



ADP-1XX0A

5.6", 7", 8", 10.1", and 12.1" Color TFT Industrial Display Monitor

User Manual

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Revision

V1.2

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Revision History

Reversion	Date	Description
1.0	2016/07/20	Official Version
1.1	2016/10/04	Add 10.1" and 12.1" Display
1.2	2016/12/27	Add 7" Display

Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Disclaimer

This information in this document is subject to change without notice. In no event shall Apex Technology Inc. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.

Packing List

Accessories (as ticked) included in this package are:
<input type="checkbox"/> Adaptor
<input type="checkbox"/> Driver & manual CD disc
<input type="checkbox"/> Other. _____ (please specify)

Safety Precautions

Follow the messages below to prevent your systems from damage:

- ◆ Avoid your system from static electricity on all occasions.
- ◆ Prevent electric shock. Don't touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- ◆ Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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Chapter 1 _____ Getting Started

1.1 Features

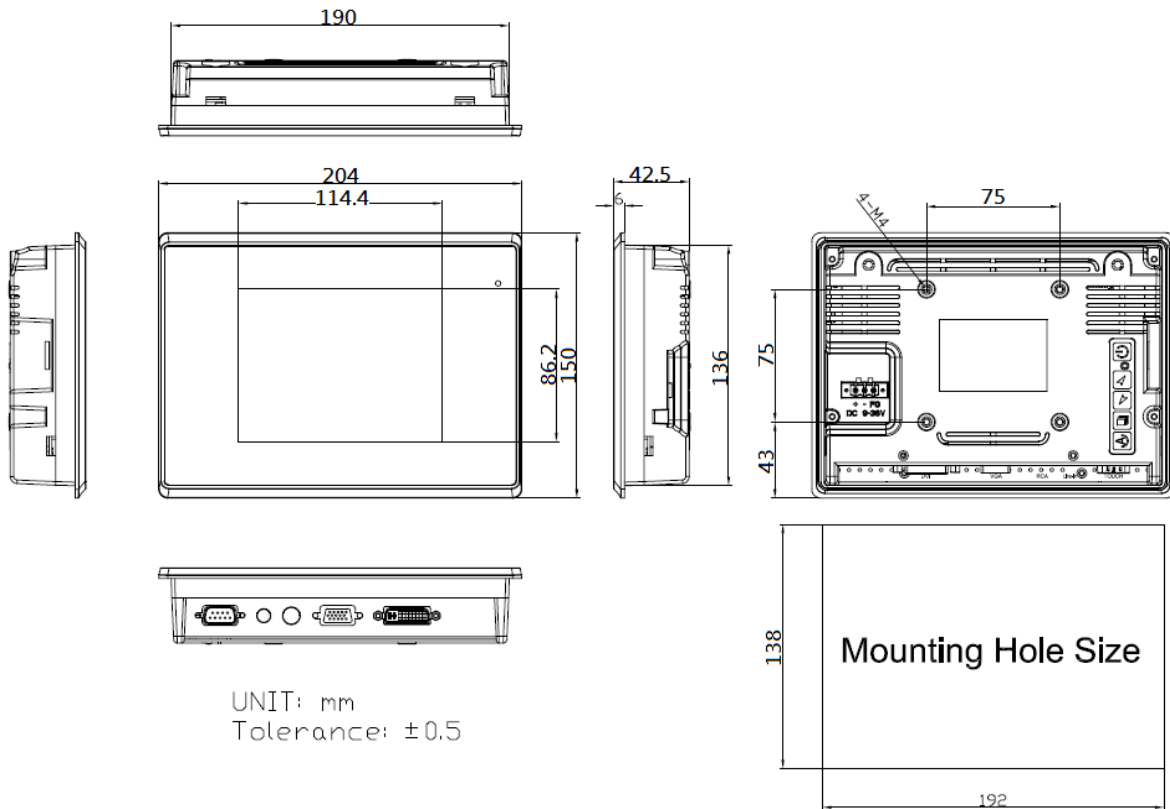
- 5.6"/7"/8"/10.1"/12.1" TFT Backlight Color LCD
- Plastic housing
- Resistive Touch Screen/Projected Capacitive Touch (**Projected Capacitive Touch is not available for 5.6" display**)
- Wide-ranging 9~36V DC Power Input

1.2 Specifications

Model	ADP-1050A	ADP-1070A	ADP-1080A	ADP-1100A	ADP-1120A
Specs					
IO Port					
VGA	1				
DVI	1				
RCA	None	Option			
Touch	1 x USB for touch control 1 x RS-232 for touch control (optional)				
Audio	1 x Line in (optional)				
OSD Control Membrane	OSD keypad on the rear side				
Power	1 x 3-pin TB for DC 9~36V Input				
LCD					
Display Type	5.6" TFT LCD	7" TFT LCD	8" TFT LCD	10.1" TFT LCD	12.1" TFT LCD
Max. Resolution	640 x 480	800 x 480	800 x 600	1024 x 600	800 x 600
Max. Color	262K	262K	262K	262K	16.2M
Contrast Ratio	500: 1	400: 1	500: 1	500: 1	800: 1
Luminance(cd/m ²)	350	350	350	250	450
Viewing Angle	140(H) / 120(V)	140(H) / 110(V)	140(H) / 135(V)	140(H) / 120(V)	160(H) / 140(V)
Backlight Lifetime	20,000 hrs	40,000 hrs	40,000 hrs	15,000 hrs	50,000 hrs
Power					
Power Input	DC 9~36V				
Power Consumption	MAX: 5W	MAX: 5.4W (1070AT)	MAX: 5W (1080AT)	MAX: 3.8W (1100AT)	MAX: 8.5W (1120AT)

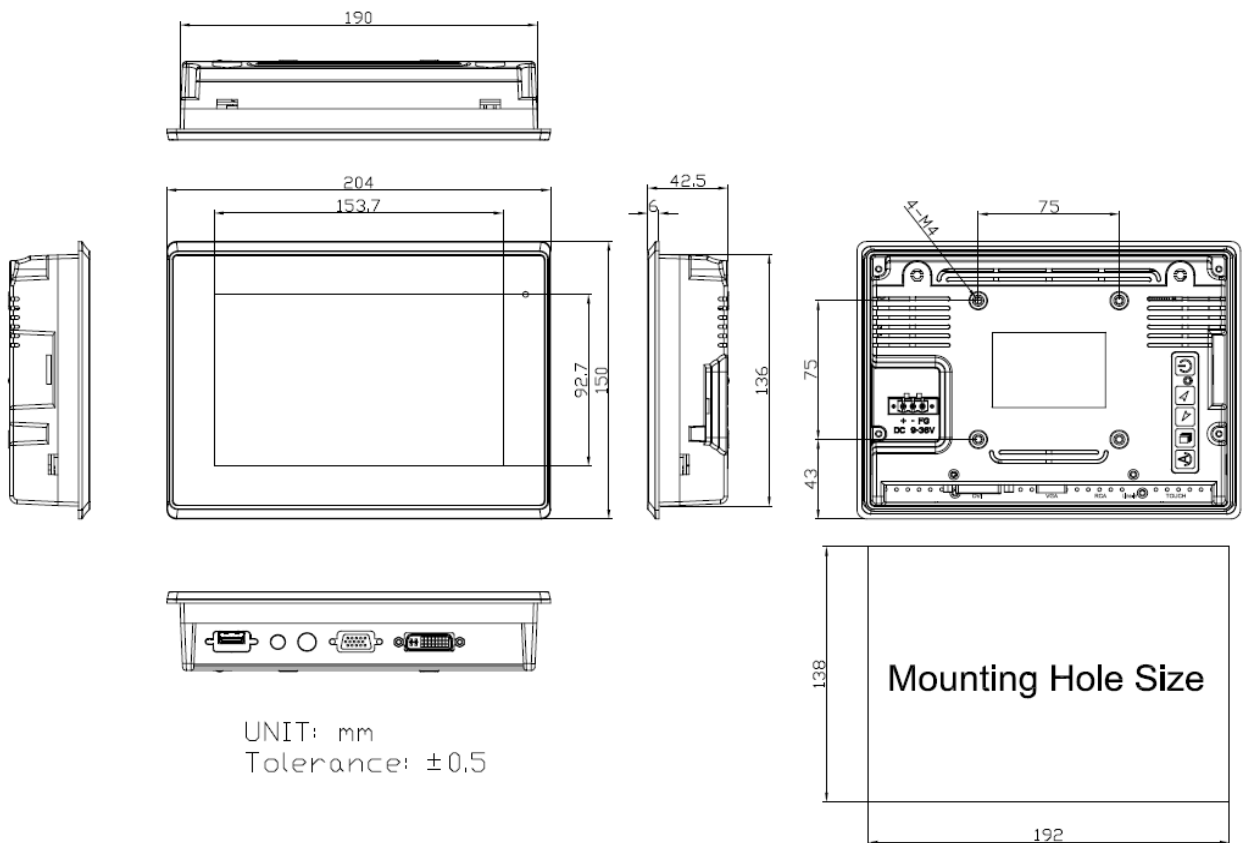
		MAX: 3.9W (1070AP)	MAX: TBD (1080AP)	MAX: 3.6W (1100AP)	MAX: 8.5W (1120AP)
Touch Screen – Resistive Touch Window					
Interface	USB Default / RS-232 option				
Light Transmission	Over 80%				
Touch Screen – Projected capacitive Touch (Not Available for ADP-1050A)					
Interface	USB				
Light Transmission	Over 90%				
Mechanical Specifications					
Front Panel	Plastic Housing/Panel Mount				
Rear Panel	VESA Mount 75 x 75			VESA Mount 100 x 100	
Chassis Color	Pantone Cool Gray 11C				
IP Rating	Front Panel IP65				
Dimensions	204 x 150 x 42.5 mm	204 x 150 x 42.5 mm	231.1 x 176.1 x 45 mm	285 x 189 x 49.6 mm	319 x 245 x 51 mm
Net Weight	0.8 Kg	0.8 Kg	1 Kg	1.3 Kg	2 Kg
Environmental Specifications					
Operating Temperature	0~50°C				
Storage Temperature	-20~60°C				
Storage Humidity	10~90% @40°C (non-condensing)				
Certificate	CE / FCC Class A				

