

User Manual

PIT-17 Series

Patient Infotainment Terminal

ADVANTECH

Enabling an Intelligent Planet

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Declaration of Conformity

FCC Class B

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.

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.



Caution! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Part No. 2008170201

Printed in Taiwan

Edition 2

August 2011

Technical Support and Assistance

1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech'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

Warning!



1. Input voltage is rated 18-19 VDC, 3 A (DC Mode).
2. Packing: Please carry the unit with both hands; handle with care.
3. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator.

Safety Instructions

1. Read these safety instructions carefully.
 2. Keep this User Manual for later reference.
 3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
 4. Keep this equipment away from humidity.
 5. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
 6. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
 7. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
 8. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
All cautions and warnings on the equipment should be noted.
 9. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
 10. Never pour any liquid into an opening. This may cause fire or electrical shock.
 11. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
If one of the following situations arises, get the equipment checked by service personnel:
 12. a. The power cord or plug is damaged.
 13. b. Liquid has penetrated the equipment.
 14. c. The equipment has been exposed to moisture.
 14. d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 14. e. The equipment has been dropped and damaged.
 14. f. The equipment has obvious signs of breakage.
- DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
- If your computer clock loses a significant amount of time or the BIOS configuration resets to default, the battery has no power.

15.

Caution!



1. Do not replace power adaptor yourself. Please contact a qualified technician or your retail.
2. 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

16. CLASSIFICATION:
- Supplied by Class I adapter
 - No applied parts
 - Continuous operation
 - No AP or APG category
17. Follow national requirements to dispose of unit.
18. Maintenance: To properly maintain and clean the surfaces, use only approved products or clean with a dry cloth.
19. Contact information:
 No.1, Alley 20, Lane 26, Rueiguang Road Neihu District, Taipei, Taiwan 114,
 R.O.C
 TEL: (02) 2792-7818



XXXX Medical Equipment

With Respect To Electric Shock,
 Fire And Mechanical Hazards Only In
 Accordance With ANSI/AAMI ES60601-1,
 CAN/CSA C22.2 No. 60601-1

20.

21. This equipment is not to be used for life support system.
22. 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 must comply with the system standard IEC 60601-1-1. Anyone who connects additional equipment to the signal input part or signal output part is configuring 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.
23. A user must not allow SIP/SOPs and the patient to come into contact with one another at the same time.
24. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB (A).
- DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.
25. Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade"
26. 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.
27. "Caution – Use suitable mounting apparatus to avoid risk of injury."
28. "Warning - Do not modify this equipment without authorization of the manufacturer."
29. "Caution: This adapter Sinpro HPU101-107 is a forming part of the medical device"

Note!

Attention, please thoroughly consult the accompanying documentation.

Explanation of Graphical Symbols



IEC 60878 and ISO 3864-B.3.6 : Warning: dangerous voltage.



ISO 7000-0434 : **Caution**, consult ACCOMPANYING DOCUMENTS.



ISO 7000-1641 : Follow operating instructions or Consult instructions for use.



IEC 60417 -5009 : STAND-BY.



IEC 60417-5031 : Direct current.

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 current European Union Member States.

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Chapter

1

Introduction

This Chapter briefly introduces the PIT-17 SERIES product.

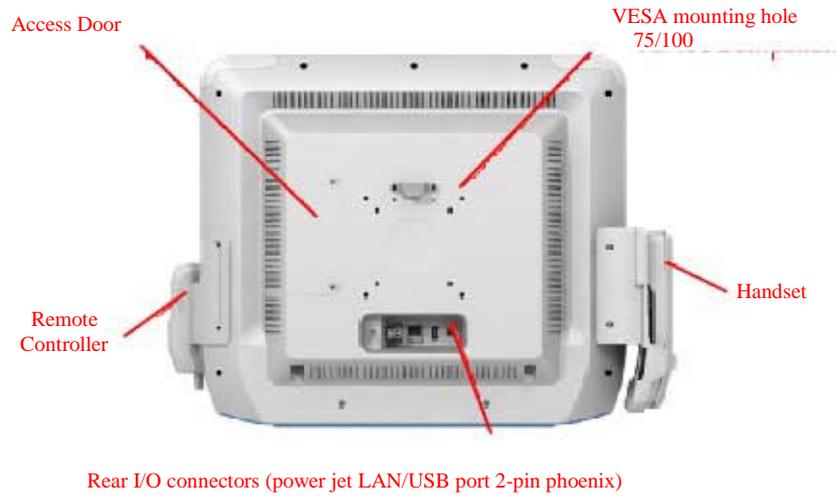
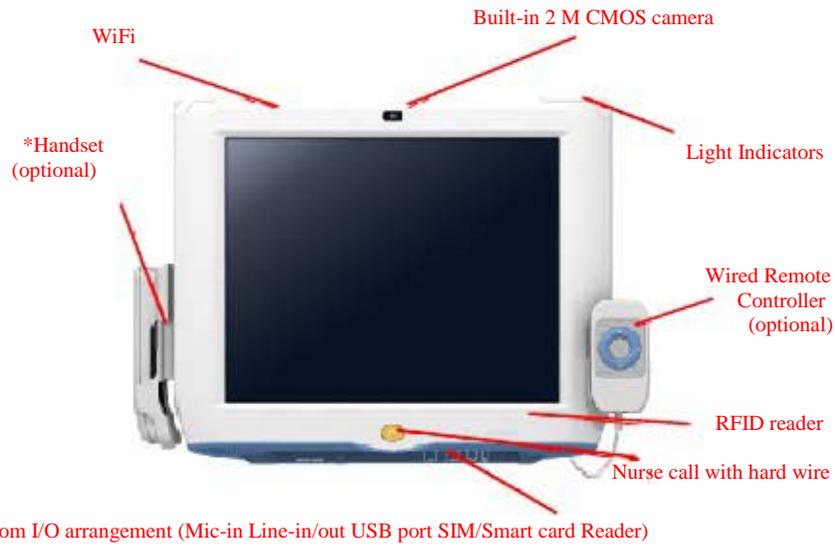
Overview

