些扫描器使用激光来标识扫描范围。尽管激光强度低，不会对人的身体造成伤害，但在使用带有激光的 BHT 设备时仍需遵守下列注意事项。
   1) 请勿直视激光。
   2) 请勿将条码读取窗口朝向他人的眼睛。

條碼讀取窗口 ————

LASER LIGHT CLASS 1 LASER PRODUCTIEC60825 -1: 2014
雷射光　Class 1　雷射製品　IEC60825 -1: 2014

COMPLIES WITH 21 CFR 1040.10 AND 1040.11 EXCEPT FOR CONFORMANCE WITH
IEC 60825-1 ED.3, AS DESCRIBED IN LASER NOTICE No.56, DATED MAY 8,2019.
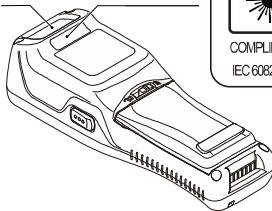
系统设计人员须知

- 將 BHT 引入到可能影響人身安全的系統中时，应做好冗余设计和安全设计，谨慎地开发应用程序，避免出现数据错误危及他人生命安全。

⚠️ **注意**   此標識表示如果無視此標識而進行錯誤操作，可能導致人員受傷及財物受損。

BHT 的使用

BHT 使用不當會導致 BHT 發熱冒煙，引發故障。請務必按照以下安全注意事項正確使用機器。

- 使用手提掛繩和頸帶時，請注意不要掛到其他物品上，或捲入旋轉物內。
  否則會引發事故或受傷。
- 蜂鳴器響起時，請勿將耳朵貼近揚聲器。否則會造成聽覺功能障礙。
- 請勿在產生靜電嚴重的環境中使用 BHT。否則會導致機器錯誤運行或發生故障。
- 避免電池掉落、投擲電池，或讓電池受到任何形式的撞擊。否則會導致機器錯誤運行或發生故障。
- 請勿在無線電發射機（如業餘無線電）附近使用 BHT。否則會導致機器錯誤運行或發生故障。
- 請勿使用沾有機油和油脂的手或手套接觸 BHT。此舉可能導致機器變形和變色。
- 本產品配備可使用 microSD 卡和 SIM卡的連接器。請勿插入其他卡。請勿以反方向、對角線或扭轉的方式插入卡片。若強行插入卡片，則會損毀卡片和連接器。
- 請勿將濕的 BHT 或可充電電池連接到控制器上。
- 拆裝電池時，請勿施加太大壓力。否則會導致機器錯誤運行或發生故障。
- 請勿將銀行卡、信用卡等磁卡靠近 BHT，否則會導致磁卡內資料消失。

<致系統工程師>

- 如果您使用破解聲音的WAV文件，BHT中的揚聲器可能會損壞。
  播放WAV文件時檢查聲音，並進行調整，使在BHT中使用揚聲器時不會出現聲音破裂。

안전상의 주의

이 충전지 카트리지는 **BHT**전용입니다.

우선은 충전하여 주십시요.

충전하지 않은 상태로 출하하고 있습니다.

　충전의 방법, 충전 시간에 대해서는 충전기 또는 BHT의 취급 설명서를 참조하시요.

⚠️**위험** **배터리의 충전에는 전용 충전기를 사용해 주세요. 지정 이외의 충전기로 충전하시면 배터리가 과도하게 충전되거나 이상 전류로 충전되어 배터리 내부에서 화학반응이 일어나 발열, 발연, 파열, 발화의 원인이 됩니다**

· 충전이 끝난 직후나 사용 직후에는 충전지 카트리지가 따뜻해지는 일이 있습니다.
· 올바르게 충전한 충전지 카트리지를 세트 해도 BHT의 사용 가능 시간이 짧아졌을 경우에는 충전지 카트리지의 수명이 다 되었습니다. 새로운 충전지 카트리지를 구입하여 주십시요

충전지 카트리지의 보관

· 충전지 카트리지를 보관·휴대할 때는 전용의 케이스를 사용하여 주십시요

주요 사양

사용전지	공칭전압	공칭용량	사용온도
리튬 이온 전지 BT−110L	3.7 V DC	3450 mAh	충전시 ; 0 °~40 °C, 방전시 ; −20 °~60 °C

사양 및 외관은 개선을 위해 예고없이 변경될 수 있습니다.

충전지 카트리지를

안전한 사용을 위해서 반드시 지켜주십시요.

■사용 전에 이 취급 설명서를 충분히 이해하신 후에, 올바르게 사용해주십시요.

■읽으신 후는 사용자가 항상 볼수 있도록 곳에 반드시 보관해주십시요.

위험·경고 표시는 제품을 안전하고 올바르게 사용하여, 당신이나 타인에게로의 위해나 재산상의 손해를 사전에 방지하기 위해서 지켜 주셔야 할 사항을 나타내고 있습니다. 그 표시와 그림 기호의 의미를 충분히 이해하고 나서 읽어주십시요.
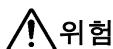
⚠️**위험** **지시 사항을 울바로 따르지 않는다면 심각한 부상이나 사망을 초래하는 위험 및 이러한 상태들에 주의하십시요**

올바르지 못한 취급은 충전지 카트리지의 발열·발연·폭발·화재의 원인이 되어 위험합니다. 아래와 같은 사항을 충분히 이해하고 사용해 주십시요.

● 충전지 카트리지를 분해하거나 개조하지 말아 주십시요.
● 충전지 카트리지의 (＋)와(−)를 철사등의 금속으로 접속하지 말아 주십시요.
● 전지 단자에 목걸이, 동전, 열쇠, 시계 등 금속 제품이 닿지 않도록 주의할 것.
● 화기에 가까이 하지 말 것. (전자레인지에 넣지 말 것)
● 60℃이상의 고온에 노출하지 말 것.
● 충전지 카트리지를 물이나 해수 등에 넣거나 적시거나 하지 말아 주십시요.
● 불의 곁이나 뜨거운 날씨등에서는 충전은 하지 말아 주십시요.
● 분해, 압착, 관통 등의 행위를 하지 말 것.
● 높은곳에서 떨어뜨리는 등 비정상적 충격을 주지 말 것.
● 육안으로 식별이 가능할 정도의 부풀음이 발생된 전지는 위험할 수 있으므로 제조자 또는 판매자로 즉시 문의할 것.
● 충전지 카트리지에 직접 납땜하지 말아 주십시요.
● 습기에 접촉되지 않도록 할 것.
● 여름철 자동차 내부에 방치하지 말 것.
● 이불,전기장판,키펫 위에 올려놓고 장시간 사용하지말 것.
● 찜질방 등 고온다습한 곳에서 보관, 사용하지 말 것.
● 전원을 켠 상태로 밀폐된공간에 장시간 보관하지 말 것.

