NEXCOM International Co., Ltd

Panel PC

JAO15/ JAO18

User Manual

Version: 1.1

Content

Preface

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Acknowledgements

ST156B/ST185D is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class B devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified 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 when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the

interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

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RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Safety Precautions

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.

4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.

7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

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

a. The power cord or plug is damaged.

b. Liquid has penetrated into the equipment.

c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work according to the user's manual.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

15. Do not place heavy objects on the equipment.

16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.

17. CAUTION: DANGER OF EXPLOSION IF 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.

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   – Product name and serial number
   – Detailed information of the peripheral devices
   – Detailed information of the installed software (operating system, version, application software, etc.)
   – A complete description of the problem
   – The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, uses only approved cleaning products or clean with a dry cloth.

3. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

Conventions Used in this Manual

Warning:
Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to you when performing a task.

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.

Ordering Information

The following information below provides ordering information.

JAO 15 / ST156BIPC000 (P/N: 10Q0ST15600X1)

· 15.6" bedside terminal, Intel Bay Trail J1900 2.0GHz, resistive touch screen, 2GB DDR3L, 32GB MLC SSD, 13.56MHz RFID and smart card reader
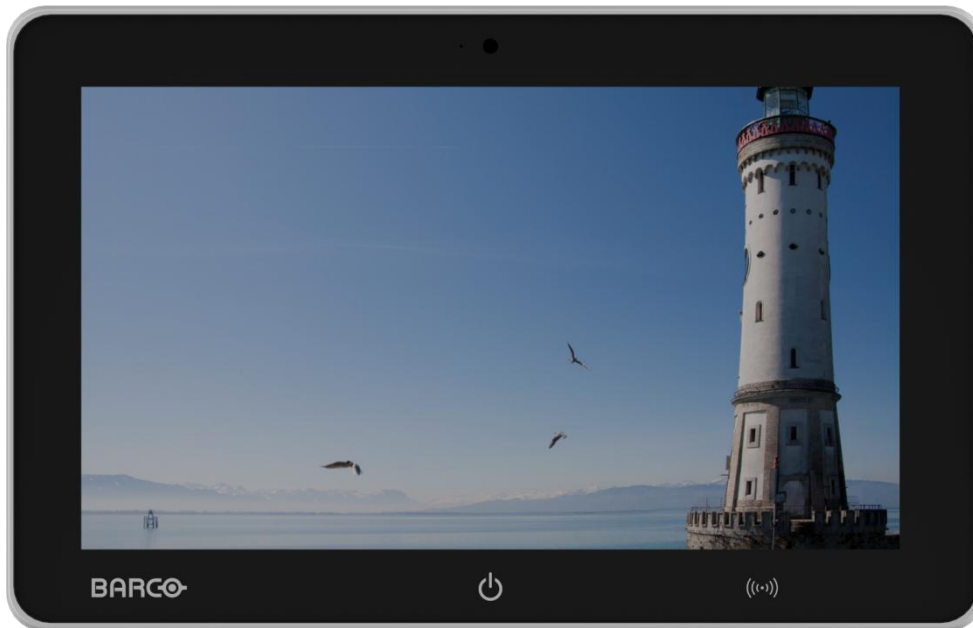
JAO18/ ST185DIPC000 (P/N: 10Q0ST18500X1)

· 18.5" bedside terminal, Intel Bay Trail J1900 2.0GHz, PCAP touch screen, 2GB DDR3L, 32GB MLC SSD, 13.56MHz and 125KHz dual RFID and smart card reader

Chapter 1: Product Introduction

JAO15

Overview

Key Features

- 16:9 15.6" 1366x768 Fanless LED Panel Computer

- Intel® Celeron® J1900, Quad Core, Low Consumption CPU

- Flat Panel by Resistive Touch Screen

- With 1x GbE/ HDMI input/ 5x USB ports

- Built in speaker/ microphone/ 2x line out

- 13.56MHz RFID/ Smart card reader

- DDR3L 2GB/ 2.5" 32GB SSD

- Power Input 19V DC

Specification

Panel
- LED size: 15.6", 16:9
- Resolution: 1366x768
- Luminance: 300 cd/m2
- Contrast ratio: 500
- LED color: 16.7M
- Viewing Angle: 80(U) 80(D) 80(L) 80(R)
- Backlight: LED

Touch Screen
- 5 wire Resistive touch
- Light transmission: 78%
- Interface: USB

System
- CPU: On-board Intel® Celeron® J1900, 2.0GHz,2M L2 Cache
- BIOS: AMI BIOS
- IO chipset: ITE 8786
- System memory: 1x 204-pin DDR3L SO-DIMM socket, 2G DDR3L (Default), support up to 8GB DDR3L-1333, Non-ECC and un-buffered
- Storage Device: 1x 2.5" SATA HDD