System Configuration

1.1 Overview

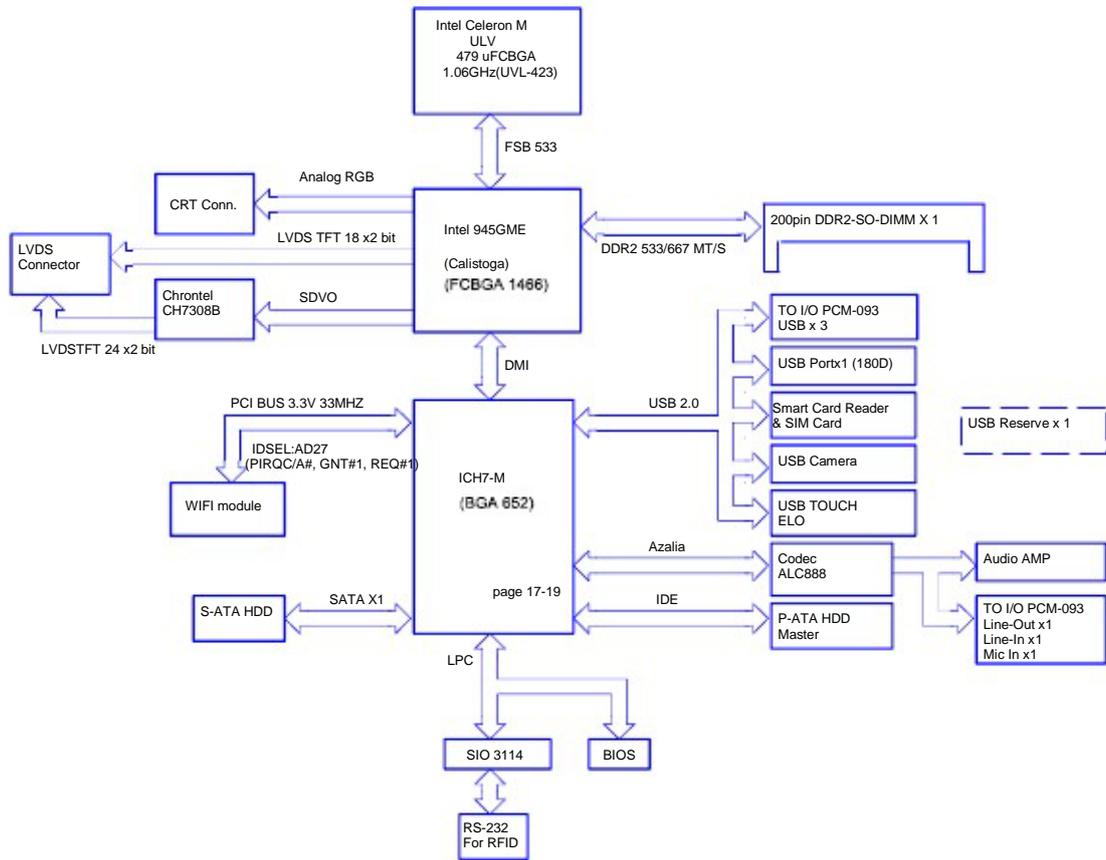
The PIT-17 SERIES Patient Infotainment Terminal is Advantech's standard product with a built-in Windows XP Embedded OS. In addition to providing hospital bedside patient information, remote monitoring, and care functions, the CPU and the LAN-enabled architecture of the PIT-17 SERIES terminal also serves as an integrated hospital gateway device. The PIT-17 SERIES equipped with an Intel Celeron M 1.06 GHz processor, 17" touchscreen, onboard Ethernet, and audio, plays a key role as a hospital bedside care and monitoring solution. It connects the service calls and LED light signals of a hospital room through the LAN to the hospital administration center or nurse station.





1.2 System Configuration

The block diagram of a PIT-17 SERIES Patient Infotainment Terminal based on Hospital bedside environment is shown in the following diagram:



Chapter 2

Hardware Description

This Chapter describes the hardware features of the PIT-17 SERIES.

- Main Specifications
- General Specifications
- Mechanical Specifications
- External View

2.1 General Specifications

2.1.1 Standard PC Functions

Hardware	CPU	Intel Celeron M ULV 1.06 GHz / Core 2 Duo 1.06 GHz
	Front Side Bus	Supports FSB 533/667 MHz
	System Chipset	Intel 945GME
	Memory	1 GB DDRII DRAM
	Storage	HDD: 2.5" SATA 160G
	Camera	2 megapixel CMOS camera
Display	Bus Expansion	mini-PCI slot x 1 (for WLAN)
	Size	17" TFT color LCD
	Max Resolution	1280 x 1024
	Viewing Angle	178/178
	Luminance	300 cd/m ²
Touchscreen	Contrast Ratio	800:1
	Type	Analog Resistive
	Light Transmission	80%
	Controller	USB interface
I/O Ports	Durability	30 million touches
	USB Port	3
	Smart Card Reader	1
	Line out	1
Audio	Microphone in	1
	Speaker	1W x 2
Network	Microphone	1
	LAN	10/100 Mbps Ethernet (RJ-45) x 1
Emergency Alarm	WLAN	802.11 b/g wireless LAN
	Hotkey	1
Bus Expansion	LED Light Indicator	2
	mini-PCI Slot	1 (for WLAN)
Software	Operating System	Embedded XP/ Win7 / Linux Fedora, Ubuntu
	Mounting	VESA 75/100 mm
Mechanical	Dimensions (W x H x D)	448 x 393 x 73.5 mm (17.64" x 8.31" x 2.89")
	Weight	6.8 kg (14.99 lbs.) / 7.0 kg (15.43 lbs.) with handset

2.1.2 Flat Panel Interface

Power button: With LED indicator
 Audio: Mic-in, Line-out
 USB: USB x 2
 LAN: Gigabit LAN
 SPK+MIC: build-in 2 x 2 W SPK + EM147 MIC
 Button: GPIO Programmable function
 Smart card reader: ISO7816 for IC card standard, PC/SC 1.0 for Windows, smart card standard, Microsoft WHQL, EMV for Europay MasterCard Visa standard and USB-IF CCID standard

2.1.3 Module Features

Features	Interface	Description
Wi-Fi Wireless	Mini PCI	802.11b&g
RFID Kit	Internal USB	13.56 MHz, ISO-15693
Camera module	Internal USB	2 M pixels CMOS camera
LED module	GPIO	Programmable, orange light
Handset module	RJ12	Build-in SPK & MIC
Remote controller	RJ12	Micro controller, up to 9 keys

