Avalue Intelligent Display & System

AID-240SBW, AID 240SBW

Fanless Medical Panel PC with 5th Gen Intel® Core i7 Processor and 24" Full HD Multi Touch LCD

User Manual

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Part No: E2017A4B0A1R

Instructions for the User

The document combines text and illustrations, providing a comprehensive overview of the system. The information is presented as a sequential steps of actions, allowing the user 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.*

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.*

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

Safety Instructions

1. Strictly follow these Instructions for Use, please read these safety instructions carefully.
2. Remind to keep this User's Manual for later reference, and any use of the product requires 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.
3. Repair of the device may also only be carried out by trained service personnel. Avalue recommends that a service contract be obtained with Avalue Service and that all repairs also be carried out by them. Otherwise the correct functioning of the device may be compromised.

Warning! *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.*

4. 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's manual.

The equipment has been dropped and damaged.

The equipment has obvious signs of breakage.

5. Turn off the computer before cleaning. Follow the instruction and disinfecting at chapter 2.3, make sure finish cleaning before turning the computer back on.

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.*

6. Put this equipment on a reliable 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 and place the device in direct sunlight or near radiant heaters.*

7. 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 over voltage.

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.*

8. If your computer is losing dramatic time or the BIOS configuration reset to default, the battery has no power.

Caution! *Do not replace battery yourself. Please contact a qualified technician or your retail. The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturer's instructions*

9. Improper installation of VESA mounting can result in serious personal injury! VESA mount installation should be operated by professional technician, please contact the service technician or your retail if you need this service.

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

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

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

13. When networking with electrical devices, the operator is responsible for ensuring that the resulting system meets the requirements set forth by the following standards:
– EN 60601-1 (IEC 60601-1)
Medical electrical equipment
Part 1: General requirements for safety
– EN 60601-1-1 (IEC 60601-1-1)
Medical electrical equipment
Part 1-1: General requirements for safety
Collateral standard: Safety requirements for Medical electrical systems

– EN 60601-1-2 (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
HAZARDS ONLY IN ACCORDANCE WITH ANSI/AAMI ES
60601-1 (2005) + AMD (2012) and CAN/CSA-C22.2 No.
6060-1 (2008) + (2014)

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 signal input part or signal 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 risk of injury.

15. 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 Follow national requirements to dispose of unit.

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

Warning! To avoid risk of electric shock, this equipment must only be

connected to a supply main with protective earth.

Caution! *This adapter EDAC EM11013C is a forming part of the medical device.*

16. Disconnect device: turn Off AID-240SBW, and Unplug the power cord from AC power outlet

Explanation of Graphical Symbols

⚡	Warning: dangerous voltage
⚠	Caution
📖	ISO 7000-1641 : Follow operating instructions or Consult instructions for use.
∿	Alternate current
⎓	Direct current
⏻	Stand-by

Disposing of your old product

Within the European Union

EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself. The mark on electrical and electronic products only applies to the

Federal Communication Commission Interference 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 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 instruction, 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.**

• **Increase the separation between the equipment and receiver.**

• **Connect the equipment into an outlet on a circuit different from the one the receiver is**

connected to.

• **Consult the dealer or an experienced radio/TV technician for help.**

Notice:

(1) A Unshielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord by used.

(2) Use only shielded cables to connect I/O devices to this equipment.

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

Antennas

Only use the supplied antenna. Unauthorized antennas, modifications or change to the

antennas could violate FCC regulations and void the user's authority to operate the equipment.

Operations in the 5150 to 5250MHz band are restricted to indoor use only.
For operation within 5.15 ~5.25GHz /5.25 ~5.35GHz/5.47 ~5.725GHz frequency range, it is restricted to indoor operations to reduce any potential for harmful interference to co-channel Mobile Satellite System (MSS) operations. The band from 5600-5650MHz will be disabled by the software during the manufacturing and cannot be changed by the end user. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

Canada Statement

This device complies with Industry Canada's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d'Industrie 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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

1. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

2. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

3. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

1. les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

2. le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limite de p.i.r.e.;

3. le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5 725-5825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

Additional Information and Assistance

Contact your distributor, sales representative 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.

Environmental protection

■ Follow national requirements to dispose of unit.

Manufacturer

Avalue Technology Inc.