1.3 Dimensions



UNIT: mm
Tolerance: ± 0.5

Figure 1.1: Dimensions of ADP-1050A



UNIT: mm
Tolerance: ± 0.5

Figure 1.2: Dimensions of ADP-1070A

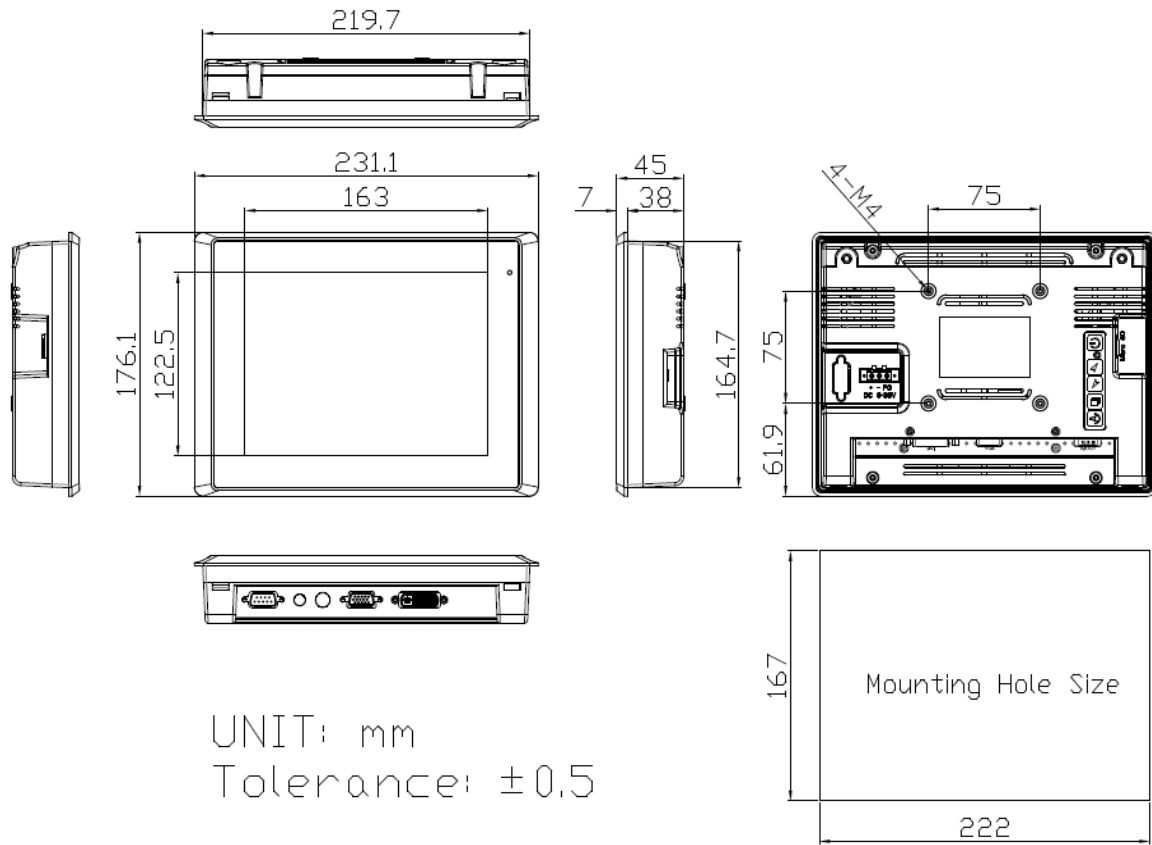


Figure 1.3: Dimensions of ADP-1080A

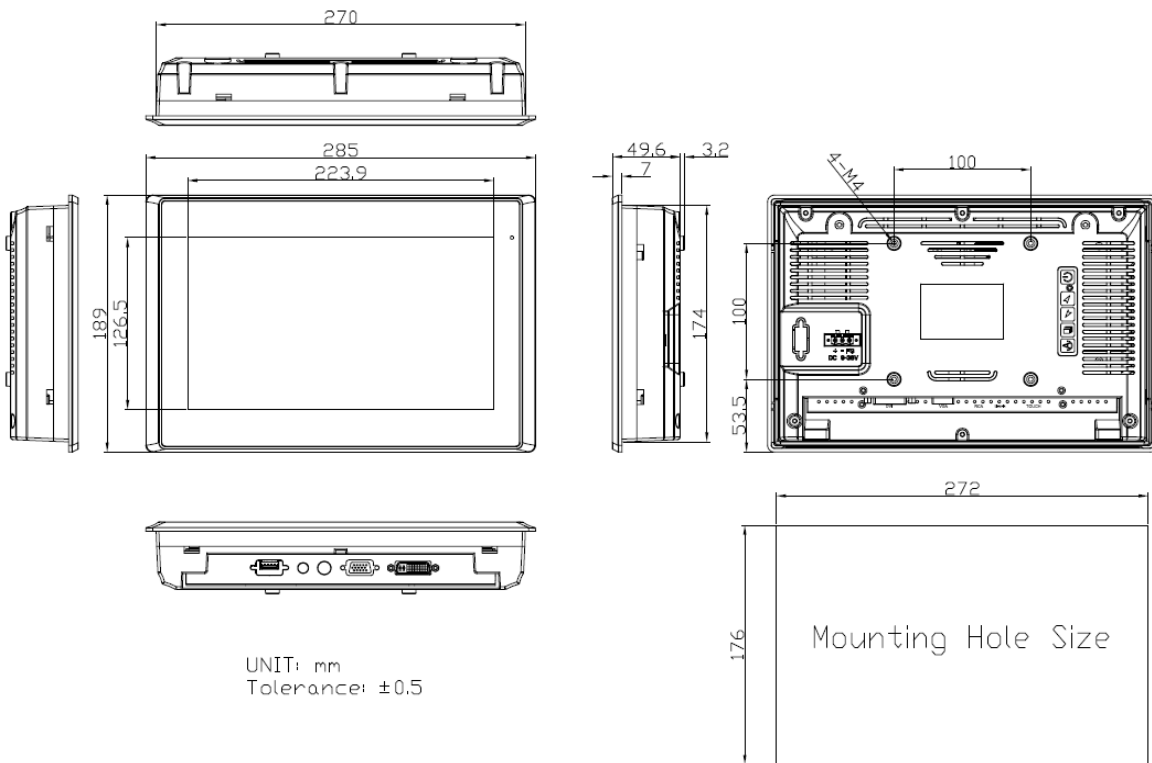


Figure 1.4: Dimensions of ADP-1100A

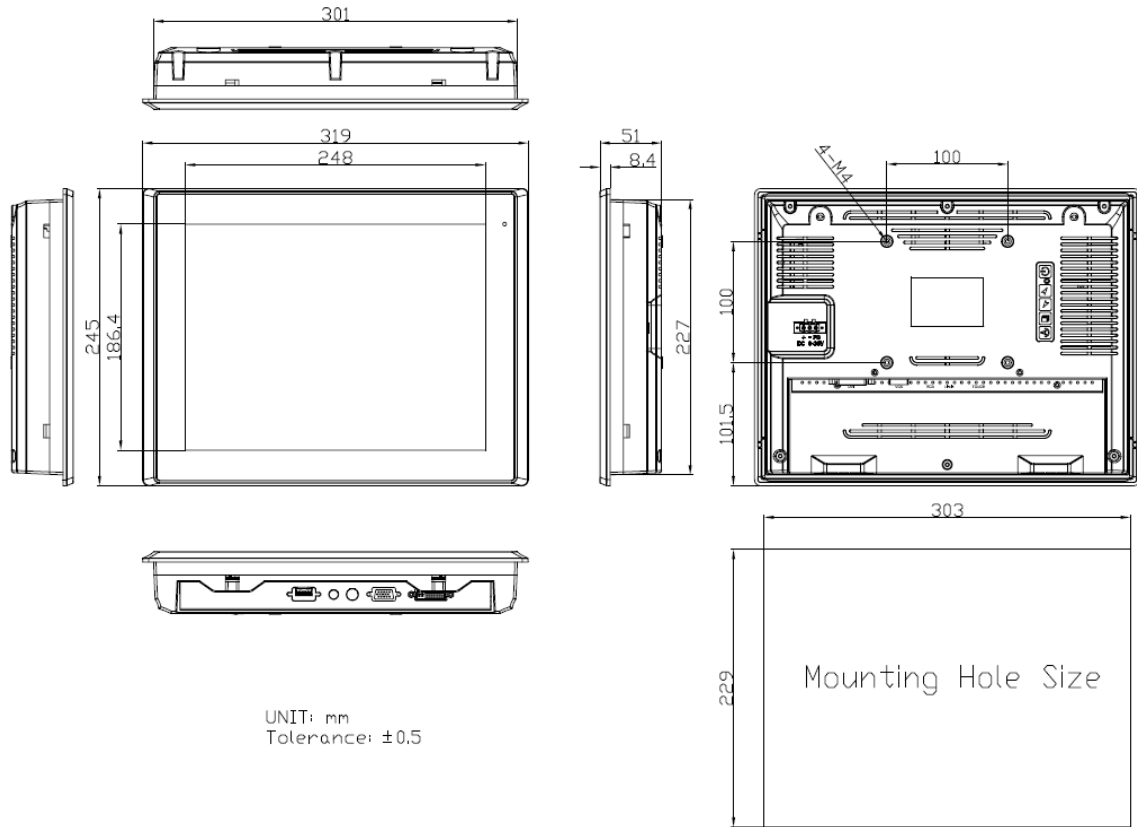


Figure 1.5: Dimensions of ADP-1120A

1.4 Brief Description of the ADP-1XX0A

ADP-1XX0A is a IP65 waterproof front bezel designed plastic housing industrial display, which comes with a 5.6", 7", 8", 10.1", and 12.1" color LCD. The model can be resistive touch screen designed, and also can be projected capacitive touch screen designed for option (not available for 5.6" display). ADP-1XX0A supports wide-ranging 9~36V DC power input, VGA, and DVI input. They all can be VESA 75 x 75 mounted or 100 x 100 mounted. Furthermore, there is OSD keypad on the rear side of the model, and the model is pantone cool gray 11C color designed. The models have more outstanding features, thus giving the best in monitoring and control application.

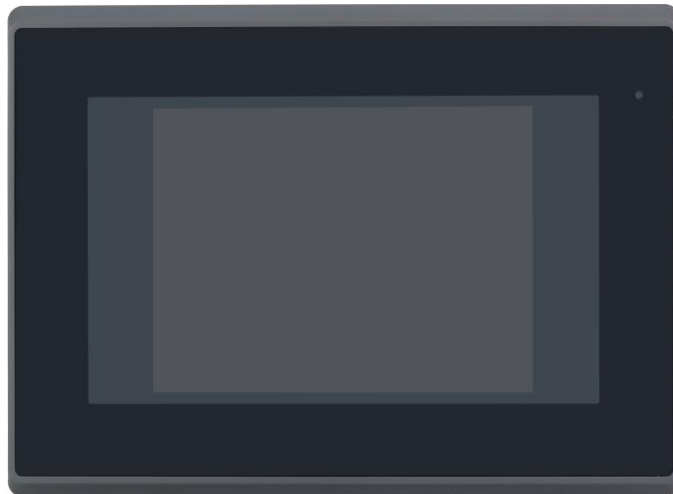


Figure 1.6: Front View of ADP-1050A



Figure 1.7: Rear View of ADP-1050A

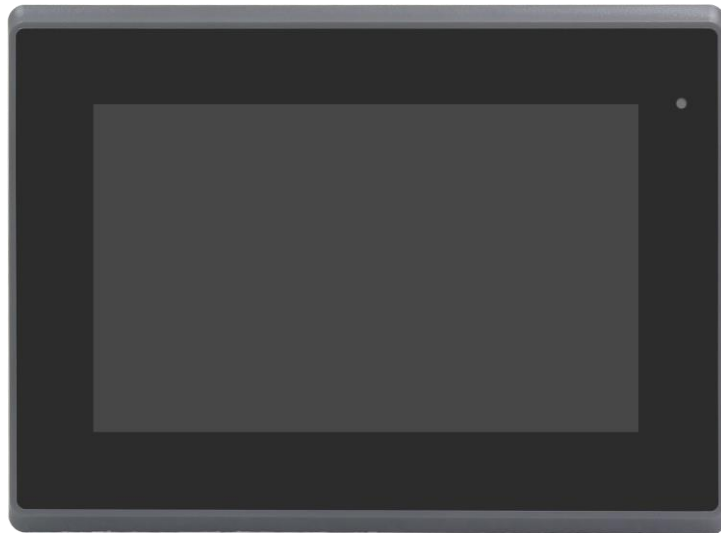


Figure 1.8: Front View of ADP-1070A



Figure 1.9: Rear View of ADP-1070A



Figure 1.10: Front View of ADP-1080A



Figure 1.11: Rear View of ADP-1080A



Figure 1.12: Front View of ADP-1100A



Figure 1.13: Rear View of ADP-1100A

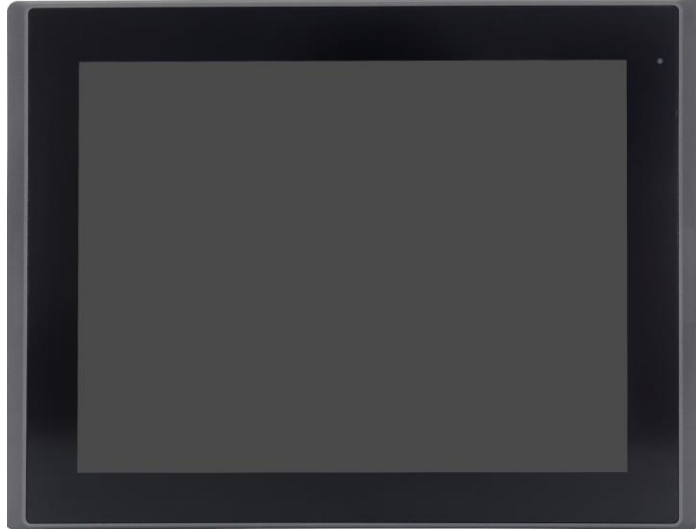


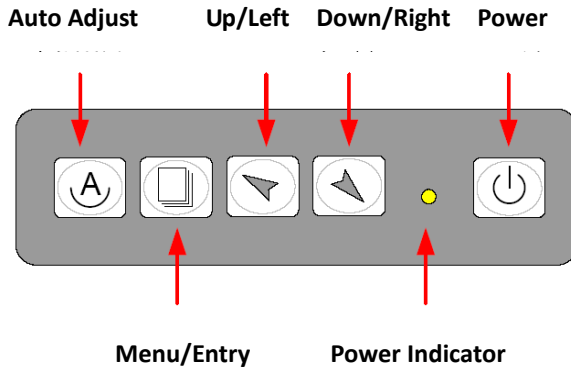
Figure 1.14: Front View of ADP-1120A





Figure 1.15: Front View of ADP-1120A


Chapter 2 _____ OSD

2.1 Front Panel OSD Functions




 Power switch: To turn ON or OFF the power



 Shift the icon to the right side or shift it up

 Shift the icon to the left side or shift it down



 Menu: To enter OSD menu for related icon and item.

 Auto Button: One-touch auto adjustment





1.) Getting into Burn-in Mode

Before setting into a burn-in mode, first disconnect the AC power cord. Then press (don't let them go) the   buttons until the AC power cord is connected and the "RGB" appears on the top left corner of your screen. Now it can be put into the burn-in mode for changing colors.

2.) Getting Out of Burn-in Mode










Before getting out of the burn-in mode, please first disconnect the AC power cord. Then press the  button (if not workable, press the  button and don't let them go) until the AC power cord is connected. Please don't let your fingers go until the AC power cord is connected again and the wording of "RGB" appears on the top left corner of your screen, and wait for 3 seconds. Under the non-signal entry situation, if **Cable Not Connected** is seen, exit is thus successfully made.

When the Burn-in Mode is Unable to Eradicate...

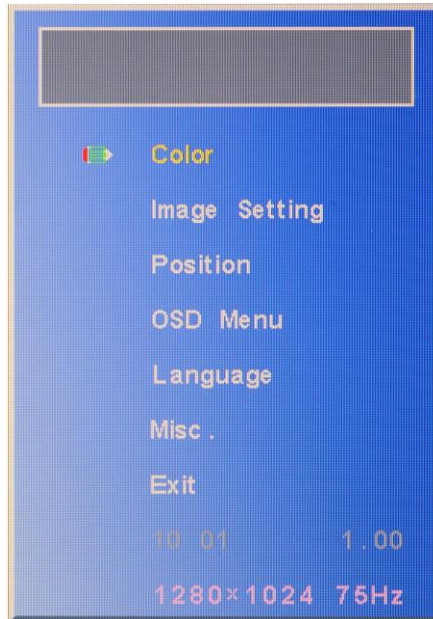
- 1.) If the “RGB” is still on the top left corner of the screen, press  to enter “Miscellaneous” and choose “Reset”, and then **Yes**, and press . When the screen goes black, disconnect power and repeat the above steps.
- 2.) If the “RGB” is not found, disconnect the AC power cord first. Then press the   buttons (don't let them go) until the AC power cord is connected, and wait for 2 to 3 seconds. When “RGB” appears, repeat the above steps.

2.2 OSD Controls

To make any adjustment, select the following:

1. Press  (Menu) to show the OSD menu or disable the OSD menu.
2. Select the icon that you wish to adjust with the ( /  or +/-) key in the menu.
3. Press  (Menu) and then choose the item with the ( /  or +/-) key.
4. Press  (Menu) and then adjust the quality with the ( /  or +/-) key.

2.3 Main Menu



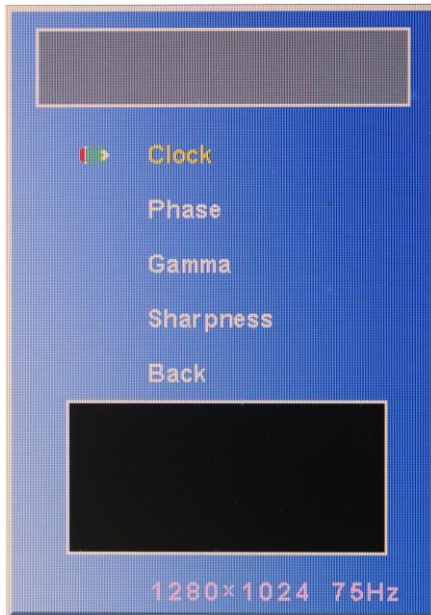
In the **Main menu**, there are the following items:

- Color
- Image Setting
- Position
- OSD Menu
- Language
- Misc.
- Exit



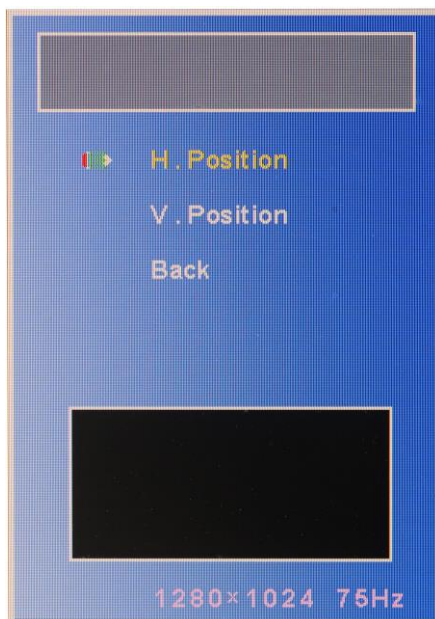
For **Color**, check out the following:

- Contrast
- Brightness
- Color Adjust
- Color Temp
- Back



For **Image setting**, check out the following:

- Clock
- Phase
- Gamma
- Sharpness
- Back



In the **Position**, there are the following:

- H. Position
- V. Position
- Back



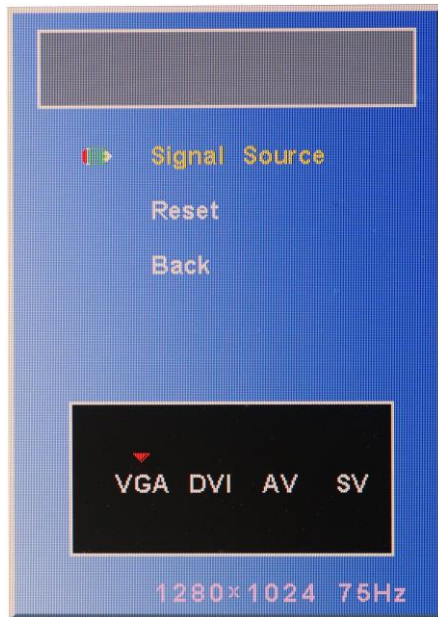
In the **OSD** menu, there are:

- OSD H. Pos.
- OSD V. Pos.
- OSD Timer
- Back



In the **Language** menu, there are:

- English
- Frances
- Germany
- Spanish
- Traditional Chinese
- Simplified Chinese
- Japanese



In the **Misc** menu, there are:

- Signal Source
- Select VGA: Analogue VGA Input
- Select DVI: Digital DVI-D Input
- Select AV: Composite Video Input
- Select SV: S-Video Video Input
- Reset
- Back

