

User Manual

Healthcare Information Terminal

SHC-100

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Compal Electronics, Inc.

Instructions for the User

The document combines text and illustrations, providing a comprehensive overview of the system. The information is presented as sequential steps of actions, allowing the users to learn directly how to use the device.

The text provides explanations and instructs the user step-by-step in the practical use of the product, with short, clear instructions in an easy-to-follow sequence.

Definitions

Warning! A WARNING statement provides important information about a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Avertissement!



Une déclaration d'AVERTISSEMENT fournit des informations importantes sur une situation potentiellement dangereuse qui, si elle n'est pas évitée, pourrait entraîner la mort ou des blessures graves.

Caution! A CAUTION statement provides important information about a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or in damage to the equipment or other property.

Attention!



Une déclaration de ATTENTION fournit des informations importantes sur une situation potentiellement dangereuse qui, si elle n'est pas évitée, peut entraîner des blessures mineures ou modérées pour l'utilisateur ou le patient ou endommager l'équipement ou d'autres biens.

Note! A NOTE provides additional information intended to avoid inconveniences during operation.

Remarque!



Une REMARQUE fournit des informations supplémentaires destinées à éviter les désagréments pendant le fonctionnement.

Safety Instructions

Strictly follow these instructions for use, please read these safety instructions carefully. Remember to keep this user manual for later reference, and that any use of the product requires the full understanding and strict observation of all portions of these instructions. Observe all WARNINGS and CAUTIONS as rendered throughout this manual and on labels on the equipment.

Installation and repair of the device shall only be carried out by manufacturer authorized and trained service personnel. Otherwise, the correct functioning of the device may be compromised.

Warning! *Installation is only to be carried out by manufacturer authorized and trained personnel.*
Avertissement! *Because of the danger of electric shock, never remove the cover of a device while it is in operation or connected to a power outlet.*



*L'installation doit uniquement être effectuée par un fabricant autorisé et formé.
En raison du risque d'électrocution, ne retirez jamais le couvercle d'un appareil lorsqu'il est en fonctionnement ou connecté à une prise de courant.*

If one of the following situations arises, get the equipment checked by service personnel:

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well, or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.

Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning and keep this equipment away from humidity.

Caution! *To avoid short-circuiting and otherwise damaging the device, do not allow fluids to come in contact with the device. If fluids are accidentally spilled on the equipment, remove the affected unit from service as soon as possible and contact the service personnel to verify that patient safety is not compromised.*



Pour éviter les courts-circuits et l'endommagement de l'appareil, ne laissez pas les liquides entrer en contact avec l'appareil. Si des liquides sont renversés accidentellement sur l'équipement, retirez l'unité touchée du service dès que possible et contactez le personnel de service pour vérifier que la sécurité du patient n'est pas compromise.

Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

Caution! *To prevent overheating, do not cover the openings or place the device in direct sunlight or near radiant heaters.*



Pour éviter toute surchauffe, ne couvrez pas les ouvertures et placez l'appareil à la lumière directe du soleil ou à proximité de radiateurs radiants.

Make sure the voltage of the power source is correct before connecting the equipment to the power outlet. Position the power cord so that people cannot step on it. Do not place anything over the power cord. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

Caution! *Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20° C (-4° F) or above 60° C (140° F). This may damage the equipment.*



Ne laissez pas cet équipement dans un environnement non contrôlé où la température de stockage est inférieure à -20 ° C (-4 ° F) ou supérieure à 60 ° C (140 ° F). Cela peut endommager l'équipement.

If your computer has lost its date and time settings or the BIOS configuration has been reset to its default settings, the battery has no power.

Caution!
Attention!



Do not replace the battery yourself. Please contact a qualified technician or your retailer.

The computer is supplied with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer's instructions.

A battery charge indicator is not included with this device. It will be added to the finished system assembly and be shown with the completed system.

Ne remplacez pas la batterie vous-même. Veuillez contacter un technicien qualifié ou votre revendeur.

L'ordinateur est équipé d'un circuit d'horloge en temps réel alimenté par batterie.

Il existe un risque d'explosion si la batterie est incorrectement remplacée. Remplacez uniquement par le même type ou un type équivalent recommandé par le fabricant.

Jetez les piles usagées conformément aux instructions du fabricant.

