



## **SB1015 All-in-one Touch POS Terminal**



**USER MANUAL**

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# 1 Introduction

Thank you for purchasing the SB1015 all-in-one touch POS terminal. The SB1015 offers highly enhanced features, with easy connection to various optional devices for optimal performance. This easy-to-use POS terminal is designed to help you enhance your business flexibility and offer superior customer experience.

Bematech is committed to continuously improve product quality and provide better after-sales service. In order to take full advantage of our devices, we strongly recommend that you take the time to read this manual before setting up software solution.

*Note: Information in this manual may change without prior notice.*

## 1.1 Safety Information

- ◆ Before plug in the product, please make sure the power you provide meets the power requirements (such as voltage, frequency); Make sure the ground terminal of the power outlet is working properly.
- ◆ To avoid electric shocks, disconnect the power cord from the electrical outlet before relocating the system.
- ◆ Lightning may damage this product. During lightning storms, unplug the network cable, power cable and any other connections.
- ◆ Turn off power before connecting any devices (except USB devices) to the terminal.
- ◆ Do not attempt to open the chassis. You may be hurt by electric shock. For service, call your place of purchase.
- ◆ Do not spill liquid on the terminal. Do not place any objects into the ventilation holes of this product. It may cause short-circuit of the internal components and cause a fire or electric shock.
- ◆ After the terminal is stored below temperature of 10 ° C, please place it in room temperature (10-35 ° C) in the original packing for at least two hours to allow the terminal to restore to room temperature before operation. This is to avoid condensation that might cause electrical damage.
- ◆ Keep the terminal clean, dry, and away from dust, moisture and direct sunlight.
- ◆ Do not use harsh chemicals or strong cleaning solvents to clean the monitor

screen. Wipe it clean with a soft terry cloth applied with a mild solution

- ◆ Do not share the same power outlet with high-power electrical appliances; keep distance from high level magnetic interference.
- ◆ Do not the use sharp pointed objects to work with the touch screen to avoid damage to the screen.

**When the following occurs:**

- ◆ Liquid gets inside the POS terminal;
- ◆ Accidental physical damage;
- ◆ The power cord or plug is damaged;
- ◆ POS terminal produces a burning smell;

Immediately disconnect the power supply, unplug the power cord, and contact a qualified service technician.

## **1.2 Electromagnetic compatibility statement**

### **FCC NOTICE**

This device complies with Part 15 of FCC Rules. Operations are 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.

### **EUROPEAN COMMUNITY (CE) MARK OF CONFORMITY**

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Bematech / Logic Controls cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product. This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

## 2 Overview

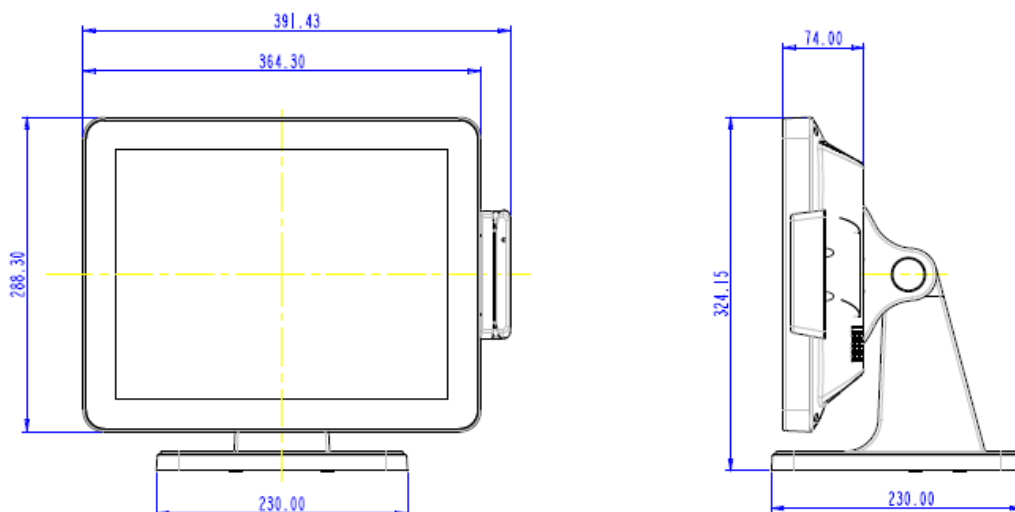
### 2.1 Features

- ◆ True-flat no-bezel 15" touch monitor with LED backlight display
- ◆ Fanless design
- ◆ High performance Intel quad core celeron processor J1900
- ◆ Support DDR3L SO-DIMM 1066/1333 MHz up to 8GB
- ◆ Stable and robust mechanical design
- ◆ Easy to change or replace hard disk drive
- ◆ Optional integrated 8" customer LCD, 2x20 VFD and 3-track MSR.