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Packing List

● 1 x 24" Full HD Fanless Multi-Touch Medical Panel PC with Intel ® 5th Generation Core i7 Processor

● 1 x Medical Power Adapter

● 1 x Power cord

● 4 x M4 6mm screws

CONTENT

1. AID-240SBW, Multi Touch Panel PC Features

In this chapter, you will get to know all features of our AID-240SBW, Multi Touch Panel PC.

1.1 Specifications
1.2 Front view
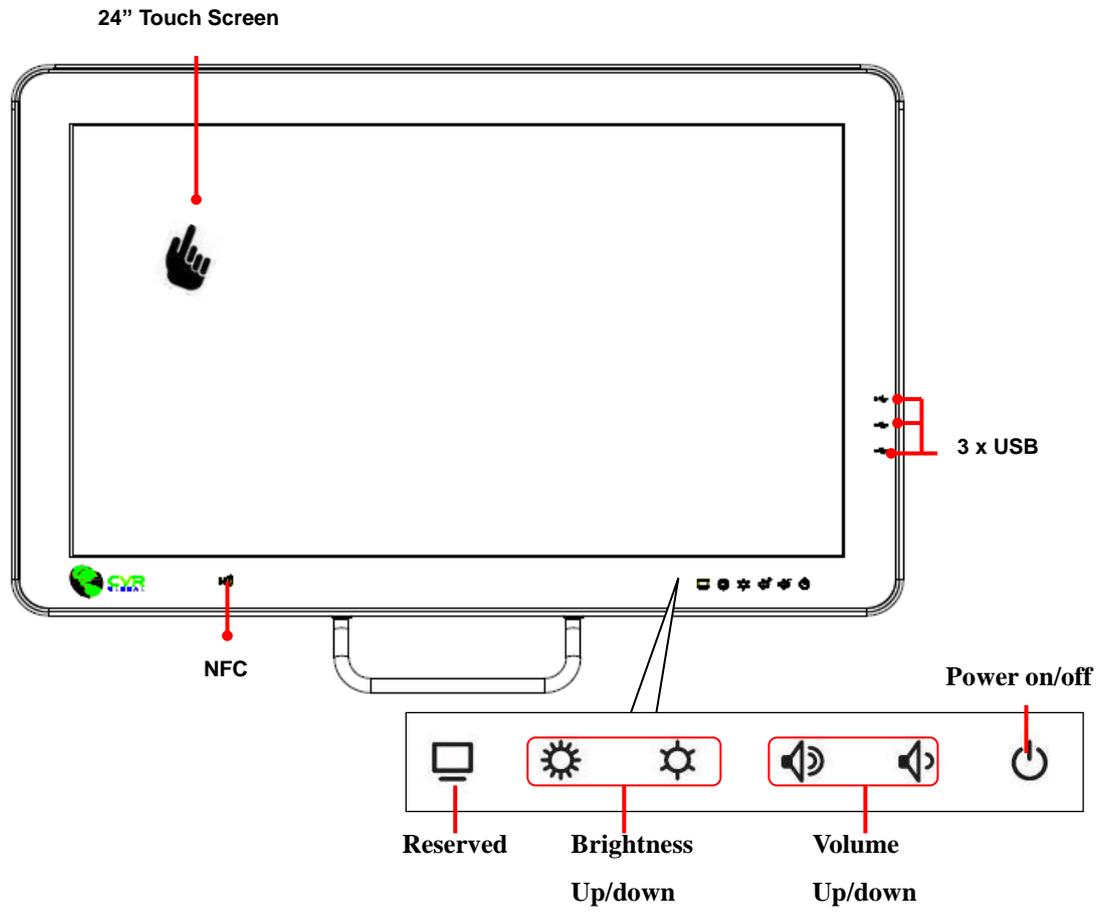1.3 Rear & Bottom view

1.1 Specifications

The AID-240SBW is a multimedia Intel® Core™ i7 processor designed for mobile computing as a Medical Panel PC. It is a PC-based system with 24'' wide screen TFT LCD display, single HDMI out, on-board 10/ 100/1000 PCI-E Ethernet controllers, and LAN ports. It supports the Intel AMT8.0 function, has some USB 2.0 and 3.0 ports and stereo audio controller. With the 2.5" SATA interface, the AID-240SBW is a user-friendly computer. For system integrators, this highly integrated multimedia system lets you easily build a Medica Terminal into your applications. The AID-240SBW makes it an ideal and safe point-of-care solution for patients and hospital practitioners. The AID-240SBW is specially designed to resist spills and water damage, and ensures dust resistance with its protected LCD and sealed ports. The AID-240SBW is a reliable solution to your application's processing requirements.