Chapter 3 _____ Installation

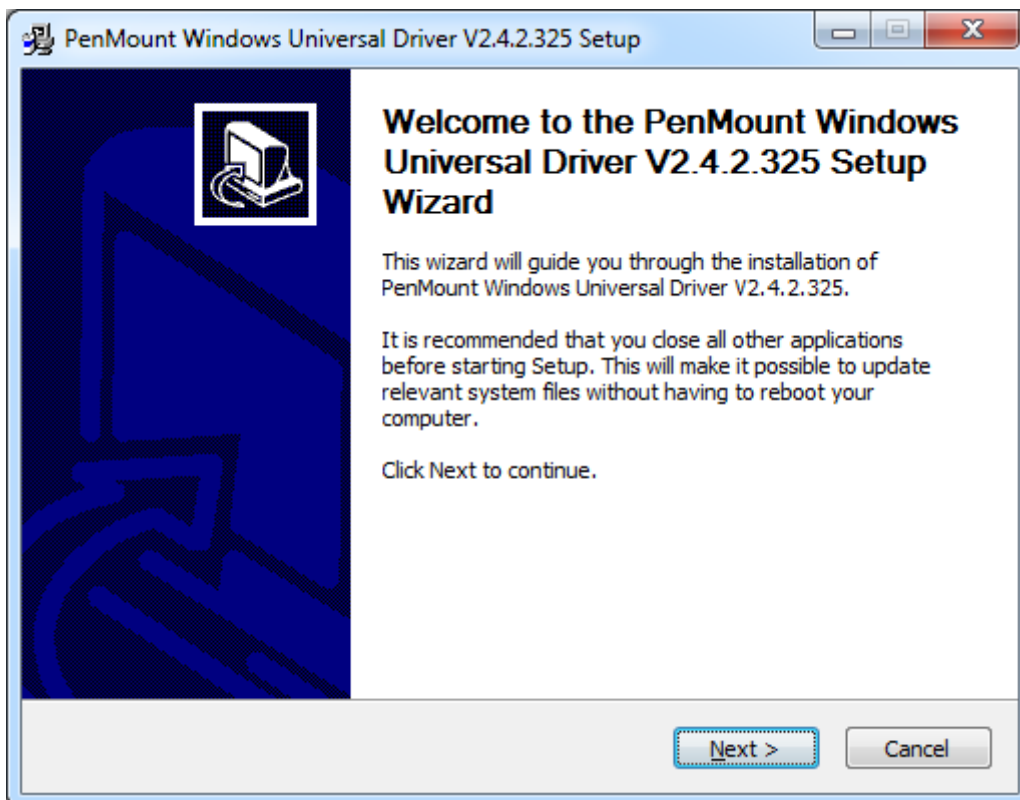
3.1 Windows 7 Universal Driver Installation for PenMount 6000 series

Before installing the Windows 7 driver software, you must have the Windows 7 system installed and running on your computer. You must also have one of the following PenMount 6000 series controller or control boards installed: PM6500, PM6300.

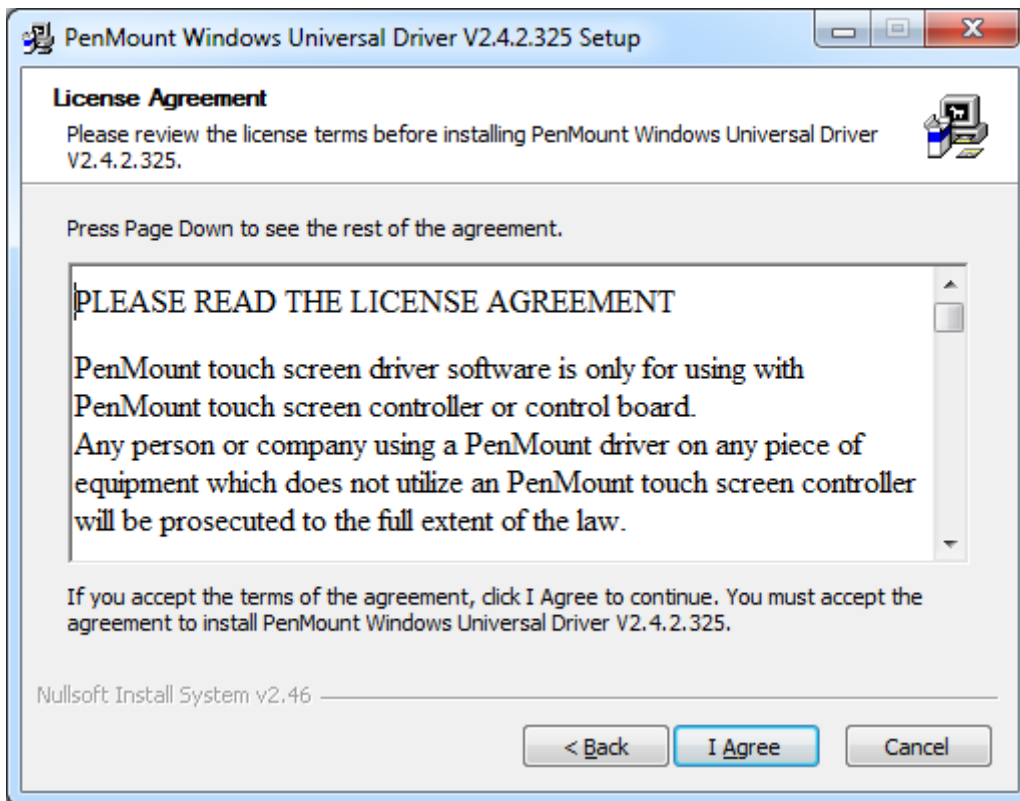
3.1.1 Installing Software(Resistive Touch)

If you have an older version of the PenMount Windows 7 driver installed in your system, please remove it first. Follow the steps below to install the PenMount DMC6000 Windows 7 driver.

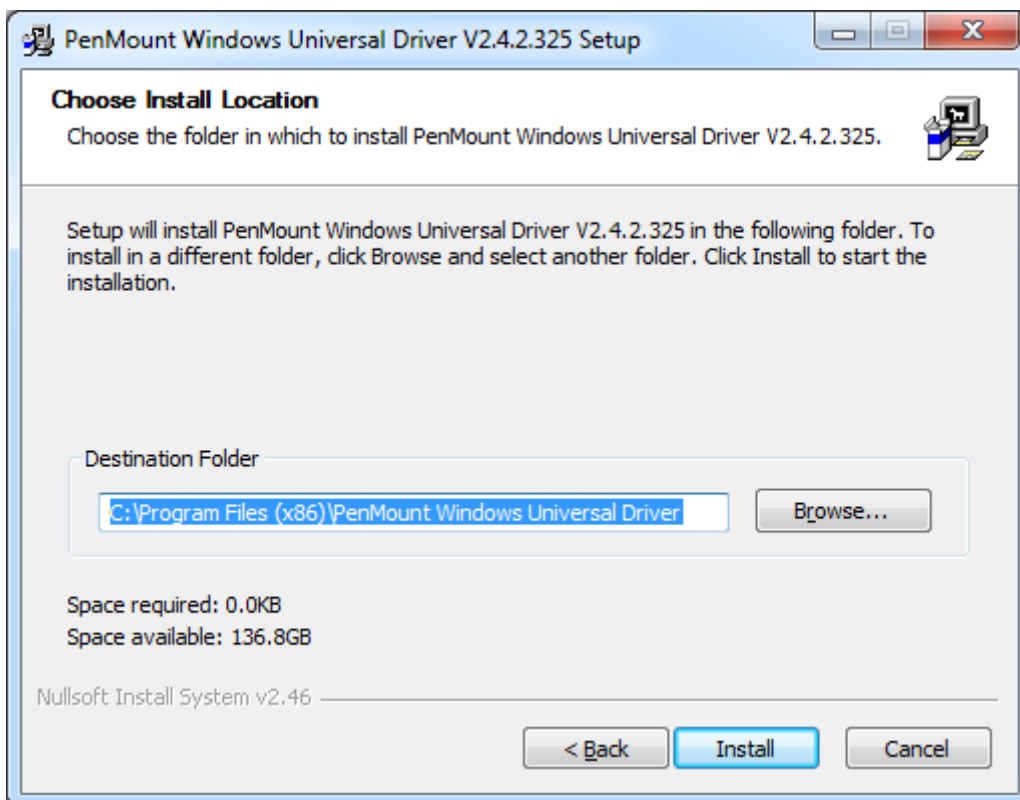
Step 1. Insert the product CD, the screen below would appear. Click **Next** to continue.



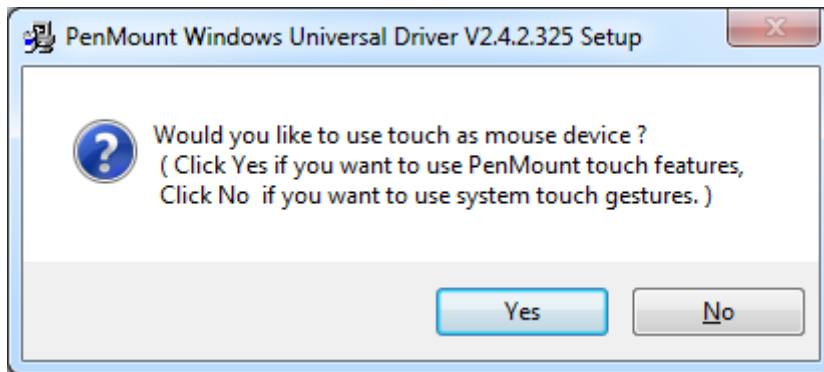
Step 2. Read the license agreement. Click **I Agree** to agree the license agreement.



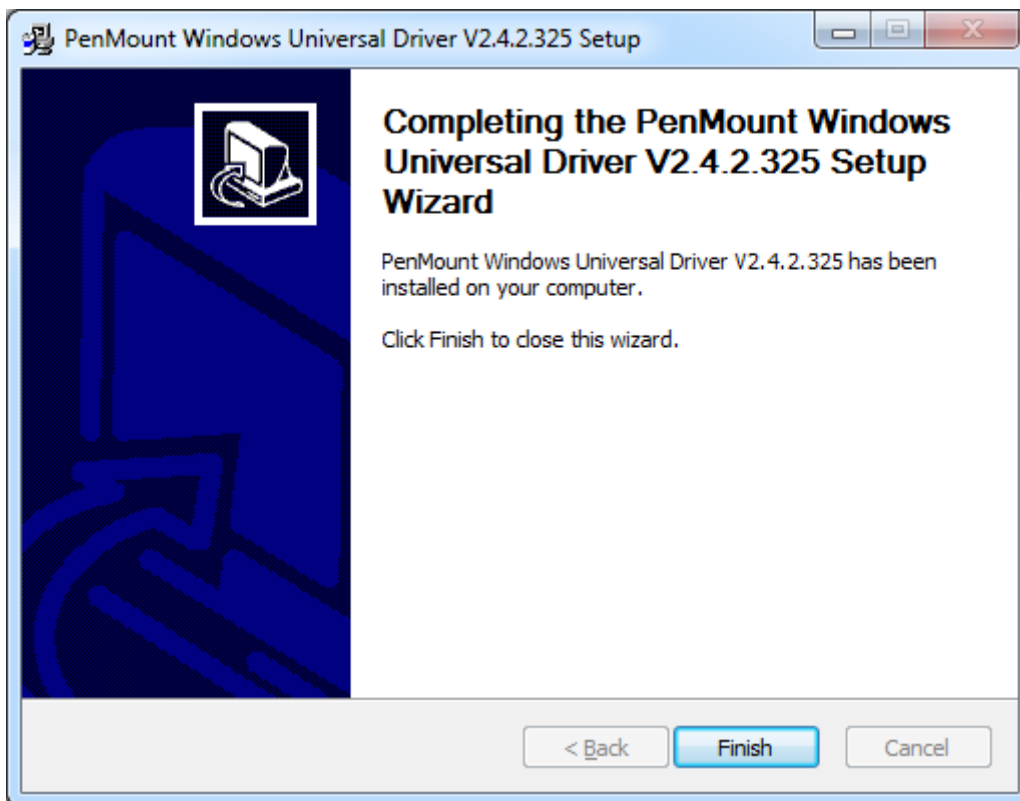
Step 3. Choose the folder in which to install PenMount Windows Universal Driver. Click **Install** to start the installation.



Step 4. Click **Yes** to continue.

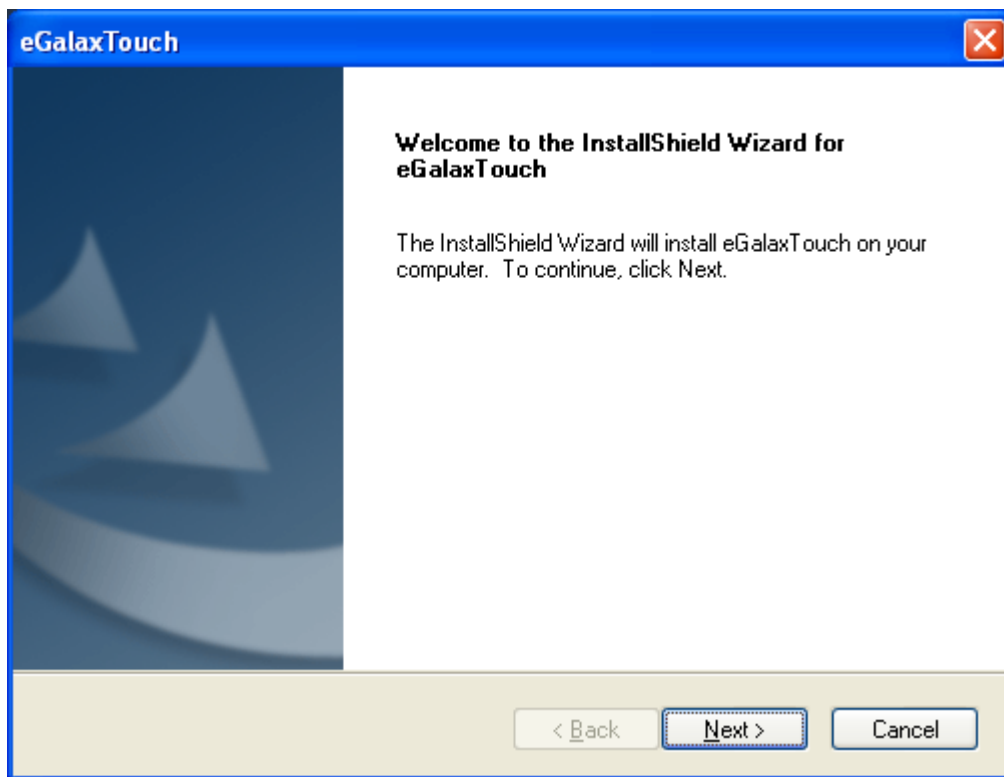


Step 5. Click **Finish** to complete installation.

