ARCDIS-1XXA Series

12.1”, 15”, 15.6”, 17”, 18.5”, 19”, and 21.5” Front Panel IP66 / IP69K(option)
Aluminum Die-casting Chassis Display with TB-6029 AD Board

User Manual

Release Date	Revision
Feb. 2018	V1.5

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Aplex Technology, Inc.
15F-1, No.186, Jian Yi Road, Zhonghe District, New Taipei City 235, Taiwan
Tel: 886-2-82262881 Fax: 886-2-82262883 URL: http://www.aplextec.com/zh/home.php

Revision History

Reversion	Date	Description
0.1	2017/01/17	For Preliminary Release
1.0	2017/03/16	Official Version
1.1	2017/04/19	● Operating temperature ● Power consumption for 119AP/121AP
1.2	2017/07/25	● Modify IP65 to IP66/IP69K
1.3	2017/10/23	● Modify IP69K for option ● Modify DVI to DVI-D ● Modify LCD spec. for 12.1”, 15” ● Add auto dimming images
1.4	2017/12/11	● Add vibration/shock
1.5	2018/2/14	● Modify LCD description

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

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Table of Contents

Revision History……1
Warning!……2

Chapter 1 Getting Started

1.1 Features……5
1.2 Specifications……5
1.3 Dimensions……8
1.4 Brief Description of ARCDIS-1XXA Series……12

Chapter 2 OSD

2.1 AD Board OSD Functions……19
2.2 OSD Controls……20
2.3 Main Menu……21

Chapter 3 Installation

3.1 Windows 7 Universal Driver Installation for PenMount 6000 Series……26
3.2 Software Functions……34

Appendix A: Board Dimensions

Board Dimensions……52

Appendix B: Panel Mounting and VESA Mounting

Panel mounting and VESA mounting……53

Figures

Figure 1.1: Dimensions of ARCDIS-112APRG(H)……8
Figure 1.2: Dimensions of ARCDIS-115APRG(H)……8
Figure 1.3: Dimensions of ARCDIS-116APRG(H)……9

Figure 1.4: Dimensions of ARCDIS-117APRG(H).....9
Figure 1.5: Dimensions of ARCDIS-118APRG(H).....10
Figure 1.6: Dimensions of ARCDIS-119APRG(H).....10
Figure 1.7: Dimensions of ARCDIS-121APRG(H).....11
Figure 1.8: Front View of ARCDIS-112APRG(H).....12
Figure 1.9: Rear View of ARCDIS-112APRG(H).....12
Figure 1.10: Front View of ARCDIS-115APRG(H).....13
Figure 1.11: Rear View of ARCDIS-115APRG(H).....13
Figure 1.12: Front View of ARCDIS-116APRG(H).....14
Figure 1.13: Rear View of ARCDIS-116APRG(H).....14
Figure 1.14: Front View of ARCDIS-117APRG(H).....15
Figure 1.15: Rear View of ARCDIS-117APRG(H).....15
Figure 1.16: Front View of ARCDIS-118APRG(H).....16
Figure 1.17: Rear View of ARCDIS-118APRG(H).....16
Figure 1.18: Front View of ARCDIS-119APRG(H).....17
Figure 1.19: Rear View of ARCDIS-119APRG(H).....17
Figure 1.20: Front View of ARCDIS-121APRG(H).....18
Figure 1.21: Rear View of ARCDIS-121APRG(H).....18
Figure A: Dimensions of TB-6029.....52
Figure B: Panel mounting and VESA mounting.....53

Chapter 1 Getting Started

1.1 Features

- Solid aluminum die-casting chassis
- Variety of LCD panel size selections
- IP66 / **IP69K(option)** compliant front panel
- VGA, DVI-D, HDMI, and DP input
- Wide range DC 9~36V power input
- High Brightness LCD and Auto Dimming for optional
- Support protective AR glass for option (non-touch version)

1.2 Specifications

	ARCDIS-1XXA Series
Outside I/O Port	
VGA	1
DVI-D	1
DP	1
HDMI	1
Audio	1 x audio line-in phone jack
OSD control	OSD on the rear side
LED Light	1 x system power LED light **(not available for 19")**
Speaker	1 x speaker for option
Power	1 x 3-pins terminal block for DC 9~36V power input
Others	1 x USB type A for touch control 1 x RS-232 DB-9 for touch control for option
Power	
Power Input	DC 9~36V
Touch Screen	
Type	Resistive touch window (for R model) Projected capacitive touch screen (for P model) Protective AR glass with non-touch version(for G model)
Interface	USB RS-232 for option **(Only for resistive touch model)**
Light Transmission	Resistive touch window: over 80%