●이 충전지 카트리지를 BHT 이외의 용도에 사용하지 말아 주십시요.
●휴대기기, 제조업체가 보증한 리튬 2 차전지 사용할것.
●지정된 정품 충전기만을 사용할 것주십시요.
충전지 카트리지의 액이 누출하여 눈에 들어갔을 때는 비비지 마시고 곧바로 수도물등의 깨끗한 물로 충분히 씻은 후, 즉시 의사의 치료를 받아 주십시요.
방치하시면 액에 의해 눈이 상하게 됩니다.

⚠️ **경고**   지시 사항을 올바로 따르지 않는다면 심각한 부상이나 사망을 초래할수 있는 이러한 상태들에 주의하십시요.

올바르지 못한 취급은, 충전지 카트리지의 발열·발연·파열·발화의 원인이 되어 위험합니다. 아래와 같은 사항을 충분히 이해하고 사용해 주십시요.
●전자 렌지나 고압 용기에 넣거나 하지 말아 주십시요.
●배터리의 사용, 충전, 보관시에 이상한 냄새가 나거나 발열하거나 변색, 변형 그 외 평상시와 다른 BHT 또는 충전기로부터 꺼내, 사용하지 말아 주십시요.
●충전 시에 소정의 충전 시간이 지나도 충전이 완료되지 않는 경우에는, 충전을 중지하여 주십시요.
●배터리의 액이 누출되거나 이상한 냄새가 날 경우에는 곧바로 화기로부터 멀리하여 주십시요.

폐기지침

충전지 카트리지는 리튬이온전지를 사용하여 재활용할 수 있는 기중한 자원이 포함되어 있습니다.
자원을 재활용하기 위해 협력을 부탁드리겠습니다.
사용이 끝난 충전지 카트리지는 근처의 충전식전지 재활용협력점에 가져가 주거나 당사의
영업소까지 물어 주시기바랍니다.
사용이 끝난 충전지 카트리지를 재활용협력점의 재활용박스에 넣을 때는 아래와 같은 사항을
주의하시기 바랍니다.

●쇼트에 의한 발열, 발화를 방지하기 위해 단자에 테이프 등을 붙이고 절연한 상태로 박스에 넣어 주시기 바랍니다.
●충전지 카트리지를 분해하지 말아 주십시요.

BHT의 취급

취급을 잘못하면 감전, 시력장애, 피부장애, 상처, 화상, BHT 발열·발연의 원인이 됩니다. 아래
사항을 읽으신 후에 사용해 주십시요.

●전자렌지나 고압용기에 넣지 마십시요. 또한 온돌이나 사우나에 가까이 두지 마십시요.
●창문을 완전히 닫은 자동차 안이나 직사광선이 들어오는 곳 등 비정상적으로 온도가 높아지는 장소에 방치하지 마십시요.
●습기나 먼지가 많은 장소, 급격한 온도변화가 있는 곳에서는 사용하지 마십시요.
●만일 연기가 나거나 이상한 냄새나 소리가 나는 등 이상이 발생한 경우에는 곧바로 전원을 끄고 충전지 카트리지를 분리해 주십시요.
●케이스가 파손된 경우에는 그대로 사용하지 마십시요.
●지정된 충전지 카트리지 이외의 전원을 사용하지 마십시요.
●분해나 개조하지 마십시요.
●내부에 이물질을 넣지 마십시요.
●물이나 바닷물 등에 담그거나 적시지 마십시요.
●실수로 액정화면이 파손되어 액정이 새어 나왔을 경우에는 액체를 입에 대거나 마시지 말고 피부에 닿지 않도록 주의해 주십시요.

1 급 레이저 제품

BHT 은 스캔 범위를 가리키기 위해 레이저 광선을 사용합니다. 레이저 광선 강도는 매우
낮으므로 인체에 부상을 초래하지 않습니다. 그러나 레이저 광선을 응시하지 마십시요.
취급을 잘못하면 시력장해의 원인이 됩니다. 아래 사항을 읽으신 후에 사용해 주십시요.
● 코드읽기 위치를 나타내는 레이저 광선을 들여다 보지 마십시요.
코드 판독창을 사람의 눈 쪽으로 들이밀지 마십시요.

판독창
(레이저 광선
방출창)

라벨
(1 급 레이저 제품)

라벨상세

- 코드 읽기 위치를 나타내는 레이저 광선을 들여다 보지 마십시오.
- 코드 판독창을 사람의 눈쪽으로 들이밀지 마십시오.

RF태그 제품의 취급에 대해

이식형 의료기기에 대하여

본 제품은 전파를 이용한 RFID 기기 리더/라이터입니다. 따라서 사용 상황이나 설치 장소에 따라 주변 의료기기의 성능에 영향을 미칠 수 있습니다. 본 제품의 의료기기에 미치는 영향을 줄이기 위해 사용 시 아래의 주의사항을 준수해 주시기 바랍니다.

● RF 태그 안테나는 이식형 의료기기의 설치 부위에서 22cm 이상 떨어져 있어야 합니다.

주: 상기의 기술은 일본(JAISA)의 가이드 라인에 근거하고 있습니다. 사용자의 나라의 가이드 라인을 확인해 주십시오.

인체에의 폭로에 대해

본 제품은 전파를 이용한 RFID 기기 리더/라이터입니다. 그 때문에, 사용 상황이나 사용 장소에 따라서는 인체에 영향을 미칠 가능성이 있습니다. 본제품의 인체에 대한 영향을 경감하기 위해(때문에), 사용중은 이하의 주의 사항을 부적 주세요.

● RF 태그 안테나는 사용자의 신체 일부에서 9cm 이상 떨어져 있어야 합니다.

주: 상기의 기술은 일본(JAISA)의 가이드 라인에 근거하고 있습니다. 사용자의 나라의 가이드 라인을 확인해 주십시오.

코드 읽기 창

RF 태그 안테나
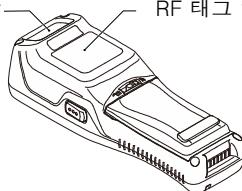
시스템 설계자에게

약품의 관리 등, 인명에 영향을 줄 가능성이 있는 시스템에서는, 데이터가 잘못된 경우에도 인명에 영향을 줄 가능성이 없도록 용장설계, 안전설계에 충분히 주의해 주십시오.

⚠ 주의   **지시 사항을 올바로 따르지 않는다면 사소한 부상이나 자산 손실을 일으킬수 있는 이러한 상태들에 주의하십시오.**

BHT의 취급

취급을 잘못하면 BHT발열·발연의 원인 및 고장의 원인이 됩니다. 아래 사항을 읽으신 후에사용해 주십시오.

● 핸드 스트랩이나 넥 스트랩을 사용하고 있을 때는 다른 것에 걸리거나 회전물에 말려 들어가지 않도록 해 주십시오. 고장이나 부상의 원인이 됩니다.

● 아마츄어 무선 등의 무선기 근처에서는 사용하지 마십시오. 기기가 오작동할 수 있습니다.