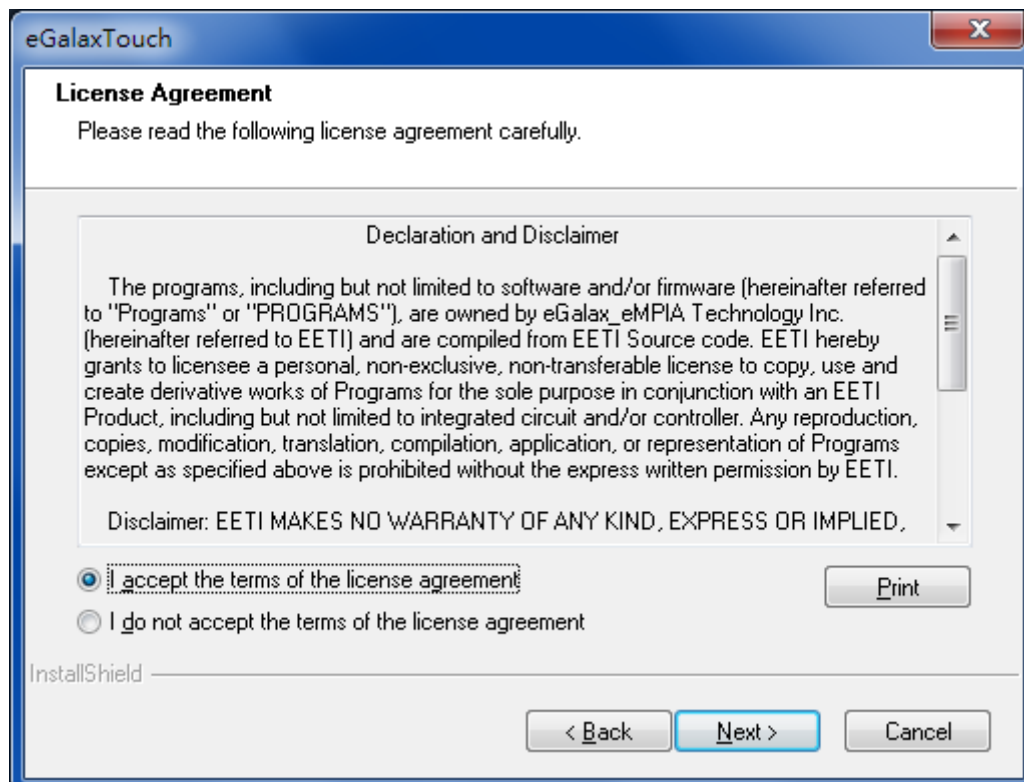


3.1.2 Installing Software (Projected Capacitive)

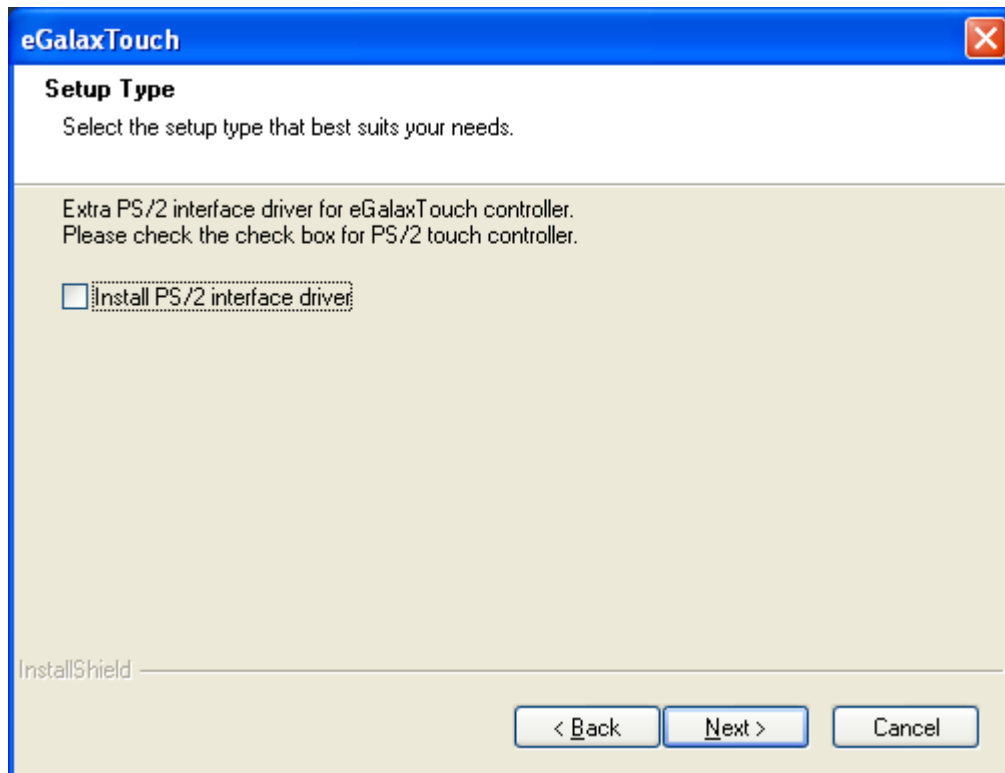
Step 1. Insert the product CD, the screen below would appear. Click **Next** to continue.



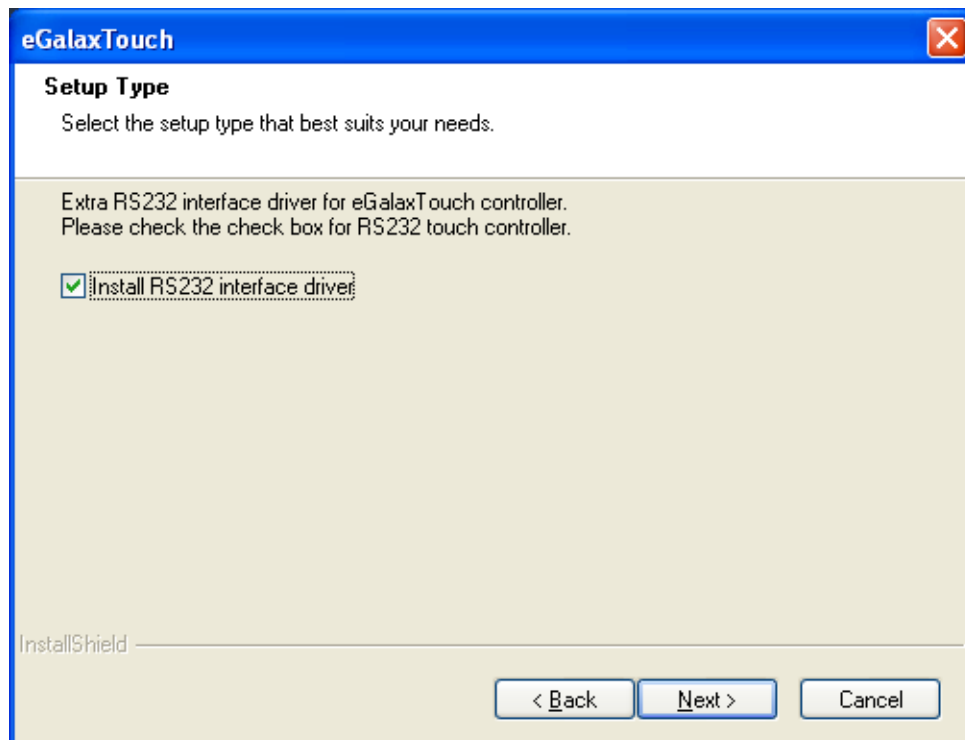
Step 2. Select **I accept the terms of the license agreement.** Click **Next.**



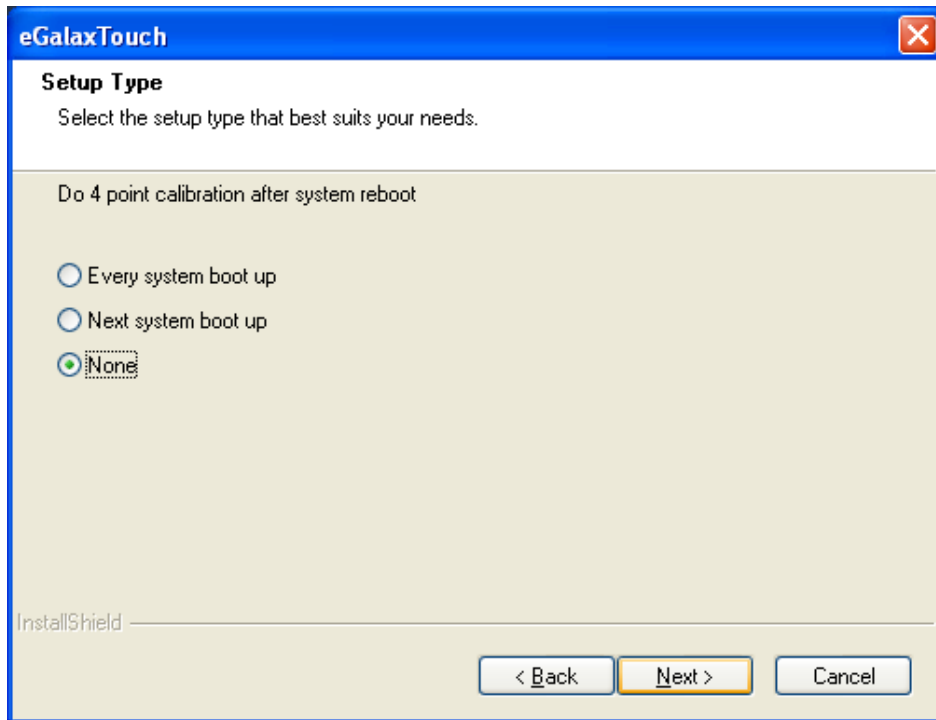
Step 3. Click **Next** to continue.



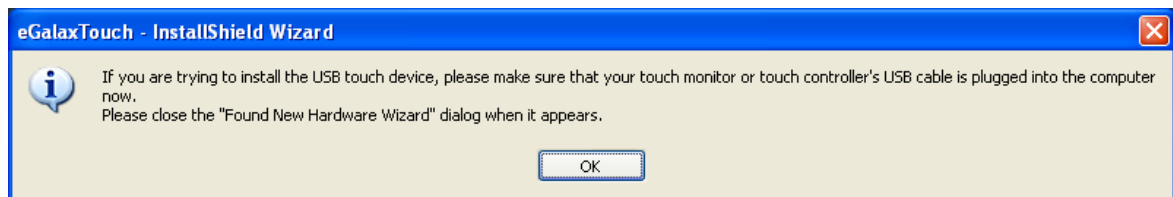
Step 4. Click **Install RS232 interface driver**.



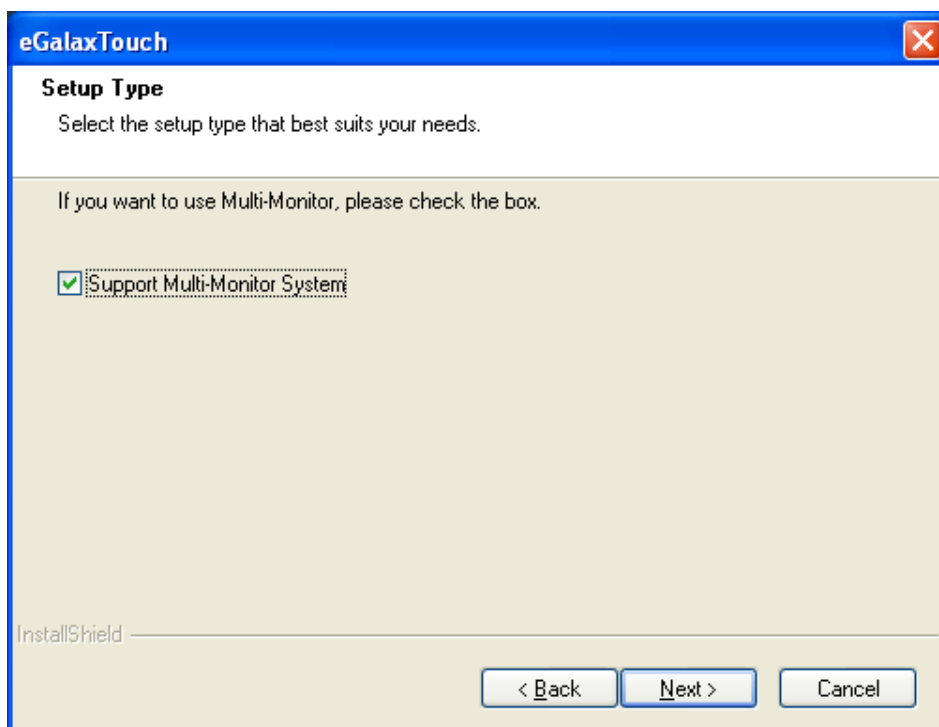
Step 5. Select None. Click Next.



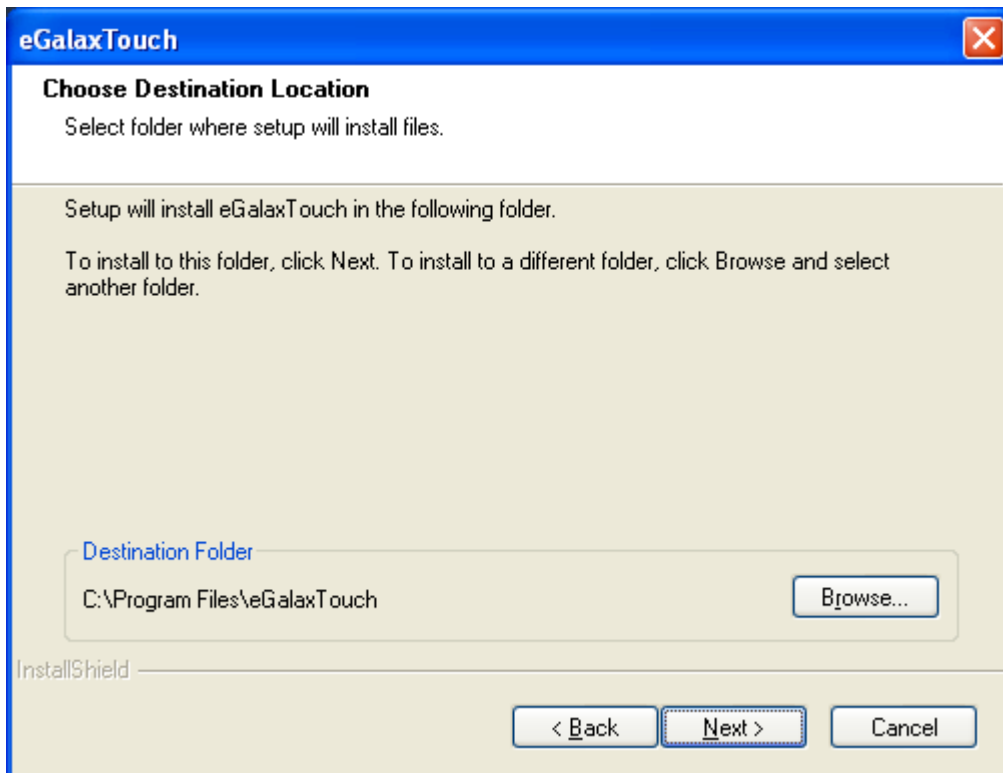
Step 6. Click OK.