L'indicateur de charge de la batterie n'est pas inclus avec cet appareil. Il sera ajouté à l'assemblage du système fini et montré avec le système terminé.

Improper installation of VESA mounting can result in serious personal injury! VESA mount installation should be operated by a professional technician, please contact the service technician or your retailer if you need this service. The detailed operating procedure is specified in chapter 3.4.

Classification:

- I. Supply Class I adapter
- II. No applied part
- III. IPX1 compliant
- IV. Continuous Operation
- V. Not AP or APG category

Warning! *This device is not suitable for use in the presence of flammable anesthetic mixture with air, oxygen, nitrous oxide, or for life support system.*
Avertissement!



Ce dispositif ne convient pas à une utilisation en présence d'un mélange anesthésique inflammable avec de l'air, de l'oxygène, de l'oxyde nitreux ou pour un système de support de vie.

Environmental protection: follow national requirements to dispose of the unit.

Maintenance: to properly maintain and clean the surfaces, use only the approved products or clean with a dry applicator.

Caution! *When servicing the device, always use replacement parts that meet Compal standards.*
Attention! *Compal products cannot warrant or endorse the safe performance of third-party replacement parts for use with our device.*



Lors de l'entretien de l'appareil, utilisez toujours des pièces de rechange conformes aux normes Compal. Le produit Compal ne peut pas garantir ou endosser les performances sécuritaires des pièces de rechange tierces à utiliser avec notre appareil.

Make sure the user does not contact SIP/SOPs and the patient at the same time.

When networking with electrical devices, the operator is responsible for ensuring that the resulting system meets the requirements set forth by the following standards:

- IEC 60601-1
Medical electrical equipment
Part 1: General requirements for safety
- IEC 60601-1-2
Medical electrical equipment
Part 1-2: General requirements for safety
Collateral standard: Electromagnetic compatibility; Requirements and tests



MEDICAL-GENERAL MEDICAL EQUIPMENT
AS TO ELECTRICAL SHOCK, FIRE AND
MECHANICAL SHOCK, FIRE AND MECHANICAL
HAZARDS ONLY IN ACCORDANCE WITH
ANSI/AAMI ES 60601-1 (2005) + AMD (2012);
CAN/CSA-C22.2 No. 60601-1:14

Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) Furthermore, all configurations shall comply with the system standard IEC 60601-1-1. Everybody who connects additional equipment to the signals input part or signals output part configures a medical system and is therefore responsible that the system complies with the requirements of the system standard IEC 60601-1-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment. If in doubt, consult the technical services department or your local representative.

Caution! *Use suitable mounting apparatus to avoid the risk of injury.*

Attention! *Utiliser un appareil de montage approprié pour éviter le risque de blessure.*



Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".

Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.

Note! *Environmental protection*

Remarque! *Follow national requirements to dispose of the unit.*



Protection environnementale

Suivez les exigences nationales pour disposer de l'unité.

Warning! *Do not modify this equipment without the authorization of the manufacturer.*

Avertissement! *Ne modifiez pas cet équipement sans l'autorisation du fabricant.*



Warning! *To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.*

Avertissement!



Pour éviter tout risque d'électrocution, cet équipement doit uniquement être raccordé au réseau d'alimentation avec une terre de protection.

Caution! *This adapter DELTA MDS-060AAS19 B is a forming part of the medical device.*

Attention! *Cet adaptateur DELTA MDS-060AAS19 B fait partie du dispositif médical.*



Warning! To turn off the power, please disconnect the power cord.

Avertissement! Pour éteindre l'appareil, débranchez le cordon d'alimentation.



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Explanation of Graphical Symbols



IEC 60878 and ISO 3864-B.3.6 : Warning: dangerous voltage.
CEI 60878 et ISO 3864-B.3.6: Avertissement: tension dangereuse.



ISO 7000-0434: Caution, consult ACCOMPANYING DOCUMENTS.
ISO 7000-0434: Attention, consulter les DOCUMENTS D'ACCOMPAGNEMENT.



ISO 7000-1641: Follow operating instructions or Consult instructions for use.
ISO 7000-1641: Suivre les instructions d'utilisation ou Consulter les instructions d'utilisation.



IEC 60417 - 5009: STAND-BY.
CEI 60417 - 5009: STAND-BY.



IEC 60417-5031: Direct current.
CEI 60417-5031: Courant continu.



