bematech

SB9015F All-in-one Touch POS Terminal

(i3 Processor)

USER MANUAL

Table of Contents

1 Introduction

Thank you for purchasing the SB9015F(i3) all-in-one touch POS terminal, 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 diving into 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. 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 Appearances

2.2 Rear panel I/O connectors

At the rear panel of the SB9015F is a row of external I/O device connectors detailed as follows:
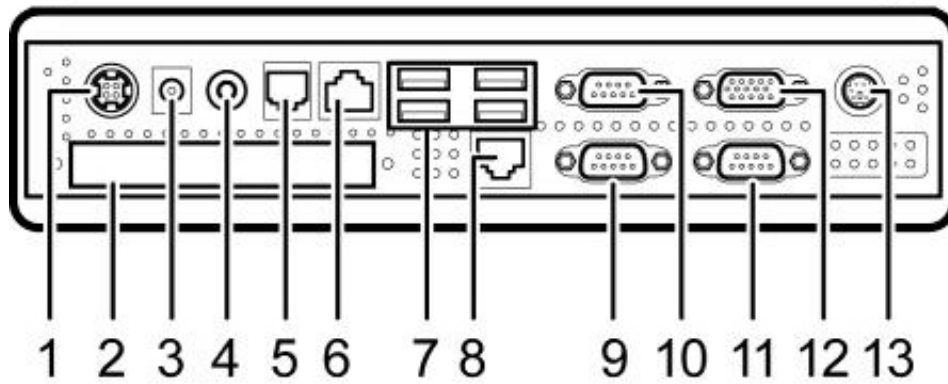
1	DC in
2	HDD slot
3	DC out (for 2nd LCD)
4	Line out
5	Cash drawer port
6	COM5
7	USB port x 4
8	LAN port
9	COM1
10	COM2
11	COM6
12	VGA port
13	PS/2 keyboard port

2.3 Rear View
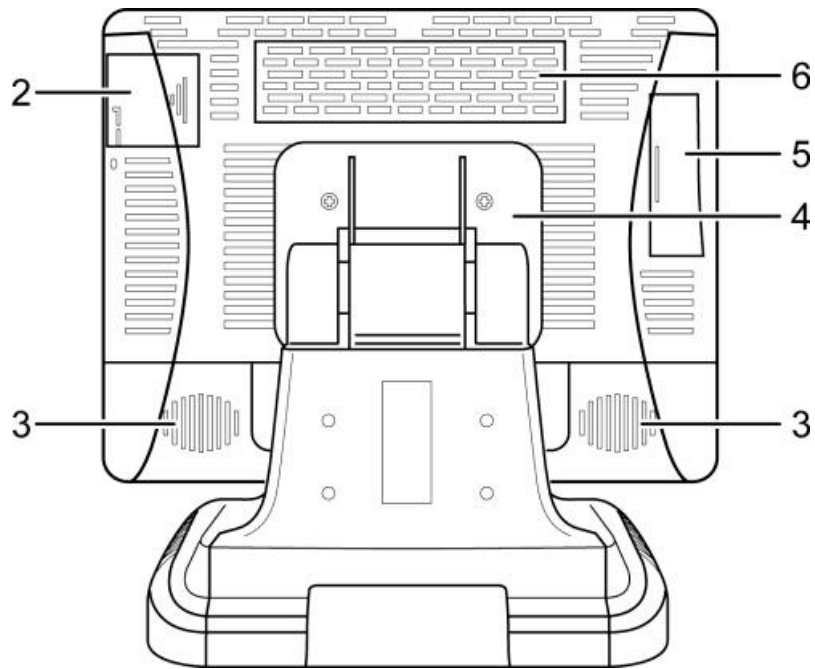
1	VESA holes
2	MSR module compartment
3	Speakers
4	VESA routing plate
5	Control panel
6	Display module compartment (for Customer display or 2nd LCD)

2.4 Control Panel
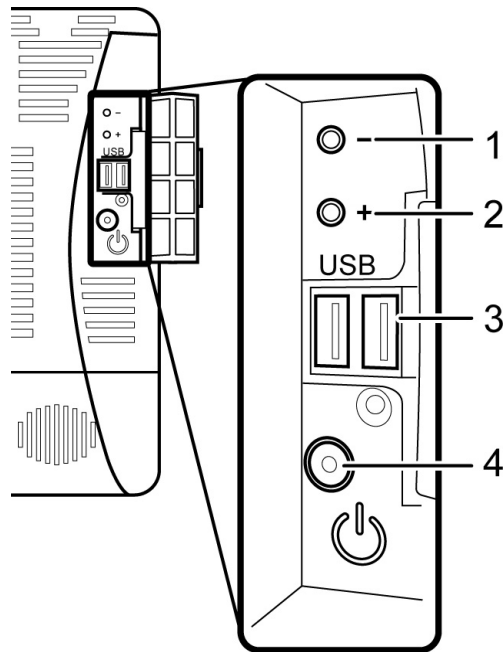
1	Brightness –	Press the "Brightness –" button to decrease brightness. The setting will be saved 6 seconds after releasing the button.
2	Brightness +	Press the "Brightness +" button to increase brightness. The setting will be saved 6 seconds after releasing the button.
3	USB ports	Connect external peripherals such as a memory drive.
4	Power Button	Press to turn the POS terminal on or off. The LED lights up blue when the power is on.

Note: *Press the "Brightness –" and "Brightness +" buttons at the same time to restore brightness to the factory default setting.*