### 2.2 Appearances

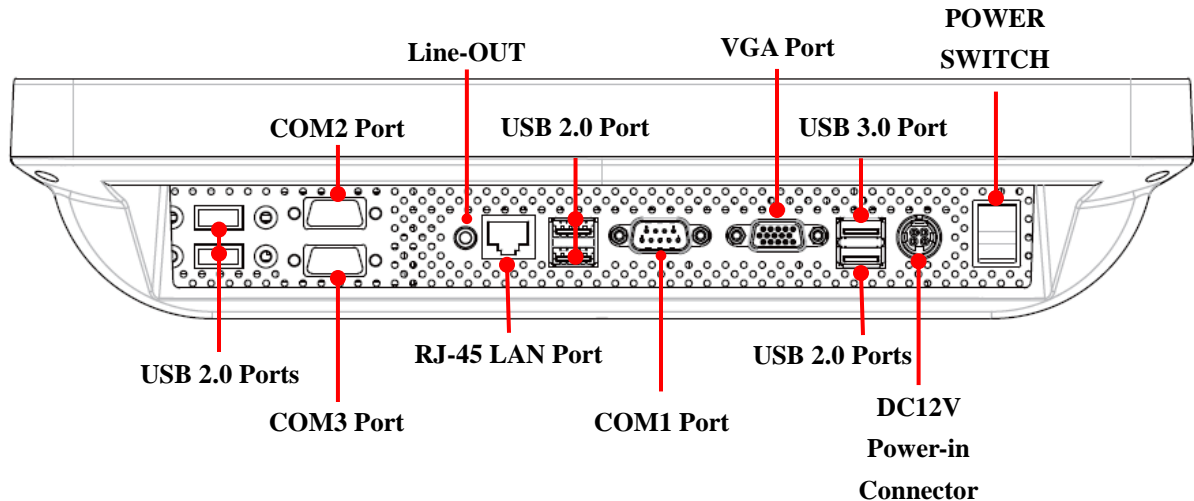










### 2.3 Outline Dimensions



## 2.4 Rear panel I/O connectors

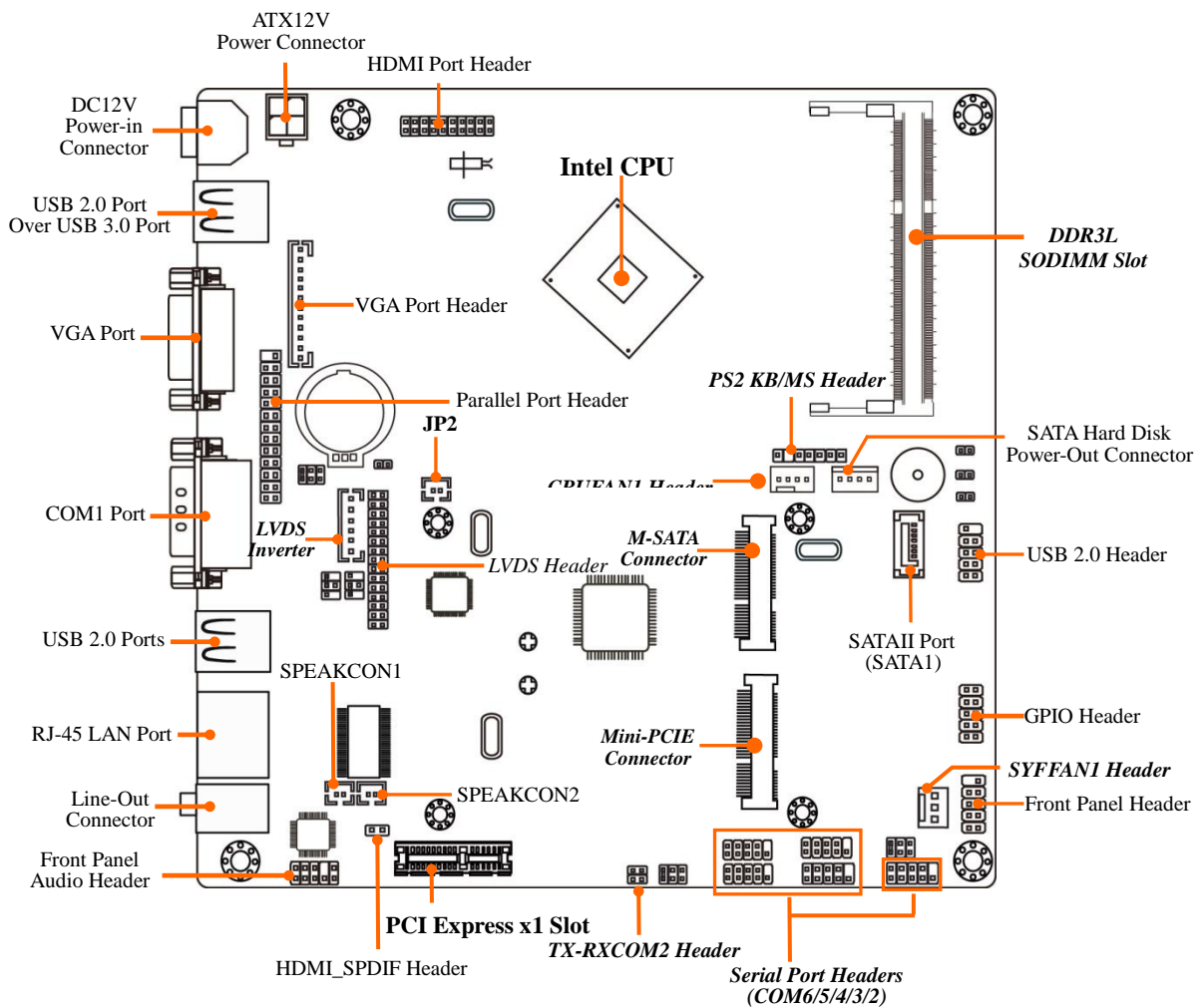
At the rear panel of the SB1015 is a row of external I/O device connectors detailed as follows:



Port	Name	Function
	DC-in 12V Power Connector	Connect compatible power adapter to provide power supply for the system.
	USB 2.0 Port	Connect USB keyboard, mouse or other devices compatible with USB specification.
	USB 3.0 Port	Connect USB keyboard, mouse or other devices compatible with USB specification. USB 3.0 ports supports up to 5Gbps data transfer rate.
	VGA Port	Connect second display device that support VGA specification.
	Serial Port	Connect external devices that supports serial communications interface.
	RJ-45 LAN Port	This connector is standard RJ-45 LAN jack for Network connection.
	Line-Out Connector	Connect external speaker, earphones, etc for system audio output.
	Power Switch	For user to boot/shutdown system.

# 3 Setup and Driver Installation

## 3.1 Motherboard Connectors

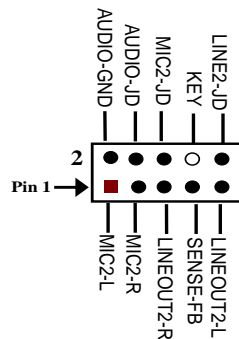


### 3.2 Motherboard Headers

Header	Name	Description
FP_AUDIO1	Front Panel Audio Header	9-pin Block
SPEAK_CON1	Left Speaker Header	2-pin Block
SPEAK_CON2	Right Speaker Header	2-pin Block
SPDIF	HDMI_SPDIF Header	2-pin Block
COM2/3/4/5/6	Serial Port Header X 5	9-pin Block
TX-RXCOM2	RS422/RS485 Header	4-pin Block
JW_FP	Front Panel Header(PWR LED/ HD LED/Power Button /Reset)	9-pin Block
GPIO	GPIO Header	10-pin block
F_USB1	USB 2.0 Port Header	9-pin Block
PS2KBMS	PS2 Keyboard & Mouse Header	6-pin Block
LPT1	Parallel Port Header	25-pin Block
HDMI	HDMI Port Header	20-pin Block
CPUFAN1	CPUFAN Header	4-pin Block
SYSFAN1	SYSFAN Header	3-pin Block
VGA1	VGA Port Header	12-pin Block
JP2	LVDS Panel Brightness Adjustment Header	2-pin Block
INVERTER	LVDS Inverter	6-pin Block
LVDS	LVDS Header	30-pin Block

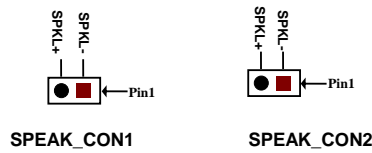
### 3.3 Header pin assignment

(1) FP\_AUDIO1 (9-pin): Line-Out, MIC-In Header

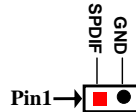




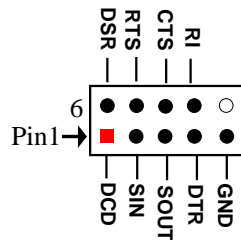
(2) SPEAK\_CON1 (2-pin)/SPEAK\_CON 2 (2-pin): Speaker Headers



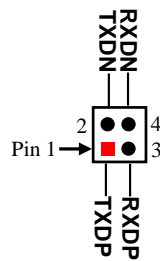
(3) SPDIF (2-pin): HDMI\_SPDIF Out Header



(4) COM2/3/4/5/6 (9-Pin): Serial Port Headers

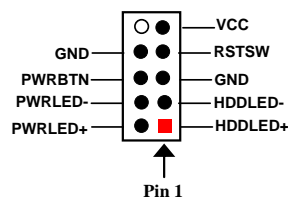


(5) TX-RXCOM2 (4-Pin): RS422/485 Header

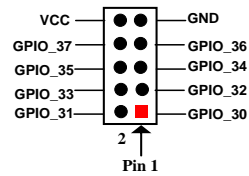


\*Notice: User needs to go to BIOS to set 'Transmission Mode Select' as [RS422/RS485] for COM2 as well (refer to Page 34).