- Watchdog timer: Watchdog timeout can be programmed by software. from 1 second to 255 seconds and from 1 minute to 255 minutes
  (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 1x mini-PCIe sockets

I/O
- Ethernet: 1x RJ45
- USB: 5 x USB 2.0
- Audio port: 2x Line out/built in speaker and microphone
- HDMI input connector
- Front touch icon
- 720p camera

Audio
- HDA codec: Realtek ALC886-GR
- Audio interface: Line out Audio Jack

Ethernet
- LAN chip: Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment

- Color: white, pantone RAL9016
- IP protection: IP65 front
- Power input: 19V DC
- Power adapter: AC to DC power adaptor (+19V, 84W)
- Vibration:
  · IEC 68 2-64 (w/ HDD)
  · 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
- Shock:
  · IEC 68 2-27
  · HDD: 20G@panel mount, half sine, 11ms
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20%~80% relative humidity, non-condensing
- Dimension: 417.2x 266.6x50 mm
- Weight: 4.5 Kg

Certifications

- CE
- FCC class B
- EN60601-1
- UL60601-1
- IEC 60950-1 CB
- ANSI/AAMI ES60601-1
- CAN/CSA-C22.2 No.60601-1

JAO18

Overview

Key Features

- 16:9 18.5" 1366x768 Fanless LED Panel Computer

- Intel® Celeron® J1900, Quad Core, Low Consumption CPU

- Flat Panel by PCAP Touch Screen

- With 1x GbE/ HDMI input/ 5x USB ports

- Built in speaker/ microphone/ 2x line out

- 13.56MHz and 125KHz dual RFID/ Smart card reader

- DDR3L 2GB/ 2.5" 32GB SSD

- Power Input 19V DC

-

Specification

Panel

- LED size: 18.5", 16:9
- Resolution: 1366X768
- Luminance: 300 cd/m2
- Contrast ratio: 1000
- LED color: 16.7M
- Viewing Angle: 80(U) 80(D) 85(L) 85(R)
- Backlight: LED

Touch Screen

- PCAP touch
- Light transmission: 87%
- Interface: USB

System

- CPU: On-board Intel® Celeron® J1900, 2.0GHz,2M L2 Cache
- BIOS: AMI BIOS
- IO chipset: ITE 8786
- System memory: 1x 204-pin DDR3L SO-DIMM socket, 2G DDR3L (Default), support up to 8GB DDR3L-1333, Non-ECC and un-buffered
- Storage Device: 1x 2.5" SATA HDD

- Watchdog timer: Watchdog timeout can be programmed by software. from 1 second to 255 seconds and from 1 minute to 255 minutes
  (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 1x mini-PCIe sockets

I/O

- Ethernet: 1x RJ45
- USB: 5 x USB 2.0
- Audio port: 2x Line out/built in speaker and microphone
- HDMI input connector
- Front touch icon
- 720p camera

Audio

- HDA codec: Realtek ALC886-GR
- Audio interface: Line out Audio Jack

Ethernet

- LAN chip: Intel® I210AT Gigabit LAN
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Mechanical & Environment

- Color: white, pantone RAL9016
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- Power adapter: AC to DC power adaptor (+19V, 84W)
- Vibration:
  · IEC 68 2-64 (w/ HDD)
  · 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
- Shock:
  · IEC 68 2-27
  · HDD: 20G@panel mount, half sine, 11ms
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20%~80% relative humidity, non-condensing
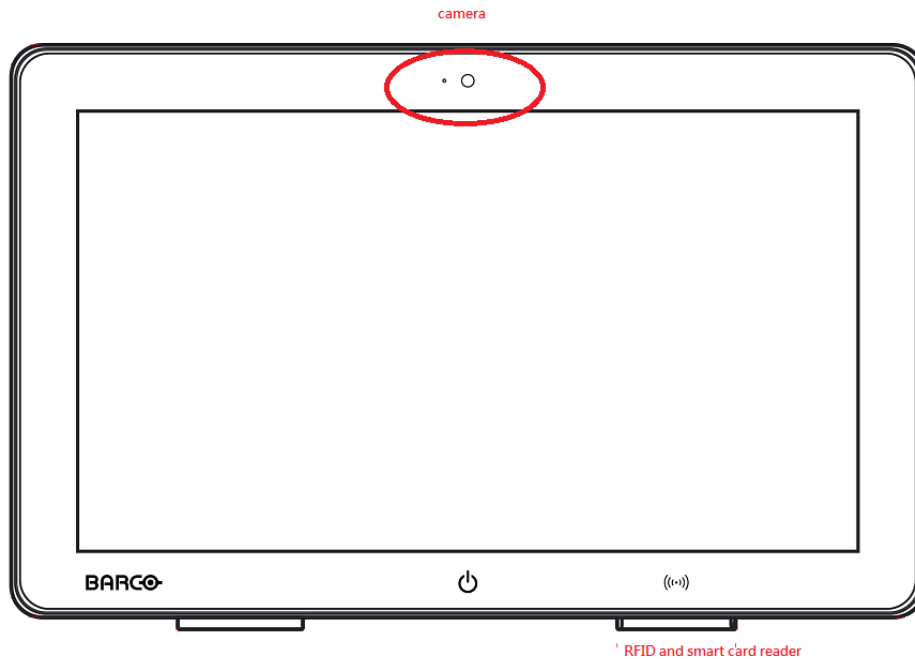- Dimension: 481.6x308.2x50 mm
- Weight: 4.7 Kg