3 Hardware Installation

3.1 Cable Routing
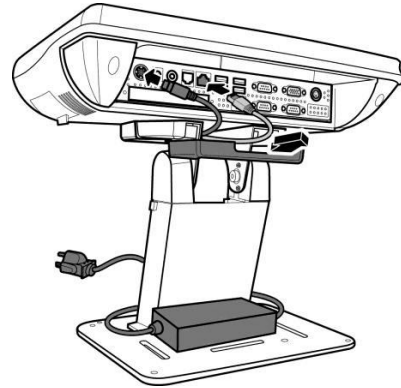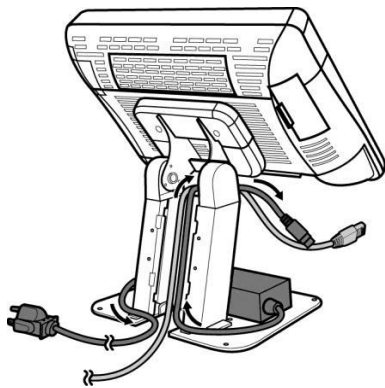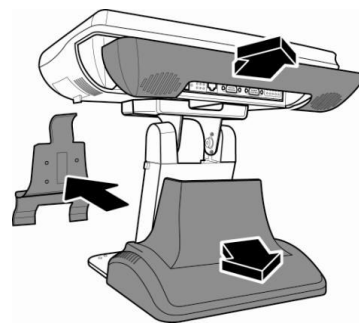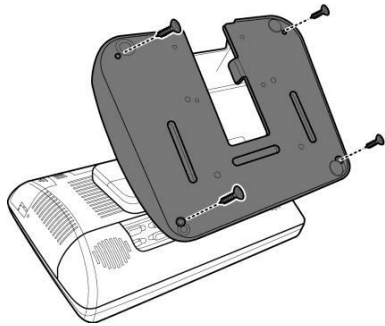
3.2 Installing MSR
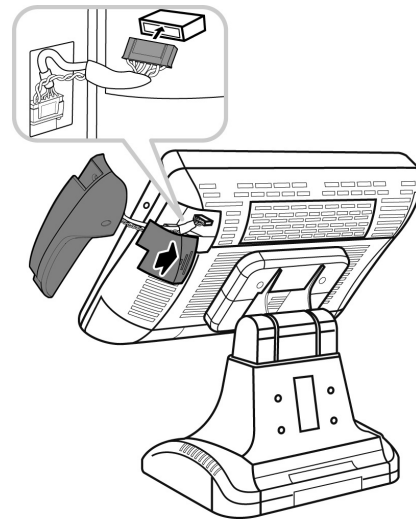
3.3 Installing Customer Display
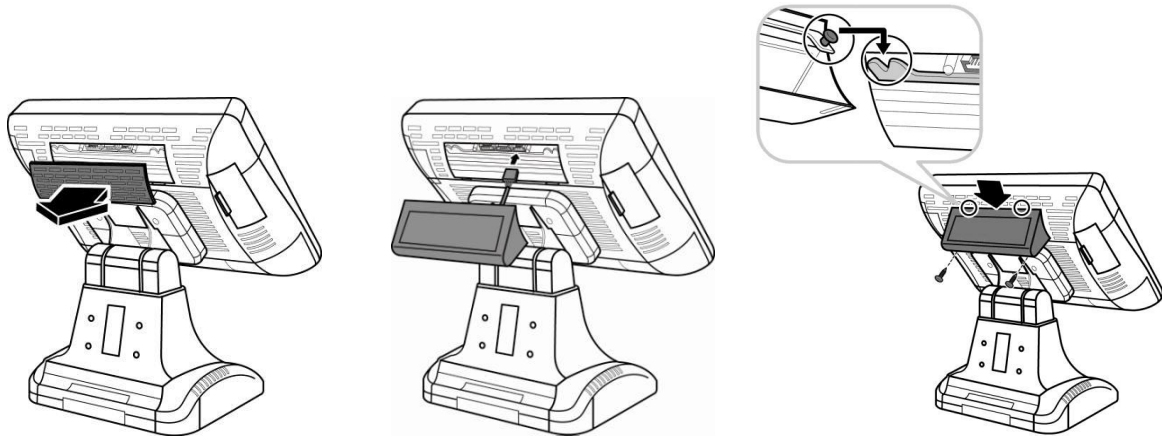
3.4 Installing Second LCD
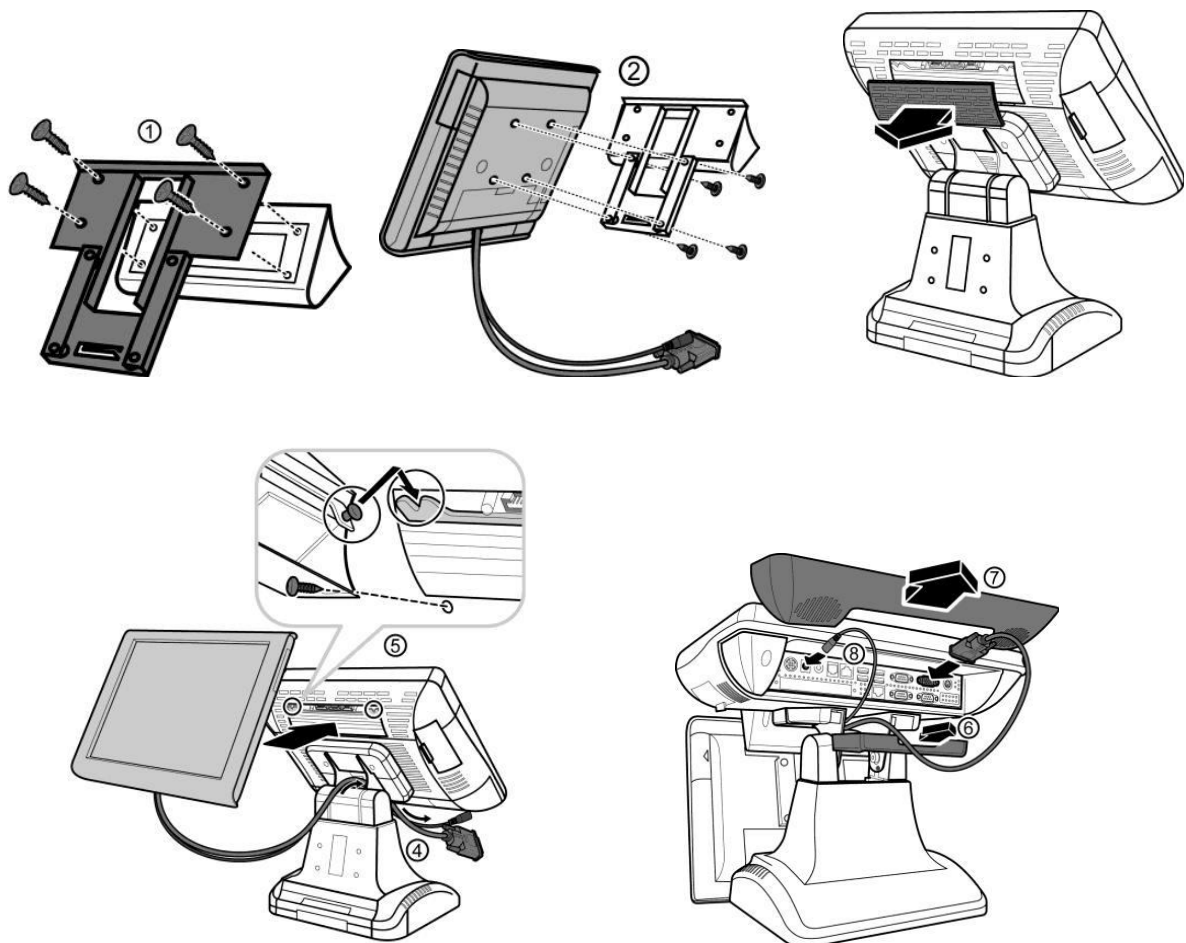
3.5 Replacing System Core
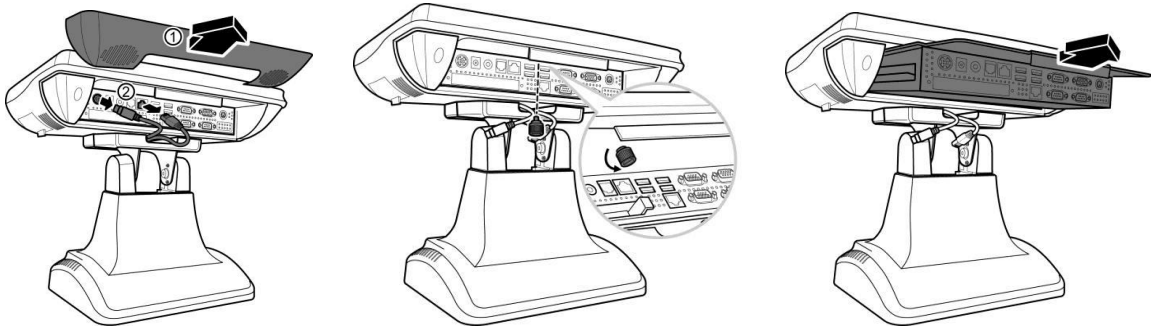
3.6 Replacing Hard Disk Drive
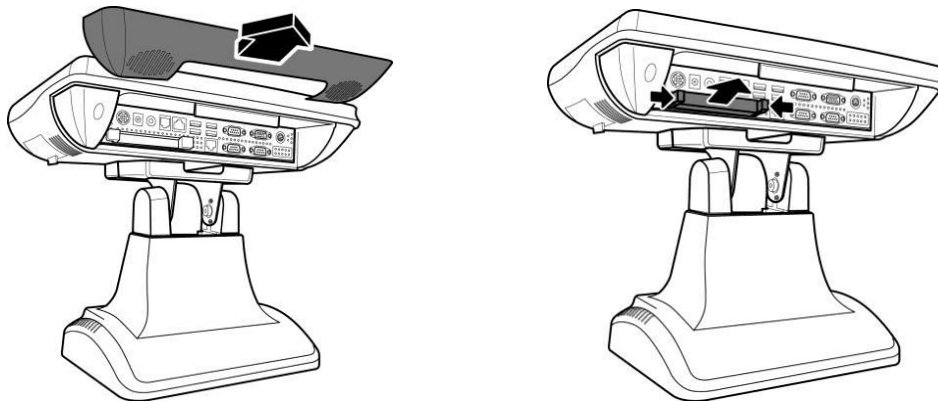
4 Setup and Driver Installation

4.1 Cash Drawer Port

Pin-out
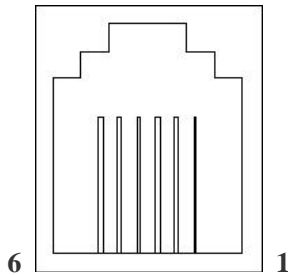
Pin	Description
1	Sense input 2
2	Drive output 1
3	Sense input 1
4	+24V/+12V
5	Drive output 2
6	Ground

Note:
The Y cable used to support two cash drawers on the single RJ-11 socket is same as that for Epson printers.