Intended use - The AID-240SBW is intended to serve as a Medical terminal for integration with hospital systems. AID-240SBW is designed for general purpose medical computing in the hospital environment, for data collection and for displaying information. It should not be used as a life-support system.
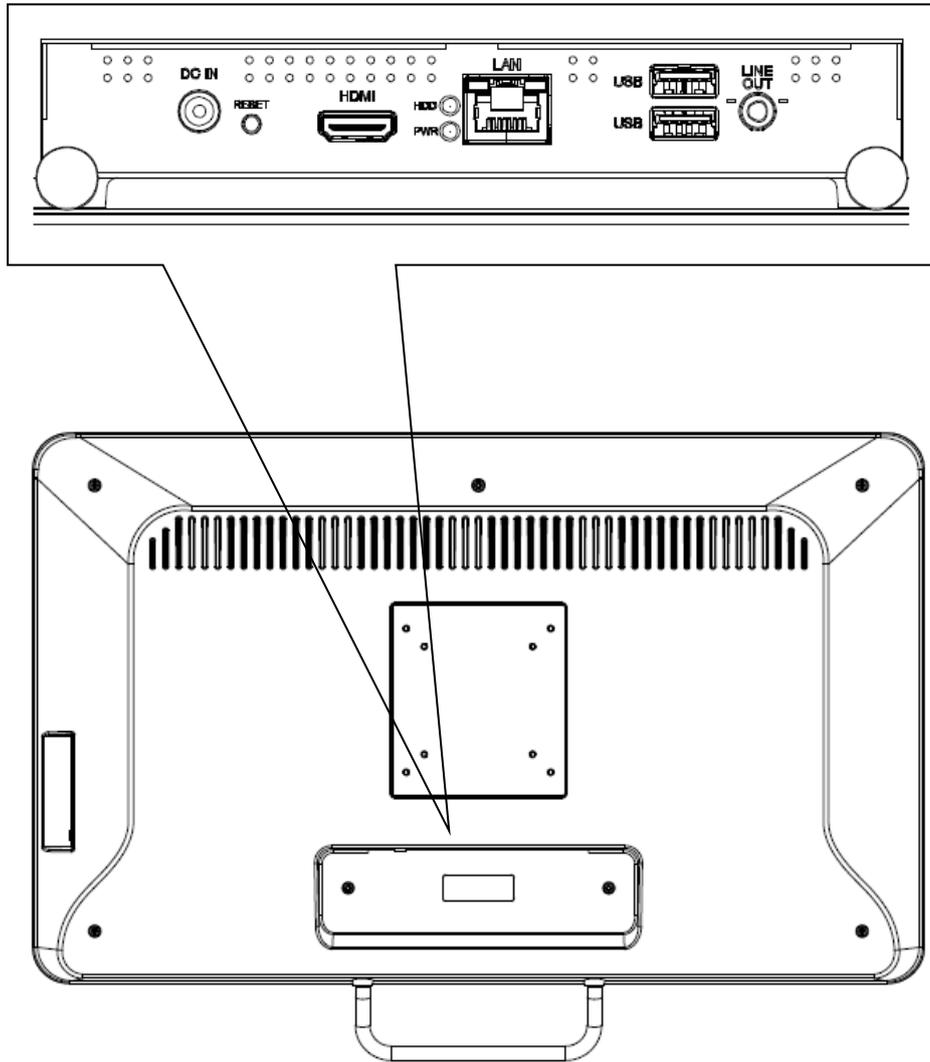
System	CPU	Intel® Core i7 5650U 2.2Ghz (up to 3.1GHz) Processor, Broadwell
	Memory	Up to 16GB DDR3L 1600/1333MHz SDRAM
	Graphics Controller	Integrated Intel® HD Graphics 6000
Display	Display Size	24" Wide Color TFT-LCD (16:9)
	Max. Resolution	1920 x 1080
	Max. Colors	16.7M
	Pixel Pitch (mm)	276.75 x 276.75
	View Angel	$178^{\circ}/178^{\circ}$
	Luminance	300nits
	Backlight	LED
	LCD MTBF	50,000 hours
	Contrast Ratio	3000:1
Storage	HDD	1 x 2.5" SATA
I/O Ports	USB 3.0 Ports	2
	LAN	1 x Gigabit Ethernet interface (RJ45)
	HDMI	1 x HDMI out