● 현금카드, 신용카드 등의 자기카드를 등을 본 제품 스피커/부저에 가까이 하지 마십시오. 현금카드, 신용카드 등의 자기 데이터가 소실되는 경우가 있습니다.

● 소리가 울리고 있을 때는 스피커/부저에 귀를 가까이 하지 마십시오. 난청의 원인이 될 수가 있습니다.

● 충전지 카트리지 탈착시 무리한 힘을 가하지 마십시오. 제품 고장의 원인이 됩니다.

● 큰 정전기가 발생하는 환경에서 BHT 를 사용하지 마십시오.

● 기기의 오작동이나 고장의 원인이 될 수 있습니다.

● 바닥 등에 떨어뜨리거나 강한 충격을 주지 마십시오. 파손이나 고장의 원인이 됩니다.

● 당사가 지정한 충전지 카트리지 이외는 사용하지 마십시오.

11

ข้อควรระวังเพื่อความปลอดภัย

กรุณาอ่านและปฏิบัติตามคำเตือนต่อไปนี้อย่างเคร่งครัด เพื่อความปลอดภัยในการใช้งาน

⚠ อันตราย

เตือนให้ตระหนักถึงปัจจัยที่อาจส่งผลให้ผู้ใช้ได้รับบาดเจ็บรุนแรงหรือถึงแก่ชีวิตที่จะเกิดขึ้นได้ หากไม่ปฏิบัติตามคำแนะนำอย่างถูกต้อง

ข้อควรปฏิบัติในการใช้งานแบตเตอรี่

การไม่ปฏิบัติตามคำแนะนำทั้งหมดที่ระบุไว้ด้านล่างอาจทำให้เกิดไฟฟ้าช็อต ความร้อนจัด ควัน ไฟไหม้ หรือเกิดระเบิดได้

- ห้ามแกะหรือดัดแปลงแบตเตอรี่
- ห้ามให้ก้อนแบตเตอรี่ได้รับการกระแทกอย่างรุนแรงหรือขว้างปา
- หลีกเลี่ยงการทำแบตเตอรี่หล่นหรือโยนแบตเตอรี่ หรือทำให้แบตเตอรี่เกิดการสะเทือนหรือกระแทก
- ห้ามใช้แบตเตอรี่ที่ชำรุดหรือเสียรูปอย่างรุนแรง ห้ามใช้แบตเตอรี่เมื่อเกิดการกระแทก เช่น การตกกระแทกพื้น
- ห้ามต่อขั้วบวกและขั้วลบของแบตเตอรี่กับสายไฟหรือวัสดุที่เป็นโลหะอื่น ๆ เป็นอันขาด
- ห้ามพกพาหรือจัดเก็บแบตเตอรี่ไว้กับปากกาลูกลื่น หรือ สร้อยคอ เหรียญ หรือที่หนีบผมหรือโลหะอื่นๆ
- ห้ามวางหรือแช่แบตเตอรี่ในน้ำหรือน้ำทะเลเป็นอันขาด
- ห้ามเผาหรือให้ความร้อนแบตเตอรี่เป็นอันขาด
- ห้ามใช้งานหรือวางแบตเตอรี่ในบริเวณที่มีอุณหภูมิสูงมาก (60 °ซ หรือสูงกว่า) เช่น ใกล้ไฟหรือเครื่องทำความร้อน
- ห้ามใช้งานหรือเก็บแบตเตอรี่ไว้ในสถานที่ที่มีอุณหภูมิสูงกว่าอุณหภูมิสำหรับการใช้งานหรือการเก็บรักษา
- ห้ามชาร์จแบตเตอรี่ใกล้ไฟหรือบริเวณที่โดนแสงแดดจัดเป็นอันขาด
  หากอุณหภูมิของแบตเตอรี่สูงขึ้นอาจส่งผลให้เกิดการรั่วไหลของของเหลวในแบตเตอรี่ เกิดระเบิดหรือเพลิงไหม้ได้
- ห้ามชาร์จหรือใช้งานแบตเตอรี่ในบริเวณที่อาจมีแก๊สไวไฟเป็นอันขาด
- ห้ามทำการบัดกรีใด ๆ ที่แบตเตอรี่โดยตรงเป็นอันขาด
- ห้ามใช้แบตเตอรี่อื่นนอกเหนือจากที่กำหนด
- หากแบตเตอรี่รั่วและของเหลวเข้าตา ให้ล้างออกด้วยน้ำสะอาดทันที เช่น น้ำประปา โดยไม่ขยี้ตา
  จากนั้นรีบเข้ารับการรักษาทางแพทย์โดยทันที หากไม่ปฏิบัติตามอาจเกิดการบาดเจ็บต่อดวงตาได้
- หากเกิดกลิ่นเหม็น มีความร้อนสูงเกิน การเปลี่ยนสี การเปลี่ยนรูป หรือความผิดปกติอื่น ๆ ระหว่างการใช้งาน การชาร์จ
  หรือการจัดเก็บแบตเตอรี่ ให้ถอดแบตเตอรี่ออกจาก BHT หรือเครื่องชาร์จ และหยุดการใช้งาน
- ในการชาร์จแบตเตอรี่ ถึงแม้จะเกินเวลาที่กำหนดแล้วแต่ยังชาร์จไม่สมบูรณ์ก็ขอให้หยุดชาร์จ

⚠ คำเตือน

การแจ้งเตือนเหล่านี้แสดงถึงปัจจัยที่อาจทำให้ผู้ใช้ได้รับบาดเจ็บรุนแรงหรือถึงแก่ชีวิตได้ หากไม่ปฏิบัติตามข้อควรระวังอย่างถูกต้อง

ข้อปฏิบัติในการใช้ BHT

หากใช้งาน BHT ไม่ถูกต้องอาจทำให้เกิดไฟฟ้าช็อต การมองเห็นผิดปกติ ปัญหาด้านผิวหนัง การบาดเจ็บ

ไหม้และเกิดความร้อนและควันจาก BHT กรุณาอ่านและปฏิบัติตามข้อควรระวังต่อไปนี้อย่างเคร่งครัด