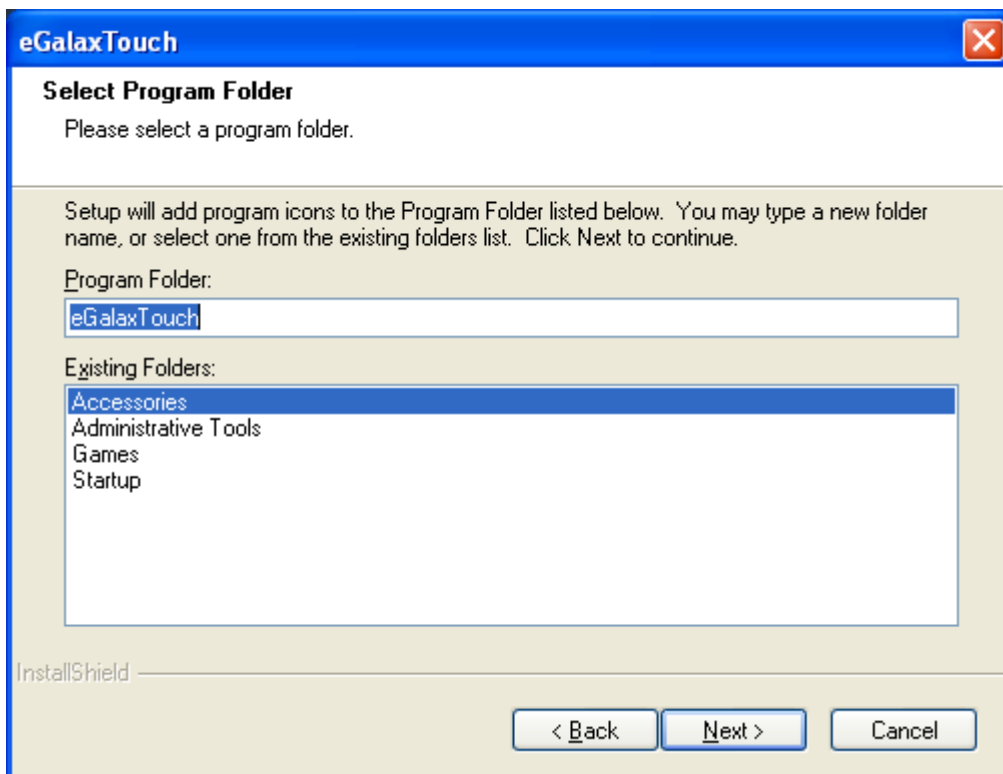
Step 7. Click Support Multi-Monitor System. Click Next.



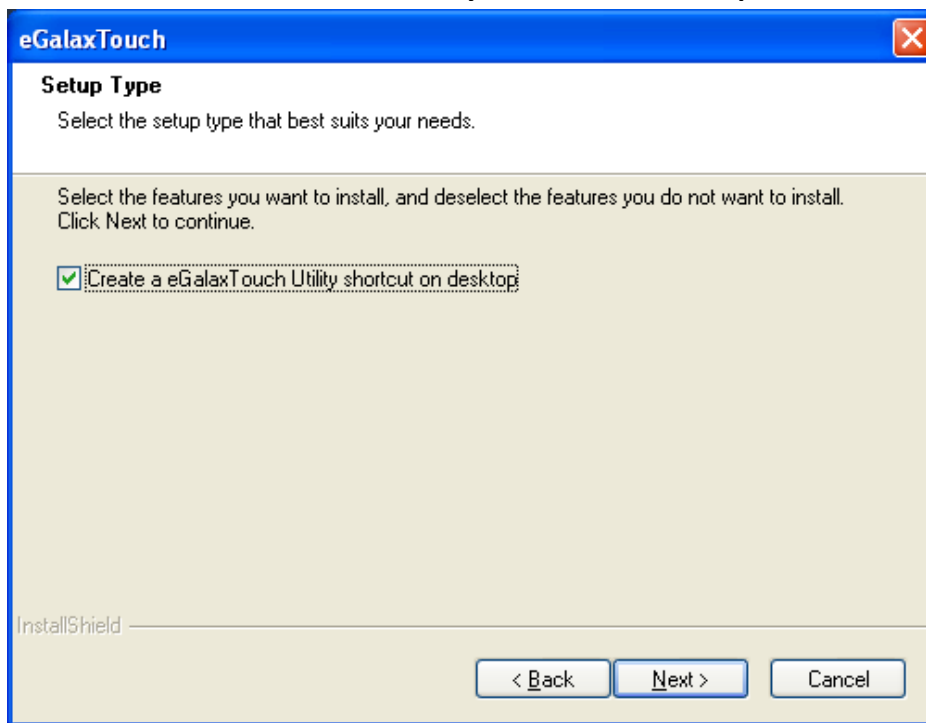
Step 8. Go to **C:\Program Files\eGalaxTouch**. Click **Next**.



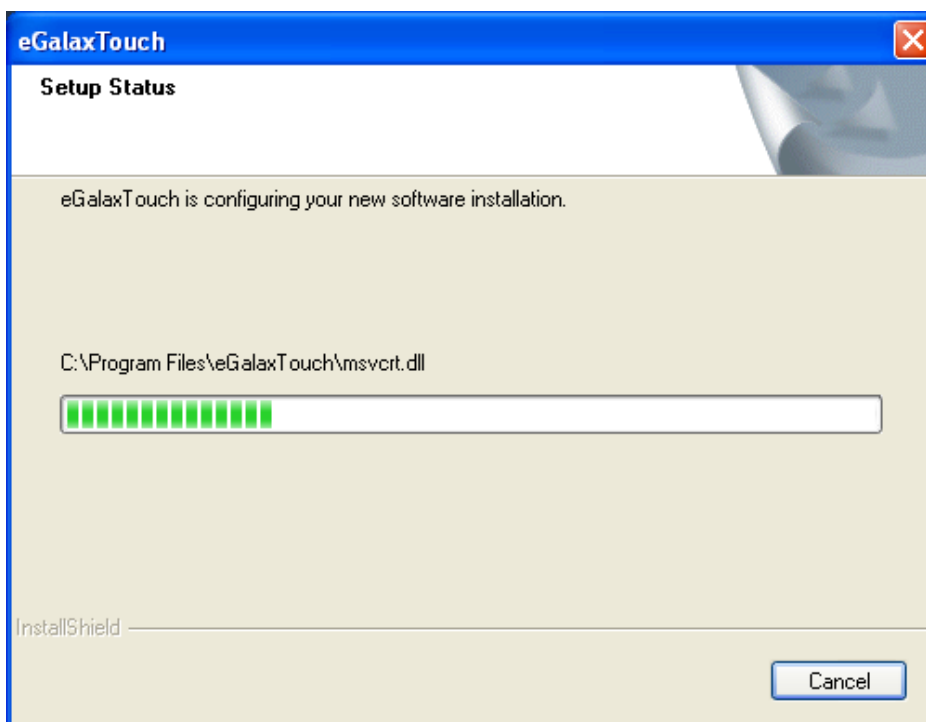
Step 9. Click **Next**.



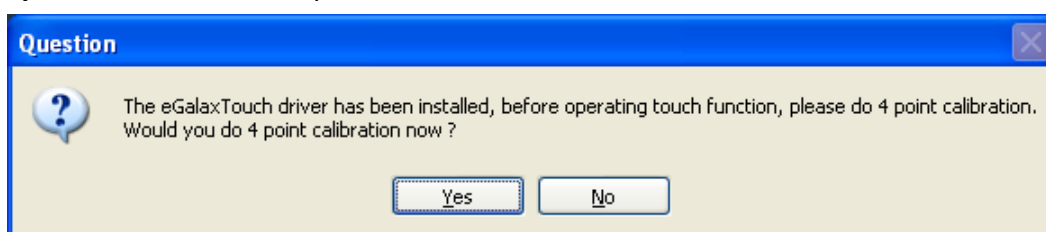
Step 10. Click **Create a eGalaxTouch Utility shortcut on desktop.** Click **Next.**



Step 11. Wait for installation.



Step 14. Click **Yes** to do 4 point calibration.



3.2 Software Functions

3.2.1 Software Functions(Resistive Touch)

After i Upon rebooting, the computer automatically finds the new 6000 controller board. The touch screen is connected but not calibrated. Follow the procedures below to carry out calibration.

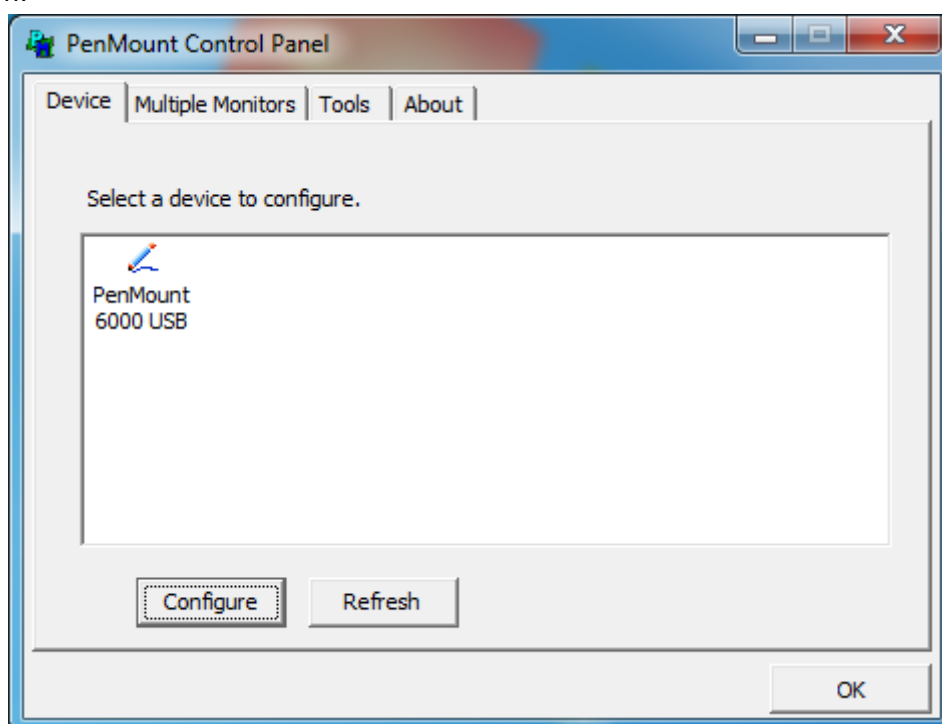
1. After installation, click the PenMount Monitor icon “PM” in the menu bar.
2. When the PenMount Control Panel appears, click “Calibrate”.

PenMount Control Panel(Resistive Touch)

The functions of the PenMount Control Panel are **Calibrate**, **Multiple Monitors**, **Tools**, and **About**, which are explained in the following sections.

Device

In this window, you can find out that how many devices are detected on your system.

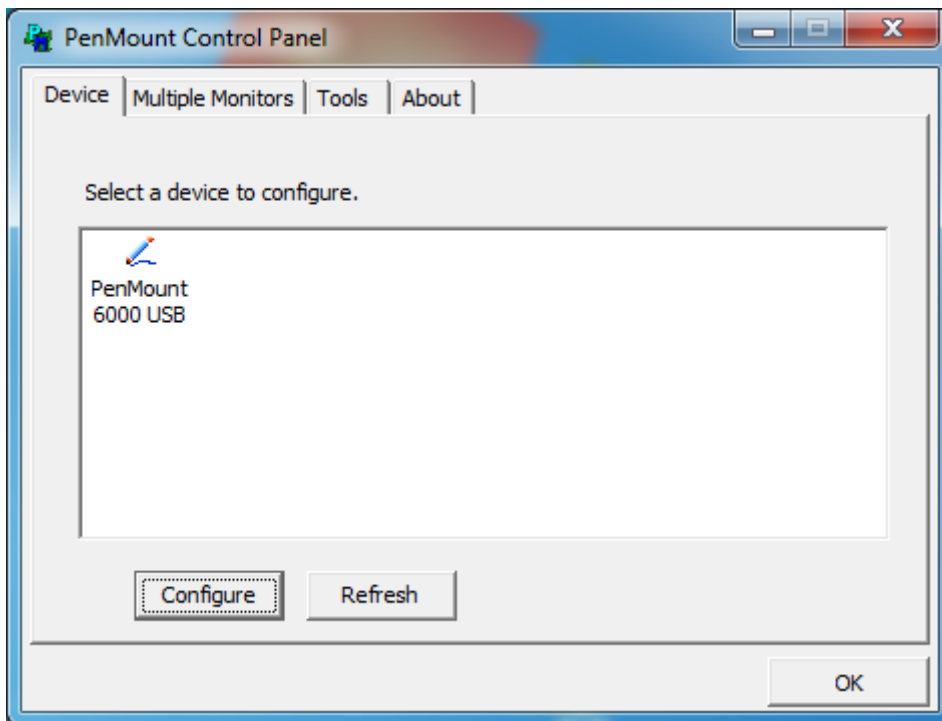


Calibrate

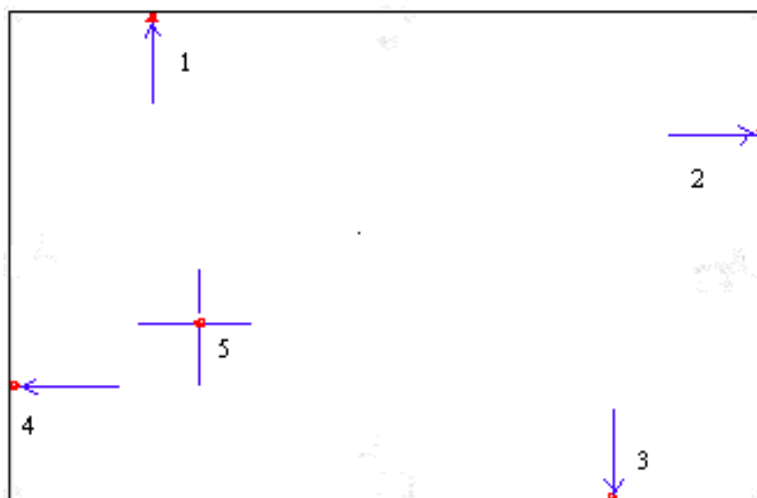
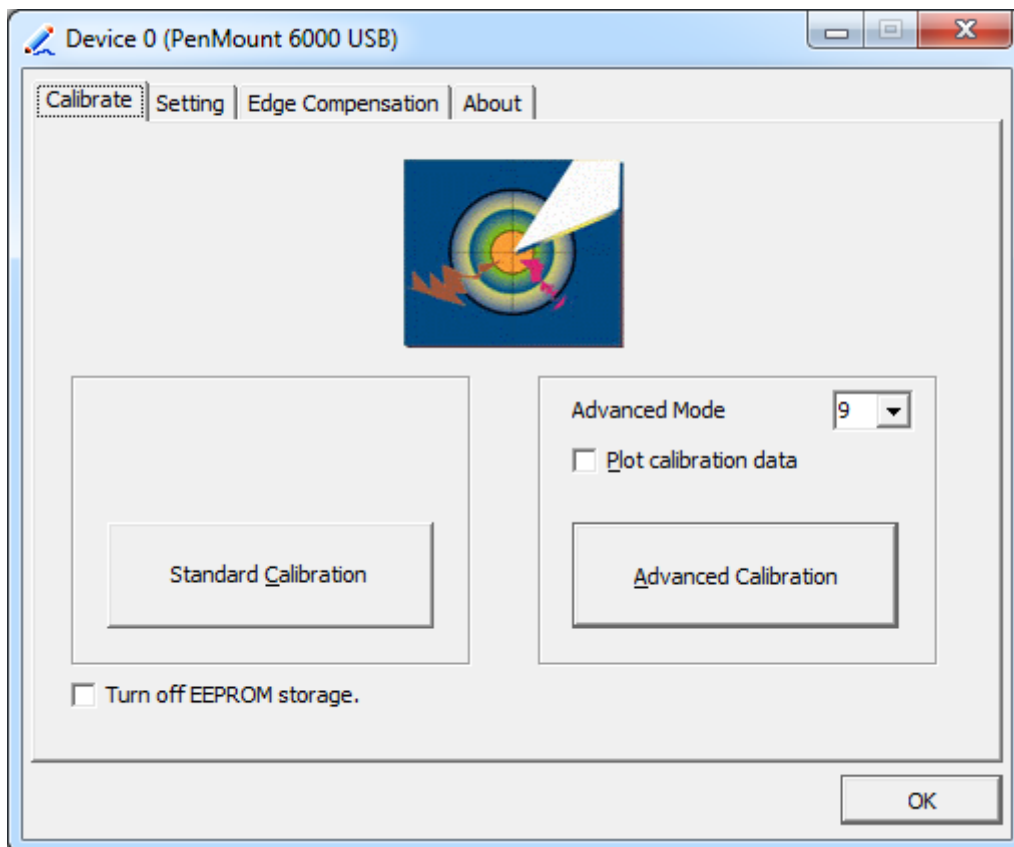
This function offers two ways to calibrate your touch screen. “Standard Calibration” adjusts most touch screens. “Advanced Calibration” adjusts aging touch screens.