	Audio	Line Out
	USB 2.0 Ports	3
Power Supply	DC Model	AC/DC adapter (EDAC EM11013C)
	Input Voltage	100~240 Vac, 50~60Hz, 2.0~1.0A
	Output Voltage	+19Vdc, 4.73A
Optional Function	WLAN	802.11a/b/g/n wire LAN mini-PCIe module & Internal antenna
	NFC	13.56 MHz with ISO-14443A
	Bluetooth	Bluetooth v4.0
Touch Screen	Touch Screen Type	Projected Capacitive 10-points
	Light Transmission	87%
	Controller	USB interface
	Durability	>100 million touches
Certifications		UL/CB, ANSI/AAMI 60601-1/EN60601-1/IEC60601-1, CE & FCC Class B certified
Environment	Temperature	0 ~ 40°C (32 ~ 104°F) (Operating)
		-20 ~ 60°C (Storage)
		-20 ~ 60°C (Transportation)
	Humidity	20 ~ 80% Non-Condensing
		20 ~ 80% (non condensing) (Storage)
		20 ~ 80% (Transportation)
	Pressure	620-1060 hPa (Operation)
		620-1060 hPa (Storage)
		620-1060 hPa (Transportation)
	Shock Resistance	10G peak acceleration (11ms duration)
Physical Characteristics	Dimension (W x H x D)	615.5*382.7*50mm (without handle) 615.5*436.3*50mm (with handle)
	Weight	8.1kg
Platform & Utility		Windows 8.1, 10. Linux Fedora 22

1.2 Front view

24" Touch Screen

3 x USB

NFC

Power on/off

Reserved   **Brightness**   **Volume**

Up/down   **Up/down**

1.3 Rear & Bottom view

2. Setting Up AID-240SBW Multi Touch Panel PCs

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This chapter gives instructions on how to set up AID-240SBW Multi Touch Panel PC and how to connect different cables. If you have Internet ISP information or network setting, you will be able to setup the AID-240SBW Multi Touch Panel PC to connect to the internet or network.

2.1 VESA Mounting
2.2 Cleaning and Disinfecting

2.1 VESA Mounting

The AID-240SBW also provides standard VESA mounting to help system integrators conveniently integrate the panel PC into their system.

Never use mounting brackets except as provided by Avalue to prevent unreliable mounting of the AID-240SBW. VESA mount installation should be carried out by a professional technician; please contact a service technician or your retailer if you need this service.

Installation instructions follow:

1. First attach the wall-mounting to the heat-sink of the AID-240SBW, securing it in place with four of the M4 x 6mm screws provided.

2. Mount the on the wall, stand or other flat surface.

Warning!   *Be sure to secure the screws of the mounting bracket tightly. A loose joint between the AID-240SBW and mounting bracket may create danger of injury.*

VESA 75/ 100 Mounting
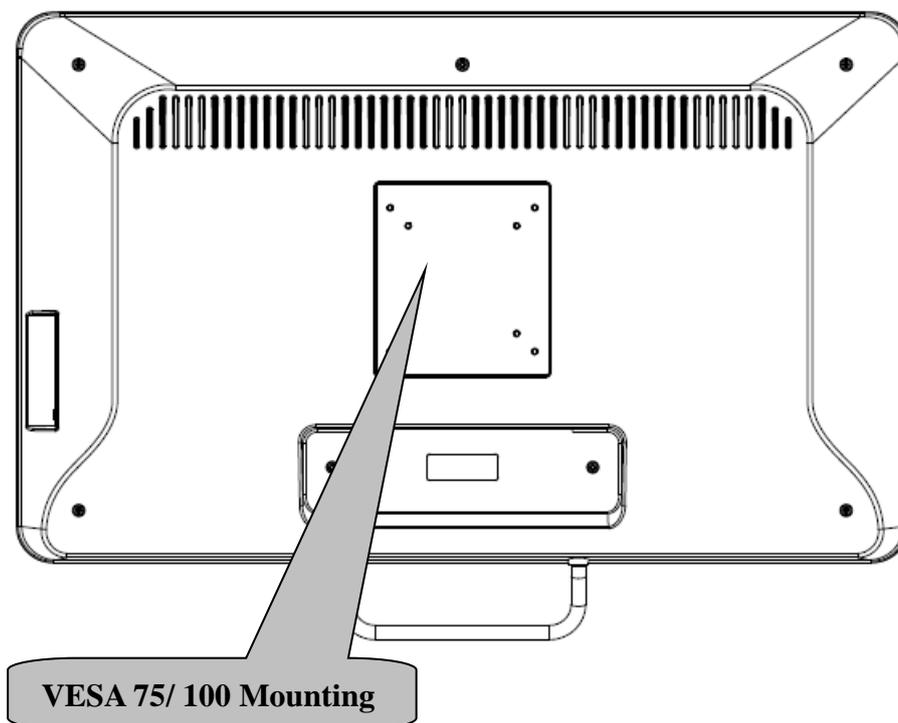
Suggested Screw type for mounting