เพื่อการใช้งานอุปกรณ์อย่างถูกวิธี

- ห้ามแกะหรือดัดแปลง BHT เป็นอันขาด
- หาก BHT มีการกระแทกอย่างรุนแรง เช่น หล่นกระแทก
  ให้ตรวจสอบเคสและแบตเตอรี่เพื่อดูว่าเกิดการชำรุดหรือรั่วไหลใด ๆ หรือไม่
  ห้ามใช้เคสที่มีสภาพไม่สมบูรณ์เป็นอันขาด
  ห้ามใช้แบตเตอรี่ที่ชำรุดหรือรั่วเป็นอันขาด
- ห้ามใส่วัสดุแปลกปลอมเข้าไปในตลับแบตเตอรี่
- ห้ามทำให้ BHT เปียก หรือวางลงในน้ำหรือน้ำทะเล
- ห้ามนำ BHT ใส่เข้าไปในเตาไมโครเวฟหรือภาชนะที่มีแรงดันสูงเป็นอันขาด
  ห้ามวางอุปกรณ์นี้ไว้บนเตาแม่เหล็กไฟฟ้าเป็นอันขาด
- ห้ามวาง BHT ไว้ในบริเวณที่มีอุณหภูมิสูงมากเกินไป เช่น รถยนต์ที่ปิดกระจกสนิท
  หรือวางไว้ในบริเวณที่โดนแสงแดดโดยตรงเป็นอันขาด
- หลีกเลี่ยงการใช้ BHT ในพื้นที่ที่มีความชื้นหรือฝุ่นในปริมาณสูง หรือในบริเวณที่อุณหภูมิมีการเปลี่ยนแปลงอย่างรุนแรง
- หากเกิดควัน กลิ่นหรือเสียงผิดปกติออกมาจาก BHT ให้ปิดสวิตช์

และถอดตลับแบตเตอรี่ออกจากเคสเครื่องสแกนในทันที
- หากหน้าจอ LCD เสียหายโดยไม่ได้ตั้งใจ ต้องระวังอย่าให้คริสตัลเหลวเข้าตาหรือปาก หรือหยดลงบนผิวหนัง
- หากหน้าจอ LCD เกิดร้าวหรือแตกโดยอุบัติเหตุ ให้ระวังกระจกที่แตก ซึ่งอาจทำให้เกิดการบาดเจ็บได้
- หากหน้าจอ LCD แตกโดยอุบัติเหตุ และคริสตัลเหลวเข้าตาหรือปาก ให้ล้างออกด้วยน้ำสะอาดและไปพบแพทย์ทันที
- ห้ามจ้องไปที่ช่องอ่านเป็นอันขาด

ข้อควรปฏิบัติในการใช้งานแบตเตอรี่

การไม่ปฏิบัติตามคำแนะนำทั้งหมดที่ระบุไว้ด้านล่างอาจทำให้เกิดไฟฟ้าช็อต ความร้อนจัด ควัน ไฟไหม้ หรือเกิดระเบิดได้
- แบตเตอรี่นี้ใช้เฉพาะสำหรับ BHT ห้ามใช้แบตเตอรี่นี้เพื่อวัตถุประสงค์อื่น นอกเหนือจากการชาร์จ BHT
- ในการชาร์จแบตเตอรี่ ควรแน่ใจว่าได้ใช้เครื่องชาร์จ สายชาร์จตามที่ระบุ หรือเครื่องชาร์จแบบไร้สายที่แนะนำ
- หากเกิดกลิ่นเหม็น มีความร้อน การเปลี่ยนสี การเปลี่ยนรูป หรือความผิดปกติอื่น ๆ ระหว่างการใช้งาน การชาร์จ
  หรือการจัดเก็บแบตเตอรี่ ให้ถอดแบตเตอรี่ออกจาก BHT หรือเครื่องชาร์จและหยุดการใช้งาน

เรียน ท่านผู้ออกแบบระบบ
- เมื่อนำ BHTs ไปใช้ในระบบที่อาจส่งผลต่อชีวิตมนุษย์
  ผู้ออกแบบควรพัฒนาแอปพลิเคชันอย่างรอบคอบโดยการตรวจสอบซ้ำและออกแบบระบบให้ปลอดภัย
  หากเป็นไปได้ควรหลีกเลี่ยงการกระทำที่ส่งผลกระทบต่อชีวิตมนุษย์หากข้อมูลเกิดมีความผิดพลาด

⚠ ข้อควรระวัง

การแจ้งเตือนเหล่านี้แสดงถึงเนื้อหาที่อาจทำให้เกิดการบาดเจ็บหรือเกิดความเสียหาย แก่ทรัพย์สินได้ ควรปฏิบัติตามอย่างเคร่งครัด

ข้อปฏิบัติในการใช้ BHT

หากใช้งาน BHT ไม่ถูกวิธีอาจส่งผลให้ BHT เกิดความร้อนหรือเกิดควัน หรือเครื่องทำงานผิดปกติ

กรุณาอ่านและปฏิบัติตามข้อควรระวังต่อไปนี้อย่างเคร่งครัด เพื่อการใช้งานอุปกรณ์อย่างถูกวิธี

- ขณะสวมสายกล้องข้อมือหรือสายกล้องคอ โปรดระวังมิให้สายไปเกี่ยวกับวัตถุอื่น หรือเข้าไปพันกับเครื่องจักรที่หมุนได้
  การไม่ปฏิบัติตามอาจส่งผลให้เกิดอุบัติเหตุหรือได้รับบาดเจ็บได้
- ควรอยู่ห่างจากลำโพงเมื่อมีเสียงดังออกมา การไม่ปฏิบัติตามอาจทำให้เกิดปัญหาในการได้ยินได้
- ห้ามใช้งาน BHT ในบริเวณที่ทำให้เกิดไฟฟ้าสถิตย์ได้ง่าย
  การกระทำดังกล่าวอาจทำให้อุปกรณ์ทำงานผิดปกติหรือกลไกเกิดขัดข้องได้
- หลีกเลี่ยงการทำตลับแบตเตอรี่หล่นลงพื้น หรือทำให้เกิดแรงกระแทกอย่างรุนแรง
  การกระทำดังกล่าวอาจทำให้อุปกรณ์ทำงานผิดปกติหรือกลไกเกิดขัดข้องได้
- ห้ามใช้ BHT ใกล้กับอุปกรณ์รับส่งสัญญาณแบบไร้สาย เช่น เครื่องส่งสัญญาณวิทยุสมัครเล่น
  การกระทำดังกล่าวอาจทำให้อุปกรณ์ทำงานผิดปกติหรือกลไกเกิดขัดข้องได้
- ห้ามสัมผัส BHT ด้วยมือที่เปื้อนน้ำมัน หรือถุงมือที่เปื้อนน้ำมัน เช่น น้ำมันเครื่อง และจาระบี
  การกระทำดังกล่าวอาจส่งผลให้อุปกรณ์เกิดการเปลี่ยนรูปและเปลี่ยนสีได้
- ผลิตภัณฑ์นี้ประกอบด้วยขั้วต่อสำหรับการ์ด microSD ห้ามใส่วัสดุใด ๆ เข้าไปในเครื่องนอกเหนือจากการ์ดเหล่านี้
  ห้ามใส่การ์ดกลับด้าน ทแยงมุมและบิด หากฝืนใส่การ์ดเข้าไปแบบไม่ถูกต้อง อาจทำให้การ์ดหรือขั้วต่อเสียหายได้
- ห้ามใส่ BHT ที่เปียกหรือตลับแบตเตอรี่แบบชาร์จไฟได้เข้าไปใน CU
- ห้ามใส่หรือถอดตลับแบตเตอรี่ โดยใช้แรงมากเกินไป
  การกระทำดังกล่าวอาจทำให้อุปกรณ์ทำงานผิดปกติหรือกลไกเกิดขัดข้องได้
- เก็บบัตรแม่เหล็ก เช่น บัตรเงินสด หรือบัตรเครดิตไว้ให้ห่างจาก BHT
  การไม่ปฏิบัติตามอาจเป็นสาเหตุให้ข้อมูลแม่เหล็กสูญหายได้