2.1.4 Power Environment

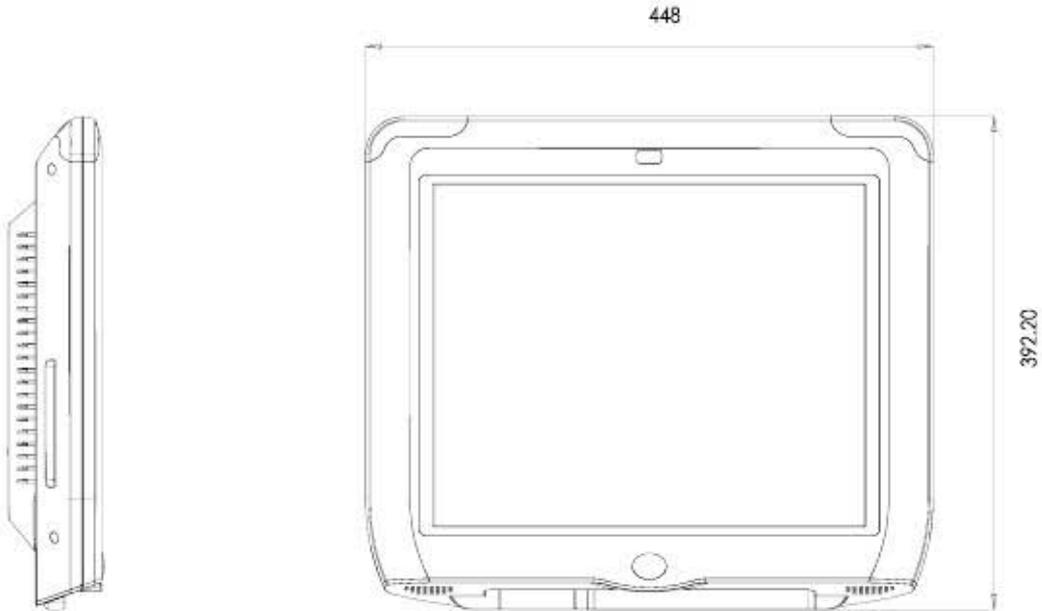
Power adaptor: AC/DC
 – Input voltage: 100 Vac ~ 240 Vac
 – Output voltage: 19 V @ 3.79 A
 Medical adaptor: AC/DC
 – Input voltage: 100 Vac ~ 240 Vac
 – Output voltage: 18 V @ 5.55 A

2.2 Mechanical Specifications

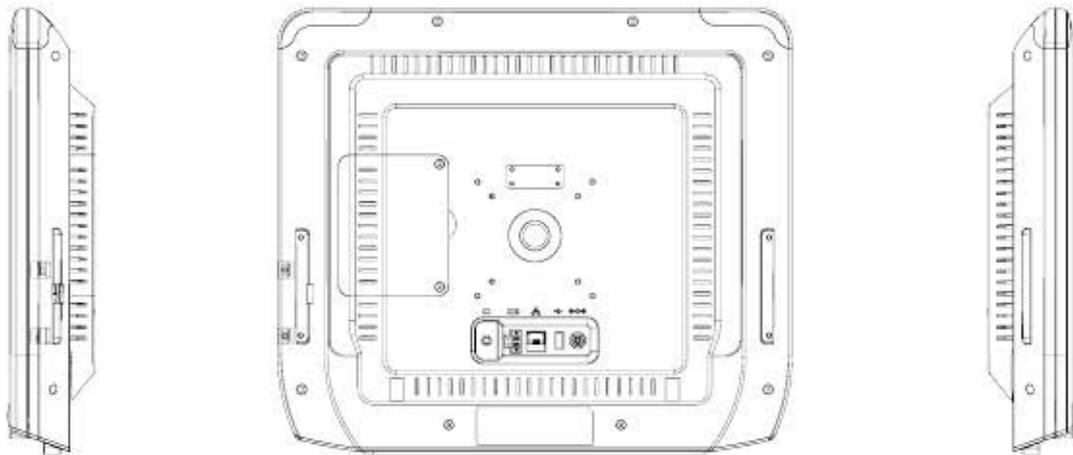
2.2.1 Mechanical Specifications (Terminal)

System Dimensions: 448 (W) x 392.2 (H) x73.5 (D) mm

Front Cover:



Rear Cover:



Carton Dimensions: 650 (W) x 610 (H) x 180 (D) (excludes accessories box)

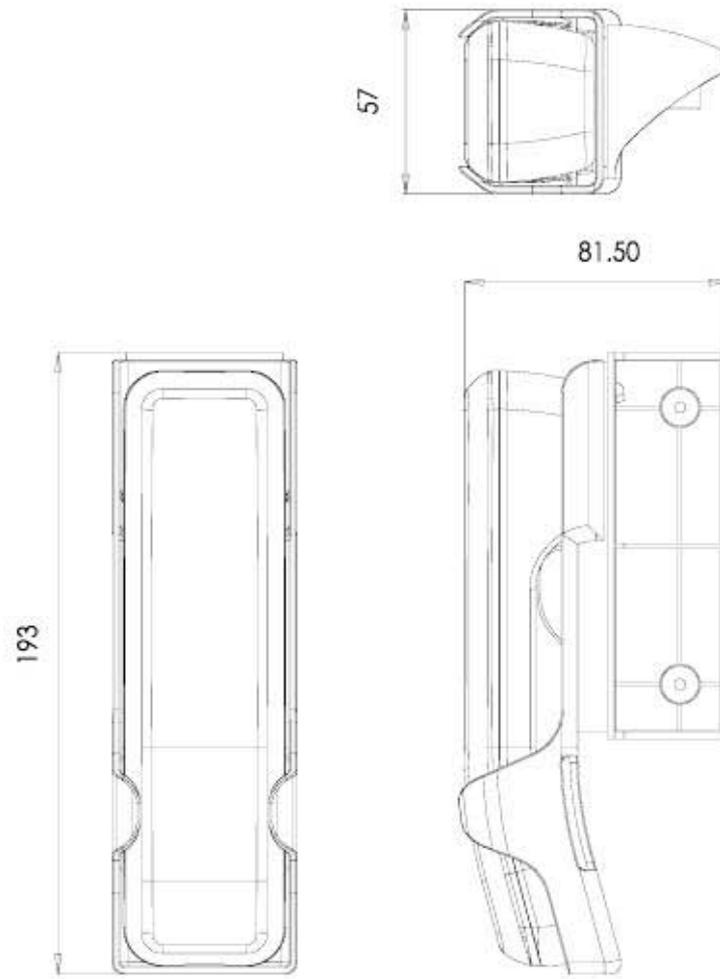
Mounting System: Back box for wall mounting