Certifications

- CE
- FCC class B
- EN60601-1
- UL60601-1
- IEC 60950-1 CB
- ANSI/AAMI ES60601-1
- CAN/CSA-C22.2 No.60601-1

IO introduction
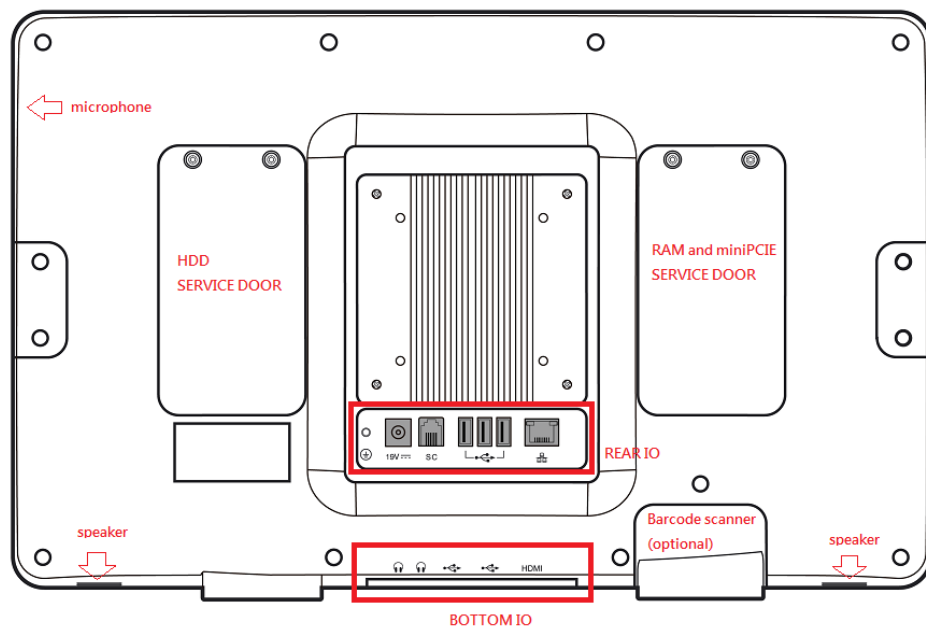
Front side

Camera

720p camera with white LED

RFID and smart card reader

13.56MHz and 125KHz dual RFID and smart card reader. RFID tag also readable while parking in smart card reader slot

Power Key

Touch icon input. Long press 5 seconds to turn on panel backlight; long press 10 seconds to reset or power off system.

Back side

HDD service door

Lock with Torx screws, use for SSD replacement

RAM and miniPCIe service door

Lock with Torx screws, use for RAM replacement or install extension module

Rear IO

19V DC input	connect to PSU
Service call	connect to nurse station with 4 wire signal pin
USB	3x USB 2.0 ports
LAN	Gigabit Ethernet

Bottom IO

Line out	2x line out jack
USB	2x USB 2.0 ports with 1.5A V
HDMI	use as HDMI input