＜ถึงวิศวกรระบบ＞

- หากคุณใช้ไฟล์ WAV ที่แตกเสียง ลำโพงใน BHT อาจเสียหายได้
  ตรวจสอบเสียงเมื่อเล่นไฟล์ WAV และทำการปรับเพื่อไม่ให้เสียงแตกเมื่อใช้ลำโพงใน BHT

Chapter1 Please read me first

Please contact your nearest distributor, if using in other countries.The LCD screen is made with high precision technology. Some dots on the screen may be always ON or always OFF though, this is not a malfunction. The modification of the radio station is prohibited, and the violation is punished by the law. The Customer shall not modify, reverse compile, reverse engineer, reverse assemble, and or otherwise tamper with our BHT's firmware.

1.1 About This Manual

- Due to changes and improvements, 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 you to report any questionable descriptions, mistakes or omissions, if any, to DENSO WAVE.

Liability Limitations

- DENSO WAVE INCORPORATED ("DENSO WAVE") 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 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 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.
- DENSO WAVE will not bear any responsibility for data which customers have recorded and are received by DENSO WAVE for repair and analysis.

1.2 Product Contents Check

Ensure you have all of the following items prior to use. In the event of missing or damaged item, please contact your dealer.
- · RF Tag Handy terminal (BHT) ×1
- · Operator's guide (this manual) ×1
- · Wrist strap ×1
- · Battery BT-110L ×1

1.3 Free/Open source software (FOSS)

This product contains Free / Open Source Software (FOSS.) DENSO WAVE is ready to provide compliant source codes. For details, please contact our dealer or contact the site below.
https://www.denso-wave.com/

1.4 REPAIR GUIDANCE

Please contact the dealer where you purchased the item for repair.

1.5 Customer Registration

To allow us to provide our customers with comprehensive service and support, we request that all customers complete a Member Registration Form. You can register from QBdirect's new membership at the link.

Registered members will be offered the following privileges.

Various inquiries   With our expert knowledge, we respond to your concerns at the site.

Download   We provide a variety of software / firmware and manuals to ensure optimal use of products at all times(*).

E-mail inquiries   Product related queries can be sent in by e-mail.

   (*) Please note that the contents and URL of the privilege may be changed.

Please refer to the following for the latest FAQ.

Note: Register your product serial after logging in to view the relevant software / firmware content.

QBdirect Login

1.6 Warranty extension service

The manufacturer's ordinary no-cost warranty period (one year) is extended by two years to three years in total if you register the serial number of the product within one month after purchase. Please contact the site below.
https://www.denso-wave.com/
The serial number required for registration is displayed on the rating plate of the product.

1.7 Usage Precautions

1.7.1 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, rupture, or fire.)
● When the BHT is stored in a high-temperature, high-humidity environment of 50 - 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 reading 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.

1.7.2 Keep the BHT away from electromagnetic waves and metallic objects.

Wireless communication may not be possible in the following locations and using.
● In the vicinity of the following devices operating on a 2.4 GHz waveband
　　(Communication may not be possible due to electromagnetic interference.)
　・ Industrial, scientific, or medical equipment such as microwave ovens
　・ Wireless LAN devices
　・ Logistics systems in places such as plants or warehouses
　・ Wireless devices such as amateur radio stations
● In the vicinity of household appliances emitting electromagnetic waves such as computers or televisions (Communication may not be possible due to electromagnetic noise.)
● In the vicinity of metallic objects, in places with high levels of metallic dust, or in places surrounded by metal walls (Communication may not be possible due to the presence of metallic objects.)
Putting on any metallic objects around the antenna. Placing your hand over the antenna

Requests to system designers

・ Make sure that the environment is free of the interference factors and capable of wireless communication before actual use.
・ Use a program capable of retransmitting data if communication fails.
・ Make sure that the BHT communicates properly with all equipment in the environment where other equipment using the 2.4 GHz band is already operated or newly added to the existing system.
• If the environment changes (e.g., newly installed household appliances and movement or addition of shelves or objects), make sure that the BHT communicates properly with all equipment again before actual use.

1.8 Proper Care of the BHT

Make sure to turn OFF the BHT before cleaning.

● Terminal dirt on the BHT and battery

Periodically wipe any dirt from the terminals of the BHT and battery with a cotton swab or similar soft object. Be sure not to scratch or deform the terminals while cleaning.
Never use organic solvents such as thinner or alcohol, as this may cause terminal plating to be peeled off.

● 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 a neutral detergent) and wrung out thoroughly.
Never use organic solvents such as thinner or alcohol, as this may cause the housing to be marred or paint to be peeled 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.

● Code reading window dirt

Any dirt or dust adhering to the clear plate of the code reading window will adversely affect reading performance.
When using in dusty areas, check regularly whether any dust has accumulated on the clear plate of the code 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.

Important Notice of Disinfection and Maintenance for DENSO WAVE AUTO-ID Products.

As described in the care and maintenance of the Operator's Guide contained in the package of regular AUTO-ID products, the usage of thinner and alcohol for cleaning is prohibited. In consideration of the global spread of the new coronavirus infection, DENSO WAVE performed the wiping test under its own test standards using 70% ethanol or 10 ppm to 80 ppm hypochlorous acid water in expectation of a certain disinfection effect.

https://www.denso-wave.com/en/adcd/info/200622.html

Chapter2 Component and Functions

2.1 BHT-1408QUMWB

Status indicator

Speaker

LCD

**Trigger switch
(M4 magic key)**

**Trigger switch
(M3 magic key)**

Wrist strap

Charging (*) / interface terminal
Keep this terminal clean so as not to interfere with the charge
and communication. Periodical cleaning is required.
　(*) When charging batteries in the U.S. and Canada, do not
　　 use this terminal, but use a dedicated battery charger.

RF tag antenna
Communicates with RF tag.

**Communication
antenna**

Battery cover

Battery cover lock

Code reading window

Trigger switch (M3, M4 magic keys):
・Push this switch when reading RF tag or scanning code.
・The SF and ENT key functions can be assigned to these magic keys with the SYSTEM MENU.*
・Characters and character strings can also be assigned to these magic keys with the user program.
* Refer to the User's Manual on how to use the SYSTEM MENU.

Scan key
Press to scan codes.
This key performs the same function as a Trigger key.

Cursor key

Trigger keys (M3 magic key)

Trigger keys (M4 magic key)
Press to scan codes.
This key performs the same function as a Scan key.

M1 magic key

M2 magic key

Backspace/ Clear key

ENT (Enter) key
Finalize entered data or execute operations.