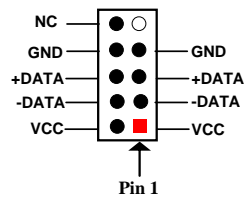
(6) JW-FP (9-pin): Front Panel Header



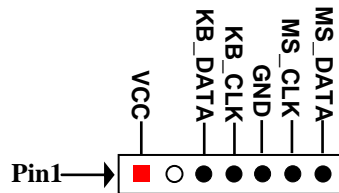
(7) GPIO (10-pin): GPIO Header



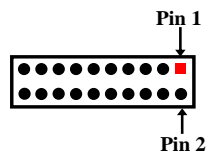
(8) F\_USB1 (9-pin): USB 2.0 Port Header



(9) PS2KBMS (6-pin): PS/2 Keyboard & Mouse Header



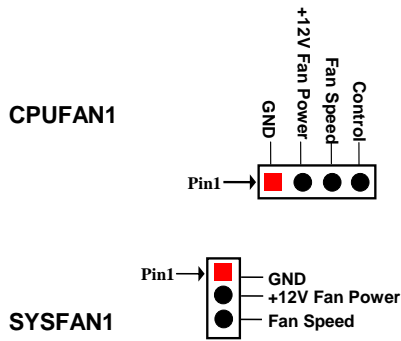
(11) HDMI (20-pin): HDMI Header



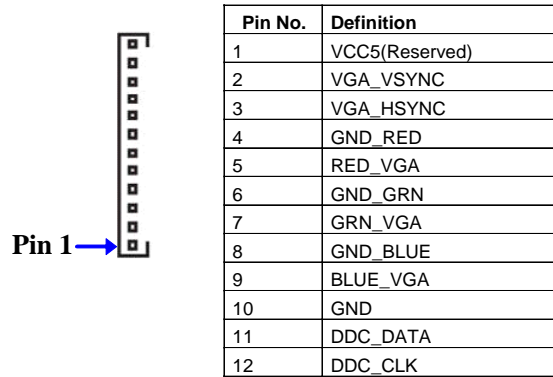
HDMI Port Header

Pin NO.	Pin Definition	Pin NO.	Pin Definition
Pin 1	GND	Pin 2	HDMI_TXP2
Pin 3	HDMI_TXP1	Pin 4	HDMI_TXN2
Pin 5	HDMI_TXN1	Pin 6	GND
Pin 7	GND	Pin 8	HDMI_TXP0
Pin 9	HDMI_TXCP	Pin 10	HDMI_TXN0
Pin 11	HDMI_TXCN	Pin 12	GND
Pin 13	NC	Pin 14	NC
Pin 15	HDMI_SDA	Pin 16	HDMI_SCL
Pin 17	HDMI_+5V	Pin 18	GND
Pin 19	GND	Pin 20	HDMI_HPDP

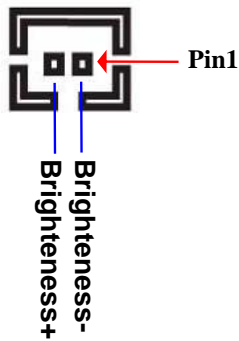
(12) CPUFAN1 (4-pin)/SYSFAN1 (3-pin): FAN Headers



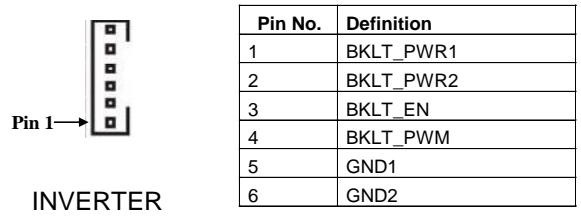
(13) VGA1 (12-pin): VGA Header



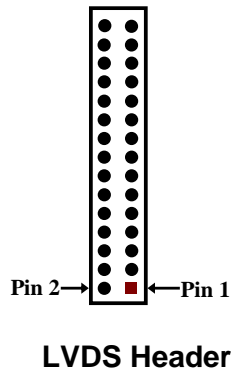
(14) JP2 (2-pin): LVDS Panel Brightness Adjustment Header