Microphone

Built in digital microphone

Speaker

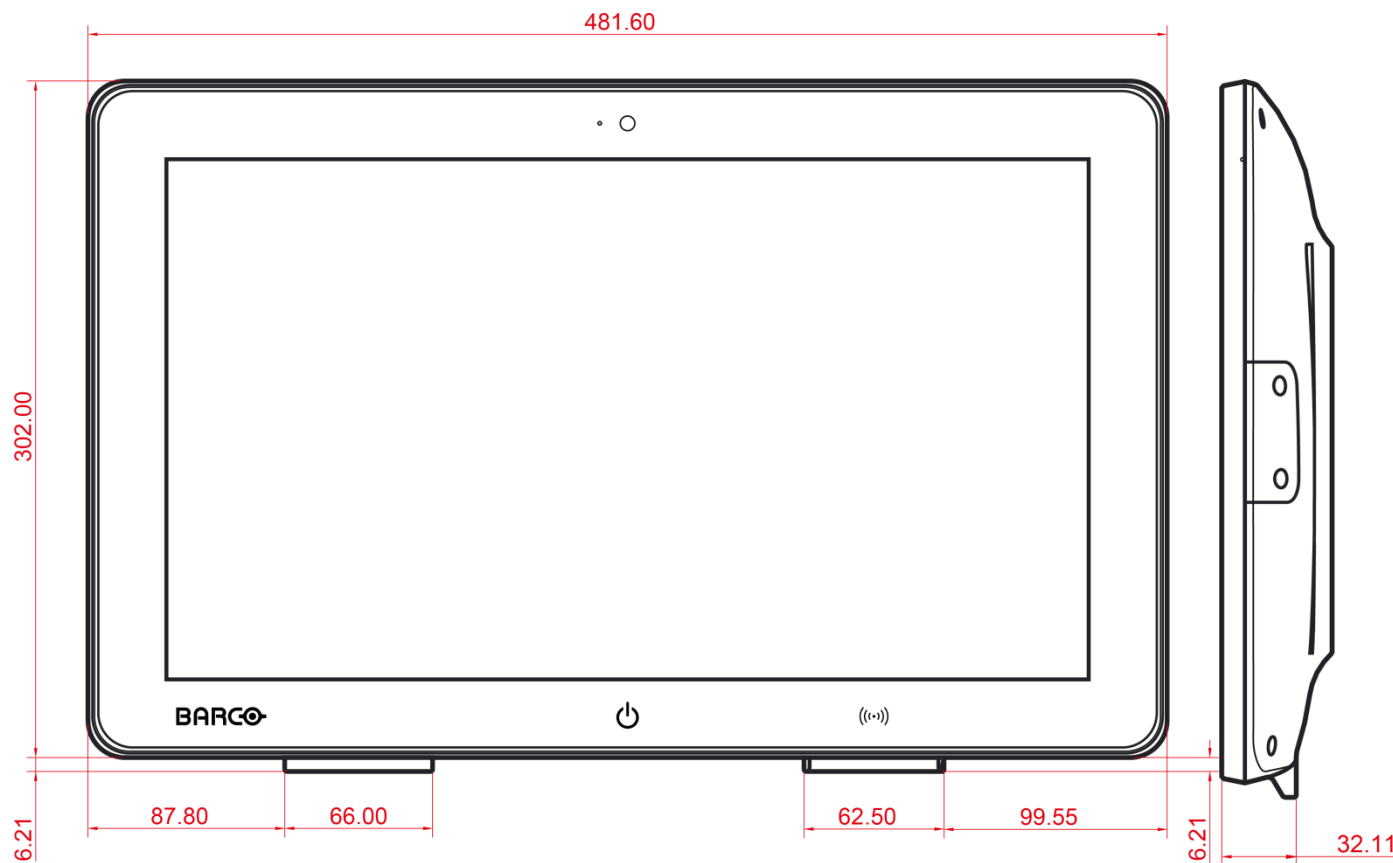Built in stereo speaker

Mechanical Dimensions

JAO15

417.28

50

266.59

269.28

BARCO
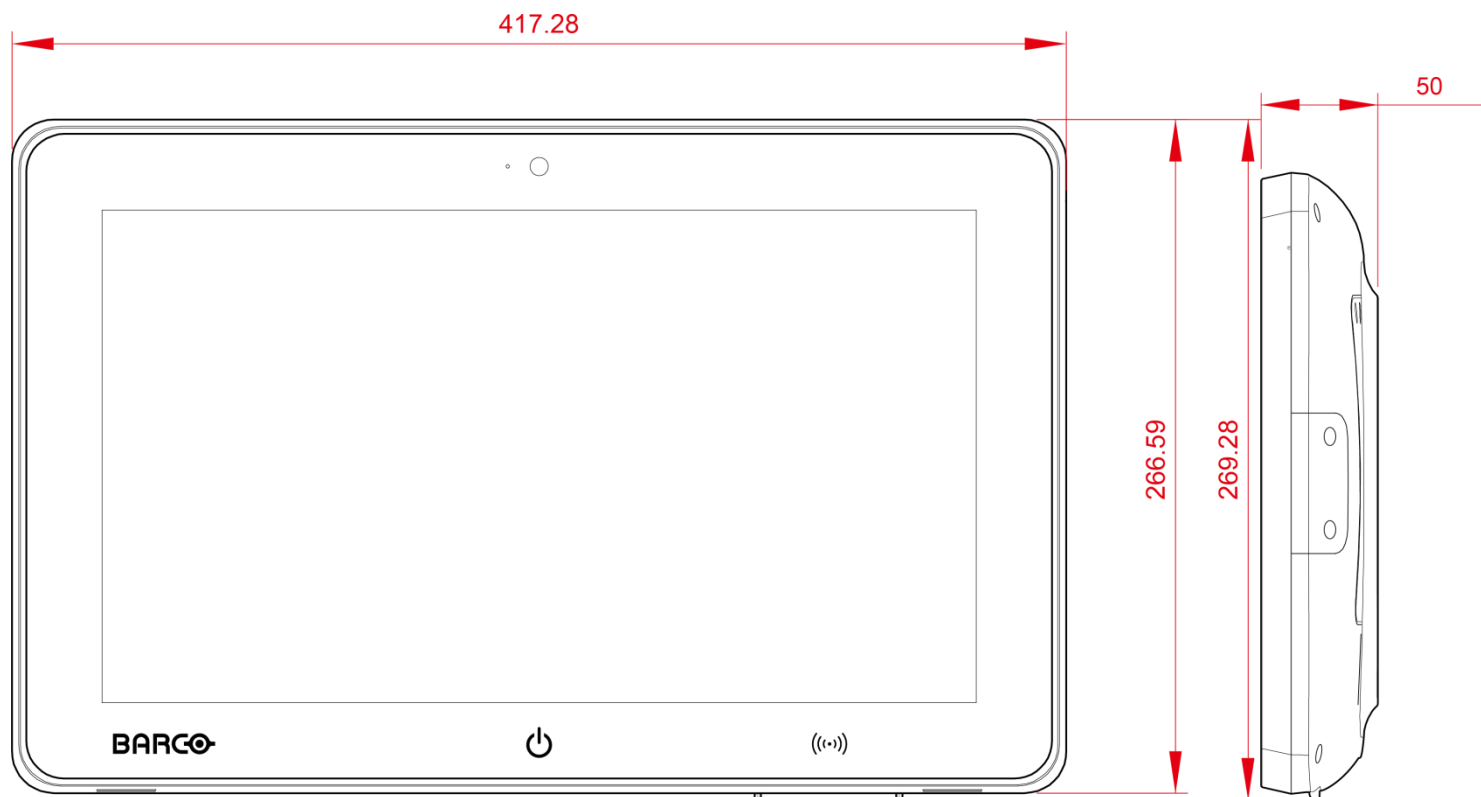
JAO18

Chapter2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the motherboard. Note that information in this chapter applies to VPPC1632P and VPPC2132P.

Before you Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
    - A Philips screwdriver
    - A flat-tipped screwdriver
    - A set of jewelers screwdrivers
    - A grounding strap
    - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environments tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous.
Follow the guidelines below to avoid damage to your computer or yourself:

- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.

- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation. Use correct screws and do not over tighten screws.
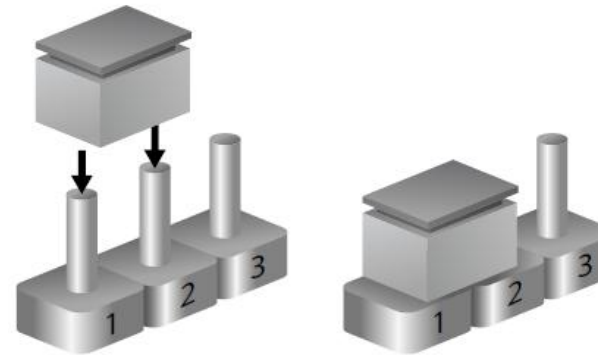
Jumper Setting