Numerical keys

SF (Shift) key
Used in combination with other keys such as the numerical key or power key for special input procedures.

Power key

Function keys

M1 M2	The SF or ENT key function can be assigned with the SYSTEM MENU.* A character or character string can also be assigned with the user program. The MENU screen displays when held down for one second or longer. (Only M1 magic key)
(cursor key)	Used to move the cursor and select menus.
BS/C	Deletes the last entered character (backspace). When pressed and held for 0.5 seconds or more, cancels entry and returns the LCD to the previous screen (clear).
F1 ~ F4	Used to select functions. Function key functions are assigned with the user program. Refer to the "BHT-BASIC Programmer's Manual (for BHT-1400QUMWB Series)" for further details.

 * Refer to the User's Manual on how to use the SYSTEM MENU.

Chapter3 Preparation before use

3.1 Fastening the wrist strap

Fasten the wrist strap to the BHT-1408QUMWB as shown on the right.
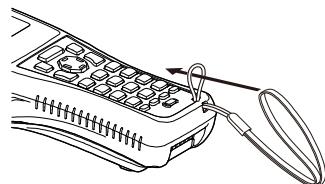
3.2 Inserting and removing the main battery

Inserting
Insert the battery securely from the battery terminal side.
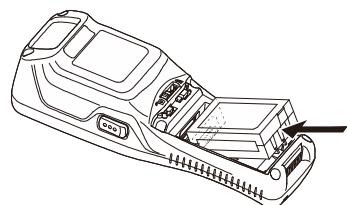
① Set the battery cover.
② Press from above in the direction of the arrow.
③ Press down and slide the battery cover lock in the direction indicated by the arrow to lock the cover.
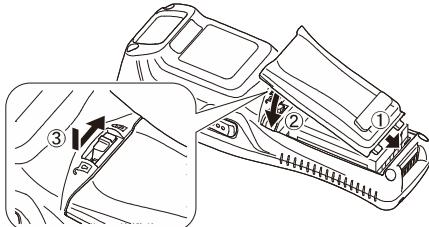
Removing
① Push the battery cover lock in the arrow direction.
② Remove the unlocked cover.
③ Pull out the battery.
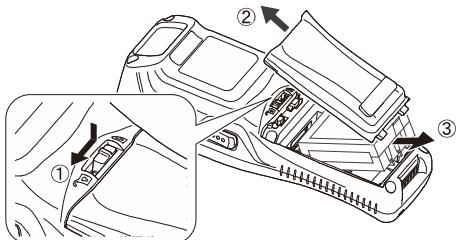
3.3 Charging

The main battery may not be fully charged for shipment. Please charge the main battery to full before using the BHT. You may use the Battery Charger. Please refer to the Battery Charger Operator's Guide for more information.

Charging time
Battery

Provides the power required for BHT operation. An empty battery takes approximately 5 hours to complete charging. The status indicator at the top of the screen will light red during charging, and will light blue when charging is complete.

Sub-battery

The sub-battery is installed inside the BHT. The sub-battery is used to hold data while the battery is being replaced and removed. After installing the battery and fully charging the empty sub-battery, it will take approximately 10 minutes to complete charging. To preserve the data correctly, do not remove the battery during this time.

Charging temperature
For efficient battery charging, we recommend charging at room temperature (18°C to 25°C). Charging stops when the product detects that the ambient temperature has fallen below 0°C or has exceeded 40°C. However, the temperature may differ from that in the actual operating environment.

Operation on Battery Power
When 802.11b/g/n and Bluetooth® are all enabled on battery power, the main battery level will drop down substantially. Prolonged use of the display and continued scanning of barcodes or RF tag will also affect battery level. For operations which take a large amount of battery power, we suggest that you keep a fresh battery for replacement at all times.

- Remove the battery from the BHT or the Battery Charger then store in a cool and dry place if not using the BHT for an extended period of time.
- Storing a battery for a long period under the condition below may deteriorate the performance and life of the battery:
  - ・ Storing a fully charged battery (just after completely charged battery)
  - ・ Storing a depleted battery (too depleted to turn on the BHT)
- For long-term storage, storing the battery at the 50% of the power level is recommended.
- During long-term storage, charge the battery fully once a year in order to maintain the battery performance. When fully charged, allow the battery to discharge down to the recommended level before storing.

3.4 Inserting and Removing the microSD Card

How to insert the microSD card

Remove the battery.
Place the microSD so that the electrodes are facing down.
Slide the microSD card into the microSD card slot (1)
in the direction shown by the arrow (2).
Insert the card click into the place.
Install the batteries.

microSD insertion direction
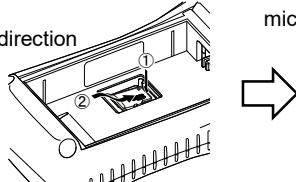
microSD lock status
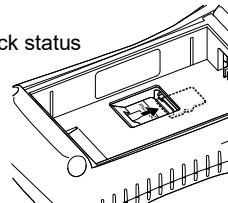
How to remove the microSD card

Remove the battery.
Push the microSD card until it clicks (2) while pressing down the stopper (1).
The card pops out from the slot when release the pressure.
Install the batteries.
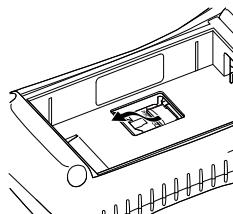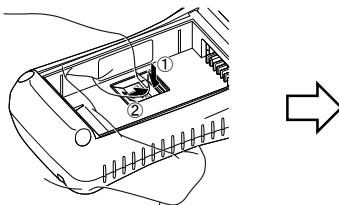
- Use microSD up to 32GB in FAT32 format.
- Insert the microSD card directly into the slot along its lines. Do not push the card too hard when inserting the card. The microSD card or its card cover may be broken if excessive strength is applied.

Chapter4 Using the BHT

4.1 Turning ON the Power

To power on the BHT, press and hold the power button (⏻) located on the upper side of the device. When you power on the BHT for the firsit time, the time setting is required.

1 Press the Power key.

　Point
Press the Power key for at least 1 second after data back-up. Refer to page "Turning OFF the Power" on data back-up.

(⏻)

The screen below displays.

```
Set the current
date and time.


20/01/01 00:00
_YY/MM/DD hh:mm
```
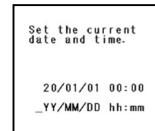
2 Enter the date and time using the numeric keys and press the enter key to set the date and time. [Ex.] March 1, 2023, 14:20

　Point
As for a year, enter the last two digits. As for time, enter it in the 24-hour clock format.

[2] [0] [2] [3] [0] [3] [0] [1] [1] [4] [2] [0] [↵ENT]

```
Set the current
date and time.


20/01/01 00:00
23/03/01 14:20_
```

3 The message-language-setting screen appears. Select the message language with a numeric key. Press the entry key to set the message language.
 [Ex.] Set the message language to English.