ISO 7010-M002: Refer to instruction manual/booklet
ISO 7010-M002: Se reporter au manuel d'instructions / livret



IEC 60417-5032: Alternating Current
CEI 60417-5032: Courant Alternative

Federal Communication Commission (FCC) Interference Statement - Class B

This device complies with Part 15 of the FCC Rules. The 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 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 when the equipment is operated in a residential environment. This equipment generates uses and can radiate radio frequency energy. If not installed and used in accordance with this user's manual, it may cause harmful interference to radio communications. Note that even when this equipment is installed and used in accordance with this user's manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, 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 the receiver
- Connect the equipment to a power outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning! Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.



Tout changement ou modification apporté à l'équipement qui n'est pas expressément approuvé par l'autorité de normalisation concernée peut annuler votre droit d'utiliser l'équipement.

FOR MOBILE DEVICE USAGE (>20cm)

Radiation Exposure Statement:

This equipment complies with FCC 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.

FOR COUNTRY CODE SELECTION USAGE (WLAN DEVICES)

Note: The country code selection is for the non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in the US must fix to US operation channels only.

Additional Information and Assistance

Contact your distributor, sales representative, or Compal's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages
- This equipment is a source of electromagnetic waves. Before use please, make sure that there are not EMI sensitive devices in its surrounding which may malfunction, therefore.

Manufacturer

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Revision History

Version	Date	Description	Author	Reviewed by	Approved by
V0.1	2018.05.10	Init Version	Bo		
V0.2	2018.05.29	Add RoHS, remove EU	Bo		
V0.22	2018.06.08	modify	Bo		
V0.3	2018.06.11	Add lab suggestion	Bo		
V0.31	2018.06.12	Add lab suggestion	Bo		
V0.4	2018.06.14	Add TS and modify the spec	Bo		
V0.41	2018.06.26	ISO 7000-1641 & ISO 7010-M002	Bo		
V0.5	2018.06.27	Installation warning	Bo		
V0.6	2018.07.06	Add French Warning	Bo		
V0.7	2018.07.16	Add control setting and modify certification level	Bo		

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Chapter 1 General Information

1.1 INTRODUCTION

The SHC-100 is a high-quality medical grade AIO (All-in-One) computer. It is a PC-based system with an Intel® Core™ i5 processor, 21.5" widescreen TFT LCD display, 2.5" SATA and M.2 PCI-E hard drive, up to 32 GB DDR4 RAM and a capacitive multi-touch screen that enhances the efficiency of hospital applications with glove-tolerant capabilities. It also features a dual-band 802.11 a/b/g/n/ac, Bluetooth 4.1 and NFC module. The fan-less design keeps its surrounding environment quiet while enhancing infection control. IPS technology provides the SHC-100 with the best image solution. With standard VESA mounting holes on the rear of the system, any standard mount or stand can be installed to enhance the application experience.

1.1.1 Intended Use

The SHC-100 is intended to serve as a multimedia system that integrates with hospital systems. Furthermore, the SHC-100 is designed for general purpose medical computing in the hospital environment, data collection, and displaying information. It should not be used as a life-support system nor for diagnostic purposes.