A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is open.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).
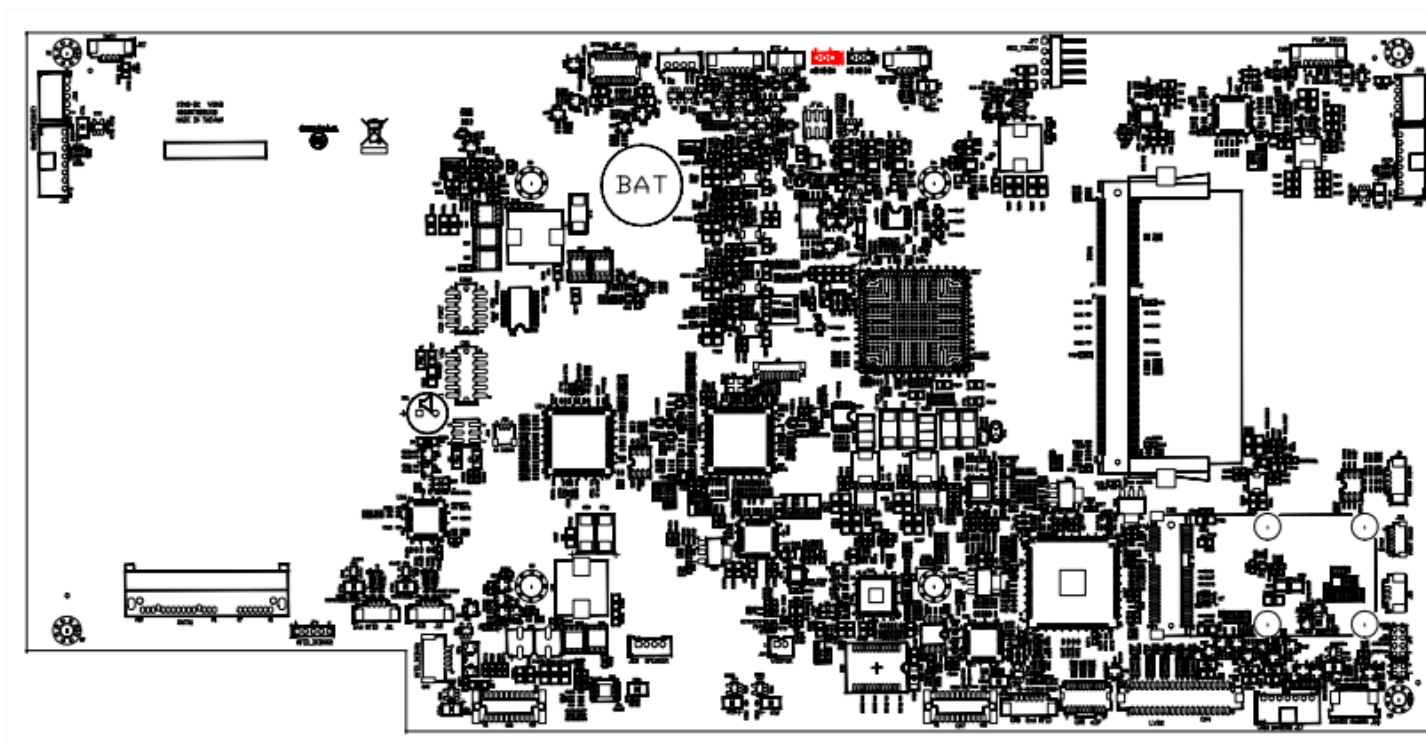
Two-Pin Jumpers: Open (Left) and Short (Right)
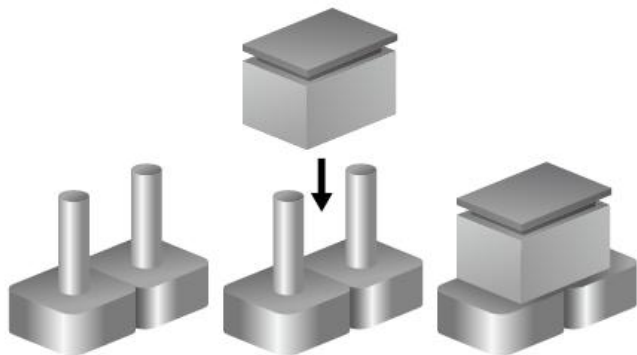
Three-Pin Jumpers: Pins 1 and 2 are Short

Locations of the Jumpers and Connectors

Top View
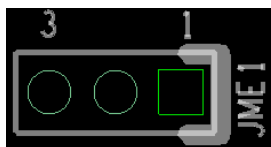
Jumpers and DIP Switch Setting

CMOS Clear Select

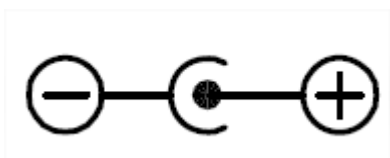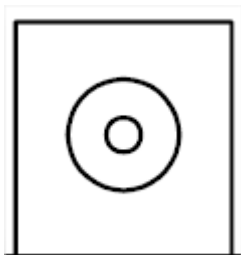Connector type: 1x3 3-pin header, 2.54mm pitch