Operation

The Cash Drawer Controller use one I/O address to control the Cash Drawer.

I/O address	48Ch
Attribute	Read/Write
Size	8 bits

BIT	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Attribute	Read		Reserved		Write		Reserved	

7	6	5	4	3	2	1	0
X		X	X			X	X

- Reserved
- Cash Drawer 1 fire
- Cash Drawer 2 fire
- Reserved
- Cash Drawer 1 status
- Reserved
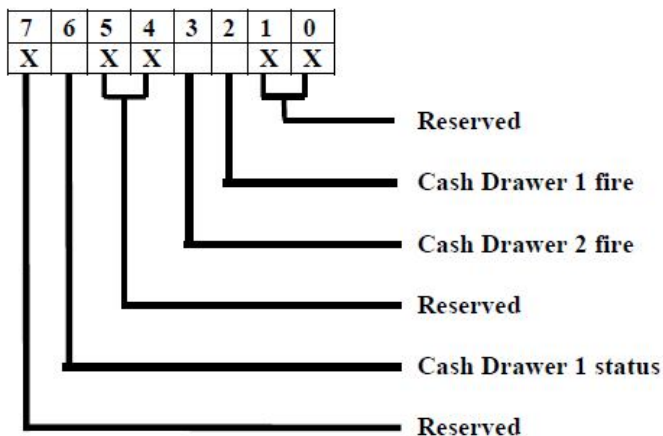
4.2 Serial Ports Configurations

Connectors	Function	Pin 9 Power Support
COM1	External, RS232	RI/+5V/+12V select by jumper
COM2	External, RS232	RI/+5V/+12V select by jumper
COM3	Customer Display	+5V only
COM4	External, RS232 (RJ45)	RI/+5V/+12V select by jumper
COM5	Touch controller	+5V only
COM6	External, RS232	RI/+5V/+12V select by jumper

COM4 RJ45 Socket Pin Assignment

RJ45-10 Pin No.	Signal Name
1	NC, or +5/+12 VDC
2	GND
3	DTR
4	CTS
5	TX
6	RTS
7	RX
8	DSR
9	DCD
10	NC
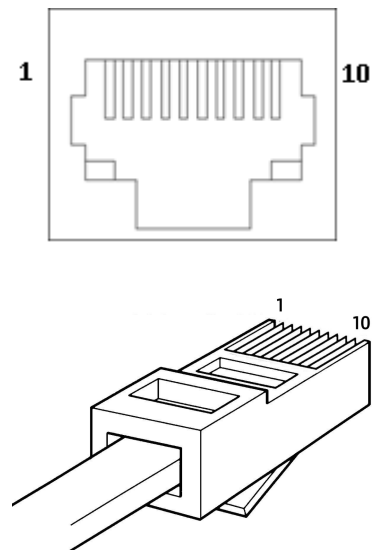
4.3 Jumper settings

JP3 - Clear CMOS Contents		
123	1-2 Normal	Default=Normal
	2-3 Clear CMOS	

JP6 - CN7 Cash Drawer Power Selection		
123	1-2 +24V	Default=+24V
	2-3 +12V	

JP7 - CN1 USB Power Selection		
123	1-2 +5VSB	Default=+5VSB
	2-3 +5V	

JP8 - CN4 USB Power Selection		
123	1-2 +5VSB	Default=+5VSB
	2-3 +5V	

JP9 - COM4 RS232 pin 9 function select		
246 **135**	1-2 RI	Default=RI
	3-4 +5V	
	5-6 +12V	

JP10 - COM6 RS232 pin 9 function select		
246 **135**	1-2 RI	Default=RI
	3-4 +5V	
	5-6 +12V	

JP11 - COM2 RS232 pin 9 function select		
246 **135**	1-2 RI	Default=RI
	3-4 +5V	
	5-6 +12V	

JP12 - COM1 RS232 pin 9 function select		
246 **135**	1-2 RI	Default=RI
	3-4 +5V	
	5-6 +12V	

JP13 - PS/2 Keyboard Power Selection		
123	1-2 +5VSB	Default=+5VSB
	2-3 +5V	

Note:

Do not plug in or unplug any connector except USB devices when the power is on.

The current loading for all COM ports should not exceed DC 5V/3A and DC 12V/2A.

4.4 Motherboard BIOS settings

The POS terminal has a BIOS (Basic Input Output System) chip on the motherboard. Every time you start the terminals, the system will first run the BIOS self-test routine to check the main components of the system to ensure it is working properly.

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

In the following situations, you need to run the BIOS setup:

1) Error message appears on the screen during the system self-test and requested to enter BIOS setup.

2) If you need to change the factory default settings to customized application requirements (for example, boot device priorities).

Control keys

<↑>	Move up to previous item
<↓>	Move down to next item
<←>	Move left to previous menu
<→>	Move right to next menu
<Enter>	Select this option/sub-menu
<+>	Increase the option value or change selection
<->	Reduce the option value or change selection
<F1>	Help
<F2>	Restore previous values
<F3>	Load optimized default values
<F4>	Save and Exit
<Esc>	Exit the menu or to return to the main menu from the submenu

Main Menu

System Time and Date Setting: Under <Main>, select < System Date > or <System Time> to change the system date and time.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌──────────────────────────────────────┬──────────────────────────┐
│  BIOS INFORMATION                     │                          │
│                                       │                          │
│  Build date and time    05/14/2013 19:02:18                     │
│  BIOS Version           J1G           │                          │
│                                       │ → ←Select Screen         │
│                                       │ ↑↓ Select Item           │
│  System Date            [Tue 01/06/2009]                         │
│  System Time            [00:08:21]    │ Enter: Select            │
│                                       │ +- Change Field          │
│                                       │ F1:General Help          │
│                                       │ F2:Previous Values       │
│  Access Level           Administrator │ F3: Optimized Default    │
│                                       │ F4: Save & Exit          │
│                                       │ ESC: Exit                │
└──────────────────────────────────────┴──────────────────────────┘
```

Advanced Tab

ACPI Suspend Type Setting: Under <Advanced>, select <ACPI Setting >, select < ACPI Sleep State > configure S3 to S1.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌──────────────────────────────────────┬──────────────────────────┐
│                                       │ → ←Select Screen         │
│                                       │ ↑↓ Select Item           │
│  Enable Hibernation     Enabled       │ Enter: Select            │
│  ACPI Sleep State       S3 (only suspend to…)                   │
│                                       │ +- Change Field          │
│                                       │ F1:General Help          │
│                                       │ F2:Previous Values       │
│                                       │ F3: Optimized Default    │
│                                       │ F4: Save & Exit          │
│                                       │ ESC: Exit                │
│                                       │                          │
└──────────────────────────────────────┴──────────────────────────┘
```