Standard Calibration	Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press “ESC”.
Advanced Calibration	Advanced Calibration uses 4, 9, 16 or 25 points to effectively calibrate touch panel linearity of aged touch screens. Click this button and touch the red squares in sequence with a stylus. To skip, press “ESC”.

Step 1. Please select a device then click “Configure”. You can also double click the device too.

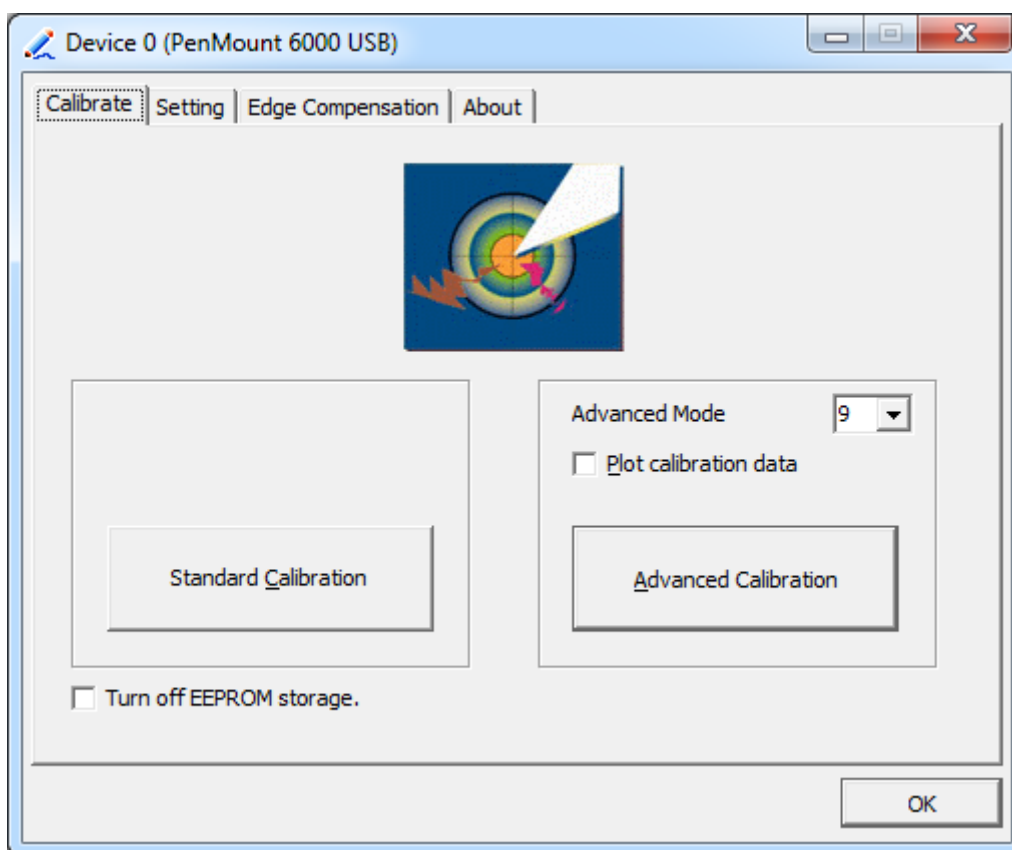


Step 2. Click **Standard Calibration** to start calibration procedure.



NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:

Step 3. Select **Device** to calibrate, then you can start to do **Advanced Calibration**.

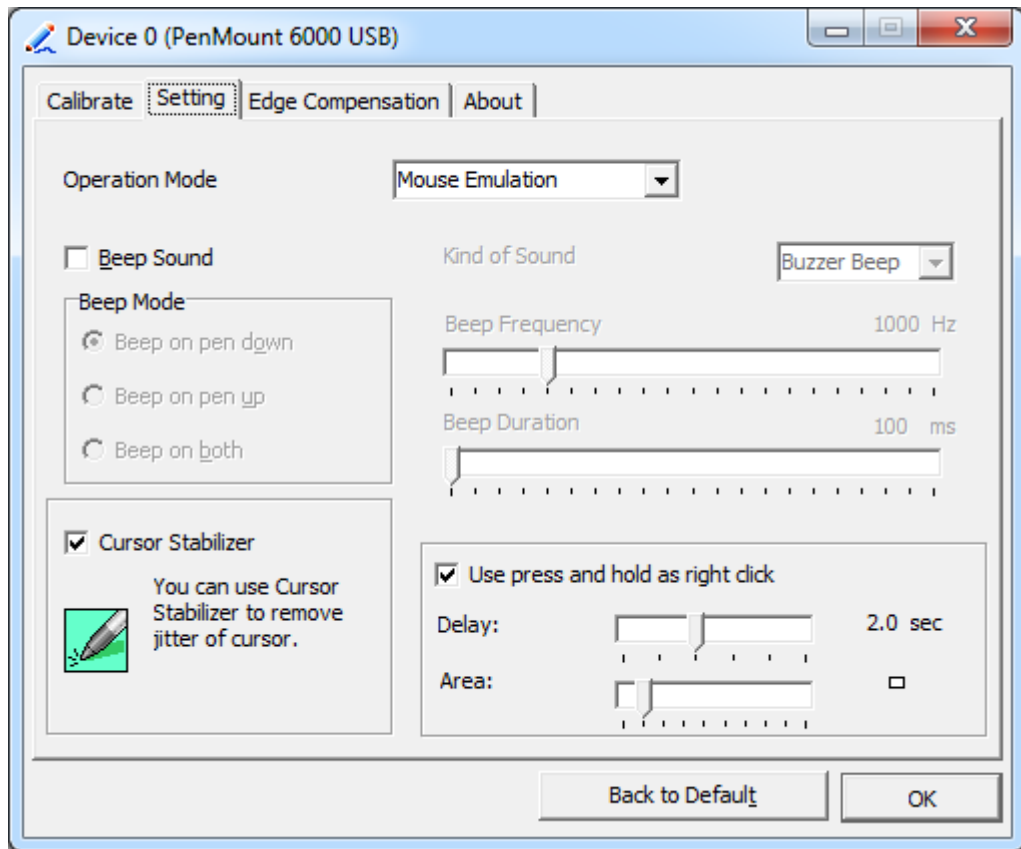


NOTE: Recommend to use a stylus during Advanced Calibration for greater accuracy.



Plot Calibration Data	Check this function and a touch panel linearity comparison graph appears when you have finished Advanced Calibration. The blue lines show linearity before calibration and black lines show linearity after calibration.
Turn off EEPROM storage	The function disable for calibration data to write in Controller. The default setting is Enable.

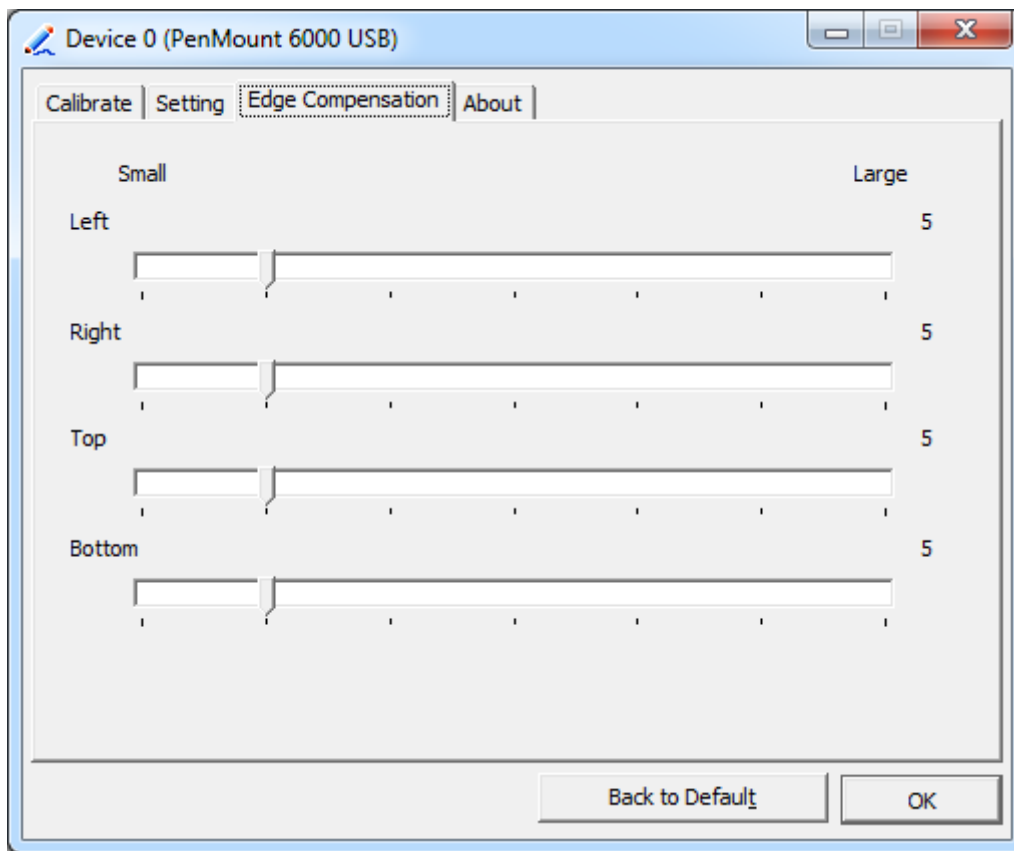
Setting



Touch Mode	<p>This mode enables and disables the mouse’s ability to drag on-screen icons – useful for configuring POS terminals.</p> <p>Mouse Emulation – Select this mode and the mouse functions as normal and allows dragging of icons.</p> <p>Click on Touch – Select this mode and mouse only provides a click function, and dragging is disables.</p>
Beep Sound	<p>Enable Beep Sound – turns beep function on and off</p> <p>Beep on Pen Down – beep occurs when pen comes down</p> <p>Beep on Pen Up – beep occurs when pen is lifted up</p> <p>Beep on both – beep occurs when comes down and lifted up</p> <p>Beep Frequency – modifies sound frequency</p> <p>Beep Duration – modifies sound duration</p>
Cursor Stabilizer	<p>Enable the function support to prevent cursor shake.</p>
Use press and hold as right click	<p>You can set the time out and area for you need.</p>

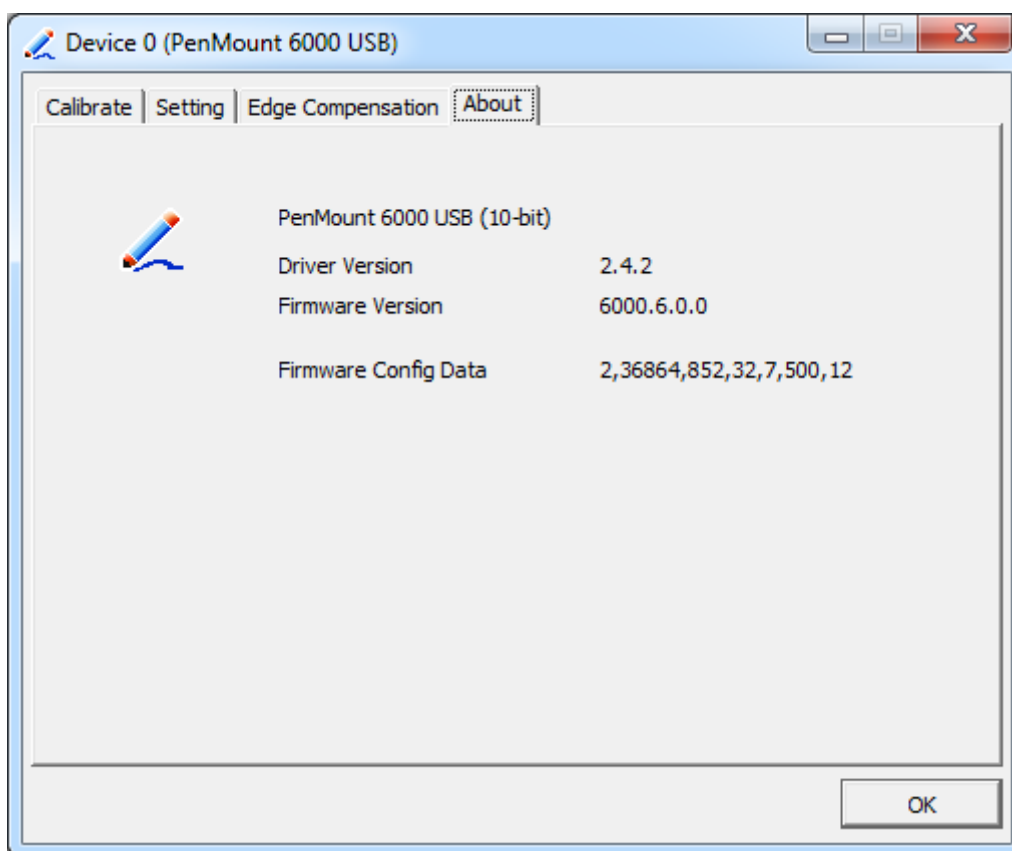
Edge Compensation

You can use Edge Compensation to calibrate more subtly.



About

This panel displays information about the PenMount controller and driver version.



Multiple Monitors

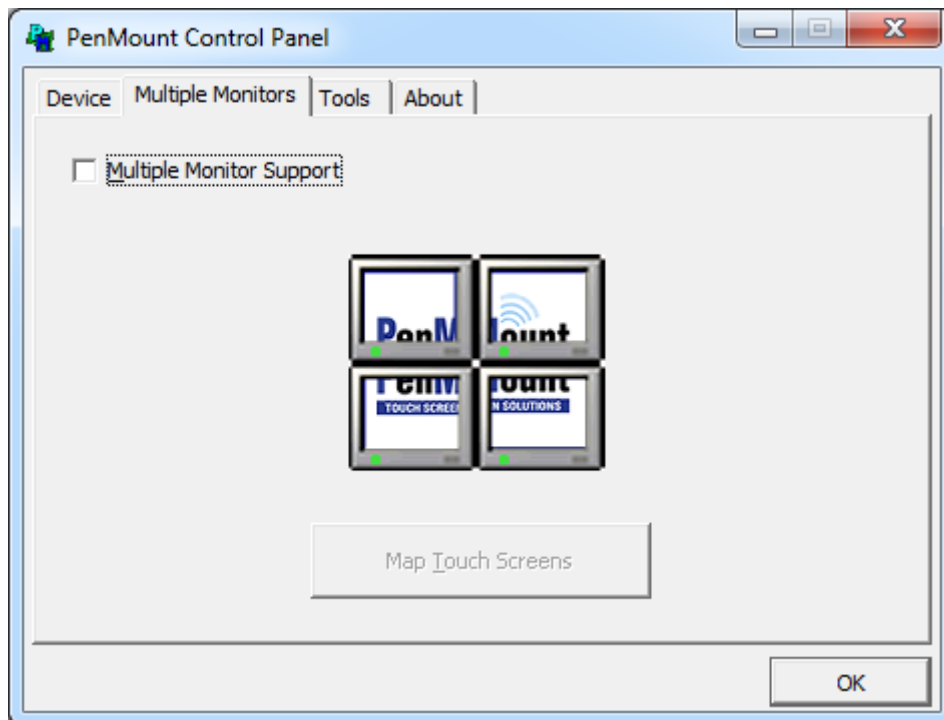
Multiple Monitors support from two to six touch screen displays for one system. The PenMount drivers for Windows 7 support Multiple Monitors. This function supports from two to six touch screen displays for one system. Each monitor requires its own PenMount touch screen control board, either installed inside the display or in a central unit. The PenMount control boards must be connected to the computer COM ports via the USB interface. Driver installation procedures are the same as for a single monitor. Multiple Monitors support the following modes:

- Windows Extends Monitor Function
- Matrox DualHead Multi-Screen Function
- nVidia nView Function

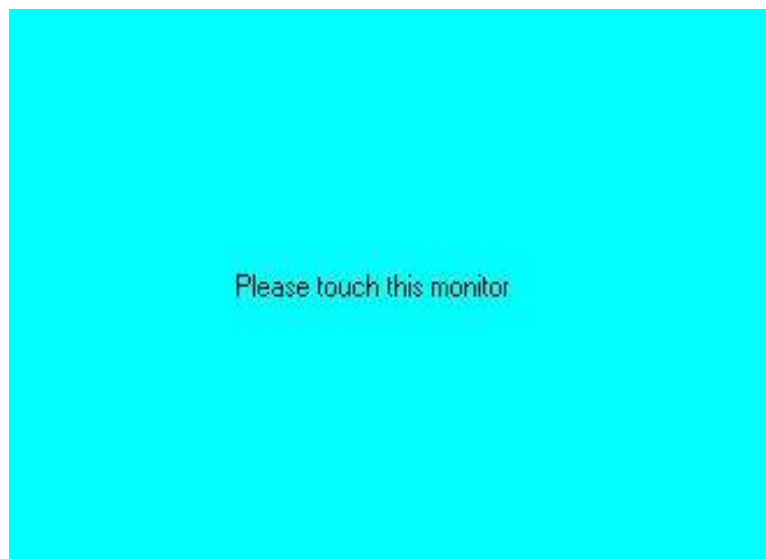
NOTE: The Multiple Monitor function is for use with multiple displays only. Do not use this function if you have only one touch screen display. Please note once you turn on this function the rotating function is disabled.