(15) INVERTER (6-Pin): LVDS1 Inverter Header

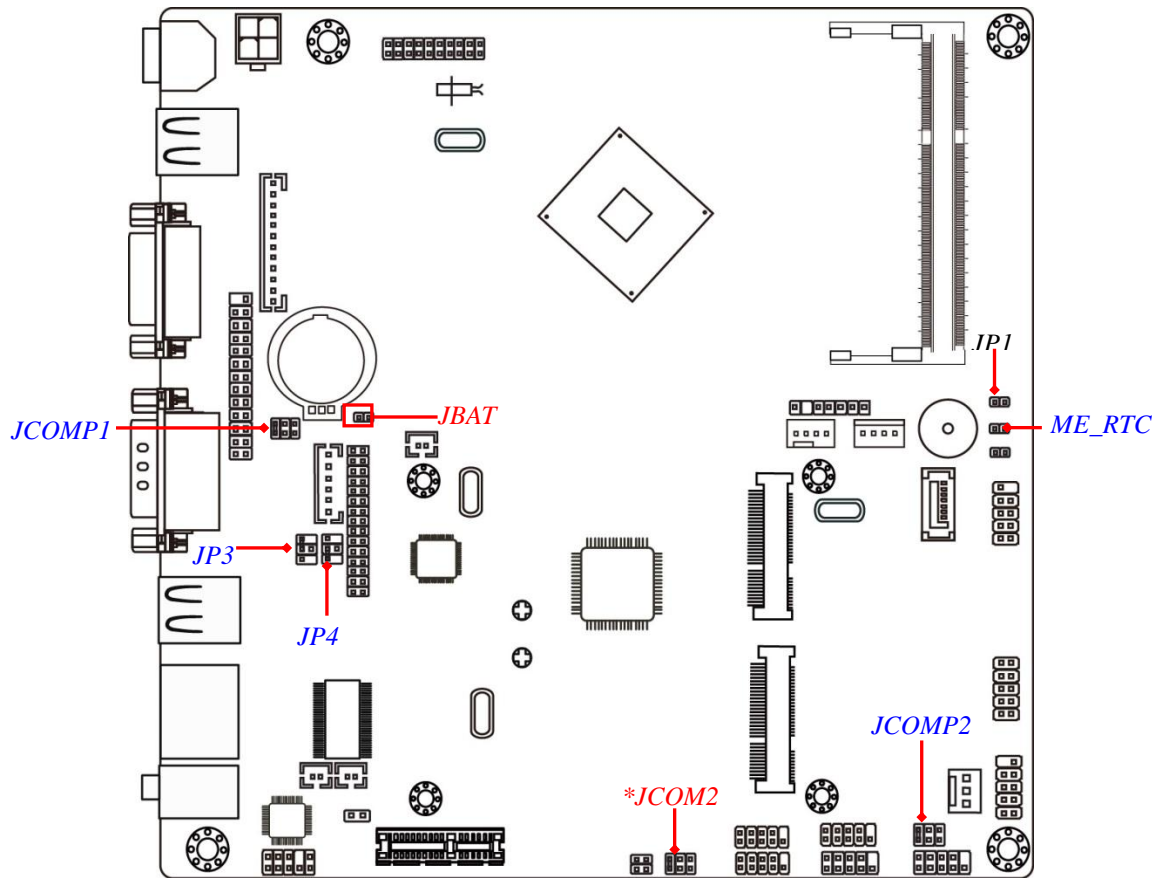


(16) LVDS (30-Pin): 24-bit dual channel LVDS Header



Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	LVDS_VCC	Pin 2	LVDS_VCC
Pin 3	LVDS_VCC	Pin 4	GND
Pin 5	GND	Pin 6	GND
Pin 7	LVDSA_DATAN0	Pin 8	LVDSA_DATAP0
Pin 9	LVDSA_DATAN1	Pin 10	LVDSA_DATAP1
Pin 11	LVDSA_DATAN2	Pin 12	LVDSA_DATAP2
Pin 13	GND	Pin 14	GND
Pin 15	LVDSA_CLKN	Pin 16	LVDSA_CLKP
Pin 17	LVDSA_DATAN3	Pin 18	LVDSA_DATAP3
Pin 19	LVDSB_DATAN0	Pin 20	LVDSB_DATAP0
Pin 21	LVDSB_DATAN1	Pin 22	LVDSB_DATAP1
Pin 23	LVDSB_DATAN2	Pin 24	LVDSB_DATAP2
Pin 25	GND	Pin 26	GND
Pin 27	LVDSB_CLKN	Pin 28	LVDSB_CLKP
Pin 29	LVDSB_DATAN3	Pin 30	LVDSB_DATAP3

### 3.4 Motherboard Jumpers



Jumper	Name	Description
JBAT	CMOS RAM Clear Function Setting	2-pin Block
ME_RTC	Clear ME RTC Function Setting	2-pin Block
JP3	INVERTER VCC 3.3V/5V/12V Select	4-pin Block
JP4	LVDS VCC 3.3V/5V/12V Select	4-pin Block
JCOMP1	COM1 Header Pin9 Function Select	6-Pin Block
JCOMP2	COM2 Header Pin9 Function Select	6-Pin Block
JCOM2	COM2 Header RS485/RS422 Select	6-Pin Block

(1) JBAT (2-pin): Clear CMOS Setting



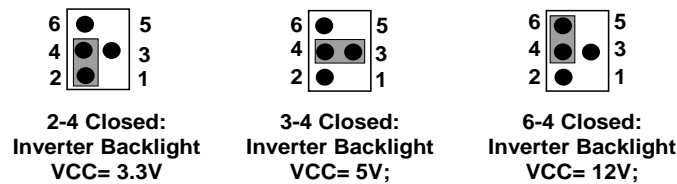
**1-2 Open: Normal;**      **1-2 Closed: Clear CMOS**

(2) ME\_RTC (2-pin): Clear ME\_RTC Function Setting

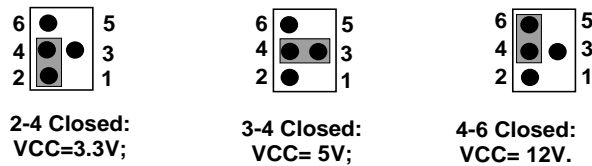


**1-2 Open: Normal;**      **1-2 Closed: Clear ME\_RTC.**

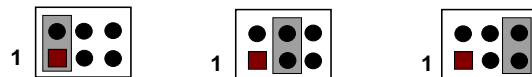
(3) JP3 (4-pin): INVERTER Back Light VCC 3.3V/5V /12V Select



(4) JP4 (4-pin): LVDS VCC 3.3V/5V/12V Select

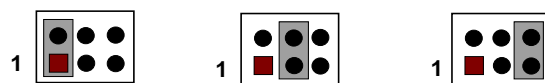


(5) JCOMP1 (6-pin): COM1 Port Pin9 Function Select



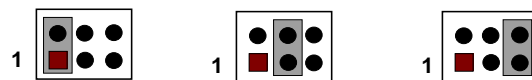
**1-2 Closed: RS232; 3-4 Closed : +12V; 5-6 Closed : +5V.**

(6) JCOMP2 (6-pin): COM2 Header Pin9 Function Select



**1-2 Closed: RS232; 3-4 Closed : +12V 5-6 Closed : +5V**

(7) JCOM2 (6-pin): COM2 Header RS232/RS485/RS422 Function Select



**1-2 Closed: RS232; 3-4 Closed : RS485; 5-6 Closed : RS422.**

### 3.5 Motherboard BIOS settings

The POS terminal has a BIOS (Basic Input Output System) program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS).

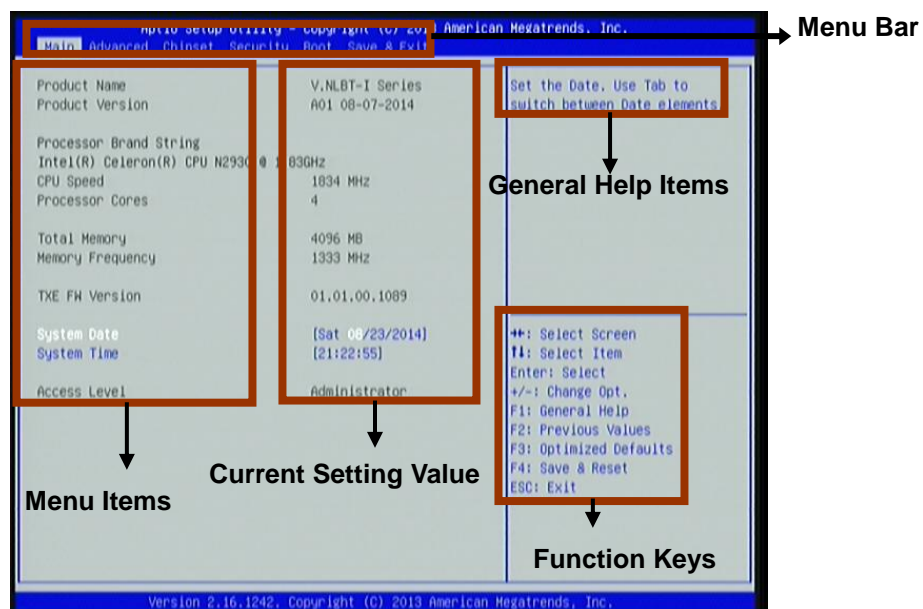
The terminal is loaded with default BIOS settings in the factory. Please do not change the parameters in the BIOS unless necessary.

#### 3.5.1 Entering Setup

Power on the terminal and pressing <Del> immediately allows you to enter Setup. If you do not press the key at the correct time and the system does not enter Setup, turn off the terminal and try again.