Gross Weight: 7.0 kg

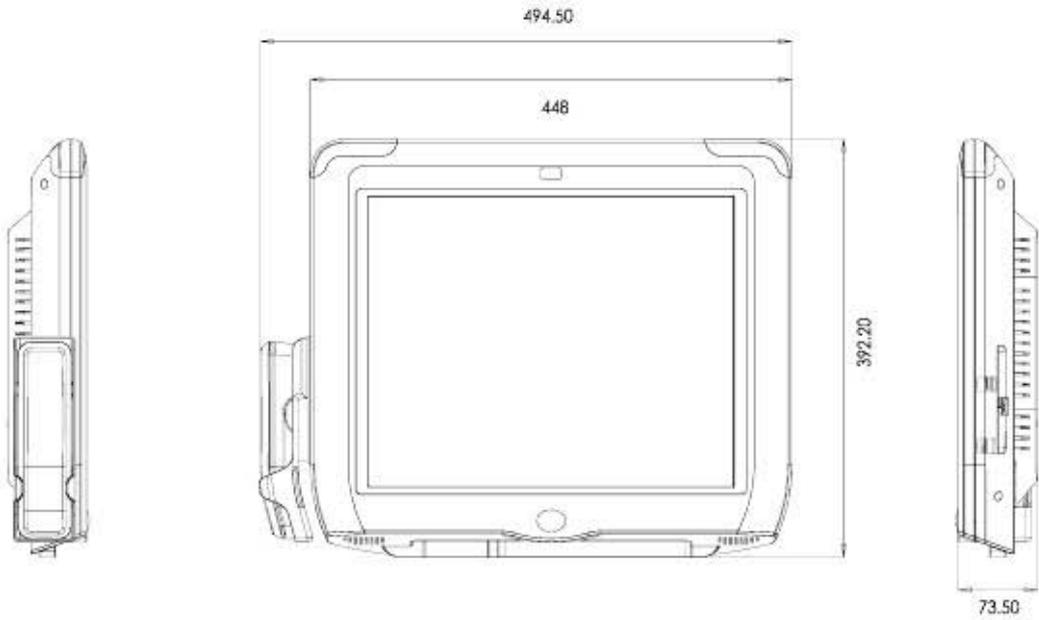
Net Weight: 5.7 kg

2.2.2 Mechanical Specifications (Terminal with Handset)

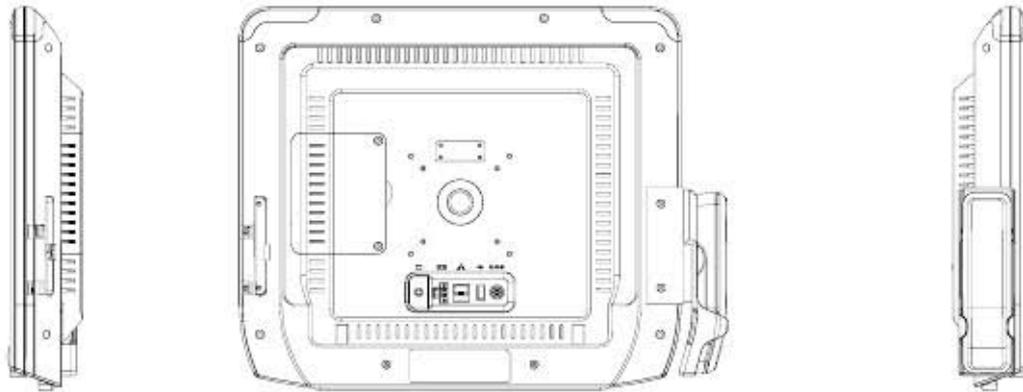
System Dimensions: 494.5 (W) x 392.2 (H) x 73.5 (D) mm



Front Cover:



Rear Cover:



Carton Dimensions: 650 (W) x 610 (H) x 180 (D) (exclude accessories box)

Mounting System: Back box for wall mounting

Gross Weight: 7.0 kg

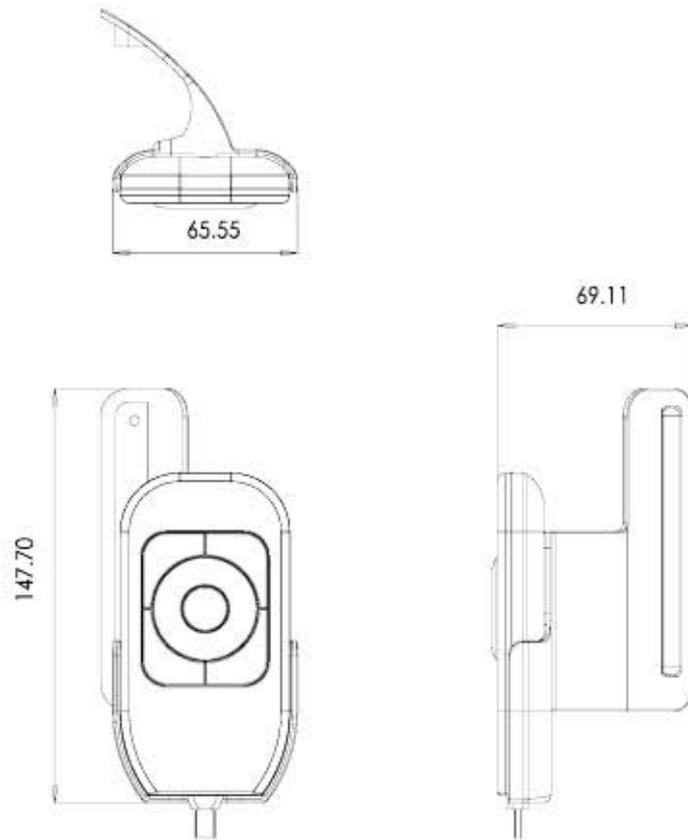
Net Weight: 5.7 kg

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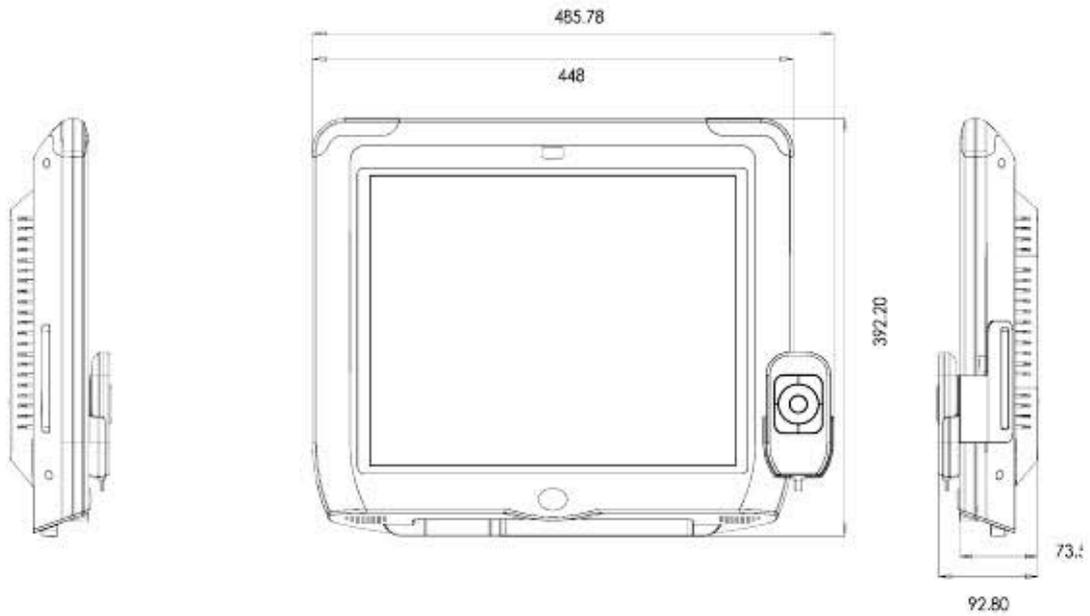
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2.2.3 Mechanical Specifications (Terminal with Remote Controller)