[1] [↵ENT]

After the date and time are set, the message-language-setting screen appears.

```
SELECT MESSAGE
1:English
2:Japanese
3:Chinese
4:Taiwanese
5:Thai
```

The application selection screen appears. Select "2：Code scanning demo" and press the enter key.

[2] [↵ENT]

The screen below displays.

```
No user programs
       found.
Execute?
1:Easy Pack Ad
2:Code scanning demo
```

5 BHT starts Scanning Demo.
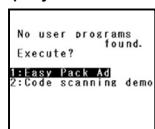
Note: In order to power on the BHT, the battery must be secured in place. When using the BHT under the low temperature environment such as inside the refrigerated room, power on the BHT at the ambient temperature and then take it to the low temperature environment. Powering on the BHT at the low temperature may not start up the BHT successfully. Operating the BHT under the low temperature environment may result in the delayed BHT operation or extremely reduced operating time due to the battery characteristics. Please verify the operating conditions prior to use.

Replace a battery within three minutes after ensuring that the power of BHT is turned OFF. If it takes more than three minutes, the data retention may not be secured. If any of the following messages appears when the power is turned ON after the battery is replaced, take an appropriate action.

Displayed Message	Solution
"Set the current date and time".	When the BHT power is turned ON after a long period of non-use, you may need to reset the date and time. If this error message displays on the screen, you need to set the current date and time.
"Contact your administrator (XXXX)".	If this message displays on the screen, reboot the BHT. If this error persists, take a note on the error message and then contact the system administrator.

4.2 Reading RF Tags/Codes

4.2.1 Reading/Writing RF Tags

Read or write RF tags in accordance with the procedures described below.

1 Turn the BHT power ON.

Illuminating in red

2 Press the trigger switch.

Indicator will illuminate in red.

_____Point_____
The trigger switch is assigned to magic keys M3 and M4 when shipped from the factory. See" 2.2 BHT-1408QUMWB Upper side ".

3 Bring the RF tag antenna on the back of the BHT close to an RF tag.
You can confirm that the read/write operation is completed correctly with a beeper sound or the indication on the LCD.

When the reading/writing is successfully completed, the status indicator will illuminate in blue.

Illuminating in blue

_____Point_____
The method of confirming that the read/write operation is completed correctly may vary according to the application.
Please read the operation manual of the application.
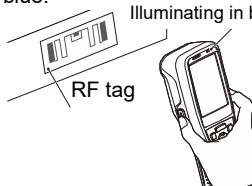
RF tag

· When reading/writing RF tags continuously in a hot environment such as outdoors in summer, the speed of reading/writing may be temporarily reduced to maintain terminal functions.

4.2.2 Scanning Codes

Point the code reading window towards the barcode to scan and press a trigger key on the side of the BHT.
Light for scanning is irradiated and the printed barcode is scanned.
When the data is successfully scanned and displayed, or the time has elapsed, the light for scanning disappears.

Illuminating in blue

4.3 Battery Power Level Indicator

The main-battery power level can be confirmed at the battery icon displayed in the top left of the LCD screen. Since the indicator shows only a rough estimate of main-battery power not an accurate remaining power level, please be charged early. The main-battery power level indicator shows only a rough estimate of battery power not an accurate remaining power level. Please read Safety Precautions to ensure the proper use of the battery.

The battery power level can be confirmed at the battery icon displayed in the bottom left of the LCD screen. The battery power is indicated in four levels. The battery power level indicator tells you when to charge the battery.

🔋	Sufficient battery power remains.
🔋	The battery power is partially depleted. Charge promptly.
🔋	The battery power is almost depleted. Charge the batteries or insert new ones.
🔋	The battery power is totally depleted. Charge immediately or replace new ones.

4.4 Turning OFF the Power

You can turn off the BHT in one of the following three methods.

Methods	Operation	Data Backup Timing
1) Normal power OFF	Press the Power key.	After 20 minutes from turning off
2) Turning the power OFF after data backup	Hold down the Power key for at least 3 seconds.	When the power down
3) Auto power OFF	The power turns OFF itself when the BHT is not used for the specified period of time set.	After 20 minutes from turning off

1) Normal power OFF

Press the Power key.

_____
Point
_____

Never remove the battery while the message on the right appeared.
Otherwise, a message requesting you to contact the administrator may appear when the power is turned ON next time.

The BHT is powered down after the message appears as below.

```
Shutdown
in progress.

Do not remove the
battery.
```
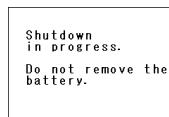
2) Turning the power OFF after data backup

Hold down the Power key for at least 3 seconds.
The power is turned OFF automatically when the backup is complete.

_____
Point
_____

It may take a few tens of seconds until the data backup is completed depending on the data amount.

The message shown below appears and data backup is commenced.
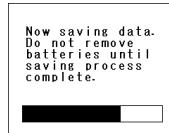
```
Now saving data.
Do not remove
batteries until
saving process
complete.
```

3) Auto power OFF

The power turns OFF itself when the BHT is not used for the specified period of time set at the user program. This set to 3 minutes at default when the BHT is shipped from the factory.
* Refer to the Programmer's Manual for further details of auto power OFF.

4.5 Using the BHT after Long Non-Use

Data stored in the BHT may be lost or damaged and the calendar clock may stop if the BHT is left unused for a long period of time.
- ・ Keep a backup copy of important or critical information.
- ・ Reset the calendar clock if it is stopped.
- ・ The battery is also used as a memory back-up source. You should not remove it from the BHT for at least 10 minutes until the sub battery is fully charged.
- ・ Keep the battery cover closed to prevent contamination.

Please refer to the User's Manual for more information on trouble shooting.

Chapter5 When Unable to Successfully Read/Write RF tag or read Codes

5.1 When an RF tag cannot be read/written correctly

	Cause	Countermeasure
Effect of metal	When an RF tag is placed on a metal plate, it may not be read/written.	Keep an RF tag 15 cm or more away from a metal plate.
Effect of electromagnetic noise	If you use the BHT near electric appliances which generate electromagnetic noise, including an inverter fluorescent light, microwave oven, and electromagnetic cooking device, etc., it may not be able to read and write RF tags.	Do not use the BHT near electric appliances which generate electromagnetic noise, including an inverter fluorescent light, microwave oven, and electromagnetic cooking device, etc.
Radio interference	If there is any other RFID device near the BHT, it may not be able to read/write RF tags. If the BHT is used near other radio devices such as an amateur radio station, it may not be able to read/write RF tags.	Do not use the BHT near other RFID devices. Do not use the BHT near other radio devices such as an amateur radio station.
Distance from an RF tag	If the distance from an RF tag is too close or too far, the BHT may not be able to read/write it. The writable distance may be shorter than the readable distance.	The readable and writable distances vary according to the RF tag type. Slowly move the BHT toward and away from an RF tag to find the readable and writable distances.