#### 3.5.2 BIOS Menu Screen

The following diagram show a general BIOS menu screen:



BIOS Menu Screen

### 3.5.3 Function Keys

- ◆ Press ←→ (left, right) to select screen;
- ◆ Press ↑↓ (up, down) to choose, in the main menu, the option you want to confirm or to modify.
- ◆ Press <Enter> to select.
- ◆ Press <+>/<-> keys when you want to modify the BIOS parameters for the active option.
- ◆ [F1]: General help.
- ◆ [F2]: Previous value.
- ◆ [F3]: Optimized defaults.
- ◆ [F4]: Save & Reset.
- ◆ Press <Esc> to quit the BIOS Setup.

### 3.5.4 Getting Help

#### Main Menu

The on-line description of the highlighted setup function is displayed at the top right corner the screen.

#### Status Page Setup Menu/Option Page Setup Menu

Press [F1] to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

### 3.5.5 Menu Bars

There are six menu bars on top of BIOS screen:

<b>Main</b>	To change system basic configuration
<b>Advanced</b>	To change system advanced configuration
<b>Chipset</b>	To change chipset configuration
<b>Security</b>	Password settings
<b>Boot</b>	To change boot settings
<b>Save &amp; Exit</b>	Save setting, loading and exit options.

User can press the right or left arrow key on the keyboard to switch from menu bar. The selected one is highlighted.

### 3.5.6 Main Menu

Main menu screen includes some basic system information. Highlight the item and then use the <+> or <-> and numerical keyboard keys to select the value you want in each item.

#### System Date

Set the date. Please use [Tab] to switch between date elements.

#### System Time

Set the time. Please use [Tab] to switch between time elements.

### 3.5.7 Advanced Menu



## OS Selection

The optional settings: [Windows 8.X]; [Android]; [Windows 7].

*\* Note: User need to go to this item to select the OS mode before installing corresponding OS driver, otherwise problems will occur when installing the driver.*

### ▶ ACPI Settings

Press [Enter] to make settings for the following sub-item:

- Enable Hibernation
- ACPI Sleep State
- EUP Function
- Wake-Up by PCIE/LAN from S5
- Wake-Up by PS/2 Keyboard
- Wake-Up by PS/2 Mouse
- PWRON After PWR-Fail
- RTC WakeUp

### ▶ Super I/O Configuration

Press [Enter] to make settings for the following sub-items:

- Serial Port 1 Configuration
- Serial Port 2 Configuration
- Serial Port 3 Configuration
- Serial Port 4 Configuration
- Serial Port 5 Configuration
- Serial Port 6 Configuration
- Parallel Port Configuration
- WatchDog Timer
- WatchDog Timer Value
- WatchDog Timer Unit

### ▶ H/W Monitor

Press [Enter] to view current PC health status & system working status and make settings for the following sub-items:

- CPUFAN Smart Mode
- CPUFAN Full-Speed Temperature
- CPUFAN Idle-Speed Temperature
- CPUFAN Full-Speed Duty
- CPUFAN Idle-Speed Duty

### ▶ CPU Configuration

Press [Enter] to view current CPU configuration and make settings for the following sub-items:

- Active Processor Cores
- Limit CPUID Maximum
- Execute Disable Bit
- Hardware Prefetcher

- Adjacent Cache Line Prefetch
- Intel Virtualization Technology
- Power Technology
- EIST
- Turbo Mode
- P-STATE Coordination
- CPU C6 report
- CPU C7 report
- Package C State Limit

▶ **PPM Configuration**

Press [Enter] to make settings for PPM Configuration:

- EIST
- CPU C Status Report
- Max CPU C-state

▶ **SATA Configuration**

Press [Enter] to make settings for the following sub-items:

- SATA Port
- SATA Speed Support
- SATA ODD Port
- SATA Mode
- SATA1 or HDD HotPlug

▶ **CSM Configuration**

Press [Enter] to make settings for the following sub-items:

- Option ROM Message
- INT19 Trap Response
- Option ROM execution order

▶ **USB Configuration**

Press [Enter] to make settings for the following sub-items:

**Legacy USB Support**

- XHCI Hand-off
- EHCI Hand-off
- USB Mass Storage Driver Support

### 3.5.8 Chipset Menu

▶ **North Bridge**

- IGD Turbo Enable
- DVMT Pre-Allocated
- DVMT Total Gfx Mem
- Spread Spectrum Clock
- RC6(Render Standby)

- Primary IGFX Boot Display
- LVDS Support
- LVDS Panel Type

▶ **South Bridge**

- Mini PCIE
- Onboard PCIE Lan Device
- Onboard Lan BootROM
- XHCI Mode
- USB 2.0 (EHCI) Support
- Audio Controller
- High Precision Timer

### 3.5.9 Security Menu

Security menu allow users to change administrator password and user password settings.

### 3.5.10 Boot Menu

- Setup Prompt Timeout
- Bootup Numlock State
- Fast Boot
- VGA Support
- USB Support
- PS2 Device Support
- Network Stack Driver Support
- Boot Option # 1/#2...

### 3.5.11 Save & Exit Menu

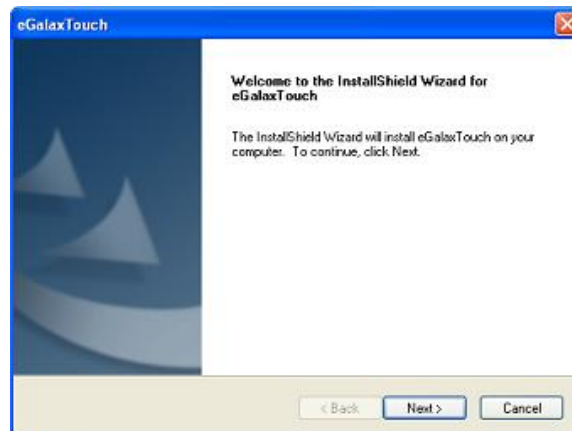
- Save Changes and Reset
- Discard Changes and Reset
- Save Changes
- Discard Changes
- Restore Defaults
- Save as User Defaults
- Restore User Defaults
- UEFI: Built-in EFI Shell
- Lauch EFI Shell from filesystem device
- Reset System with ME disable Mode MEUD000

## 3.6 Touch screen driver installation

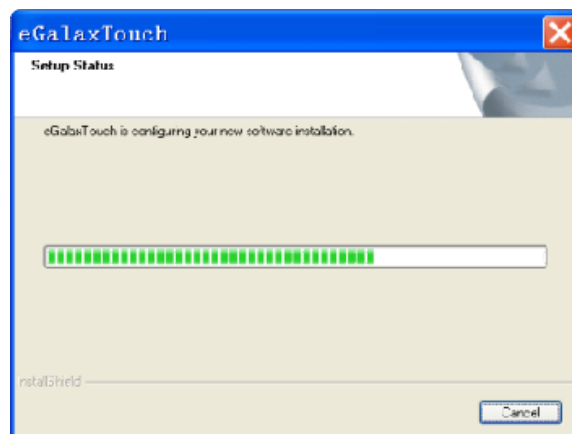
*For resistive touch version of SB1015, follow the driver installation and calibration steps below. For PCAP touch version, no driver installation and calibration is required.*