1.2 DIMENSIONS

Dimensions: 535.2(W) x 375.7(H) x 50.4(D) mm

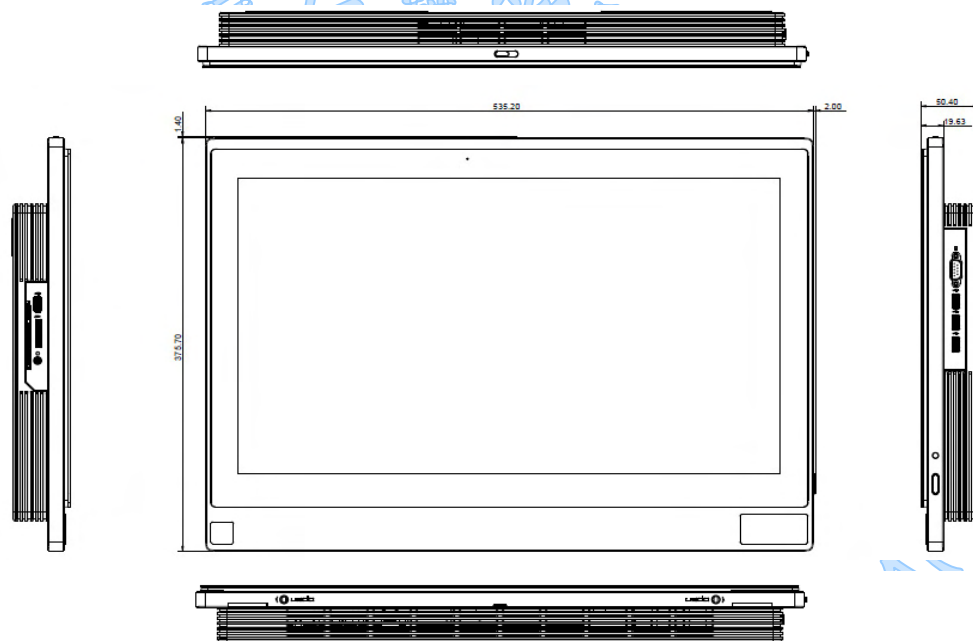


Figure 1.2-1 Dimensions

VESA Mounting Dimensions: 75 x 75 mm; 100 x 100 mm

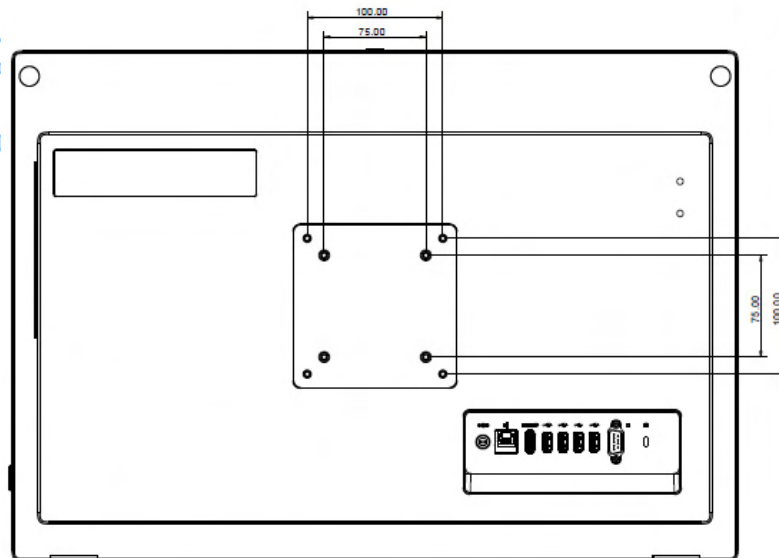


Figure 1.2-2 VESA Mounting Dimensions

Warning! Use suitable mounting apparatus to avoid the risk of injury.

Avertissement! Utiliser un appareil de montage approprié pour éviter le risque de blessure.



1.3 BUTTONS AND REAR I/O



Figure 1.3-1 SHC-100 Front View

- ① Power Button
- ② NFC Reader
- ③ Camera

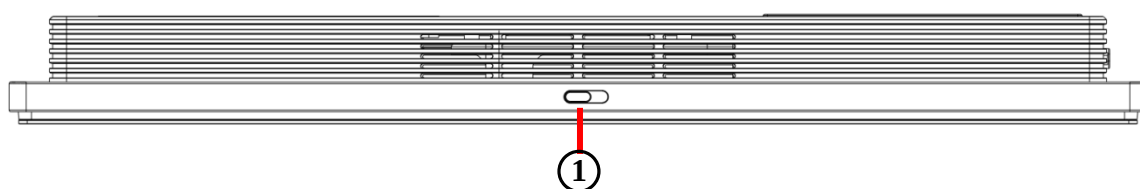


Fig 1.3-2 SHC-100 Top View

- ① Lens Cover Switch (for Camera)