AHCI Setting: Under < Advanced >, select <SATA Mode Selection>.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌─────────────────────────────────────────┬──────────────────────────┐
│                                          │                          │
│  SATA Controllers(s)        Enabled      │ Enable or disable SATA   │
│                                          │ Device                   │
│                                          │                          │
│  SATA Mode Selection        IDE          │                          │
│                                          │                          │
│                                          │                          │
│  Serial ATA Port 0          Empty        │ → ←Select Screen         │
│  Software Preserve          Unknown      │ ↑↓ Select Item           │
│  Serial ATA Port 1          Empty        │ Enter: Select            │
│  Software Preserve          Unknown      │ +- Change Field          │
│                                          │ F1:General Help          │
│                                          │ F2:Previous Values       │
│                                          │ F3: Optimized Default    │
│                                          │ F4: Save & Exit          │
│                                          │ ESC: Exit                │
│                                          │                          │
│                                          │                          │
└─────────────────────────────────────────┴──────────────────────────┘
```

Hardware Monitor Check: Under < Advanced >, select < F81866 H/W Monitor >.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌─────────────────────────────────────────┬──────────────────────────┐
│  PC Health Status                        │                          │
│                                          │ → ←Select Screen         │
│  CPU temperature            +39 C        │ ↑↓ Select Item           │
│  System temperature         +42 C        │ Enter: Select            │
│  Sys_FAN Speed              6602 RPM     │ +- Change Field          │
│                                          │ F1:General Help          │
│  Vcore                      +1.128 V     │ F2:Previous Values       │
│  VCC5V                      +5.043 V     │ F3: Optimized Default    │
│  VCC12V                     +12.058 V    │ F4: Save & Exit          │
│  +1.5V                      +1.524 V     │ ESC: Exit                │
│  VCC3V                      +3.374 V     │                          │
│                                          │                          │
│                                          │                          │
└─────────────────────────────────────────┴──────────────────────────┘
```

Com and Parallel Port IRQ Setting: Under < Advanced >, select < F81866 Super IO Configuration >.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
  Super IO Configuration

                                          → ←Select Screen
  F81866 Super IO Chip           F81866   ↑↓ Select Item
  ▶ Serial Port 0 Configuration           Enter: Select
  ▶ Serial Port 1 Configuration           +- Change Field
  ▶ Serial Port 2 Configuration           F1:General Help
  ▶ Serial Port 3 Configuration           F2:Previous Values
  ▶ Serial Port 4 Configuration           F3: Optimized Default
  ▶ Serial Port 5 Configuration           F4: Save & Exit
  ▶ Parallel Port Configuration           ESC: Exit
  Power Failure                  Always off
```

Boot Tab

Use <+> and <-> to arrange the boot sequence.   See the BIOS documentation for more information.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
  Boot Configuration
  Setup Prompt Timeout      1
  Bootup NumLock State      On          → ←Select Screen
                                        ↑↓ Select Item
  CSM16 Module Version      07.69       Enter: Select
                                        +- Change Field
                                        F1:General Help
  GateA20 Active            Upon Request F2:Previous Values
                                        F3: Optimized Default
  Boot Option Priorities              F4: Save & Exit
                                        ESC: Exit


  ▶ CSM parameters
```

Security Tab

Set the Supervisor or User password first to use the security features.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌──────────────────────────────────────────────┬──────────────────────────┐
│  Password Description                          │                          │
│                                                │                          │
│  If ONLY the Administrator's password is set,  │                          │
│  then this only limit access to Setup and is only                         │
│  asked for when entering Setup.                │ → ←Select Screen         │
│  If ONLY the User's password is set, then this │ ↑↓ Select Item           │
│  is a power on password and must be entered to │ Enter: Select            │
│  boot or enter Setup. In Setup the User will have│ +- Change Field        │
│  Administrator rights                          │ F1:General Help          │
│  The password length must be                   │ F2:Previous Values       │
│  in the following range:                       │ F3: Optimized Default    │
│  Minimum length                           3    │ F4: Save & Exit          │
│  Maximum length                          20    │ ESC: Exit                │
│                                                │                          │
│  Administrator Password                        │                          │
│  User Password                                 │                          │
└──────────────────────────────────────────────┴──────────────────────────┘
```

Save& Exit

Restore the Factory Default Setting: Under <Save & Exit>, select < Restore Defaults > and select <Yes>.