Note: 4 pieces of M4 x 6mm screws (P/N: E1933050611R)
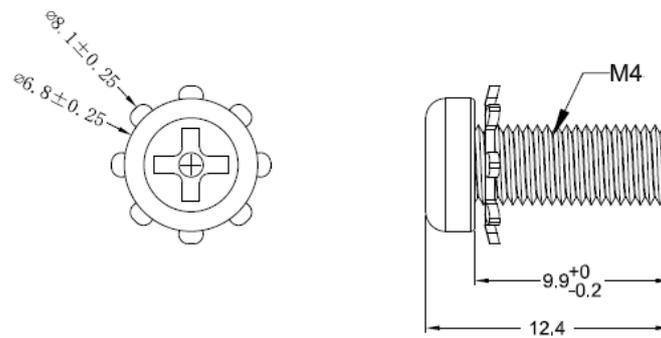
Warning! *Use suitable mounting apparatus to avoid risk of injury.*

2.2 Cabling

1. Power Cable
2. Ethernet (RJ-45) Cable

Power Jack

Ethernet (RJ-45) Connector
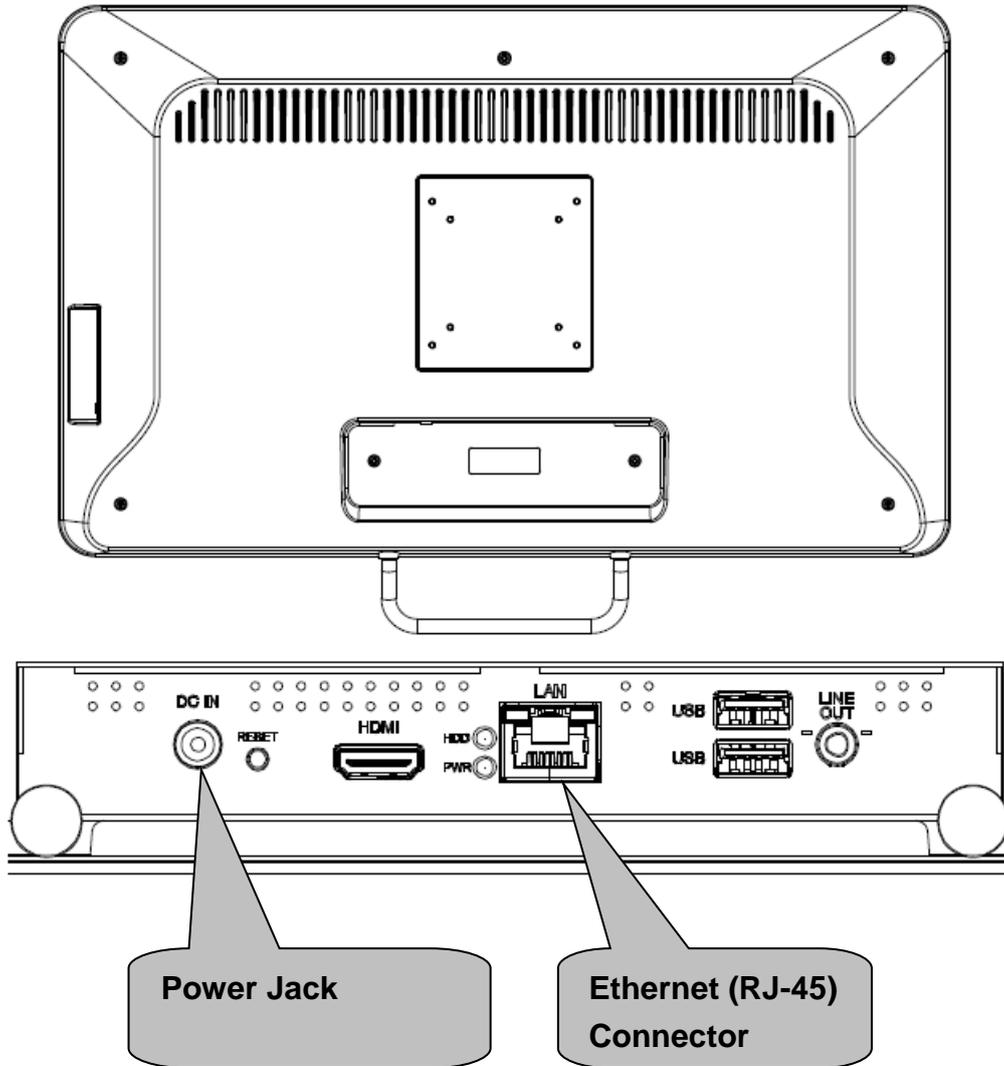
Please follow below steps to connect power cable to system.