Enable the multiple display function as follows:

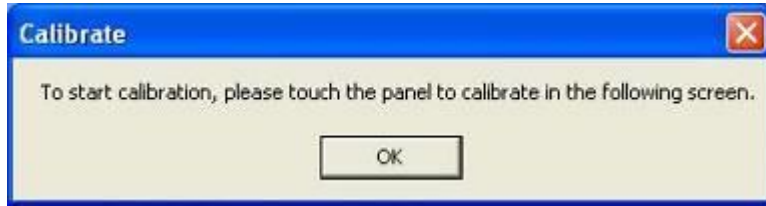
1. Check the **Multiple Monitor Support** box; then click **Map Touch Screens** to assign touch controllers to displays.



2. When the mapping screen message appears, click **OK**.
3. Touch each screen as it displays “Please touch this monitor”. Following this sequence and touching each screen is called **mapping the touch screens**.



4. Touching all screens completes the mapping and the desktop reappears on the monitors.
5. Select a display and execute the “Calibration” function. A message to start calibration appears. Click **OK**.



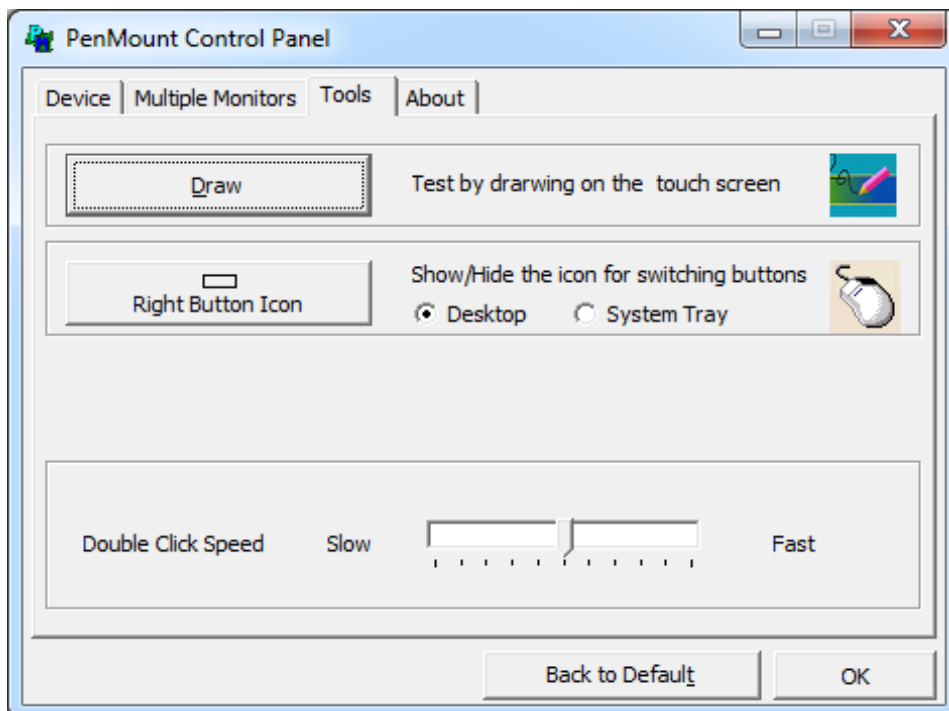
6. "Touch this screen to start its calibration" appears on one of the screens. Touch the screen.
7. "Touch the red square" messages appear. Touch the red squares in sequence.
8. Continue calibration for each monitor by clicking **Standard Calibration** and touching the red squares.

NOTES:

1. If you use a single VGA output for multiple monitors, please do not use the **Multiple Monitor** function. Just follow the regular procedure for calibration on each of your desktop monitors.
2. The Rotating function is disabled if you use the Multiple Monitor function.
3. If you change the resolution of display or screen address, you have to redo **Map Touch Screens**, so the system understands where the displays are.

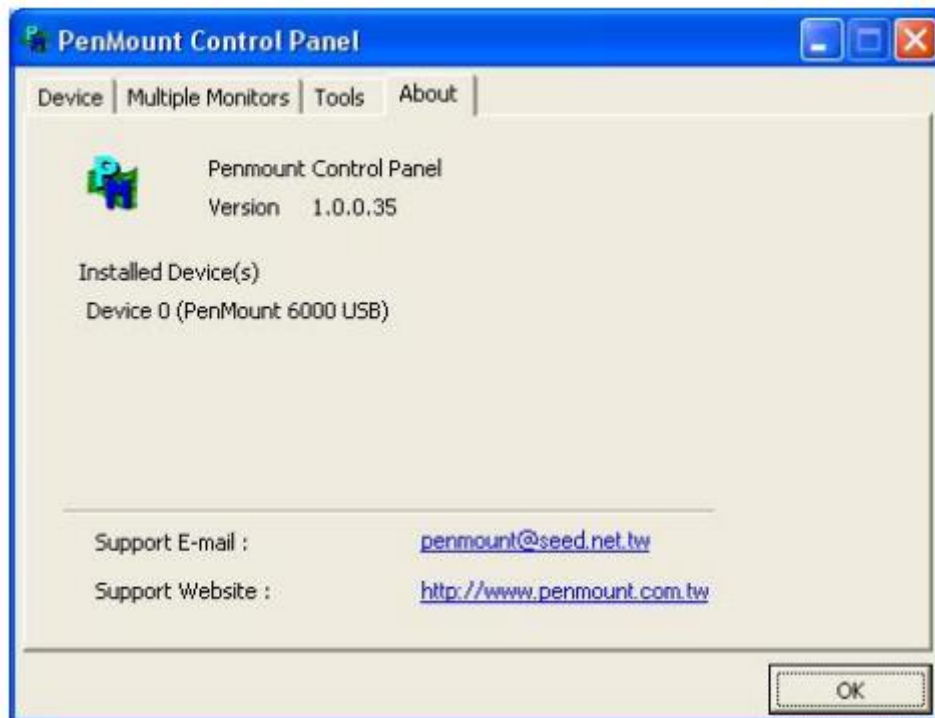
Tools

Draw	Tests or demonstrates the PenMount touch screen operation.
Right Button Icon	Enable right button function. The icon can show on Desktop or System Tray (menu bar).



About

This panel displays information about the PenMount controller and this driver version.




PenMount Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows 7 system when you turn on the PenMount Monitor in the PenMount Utilities.



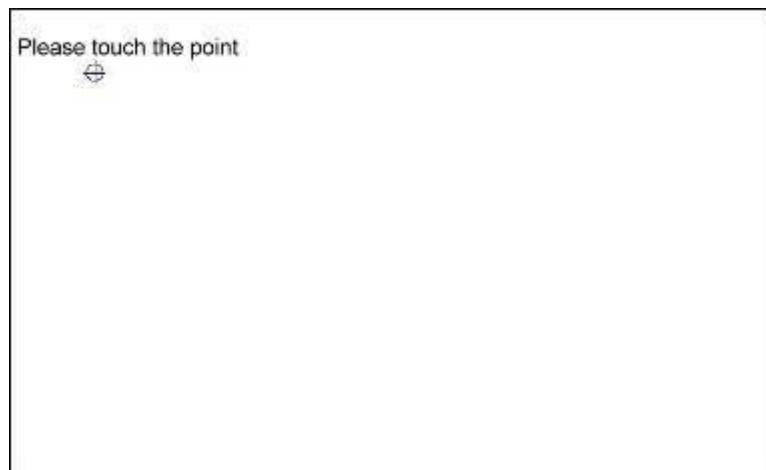
The PenMount Monitor has the following functions:



Control Panel	Open Control Panel Windows
Beep	Setting Beep function for each device
Right Button	<p>When you select this function, a mouse icon appears in the right-bottom of the screen.</p>  <p>Click this icon to switch between Right and Left Button functions.</p>
Exit	Exits the PenMount Monitor function.

Configuring the Rotation Function

1. Install the rotation software package.
2. Choose the rotating function (0°, 90°, 180°, 270°) in the 3rd party software. The calibration screen appears automatically. Touch this point and rotation is mapped.

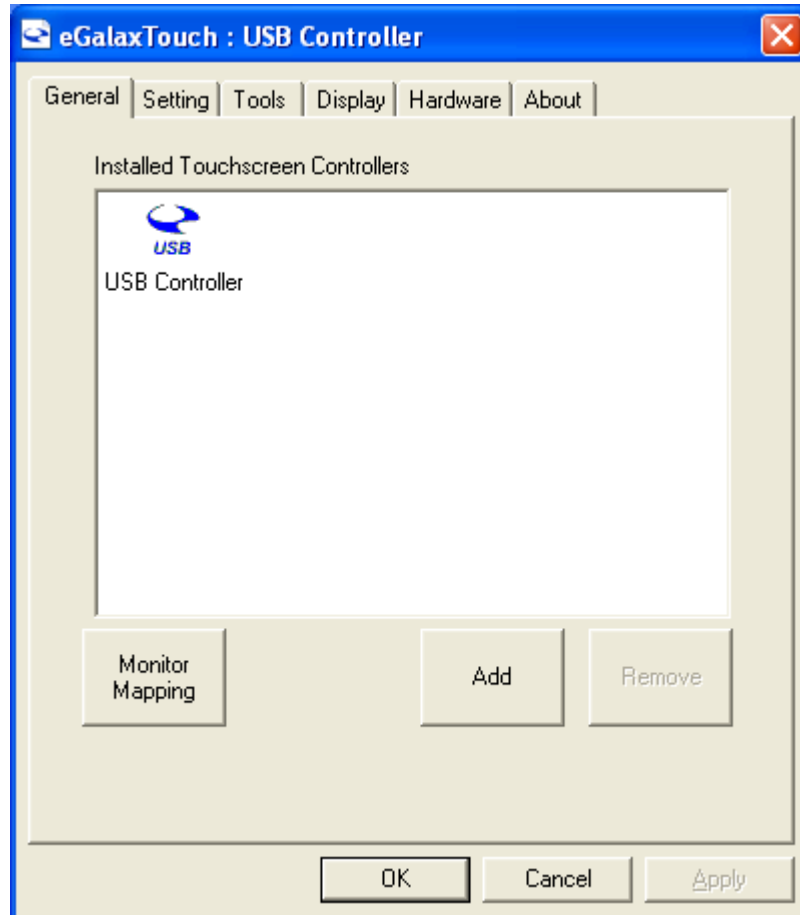


NOTE: The rotating function is disabled if you use Monitor Mapping

3.2.2 Software Functions(Projected Capacitive)

General

In this window, you can see there is USB Controller. Click **OK** to continue.