3.6.1 Navigate to the installer directory to find the setup.exe file. Double-click on “setup.exe” to start installation.

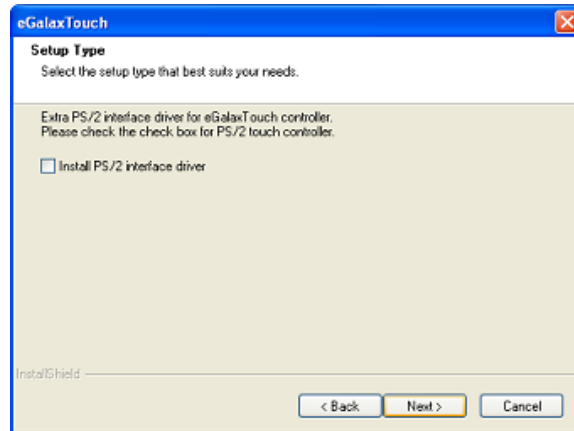
3.6.2 When installation starts, click [Next] to proceed to the next step.



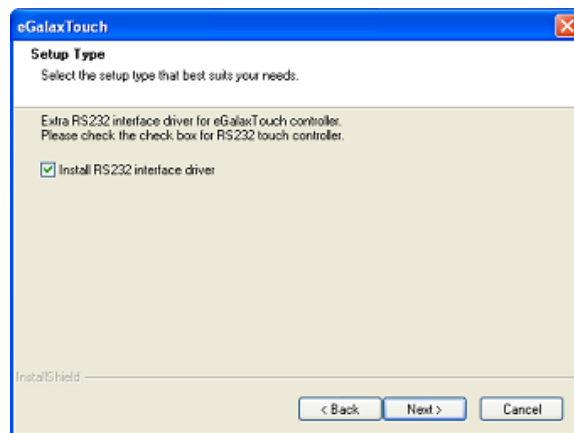
3.6.3 Installation in progress



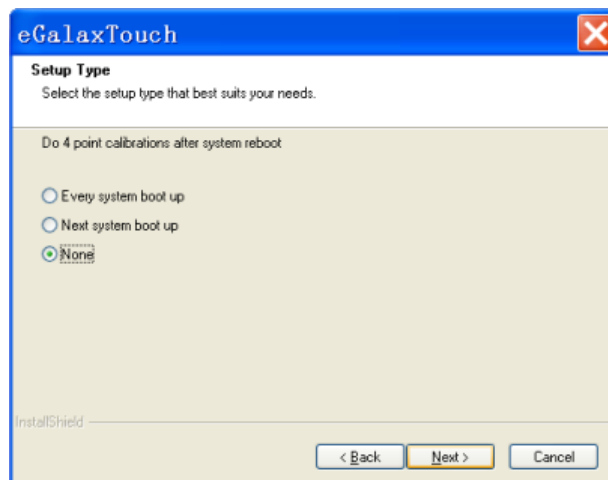
3.6.4 Uncheck “Install PS/2 interface driver” and click [Next] to continue installation.



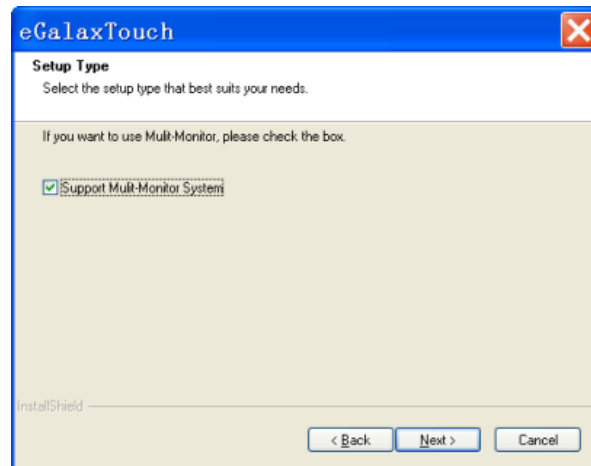
3.6.5 Uncheck “install RS232 interface driver” and click [Next] to continue installation.



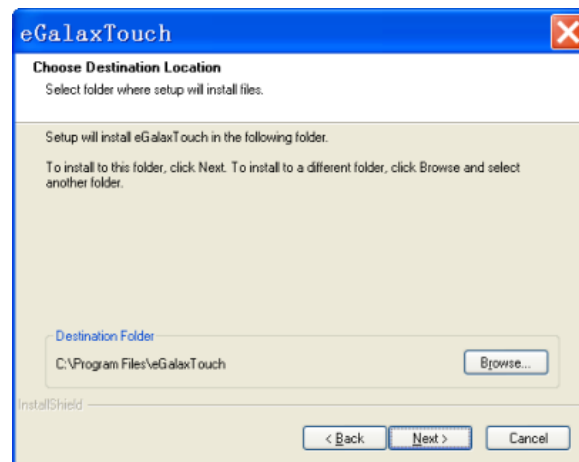
3.6.6 Select option “NONE”, click [Next] to continue installation.



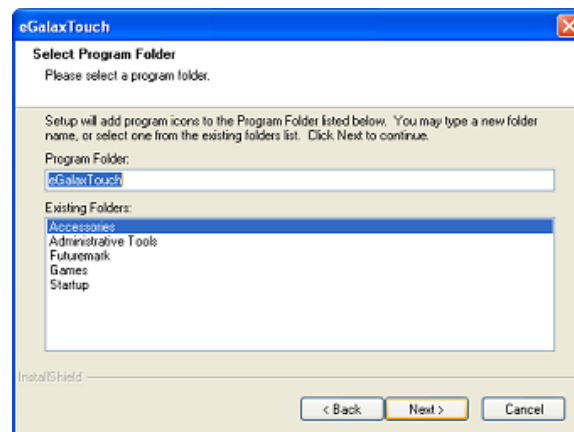
3.6.7 If there are additional touch monitors connected, please check “Support multi-monitor system”.



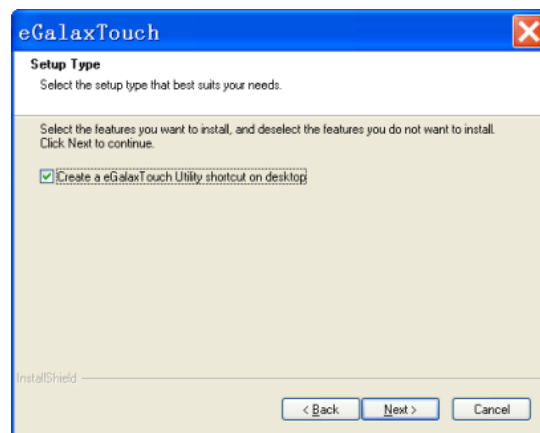
3.6.8 Select the destination location to install the touch driver. The default path is “C:\Program Files\eGalaxtouch”. Click [Next] to continue installation.