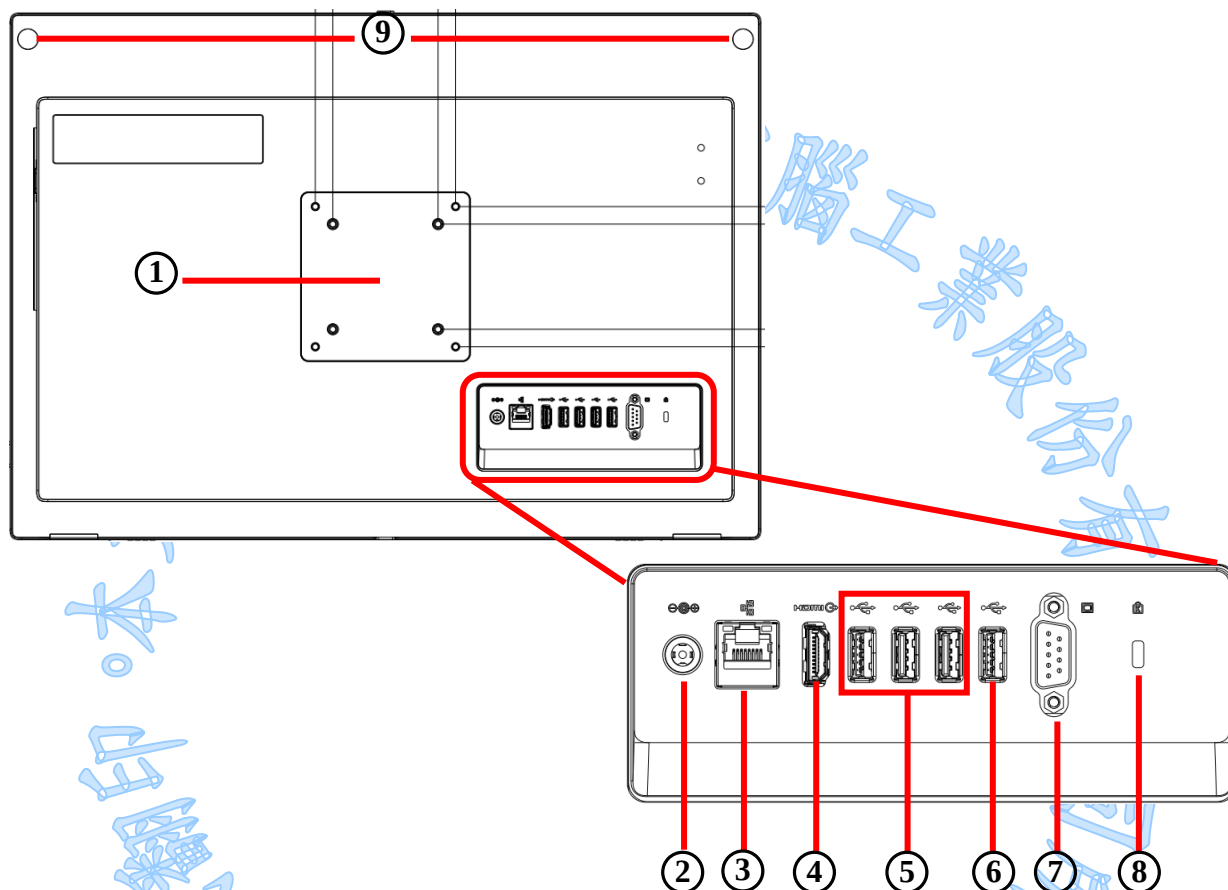


Figure 1.3-3 SHC-100 Rear View

- ① VESA Mount
- ② DC-In Power Port
- ③ Gigabit Ethernet Port (RJ-45)
- ④ HDMI Out Port
- ⑤ USB 2.0 Port x 3
- ⑥ USB 3.0 Port x 1
- ⑦ RS-232 Port
- ⑧ Kensington Lock Slot
- ⑨ External Antennas