```
Main  Advanced  Chipset  Boot  Security  Save & Exit
┌──────────────────────────────────────────────┬──────────────────────────┐
│Save Changes and Reset                          │                          │
│Discard Changes and Reset                       │                          │
│                                                │ → ←Select Screen         │
│Save Options                                    │ ↑↓ Select Item           │
│Save Changes                                    │ Enter: Select            │
│Discard Changes                                 │ +- Change Field          │
│                                                │ F1:General Help          │
│Restore Defaults                                │ F2:Previous Values       │
│Save as User Defaults                           │ F3: Optimized Default    │
│Restore User Defaults                           │ F4: Save & Exit          │
│                                                │ ESC: Exit                │
└──────────────────────────────────────────────┴──────────────────────────┘
```
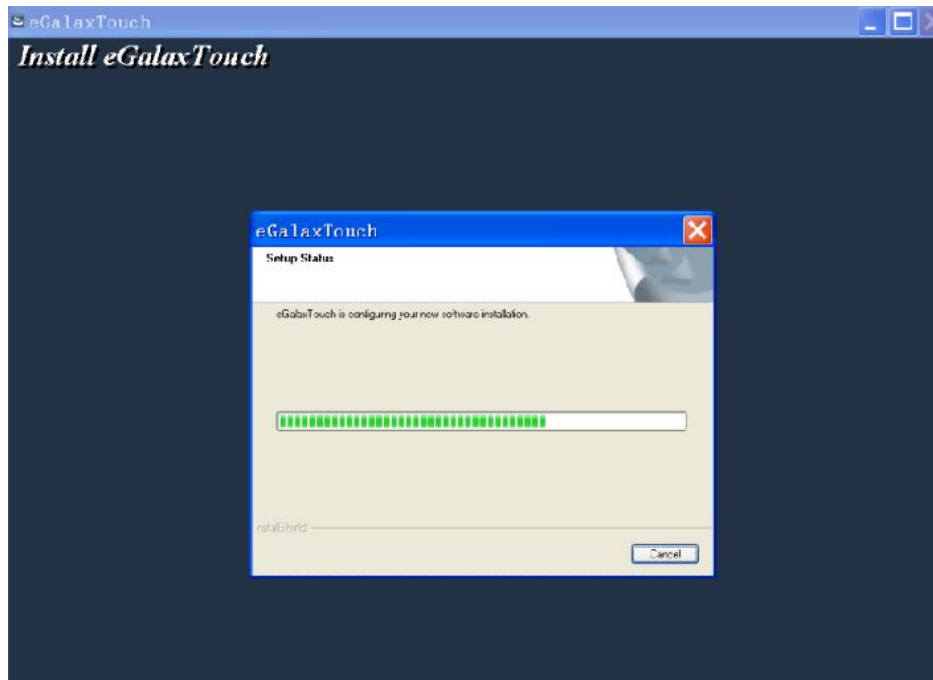