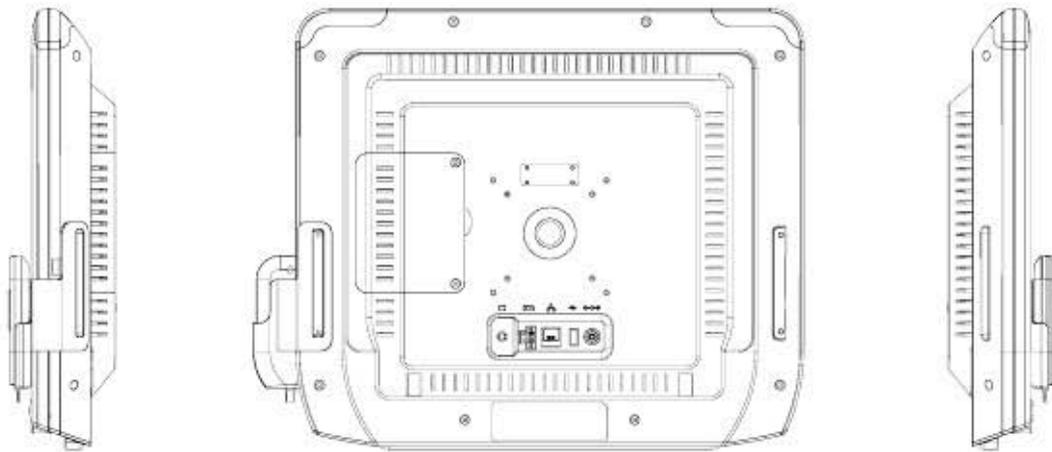
System Dimensions: 532.3 (W) x 392.2 (H) x 73.5 (D) mm



Front Cover:

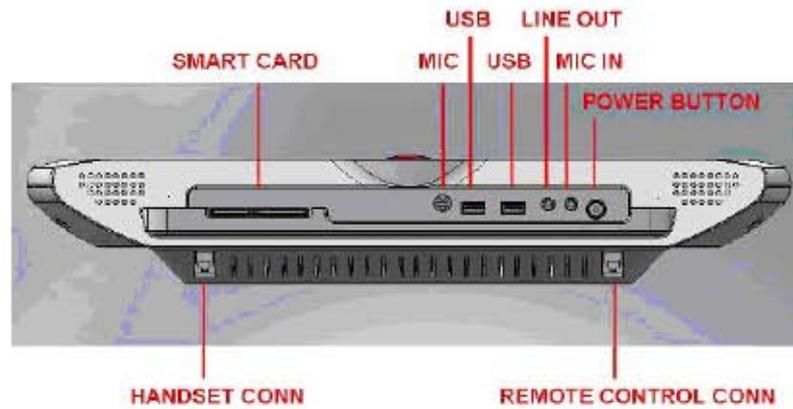


Rear Cover:

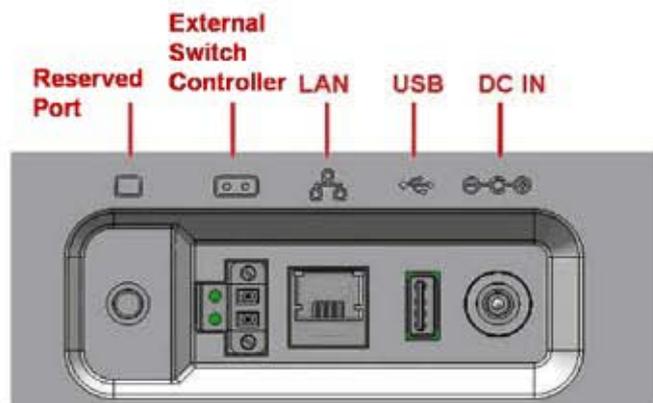


Carton Dimensions: 455 (W) x 405 (H) x 165 (D) mm
Mounting System: Back box for wall mounting
Gross Weight: 7.0 kg
Net Weight: 5.7 kg

2.2.4 Mechanical Drawing for Button I/O



2.2.5 Mechanical Drawing for Rear I/O



*External Switch Controller: Control port for LCD on/off switch on front panel.

2.3 External View

2.3.1 Front View

Front View (Terminal)



Front View (Terminal with Remote Controller)



Front View (Terminal with Remote Controller & Handset)



2.3.2 Side View



2.3.3 Rear View

Rear View (Terminal)



Chapter

3

Software Description

This Chapter describes the software features of the PIT-17 SERIES.
Windows XP Embedded Software Specifications