The AID-240SBW could only be powered by a DC power adapter (EDAC Model no. EM11013C). Be sure to always handle the power cords by holding the plug ends only.

Follow these procedures in order:

1. Connect the female end of the power adapter to the DC jack of the panel PC.

2. Connect the female end of the power cord to the DC power adapter.

3. Connect the 3-pin male plug of the power cord to an electrical outlet.

External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL standards (e.g. UL 60905-1 for IT equipment and ANSI/AAMI ES60601-1/ IEC 60601-1 series for medical electrical equipment
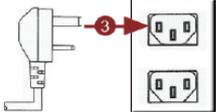
2.3 Cleaning and Disinfecting

Cleaning Instructions

1. Turn off the computer before starting clean up. This way, you can see any dirt on the screen; the brightness of the monitor may make you miss some areas.

2. Wet a soft, lint-free or microfiber cloth with cleaning agent per manufacturer's instructions or hospital protocol. Wipe the medical PC in a gentle motion to remove dust, oil, or fingerprint smudges.

3. Wipe any moisture excess with a dry lint-free cloth to finish cleaning before turning the computer back on.

Cleaning Tools

Below is a list of some items that may be needed or used when cleaning the medical PC or medical PC peripherals.

Please keep in mind that some components in medical PC components may only be cleaned using a product designed for cleaning that component.

Cleaning agent list: chemical disinfectants which have been tested on the medical PC
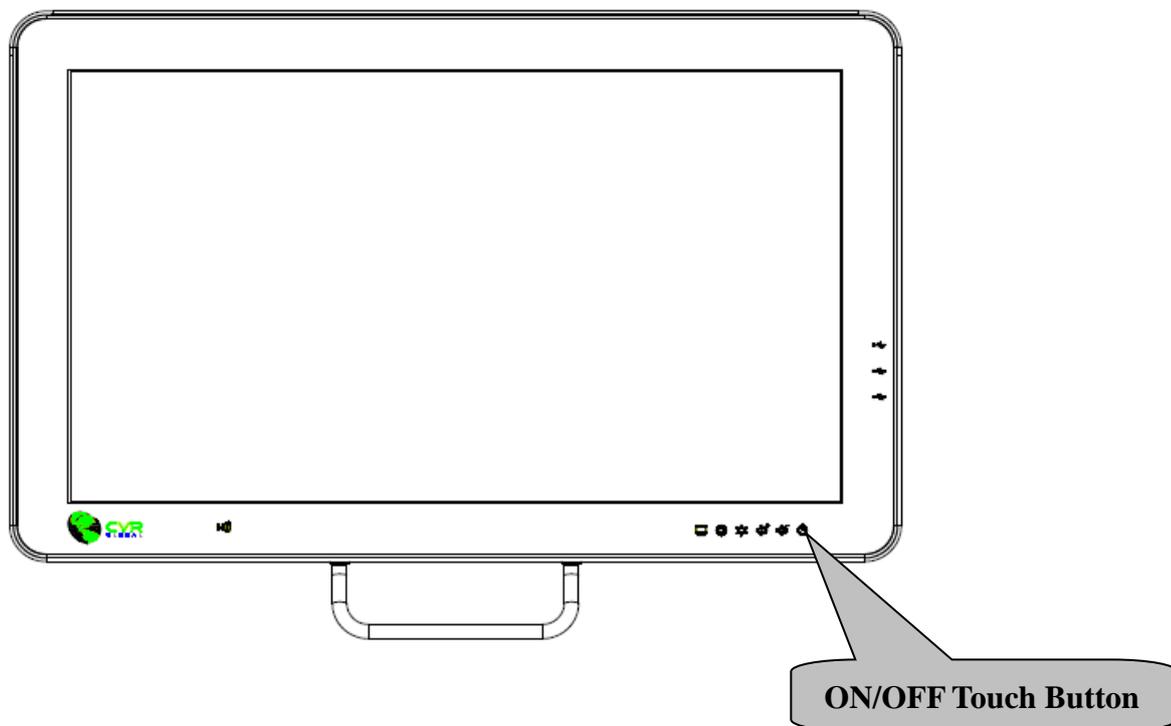
No. Cleaning agent