4.5 Touch screen driver installation

Step 1: Navigate to the installer directory to find the setup.exe file.   Double-click on "setup.exe" to start installation.
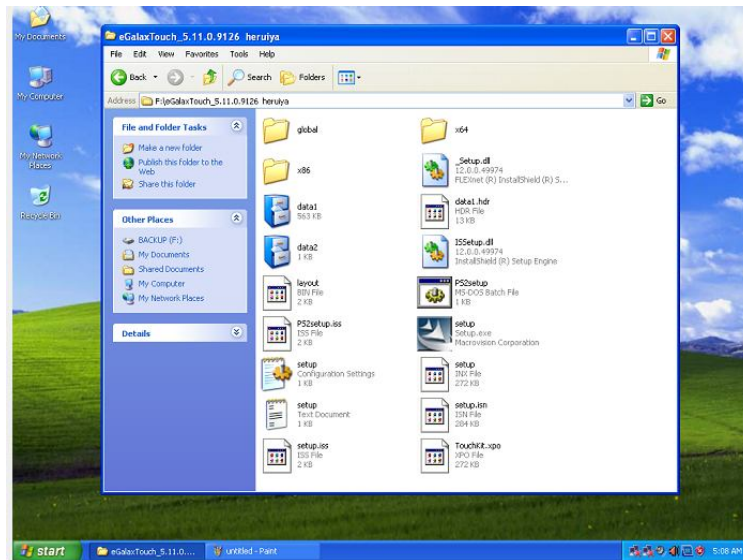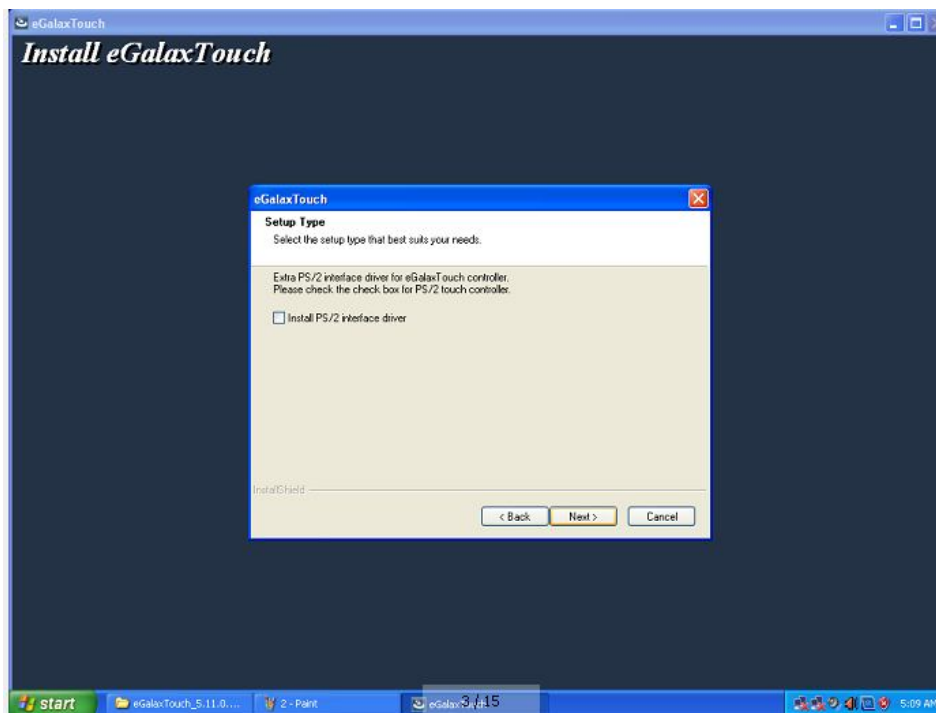

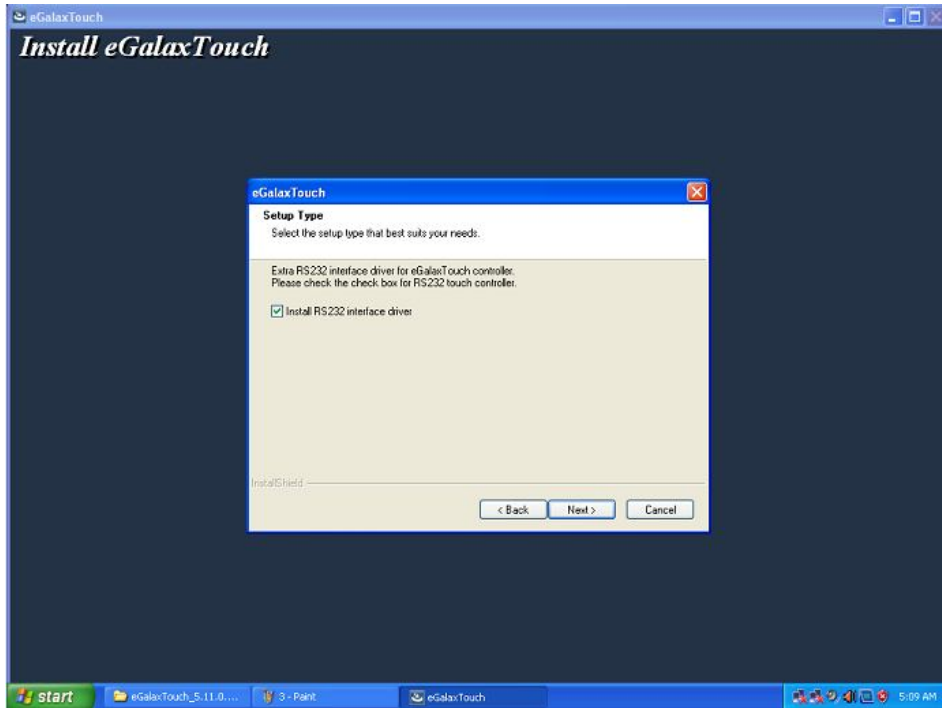**Step 2:** When installation starts, click [Next] to proceed to the next step.
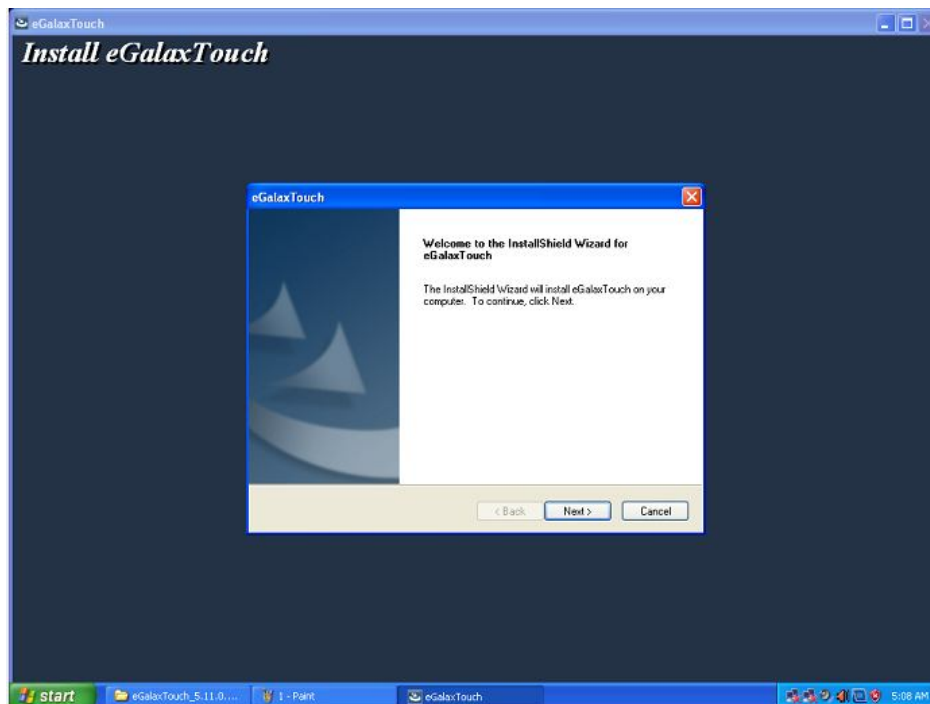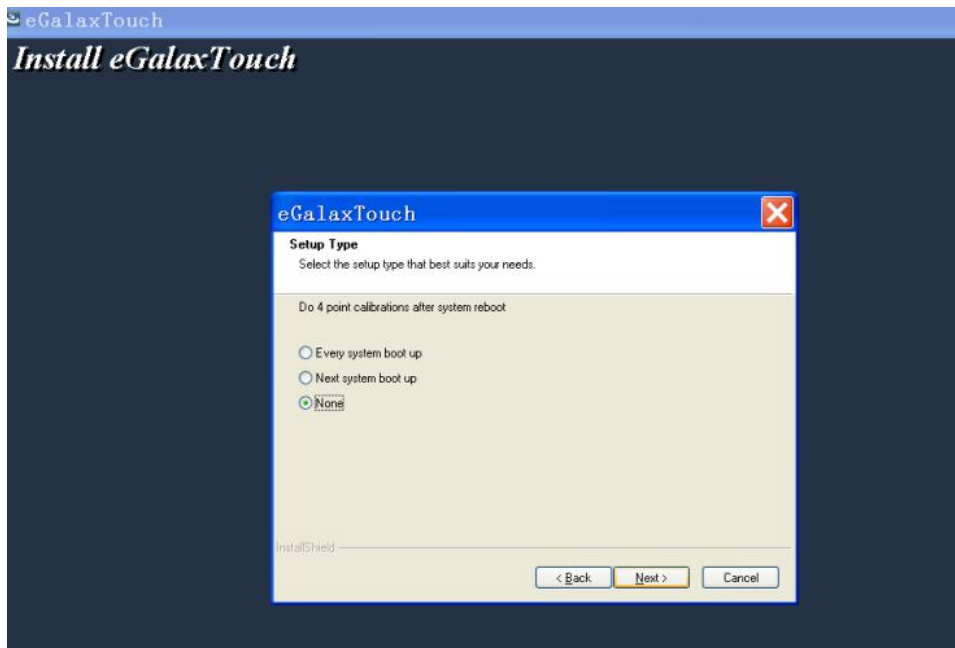

Step 3: Installation in progress

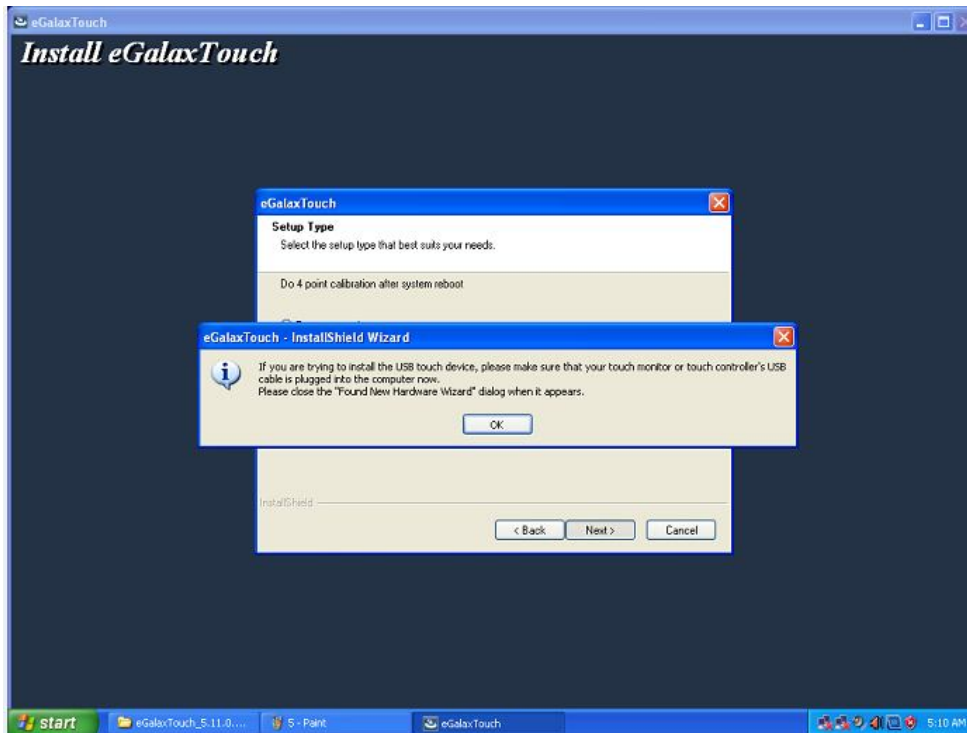**Step 4:** Uncheck "Install PS/2 interface driver" and click [Next] to continue installation.

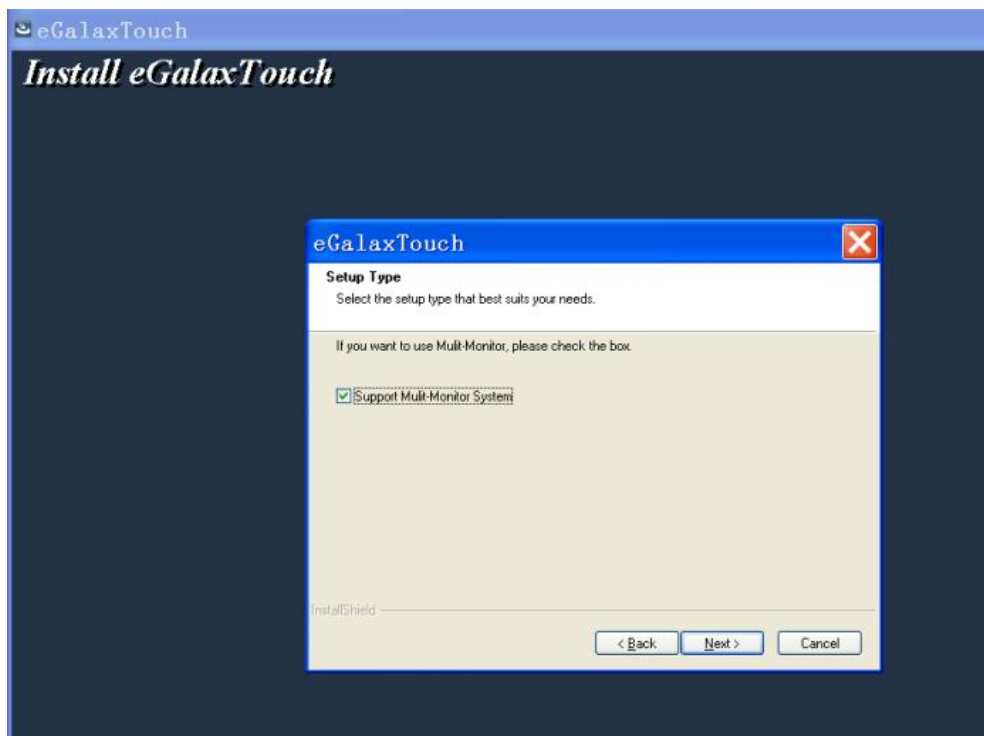**Step 5:** Uncheck "install RS232 interface driver" and click [Next] to continue installation.

Step 6: Select option "NONE", click [Next] to continue installation.

Step 7: When installing USB touch, please connect the USB controller and USB cable

**Step 8:** If there are additional touch monitors connected, please check "Support multi- monitor system".

Step 9: Select the destination location to install the touch driver. The default path is "C: \ Program Files \ eGalaxtouch".   Click [Next] to continue installation.