3.1 Windows XP Embedded Software Specifications

Real-Time OS Kernel
Windows XPE 7 Language Version

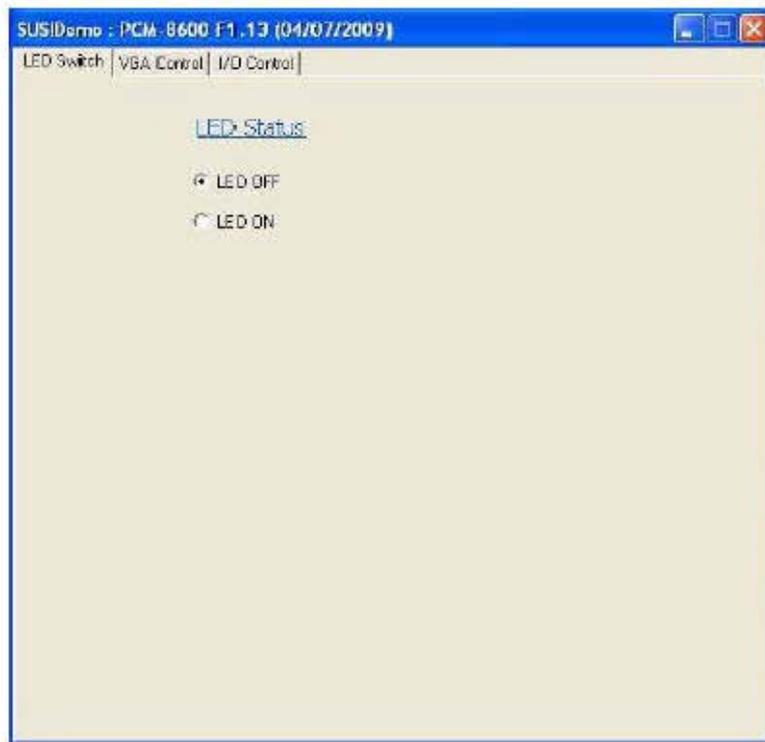
Driver List

Chipset	Intel 945GME	Rev: 8.3.1.1009
Graphics	Intel GMA950	Rev: PV 14.31
Audio	Realtek Audio ALC880	Rev: 5.10.0.5512
LAN	Marvell Yukon Ethernet Controller	Rev: 8.61.7.3
Camera	D-Max UVC 2 M Webcam	Rev: 6.11.200.4
Smartcard reader	ALCOR micro USB smartcard reader	Rev: 5.11.9520.7
Touch	Elo TtouchSys. 2216 AccuTouch@USB	Rev: 4.4.0.0
WLAN	Qcom WIFI module	Rev:1.2.3.0

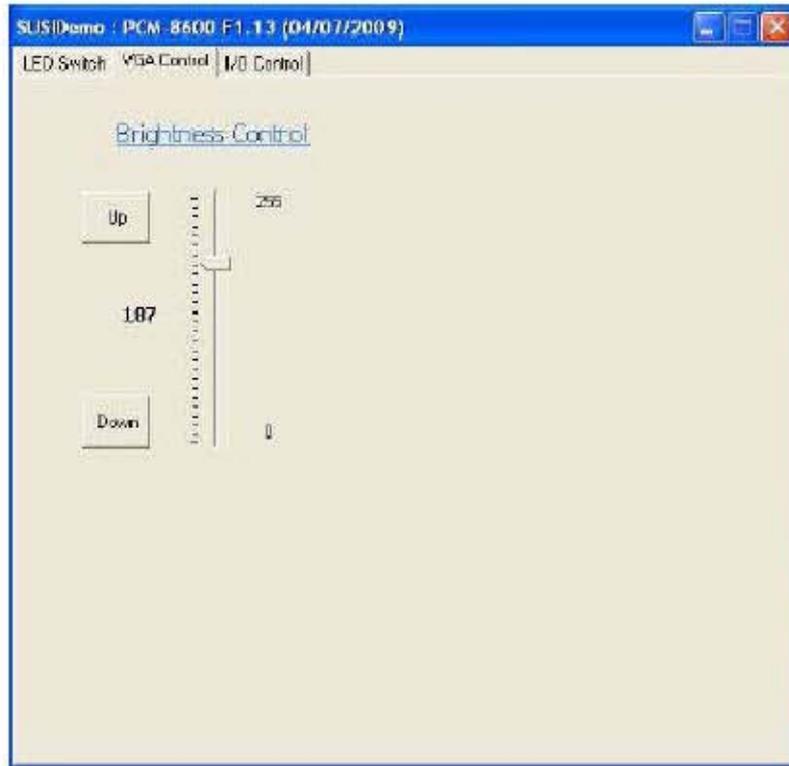
SUSI Demo Program



1. LED Indicator Control.



2. LCD Panel Brightness Control.



3. Nurse Call (GPIO function) Control.



Search for more information in *D:\Drivers for PIT-17 SERIES series\Advantech\SUSI Documentations.

Note! The CD-ROM drive is designated as D.



Chapter 4

Design Requirements

This Chapter describes the design requirements of the PIT-17 SERIES.
Environmental Specifications
Reliability

4.1 Environmental Specifications

Certification:		UL60601-1/EN60601-1, CE & FCC Class B certified
Environment:	Temperature:	0 ~ 40° C (32 ~ 104° F) (Operating) -20 ~ 60 °C (Storage) -20 ~ 60 °C (Transportation)
	Humidity:	10 ~ 90% @ 40 °C (non-condensing) 5 ~ 90% (non condensing) (Storage) 5 ~ 90% (Transportation)
	Pressure:	700-1060 hPa (Operation) 500-1060 hPa (Storage) 500-1060 hPa (Transportation)
	Shock Resistance:	20G peak acceleration (11ms duration)

Safety
CE

EMI
FCC class B approved

Vibration:
10 ~ 18 Hz, 1.5 mm peak-to-peak displacement
18 ~ 500 Hz, 1 G acceleration

MTBF
20,000 hours

4.2 Reliability

Touchscreen
1 million touch actuation times on a single point with a 5/8" diameter silicon finger under a 350 g load at 2 Hz
Power Requirements
DC Input Voltage: 19 V
Power Consumption: less than 60 W

Chapter

5

Installation

This Chapter describes the installation of the PIT-17 SERIES.