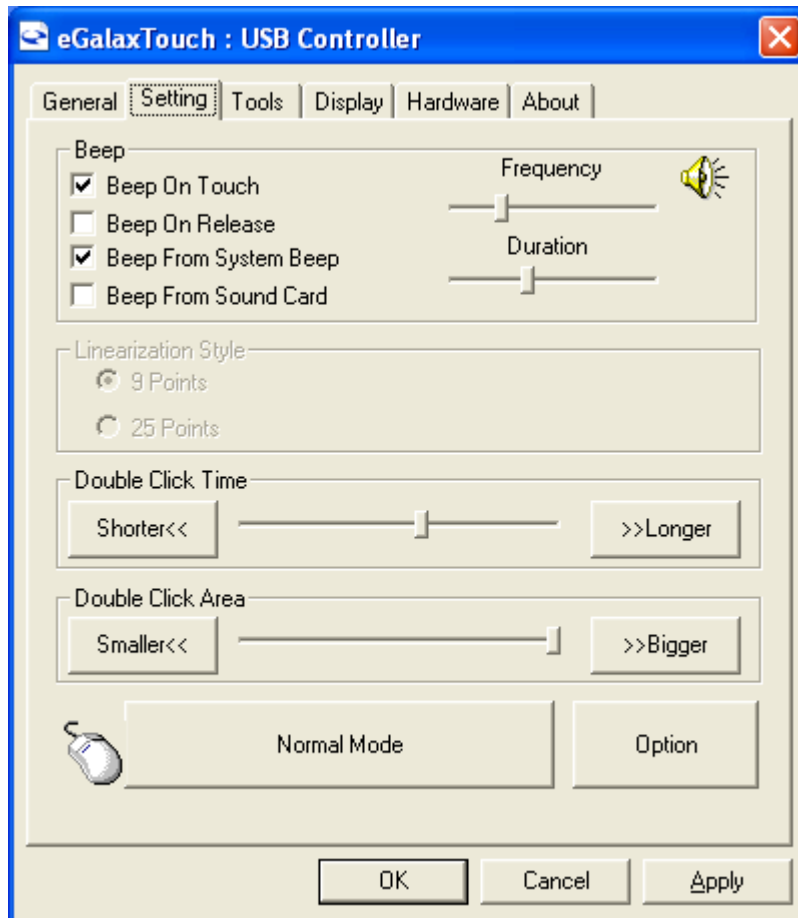
Monitor Mapping

to adjust touch panel

Add

to search for device

Setting



Beep

- Beep On Touch
- Beep On Release
- Beep From System Beep
- Beep From Sound Card

Linearization Style

- 9 points
- 25 points

Double Click Time

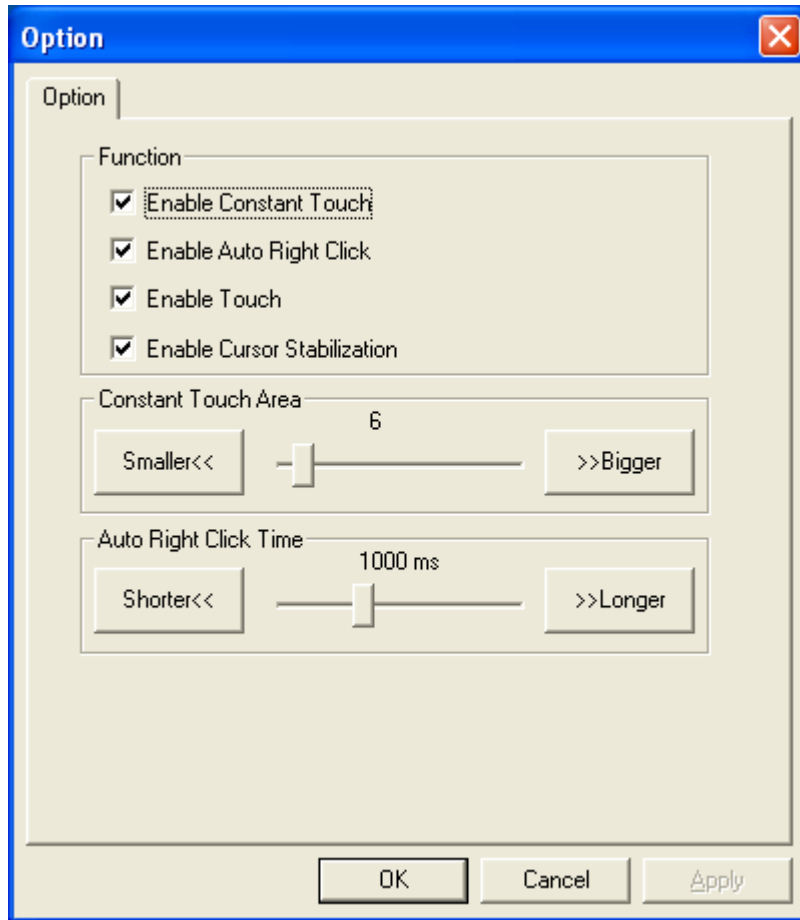
- Shorter
- Longer

Double Click Area

- Smaller
- Bigger

Normal mode

- Simulate the mouse mode



Option

Function

Enable Constant Touch

Enable Auto Right Click

Enable Touch

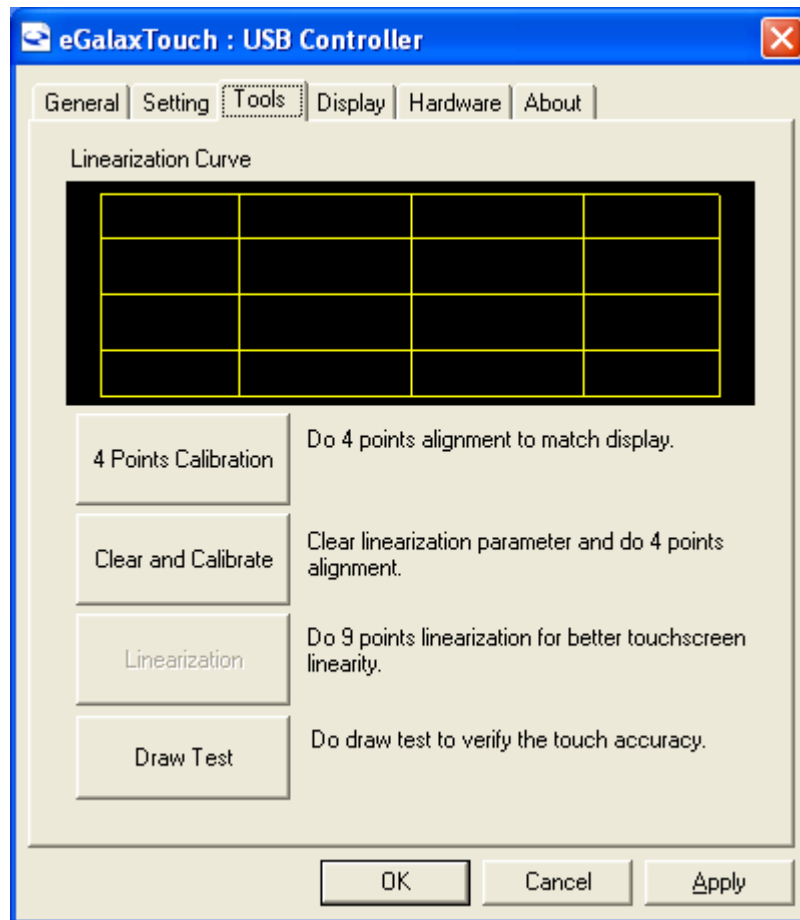
Enable Cursor Stabilization

Constant Touch Area

Auto Right Click Time

Tools

Click **OK** to continue the settings.



4 Points Calibration

Do 4 points alignment to match display.

Clear and Calibrate

Clear linearization parameter and do 4 points alignment.

Linearization

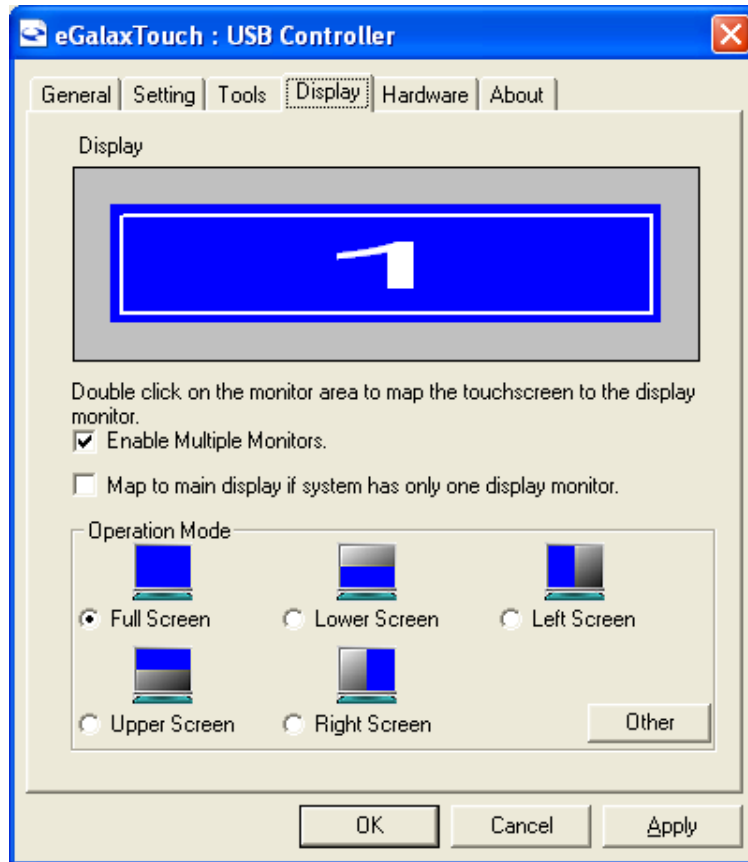
Do 9 points linearization for better touchscreen linearity.

Draw Test

Do draw test to verify the touch accuracy.

Display

In this window, it shows the mode of display.



Enable Multiple Monitors.

Map to main display if system has only one display monitor

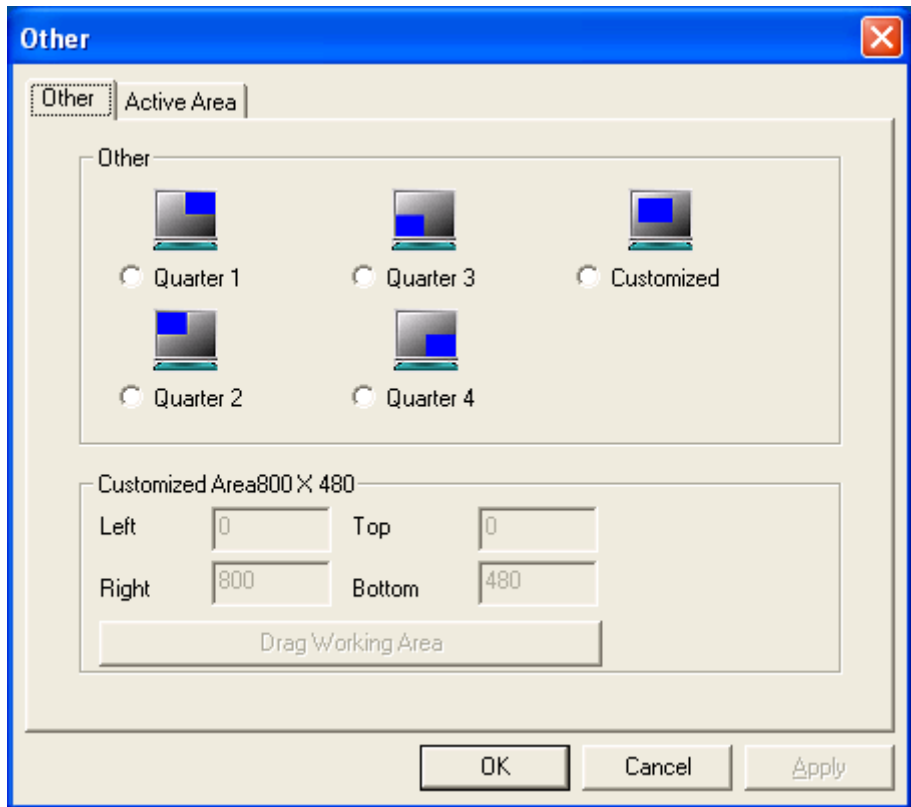
Full Screen

Lower Screen

Left Screen

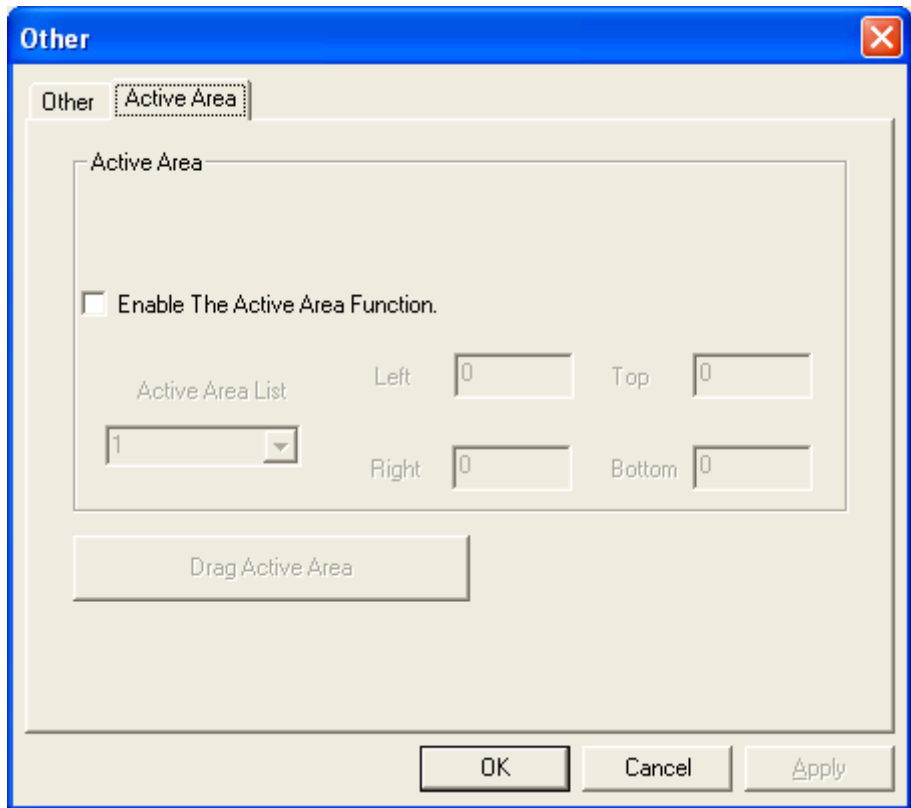
Upper Screen

Right Screen



Other

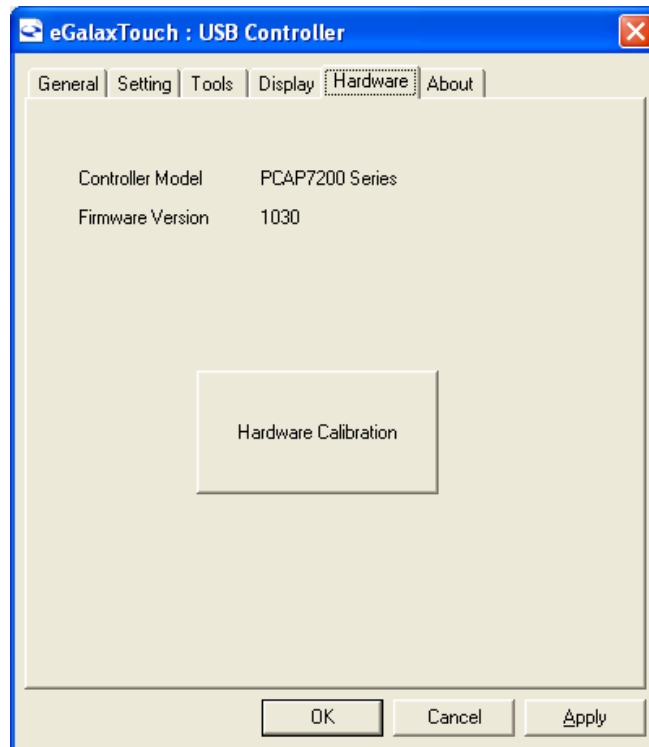
Other mode of display. Quarter1~4 and Customized area.



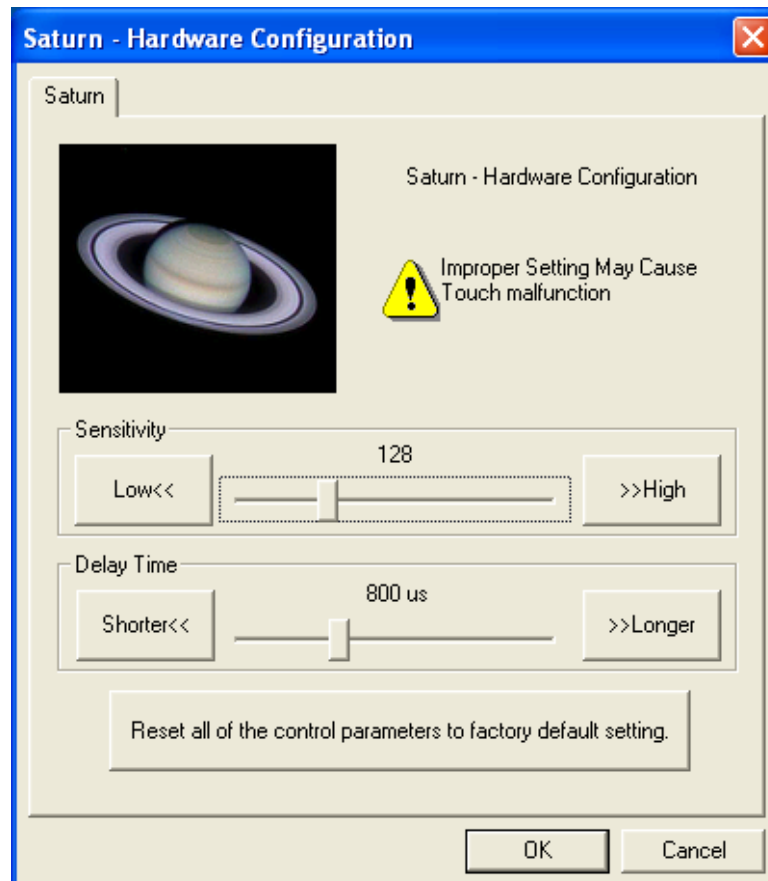
Active Area

Drag active area to enable Active Area Function.

Hardware



Saturn Hardware Configuration



About

To display information about eGalaxTouch and its version.