Connector location: JBIOS1

Pin	Settings
1-2 ON	Normal
2-3 ON	Clear BIOS

Connector Pin Definition
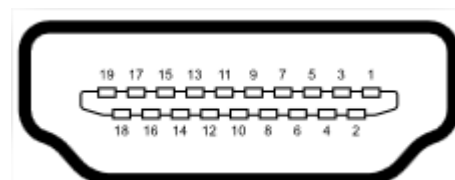
External I/O Interface

19V DC Power Input

Connector type: 5.5mm DC jack

HDMI Input Port

Connector type: HDMI Female connector

Pin	Definition	Pin	Definition
1	TMDS Data2+	11	TMDS Clock Shield
2	TMDS Data2 Shield	12	TMDS Clock–
3	TMDS Data2–	13	CEC
4	TMDS Data1+	14	N.C
5	TMDS Data1 Shield	15	SCL
6	TMDS Data1–	16	SDA
7	TMDS Data0+	17	DDC/CEC Ground
8	TMDS Data0 Shield	18	+5 V Power
9	TMDS Data0–	19	Hot Plug Detect
10	TMDS Clock+		

REAR IO USB PORT

Connector type: USB type A female
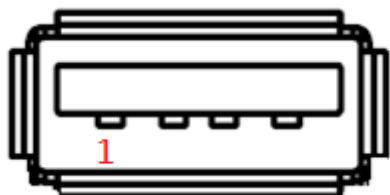
USB

Pin	Definition
1	VCC5
2	USB 0-
3	USB 0+
4	GND

Service Call connector

Connector type: 6 pin RJ 11 connector
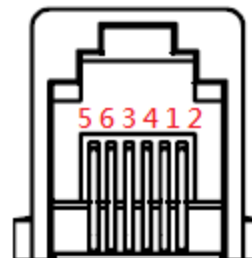
Service call

Pin	Definition
2	Service call +
3	Service call -
4	Handset LED +
5	Handset LED -

LAN Ports

Connector type: RJ45 port with LEDs
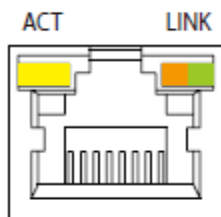
ACT	Status
Yellow blinking	Data activity
Off	No activity

LINK	Status
Steady green	1000M link
Steady orange	100M link
Off	10M or no link

Pin	Definition	Pin	Definition
1	LAN M0+	5	LAN M2-
2	LAN M0-	6	LAN M1-
3	LAN M1+	7	LAN M3+
4	LAN M2+	8	LAN M3-

Line-out Jack

Connector type: 3.5mm Earphone Jack

Pin	Definition
1	LOUT_R
2	JD
3	NC
4	LOUT_L
5	GND
6	GND

Internal Connectors

SATA

Connector location: SATA1
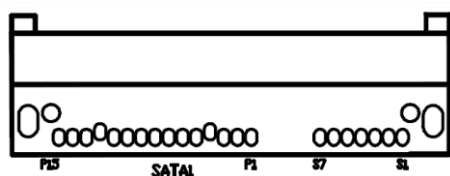
Pin	Signal	Pin	Signal
S1	GND	S2	SATA_TX0P
S3	SATA_TX0N	S4	GND
S5	SATA_RX0N	S6	SATA_RX0P
S7	GND	P1	VCC3
P2	VCC3	P3	VCC3
P4	GND	P5	GND
P6	GND	P7	VCC5
P8	VCC5	P9	VCC5
P10	GND	P11	NC
P12	GND	P13	VCC12
P14	VCC12	P15	VCC12

Mini-PCIe Slot

Connector location: CN2
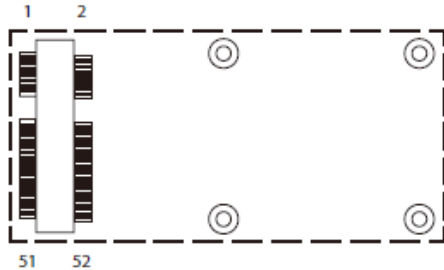
| Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	WAKE0#	2	3.3V_MINI	27	GND	28	+1.5V_MINI
3	NC	4	GND	29	GND	30	SMB_CLK
5	NC	6	1.5V_MINI	31	PCIE_TX3-	32	SMB_DAT
7	PCIE_CLKREQ	8	NC	33	PCIE_TX3+	34	GND
9	GND	10	NC	35	GND	36	USB-
11	GPP_CLK1-	12	NC	37	GND	38	USB+
13	GPP_CLK1+	14	NC	39	+3.3V_MINI	40	GND
15	GND	16	NC	41	+3.3V_MINI	42	NC
17	NC	18	GND	43	GND	44	NC
19	NC	20	MINICARD1_DIS#	45	NC	46	NC
21	GND	22	PCIE_RST#	47	NC	48	+1.5V_MINI
23	PCIE_RX2-	24	3.3V_MINI	49	NC	50	GND
25	PCIE_RX2+	26	GND	51	NC	52	+3.3V_MINI