- Installation for Terminal

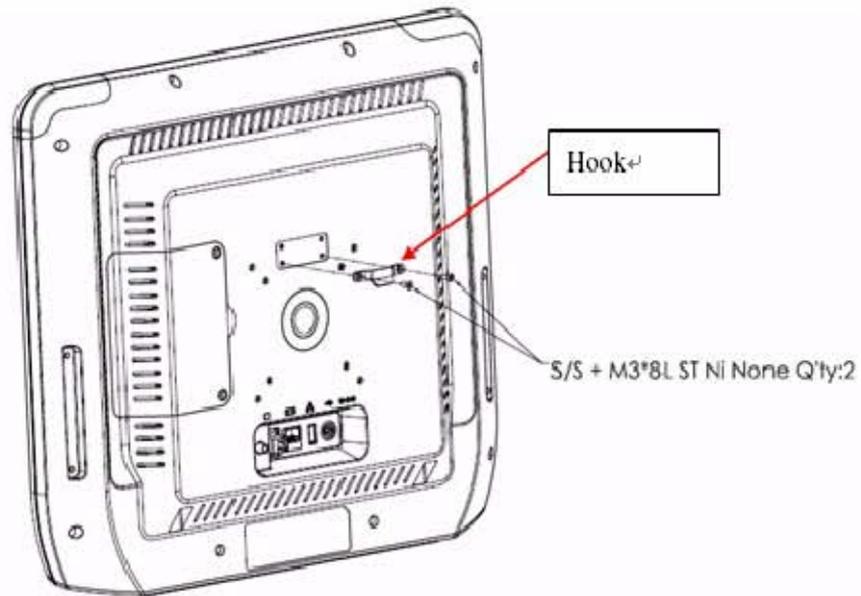
- Installation for Handset

- Installation for Remote Controller

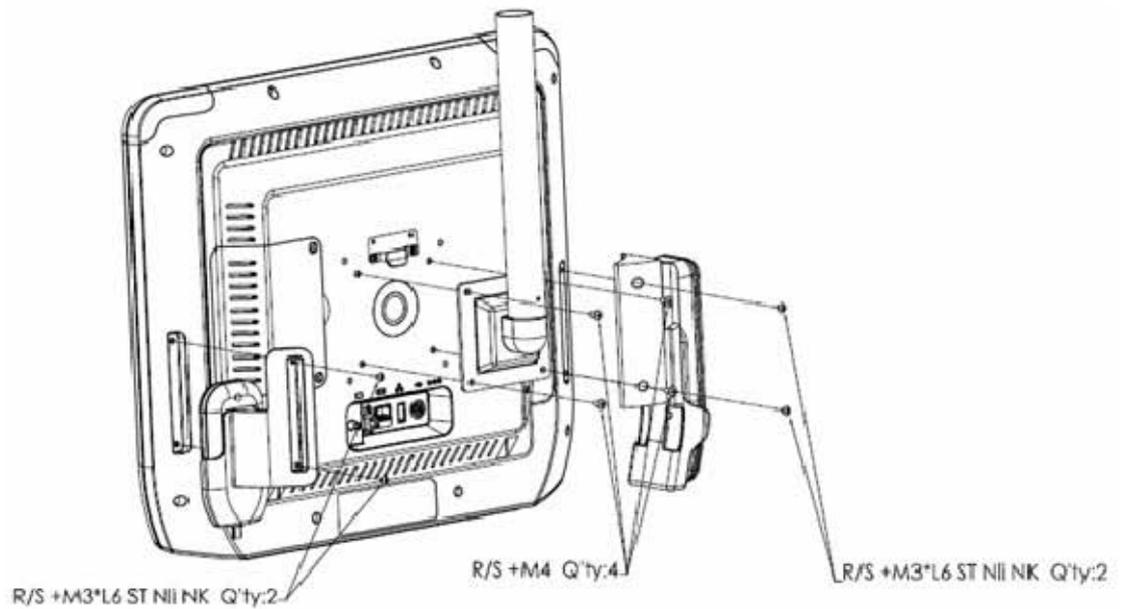
- Installation for Arm

5.1 Installation for Terminal

Step 1. Fix Hook.

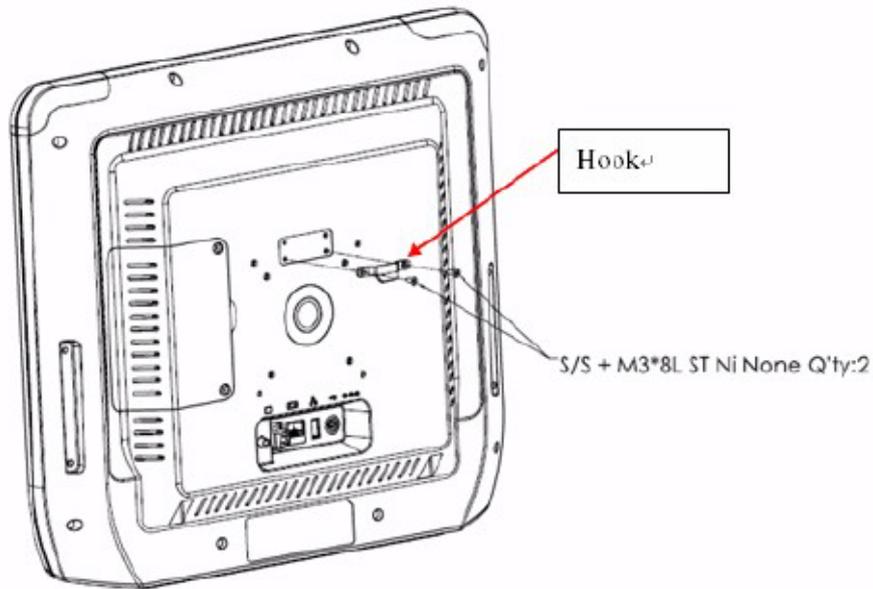


Step 2. Fix ARM + Handset Bracket + Remote Control Bracket.

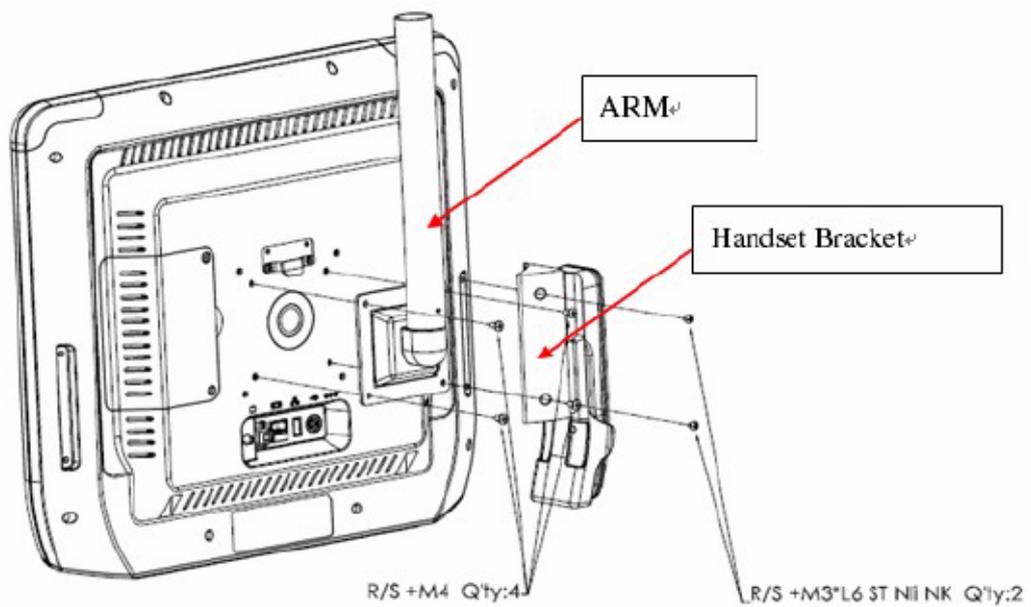


5.2 Installation for Handset

Step 1. Fix Hook.