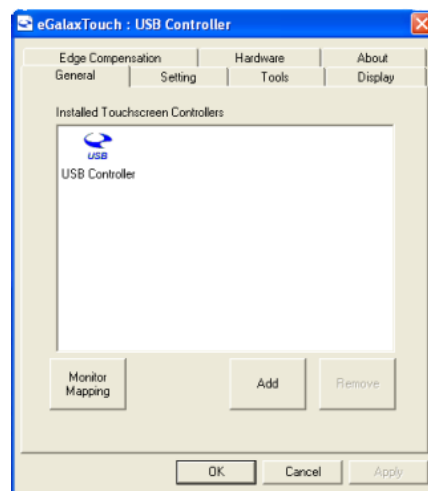
3.6.9 Select the Program Folder to install the utility. The default is “eGalaxtouch”. Click [Next] to continue installation.



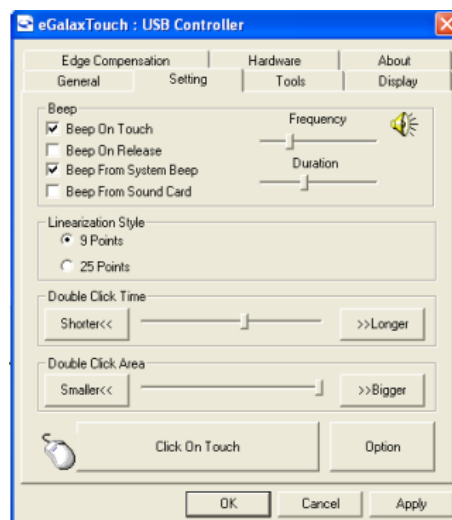
3.6.10 Check the option to create a desktop shortcut icon. Click [Next] to continue.



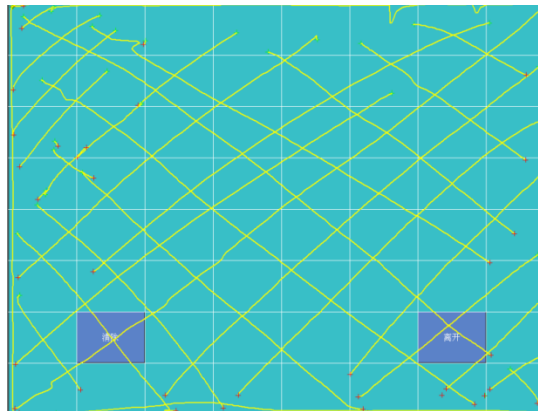
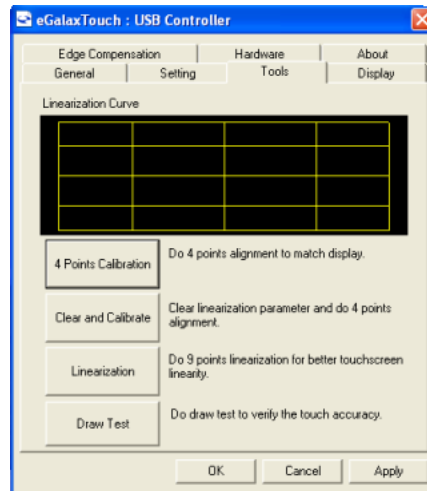
After install the driver successfully, identify the USB controller is installed as shown below.



3.6.11 Click on "Settings" tab to change the touch function settings as needed.



3.6.12 Perform touch calibration if necessary and use Draw Test to check touch accuracy after calibration.

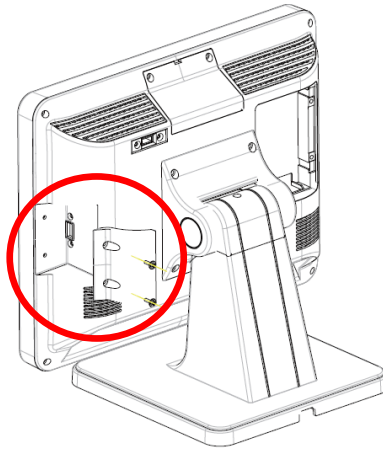




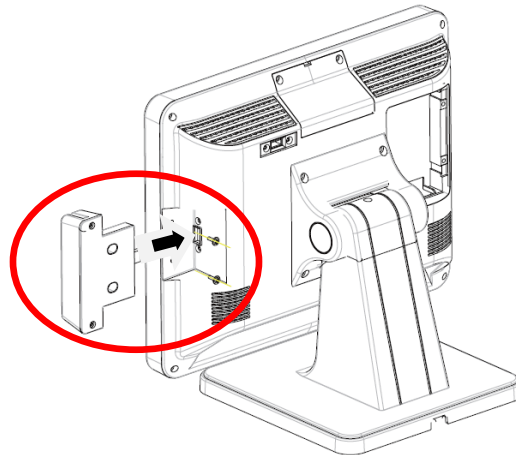
# 4 Hardware Installation

## 4.1 Magnetic Script Reader (MSR) Installation \*

1. Remove the MSR mount cover from the monitor.



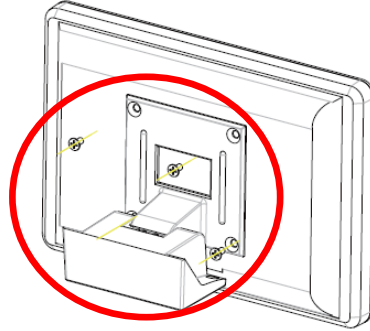
2. Insert MSR module. Make sure reader has been properly connect to the monitor USB port then use the 2 screws to fix the MSR.



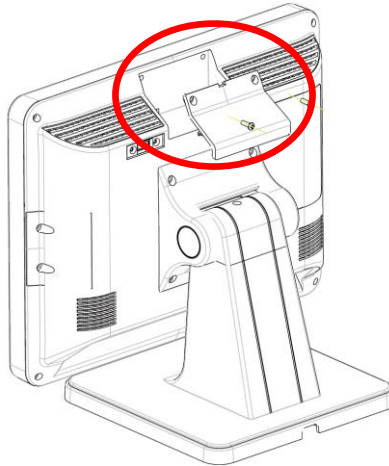
\* *Optional peripheral*

## 4.2 LCD Rear Display installation \*

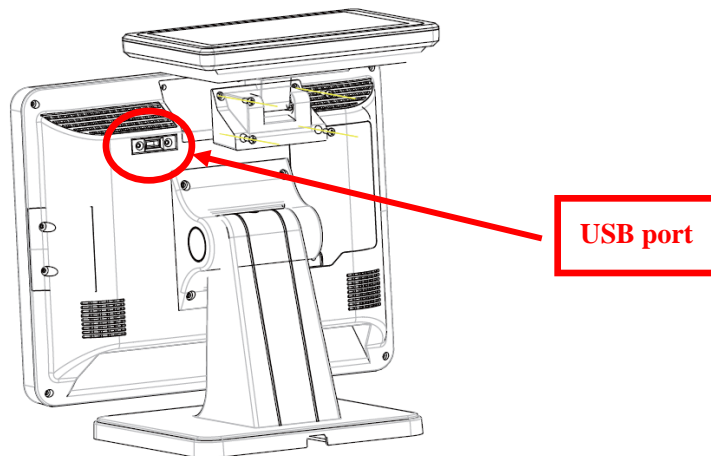
1. Use USB cable to connect the second display and install VESA bracket set to the LCD display with M4 screws (x4).