Chapter 3: System Setup

Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.
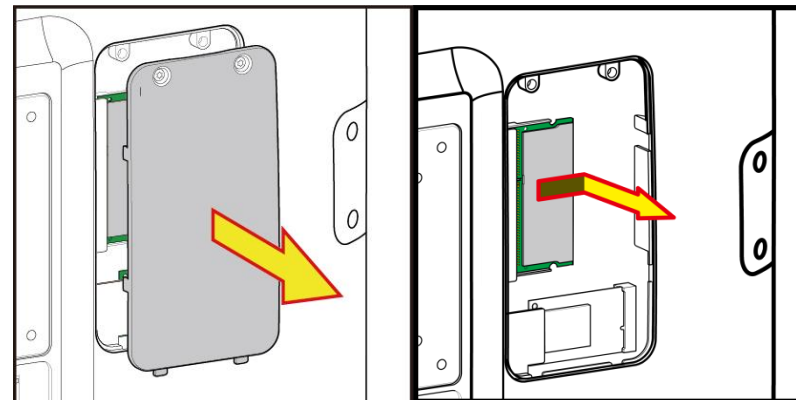
Replace SATA Disk

1. Loose the screw of HDD service door.
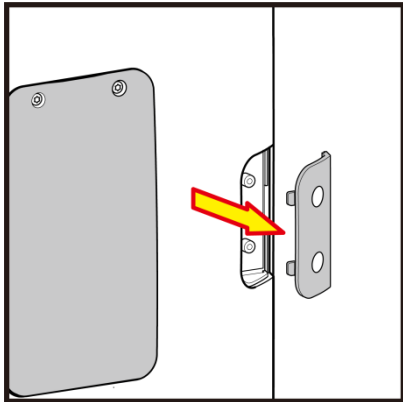2. Remove current SATA and replace with new one.
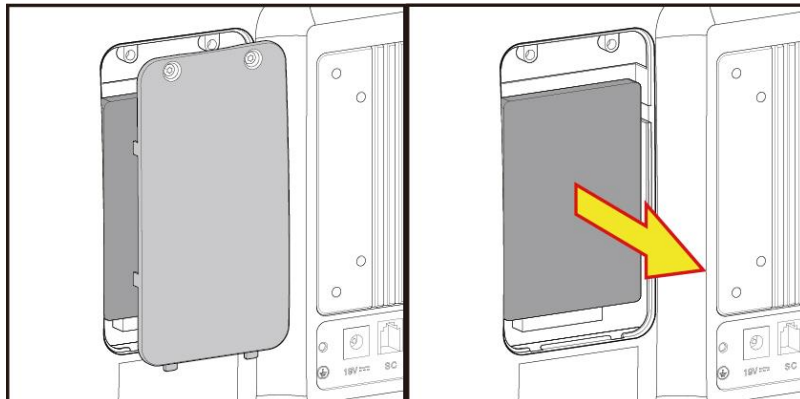
Replace RAM

1. Loose the screw of RAM service door.
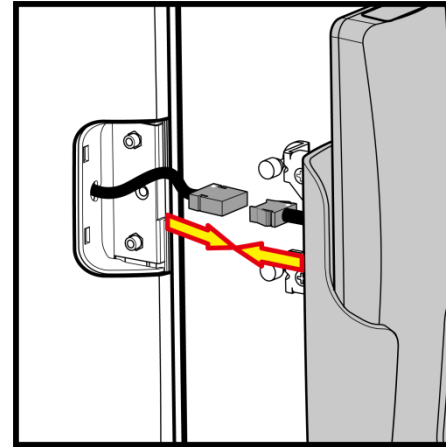2. Remove DDR3L RAM module and replace with new one.
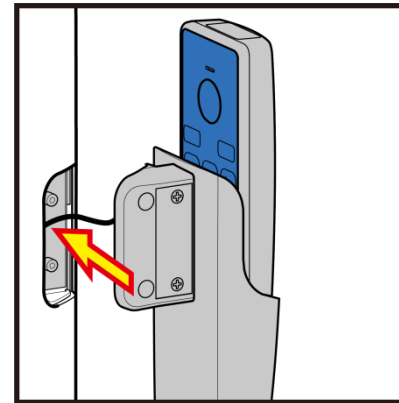3.

Install Handset

1. Remove handset side door.

2. Connects handset connector to cable behind the side door. Please connect the white dot to white dot pin.

3. take screws in handset accessory and screw in the mounting

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.

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 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:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

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