1 Alcohol

2 Alcohol 70%

3 Mild detergent

3. Using AID-240SBW Multi Touch Panel PCs

This chapter describes in detail all features of AID-240SBW Multi Touch Panel PC.

    1.1   Turn ON/OFF the System

    1.2   Using LCD Display and Touch Screen

3.1. Turn ON/OFF the System

ON/OFF Touch Button

3.1.1 Turn ON the System

1. Check if the Power ON/OFF LED light is Orange.
2. Press the Power ON/OFF icon firmly to turn power ON/OFF
3. The Power ON/OFF LED will turn green to indicate power is on.

3.1.2 Turn OFF the System

1. Press on the Power ON/OFF icon firmly for 4 seconds.
2. The Power ON/OFF LED will turns red to indicate power is off.
3. Your system is turned OFF.

Note: We recommend using operating system shut down procedure to turn the system OFF.

3.2 Using LCD Display and Touch Screen

Control Buttons
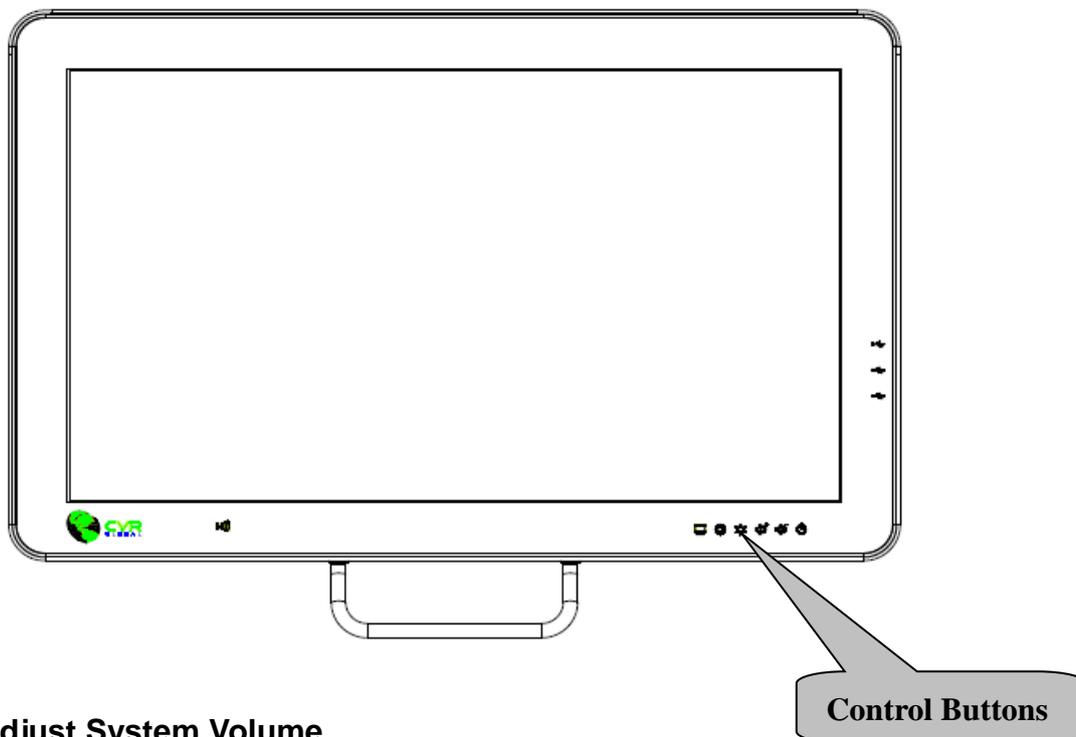
3.2.1 Adjust System Volume

1. Press the Volume Up or Volume Down icon to increase or decrease volume
2. The volume will be adjusted accordingly.

3.2.2 Adjust LCD Display Brightness

1. Press the Brightness Up or Brightness Down icon to increase or decrease brightness.
2. The brightness of the LCD display will be adjusted accordingly.