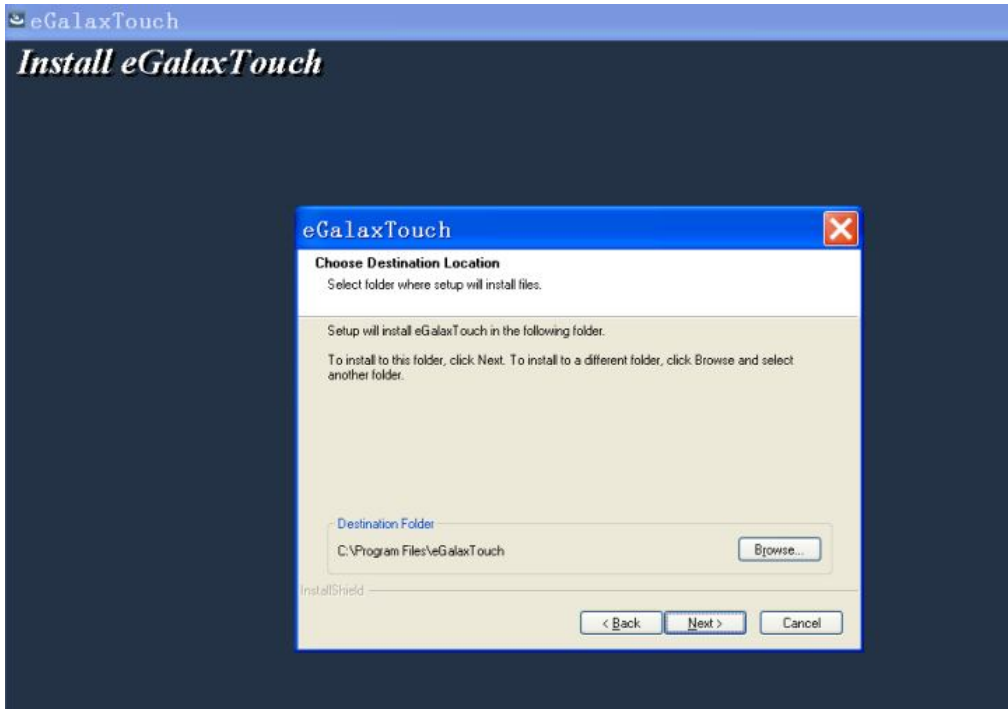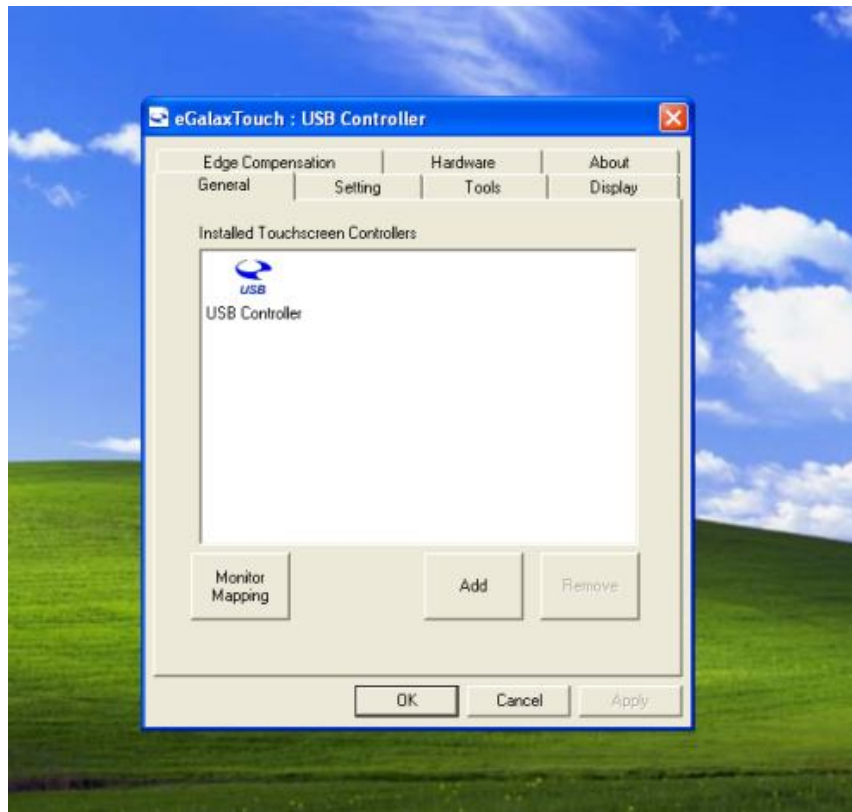
Step 10: Select the Program Folder to install the utility. The default is "eGalaxtouch". Click [Next] to continue installation.
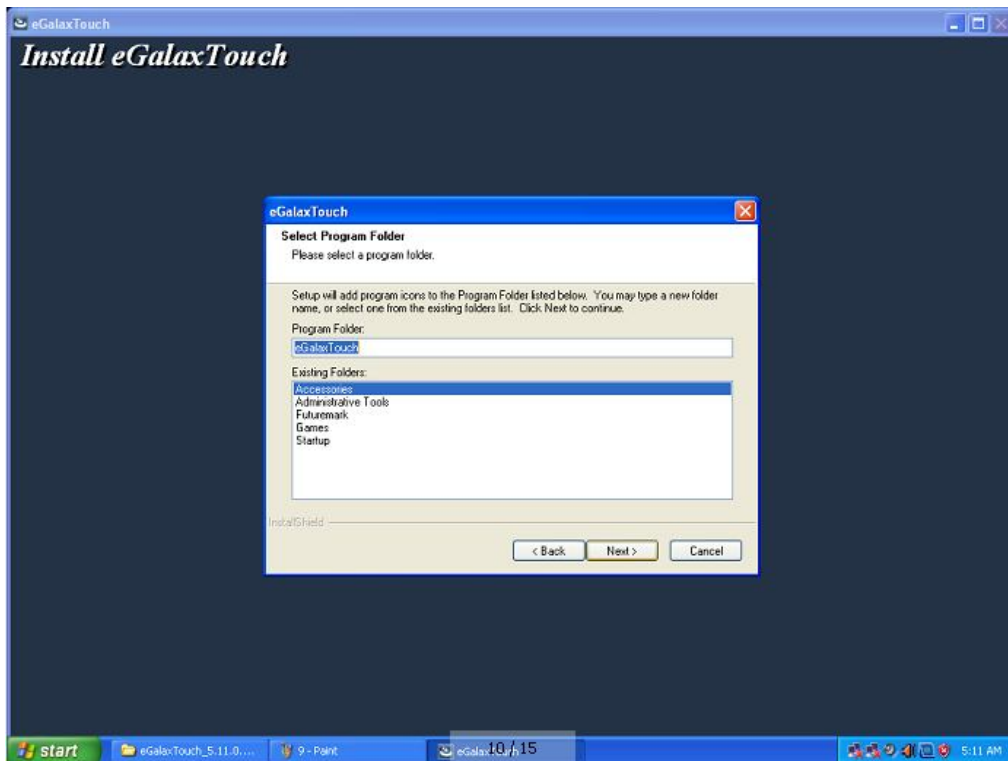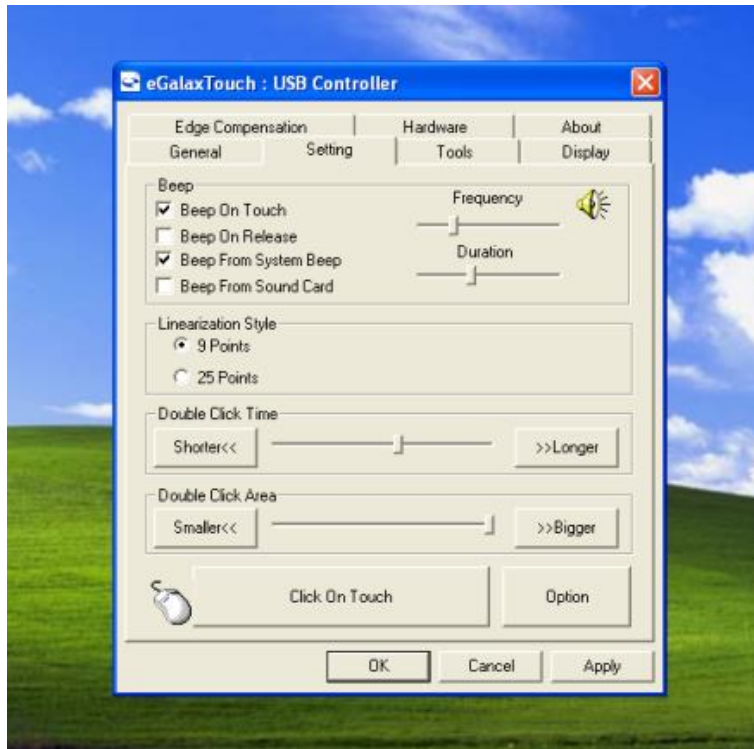

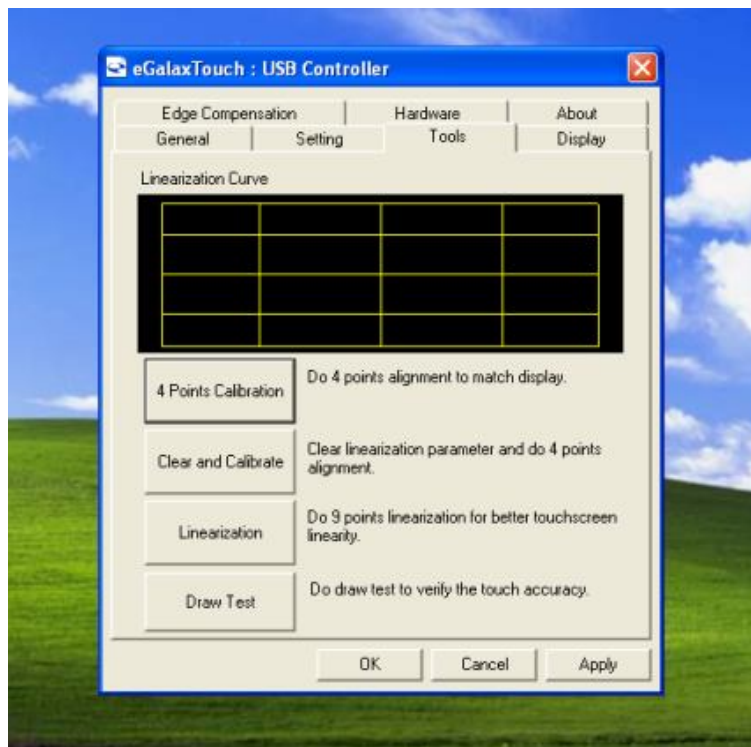**Step 11:** Check the option to create a desktop shortcut icon.

24
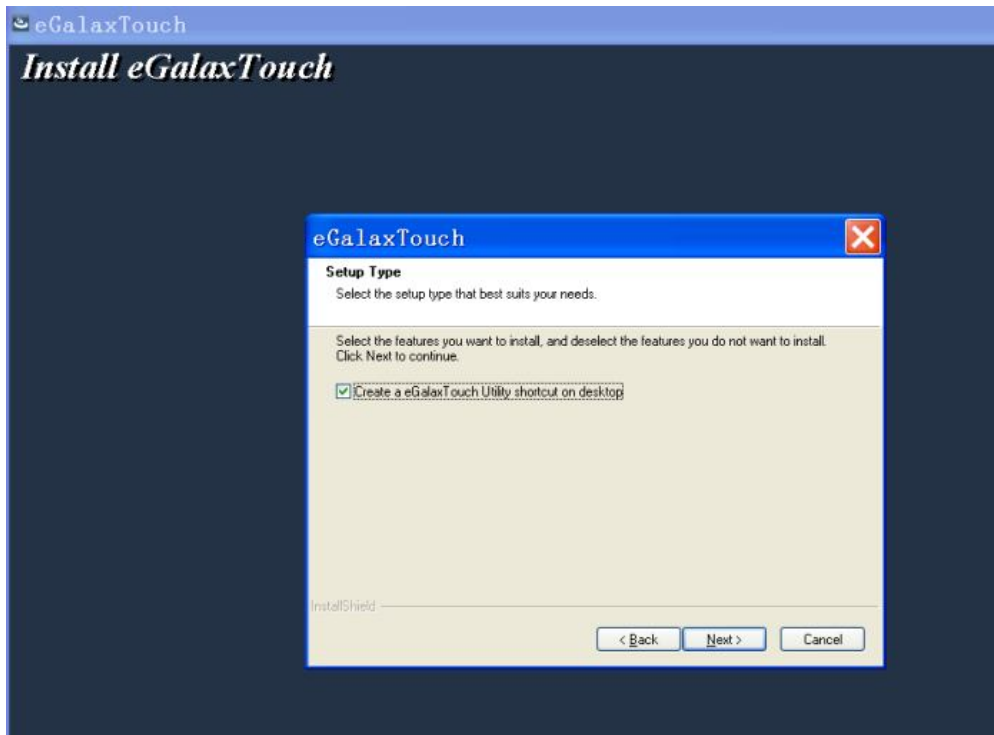
After install the driver successfully, identify the USB controller is installed as shown below.
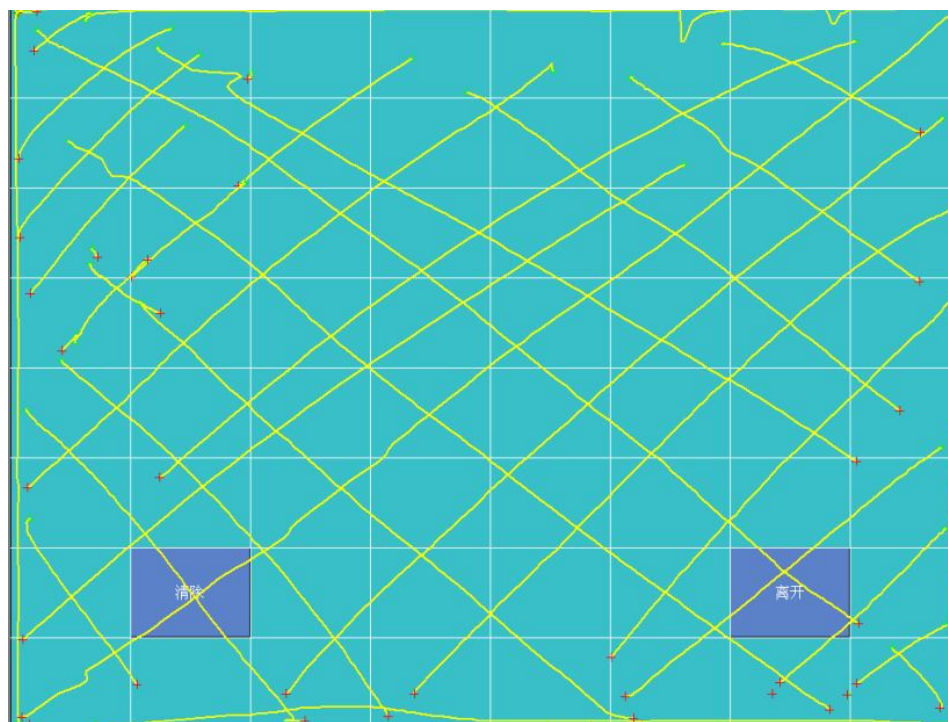

Touch function settings

Touch calibration

Touch device line test

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

Please run the touch screen calibration program with a 25-point recalibration, we also recommend you to do this after change 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 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 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