5.2 When Unable to Successfully Read Codes

	Cause	Countermeasure
Specular refection	When the light is focused on the printed surface of the code from directly above, the BHT may not read the code due to specular reflection.	Change the BHT reading angle and try again.
Distance from code	The code may not be read if it is too close to or too far from the BHT reading window, even when the code is within the read area.	Move the BHT slowly toward or away from the code and try again.
Code surface curvature	The code may not be read if its surface is extremely curved.	Read the code at the center of the code reading window.
Code surface dirt	The code may not be read if its surface is dirty.	Wipe the dirt from the code and try again.
Code reading window dirt	The code may not be read if the code 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	Code reading may be adversely affected by direct sunlight or the brightness of the surrounding light.	Read the code away from direct sunlight. Adjust the brightness of the surrounding light when reading indoors.
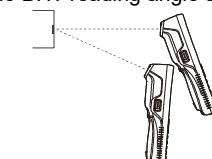
Chapter6 Troubleshooting Guide

6.1 The BHT is not turned ON

- Make sure that the battery is properly inserted into the BHT.
- Check the battery power level and charge the battery if necessary.
- Wipe any dirt from the battery and BHT terminals.

6.2 The Battery cannot be charged

- Make sure that the dedicated battery charger is being used.
- Make sure that the battery has been properly placed on the BHT.
- Make sure that the battery has been properly placed on the battery charger.
  The Indicator LED will turn red when properly placed on the battery charger.
- Wipe any dirt from the battery and battery charger terminals.
- If the battery in use has been repeatedly charged three hundred times or more or it has been more than one year since the battery started to be used, replace it with a new one to avoid any trouble caused by the deteriorated battery.

6.3 Unable to communicate with host PC using communication unit

The BHT-1408QUMWB does not have an IrDA interface. The communication unit corresponding to the communication function is CU-AU1-14, CU-AR1-14, CU-AL1-14.
- Check whether the CU model is compatible.
- Make sure that the BHT has been properly placed on the communication unit.

6.3 The BHT accidentally turns OFF

- Make sure that the battery has been fully charged.
  If not, charge the battery.
- The BHT may be set to auto power OFF. If so, the BHT will automatically turn OFF when it is not used for the specified period of time.
  The auto power OFF setting can only be changed with the user program.

If the BHT cannot be turned ON even after going through all the above measures, there is a possibility that the charger is broken. Notify the system administrator.
Refer to the User's Manual for appropriate measures if an error message is displayed on the BHT during the operation.

Chapter7 Regulations

KC Regulation (for Korea)

KC	인증번호:	R-C-DNW-BHT-1408QUMWB
	인증자 상호:	DENSO WAVE INCORPORATED
	기기의 명칭:	RFID용 무선기기 (900MHz 주파수 대역)
	모델명:	BHT-1408QUMWB
	제조년월:	제품에 부착되어있는 표시를 참조하십시요
	제조자:	DENSO WAVE INCORPORATED
	제조국가:	일본 （JAPAN）

필요한 조작 가이드 및 취급설명서 등은 아래의 'QBdirect'에서 제공해 드리고 있습니다.
본 기기는 통상적인 사용 시, 인체(머리/몸통)로부터 안테나의 거리가 15 mm를 초과하는 거리에서 사용하여야 합니다.

필요한 조작 가이드 및 취급설명서 등은 아래의 'QBdirect'에서 제공해 드리고 있습니다.
https://www.denso-wave.com/en/adcd/

사용자 안내문
이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

KC 인증 라벨의 전자 표시 방법
SYSTEM MENU → 6 : VERSION → [F2]REGULATORY INFO

SIRIM Regulation (for Malaysia)

RFID Frequency range: 919 – 923 MHz

For the way to display the MCMC logo e-label, user steps to access information.
  SYSTEM MENU → 6 : VERSION → [F2]REGULATORY INFO

2.4 GHz WLAN
For product available in the Malaysia market, only channel 1-11 can be operated. Selection of other channels is not possible.

FCC Regulation (for United States of America)

FCC Compliance Statement
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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures;
　・Reorient or relocate the receiving antenna.
　・Increase the separation between the equipment and receiver.
　・Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
　・Consult the dealer or an experienced radio/TV technician for help.

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

Note: This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research.This RF Tag Handy Terminals (BHT-1408QUMWB) has been tested and meets the FCC RF exposure guidelines when used with the accessory, Waist Case (WHBHT-M60/S40/S30). Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Responsible Party – U.S. Contact Information
　Company Name : DENSO PRODUCTS AND SERVICES AMERICAS, INC.
　Address : 3900 Via Oro Avenue, Long Beach, California 90810, U.S.A.
　Tel : +1-310-834-6352

User Steps to Access FCC e-label information starting from "SYSTEM MENU":
　SYSTEM MENU→ 6: VERSION→ [F2] REGULATORY INFO

2.4 GHz WLAN
For product available in the USA/Canada market, only channel 1-11 can be operated. Selection of other channels is not possible.

IC / ISED Regulation (Canada)

CAN ICES-3 (B)/NMB-3(B)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. This RF Tag Handy Terminals (BHT-1408QUMWB) has been tested and meets the ISED RF exposure rules when used with accesorry, Waist Case (WHBHT-M60/S40/S30). Use of other accessories may not ensure compliance with ISED RF exposure rules.

Les connaissances scientifiques dont nous disposons n'ont mis en évidence aucun problème de santé associé à l'usage des appareils sans fil à faible puissance. Nous ne sommes cependant pas en mesure de prouver que ces appareils sans fil à faible puissance sont entièrement sans danger. Les appareils sans fil à faible puissance émettent une énergie fréquence radioélectrique (RF) très faible dans le spectre des micro-ondes lorsqu'ils sont utilisés. Alors qu'une dose élevée de RF peut avoir des effets sur la santé (en chauffant les tissus), l'exposition à de faibles RF qui ne produisent pas de chaleur n'a pas de mauvais effets connus sur la santé. De nombreuses études ont été menées sur les expositions aux RF faibles et n'ont découvert aucun effet biologique. Certaines études ont suggéré qu'il pouvait y avoir certains effets biologiques, mais ces résultats n'ont pas été confirmés par des recherches supplémentaires. Ce RF Tag Handy Terminals (BHT-1408QUMWB) a été testé et est conforme aux règles d'exposition aux fréquences radioélectriques (RF) de l' ISDE lorsqu'il est utilisé avec l'accessoires Waist Case (WHBHT-M60/S40/S30). L'usage d'autres accessoires ne garantit pas nécessairement la conformité aux règles d'exposition aux RF de l' ISDE.

User steps to access ISED e-label information starting from SYSTEM MENU :
SYSTEM MENU → 6：VERSION → [F2]REGULATORY INFO

Étapes de l'utilisateur pour accéder aux de l'ISDE informations à partir du SYSTEM MENU :
SYSTEM MENU → 6：VERSION → [F2]REGULATORY INFO

Operator's Guide
Oct. 2024