3.2.3 Using Touch Screen

1. To select the item on the touch screen, press the item once.
2. To select and open the item, press the item twice repeatedly.
3. To open the secondary menu, press and hold until the menu appears and then select the menu item. After choosing a menu item, release your finger to select the item.

4. AID-240BSW Disassembly Figure

In this chapter, you will learn to disassemble the AID-240BSW. Please perform these steps with care.

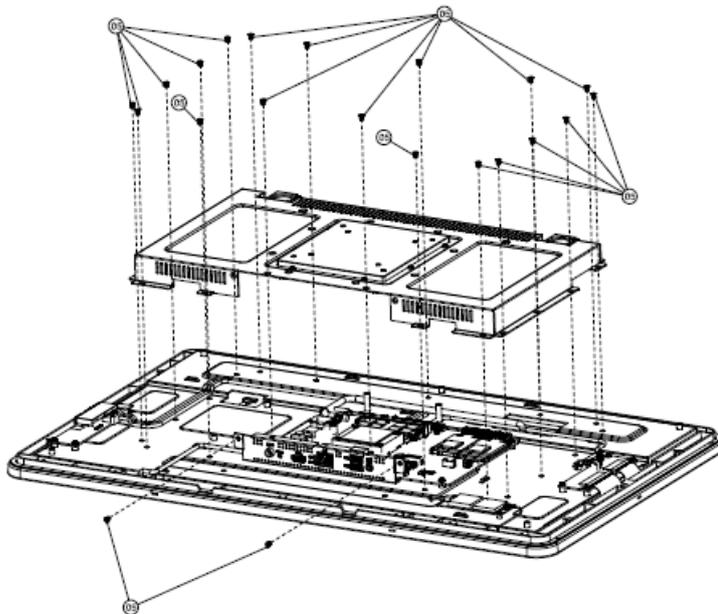▲ WARNING: Turn OFF the system and disconnect the power cable before performing the following tasks.

▲CAUTION: Only a certified service technician is authorized to remove the cover and access system components.

4.1 Disassembly Figure

4.1 Disassembly Figure
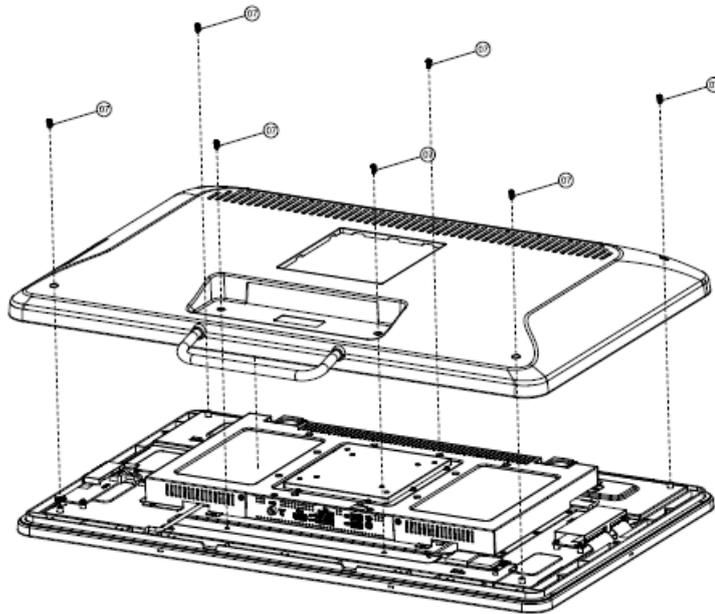
Remove 7 screws to release the chassis cover, and remove it.

Remove 21 screws from the case to take off the top chassis.

End of This Document

Thank you for purchasing and using AID-240BSW Multi Touch Panel PCs. For additional support, please contact BCM Advanced Research for more details.