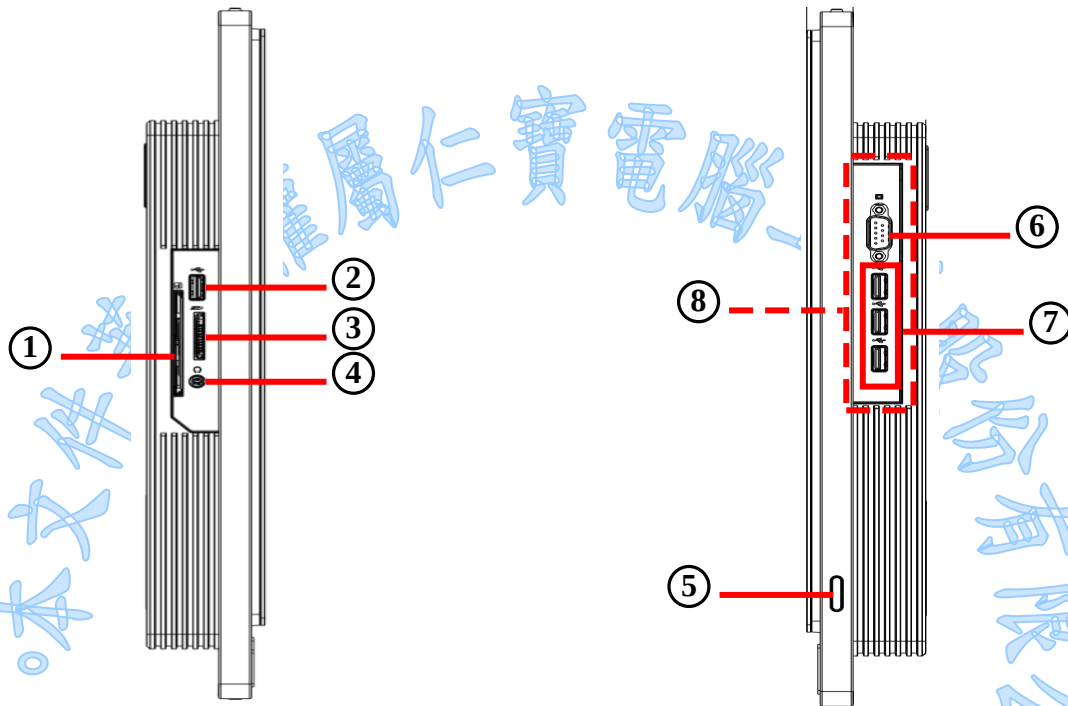


Figure 1.3-4 SHC-100 Side Views (Left and Right)

- ① Smart Card Reader
- ② USB 2.0 Port
- ③ SD Card Reader
- ④ Combo Audio Jack
- ⑤ Power Button
- ⑥ [Optional] RS-232 Port*
- ⑦ [Optional] USB 2.0 Port x 3*
- ⑧ [Optional] Optical Disc Drive (ODD)*

*Items 6 and 7 are components featured on the optional accessory board which can be switched to item 8.

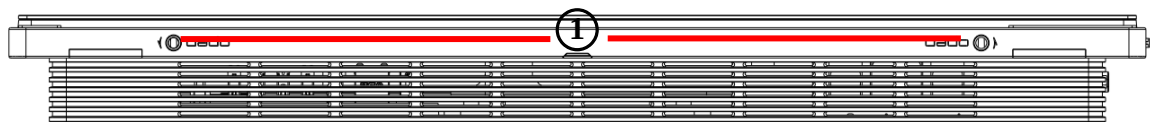


Figure 1.3-5 SHC-100 Bottom View

- ① Rear Cover Locks (Open: Turn Counterclockwise, Close: Turn Clockwise)

1.4 OPTIONAL MODULES

Memory: 4GB or 8GB DDR4 2400/2666 SDRAM

SSD: M.2 PCIe 256GB SSD

Hand Set: USB Phone holder

Accessory Board: (1) RS-232 and USB 2.0 x 3

(2) ODD

Antenna: 3 dB External Antenna x 2

Stand: Standard VESA 100 x 100 mm table stand

1.5 CLEANING AND DISINFECTING

During normal use of the SHC-100, the device may become dirty and as a result should be regularly cleaned.

Steps:

1. Prepare a cleaning agent per manufacturer's instructions or hospital protocol.
2. Wipe the SHC-100 with a clean cloth that has been moistened by the cleaning agent.
3. Wipe thoroughly with the clean cloth.

Cleaning agent list: chemical disinfectants which have been tested on the SHC

No.	Cleaning Agents
1	Ethyl alcohol 70%
2	Isopropyl alcohol 70%

Caution! Attention!



➤ Do not immerse or rinse the SHC or its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed Department regarding the continued safety of the unit before placing it back in operation.

➤ Do not spray cleaning agent on the chassis.

➤ Do not use disinfectants that contain phenol. Do not autoclave or clean the SHC or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

➤ Do not scratch the surface of the screen with any hard objects.

➤ Do not spray liquid directly on the screen or allow excess liquid to drip down inside the device.

➤ Do not place anything, such as food and drink, on the screen at any time to prevent damage to the screen.

➤ Clean the LCD display only with a soft cloth dampened with 70% above isopropyl alcohol or 70% ethyl alcohol.