MODEL	SB9015F 15" i3 All-in-one Touch POS Terminal
Main Board	
CPU	Intel i3-2310E Processor dual core 2.1GHz
System Chipset	HM65
Memory	2 slots, DDR3 1066/1333, up to 4GB
Storage	SATA 2.5 inch Hard Disk Drive, 320GB or higher
Display	
LCD panel	15" TFT LCD
Resolution	1024x768
Brightness	250cd/m^2
Touch Screen	5-wire resistive touch (RS232 interface)
Tilting Angle	0 to 90°
I/O Ports	
External DC Input	1x DC jack (connected to power adapter)
PS/2 Port	1x PS/2 keyboard
Serial Ports	3x DB9 with DC5V/12V on pin 9 (jumper option), 1x RJ45
Parallel Port	Optional 1x DB25 on cable
VGA	1x DB15 2nd video VGA connector
LAN	1x RJ45, 10/100M/1Gbit
USB	6x USB 2.0
Cash Drawer Port	1x RJ11, 12V/24V jumper selectable
Audio	1x audio out, 2x 1W built-in speaker
DC Output	1x DC 12V output
Environment	
Operating Temperature	0°C to 40°C
Storage Temperature	-25°C to 70°C
Relative Humidity	8% to 80% non-condensing
Electrical (External Power Adapter)	
Input	100V to 240VAC, 50 to 60Hz, 2.0A
Output	DC 24V 5A
Output Power	120W max
Mechanical	
Dimensions	329x348x213mm
Weight	10Kg

SB9015F All-in-one Touch POS terminal