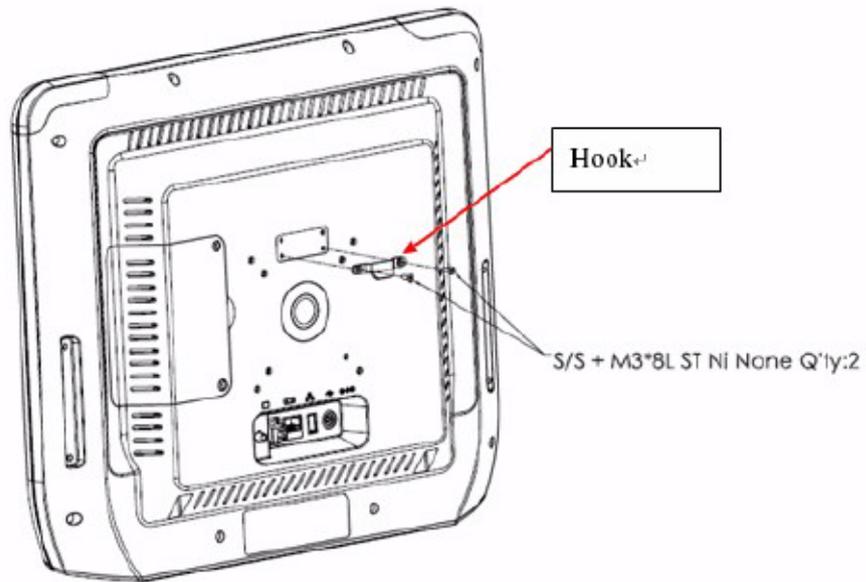


Step 2. Fix ARM + Handset Bracket + Handset.

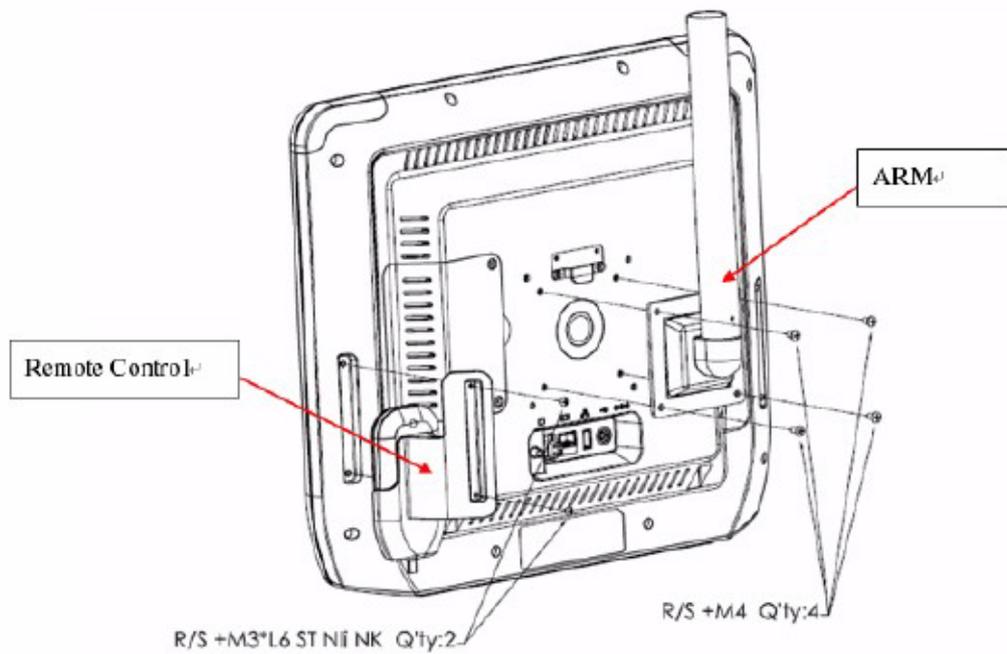


5.3 Installation for Remote Controller

Step 1. Fix Hook.

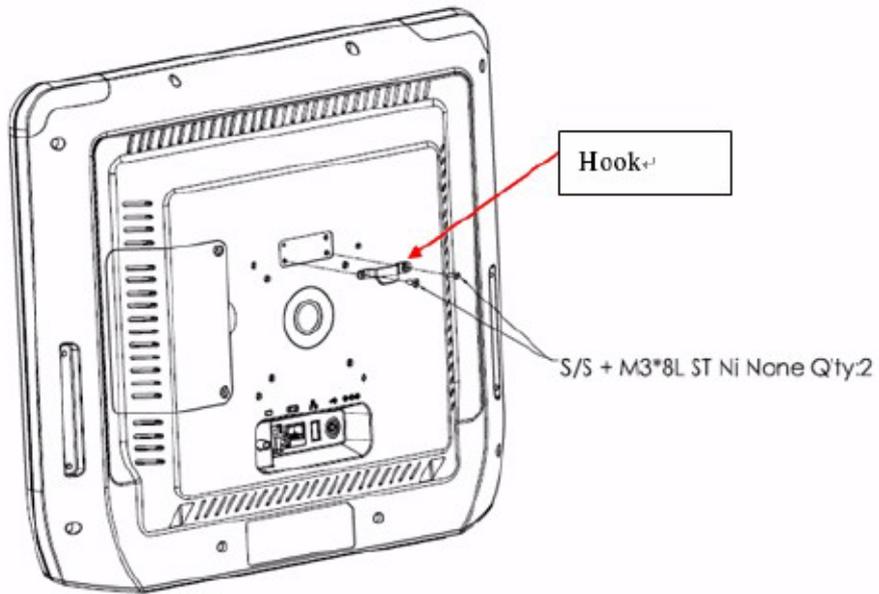


Step 2. Fix ARM + Handset Bracket + Remote Control Bracket.

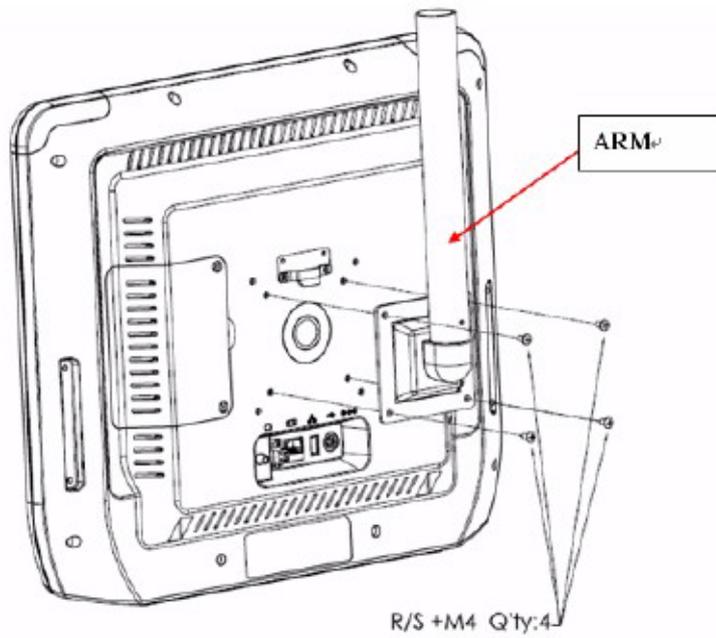


5.4 Installation for Arm

Step 1. Fix Hook.



Step 2. Fix ARM + Handset Bracket + Handset.



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