2. Remove the display mount cover from monitor.



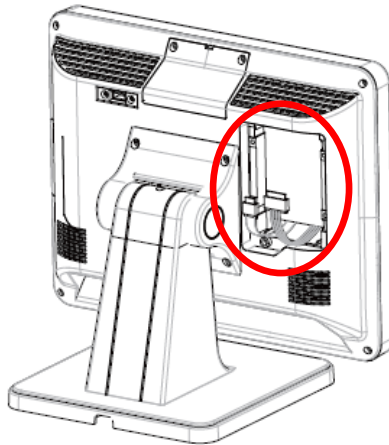
3. Mount the LCD display assembly to the touch monitor and secure with screws. Plug USB cable into monitor USB port.



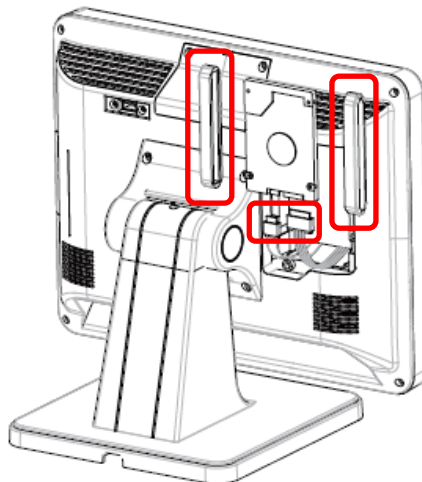
\* *Optional peripheral*

### 4.3 SATA Hard Disk Installation

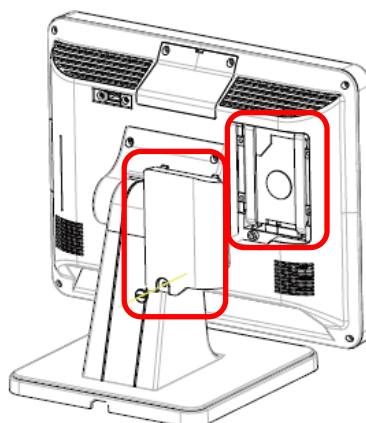
1. Remove the HDD mount cover from the back of monitor.



2. Install HDD rubber to both side of SATA HDD. Plug SATA cable and power cable into SATA HDD connector.



3. Insert SATA HDD assembly to the monitor and install HDD mount cover. Secure cover with the coin slot screw.



# 5 Troubleshooting

## 1) Terminal does not boot

If the terminal cannot boot after repeated pressing of the power switch when connect to the power, the terminal power light remains off, the fan does not operate, and the BIOS beeping is not heard, it might be power supply problems.

- (a) Check the power adapter is plugged in correctly to the power outlet.
- (b) Check the connection between the terminal and the power adapter, and then re-boot the machine.
- (c) If the terminal is working in high temperature environment that causes the terminal automatically shut down in protection mode, please disconnect the power of the machine. Wait until environment temperature has dropped and restart.
- (d) If the terminal does not boot after a sudden power failure or illegal shutdown, unplug the adapter from the terminal, and press the power button several times. Then plug in the adapter and boot again.
- (e) If the adapter light blinks or go off, unplug the adapter immediately and do not plugged in again. Contact with our products service center.

## 2) The terminal automatically restart (or shutdown)

If terminal is frequently automatic shutdown or auto-boot during operation (or boot up),

- (a) Check the power supply is connected properly; make sure the plug is not loose and contacts are in good condition;
- (b) Check if the AC line voltage is stable;
- (c) A sudden power failure or improper shutdown may cause this problem. Press F8 to boot system into safe mode and debug.
- (d) If any new hardware is added or replaced that caused this problem, remove the hardware and reboot;
- (e) If the above steps do not resolve this problem, reinstall the operating system.

## 3) The touch screen does not respond

- (a) Remove the touch driver and then install it again.
  - (b) Execute the “eGalaxTouch utility and check if the interface port is working.
- 4) When touching the screen, cursor always returns to a fixed position.**
- (a) Check if there is anything pressing on the touch screen.
  - (b) Other high power or high frequency equipment may affect the screen or controller. Make sure that the touch screen is away from the high-voltage equipment.
  - (c) The touch screen driver is not installed correctly, install the driver (please refer to the "Touch Screen Setup") and run a 25-point calibration.
- 5) Touch screen is not accurate**
- Run the touch screen calibration program with a 25-point recalibration. We also recommend doing this after changing the monitor resolution or refresh rate. When running the calibration, touch the center of calibration point to assure accuracy.
- 6) The cursor moves opposite to the touch movement**
- (a) Run the 4/9/25 point calibration.
  - (b) The touch screen driver is not installed properly, reinstall the driver.
- 7) The cursor is fixed at the edge of LCD**
- (a) Check if the edge of the screen is being pressed by something.
  - (b) Check the edges of the LCD if there is anything jammed in the front bezel.
  - (c) Make sure that the touch screen is clean.
- 8) The cursor in the touch screen can only move in a small area or touch positions are inaccurate.**
- (a) This situation usually occurs first time after installing the driver. Please run the touch screen calibration program. We also recommend you to do this after changing monitor resolution.
  - (b) Run the touch screen calibration program to do a 25-point recalibration.

# 6 Specifications

## MAIN BOARD

CPU	Intel Celeron J1900 quad-core 2.0GHz
IO Chipset	Fintek F71869
Memory	DDR3L 1333 SODIMM slot, up to 8GB
Ethernet LAN	Realtek RTL8111G PCI Express Gigabit LAN
Audio	ALC887 Audio CODEC, HD Audio CODEC
Storage	SATA 2.5 inch Hard Disk Drive/SSD, mSATA SSD

## DISPLAY

LCD panel	15" LED-backlit TFT display, XGA 1024 x 768, 250 nits
Touch screen	5-wire resistive touch, optional projected capacitive touch
Touch Controller	USB interface

## I/O PORTS

USB ports	USB2.0 x5, USB3.0 x1
Serial ports	RS232 DB9 x3
Ethernet	Gigabit, RJ45 x1
Video port	VGA DB15 x1
Audio port	Line out x1

## ELECTRICAL

Power supply	DC 12V 90W external power adapter
Input to power adapter	100 to 240VAC, 50/60Hz

## ENVIRONMENTAL

Operating temperature	0°C to 40°C
Relative humidity	8% to 80%, non-condensing

## MECHANICAL

Dimensions (W x H x D)	14.33" x 12.83" x 9.06" (364 x 326 x 230mm)
Weight	13.0lb (5.91Kg)

## OPTIONAL PERIPHERALS

Customer Display	VFD 20 columns x 2 lines or 8" True-flat LCD (VESA holes 75x75)
MSR	JIS-I or II, ISO Track 1/2/3

# **SB1015 All-in-one Touch POS terminal**



[bematechus.com](http://bematechus.com)