	Projected capcitive touch screen: over 90%
Mechanical	
Construction	Aluminum die-casting chassis
Mounting	Panel mount / VESA mount 100 x 100
IP Rating	IP66/**IP69K(option)** compliant front panel
Environmental	
Operating temperature	0~50°C -20~60°C is optional for 12.1" and 15" model **(0~40°C only for 21.5" High brightness model)**
Storage temperature	-30~70°C
Storage humidity	10 to 90% @ 40°C, non- condensing
Vibration	1G / 5~500Hz (Random) / Operation
Shock	15G peak acceleration (11 msec. duration) / Operation
Certification	CE / FCC Class A

- **Power Consumption and Mechanical Specifications**

	ARCDIS-112APRG(H)	**ARCDIS-115APRG(H)**	**ARCDIS-116APRG(H)**	**ARCDIS-117APRG(H)**
Power Consumption				
Power Consumption	MAX: 7.9W(112AR) MAX: 12.8W(112AP)	MAX: 12.5W(115AR) MAX: 17.6W(115AP)	MAX: 12.2W(116AR) MAX: 12.3W(116AP)	MAX: 11.6W(117AR) MAX: 27.3W(117AP)
Mechanical				
Dimensions(mm)	319 x 245 x 51.6	410 x 310 x 54.6	412 x 277.5 x 58.9	439 x 348 x 64.8
Net Weight	2.7 Kg	4.3 Kg	4.4 Kg	5.9 Kg

	ARCDIS-118APRG(H)	**ARCDIS-119APRG(H)**	**ARCDIS-121APRG(H)**
Power Consumption			
Power Consumption	MAX: 19.7W (118AR) MAX: 30.2W (118AP)	MAX: 16.8W (119AR) MAX: 18.3W (119AP)	MAX: 18.3W(121AR) MAX: 24.9W (121AP)
Mechanical			
Dimensions(mm)	499.6 x 314.6 x 59.9	468 x 380 x 64.8	557 x 362 x 64.8
Net Weight	6.4 Kg	6.2 kg	7.6 kg

- **Standard LCD**

	ARCDIS-112APRG	**ARCDIS-115APRG**	**ARCDIS-116APRG**
Dipslay			
Display Type	12.1" color TFT LCD	15" color TFT LCD	15.6" color TFT LCD

Max. Resolution	800 x 600	1024 x 768	1024 x 768	1366 x 768
Max. Colors	16.2M	16.2M	262K	16.7M
Contrast Ratio	1500: 1	700: 1	800: 1	500: 1
Luminance(cd/m^2)	450	500	420	300
Viewing Angle	178(H) / 178(V)	160(H) / 140(V)	160(H) / 160(V)	160(H) / 160(V)
Backlight Lifetime	50,000 hrs	30,000 hrs	30,000 hrs	50,000 hrs

	ARCDIS-117APRG	ARCDIS-118APRG	ARCDIS-119APRG	ARCDIS-121APRG
Dipslay				
Display Type	17” color TFT LCD	18.5” color TFT LCD	19” color TFT LCD	21.5” color TFT LCD
Max. Resolution	1280 x 1024	1366 x 768	1280 x 1024	1920 x 1080
Max. Colors	16.2M	16.7M	16.7M	16.7M
Contrast Ratio	1000: 1	1000: 1	1000: 1	3000: 1
Luminance(cd/m^2)	350	300	350	250
Viewing Angle	170(H) / 160(V)	170(H) / 160(V)	170(H) / 165(V)	178(H) / 178(V)
Backlight Lifetime	30,000 hrs	50,000 hrs	50,000 hrs	30,000 hrs

- **High Brightness LCD (Option)**

	ARCDIS-112APRGH		ARCDIS-115APRGH	ARCDIS-116APRGH
Dipslay				
Display Type	12.1” color TFT LCD		15” color TFT LCD	15.6” color TFT LCD
Max. Resolution	800 x 600	1024 x 768	1024 x 768	1366 x 768
Max. Colors	16.2M	16.2M	16.2M	16.7M
Contrast Ratio	700: 1	700: 1	800: 1	500: 1
Luminance(cd/m^2)	1000	1000	1000	1000
Viewing Angle	178(H) / 178(V)	160(H) / 140(H)	160(H) / 160(V)	160(H) / 160(V)
Backlight Lifetime	50,000 hrs	50,000 hrs	30,000 hrs	50,000 hrs

	ARCDIS-117APRGH	ARCDIS-118APRGH	ARCDIS-119APRGH	ARCDIS-121APRGH
Dipslay				
Display Type	17” color TFT LCD	18.5” color TFT LCD	19” color TFT LCD	21.5” color TFT LCD
Max. Resolution	1280 x 1024	1366 x 768	1280 x 1024	1920 x 1080
Max. Colors	16.7M	16.7M	16.7M	16.7M
Contrast Ratio	1000: 1	1000: 1	1000: 1	3000: 1

Luminance(cd/m^2)	1000	1000	1000	1000
Viewing Angle	170(H) / 160(V)	170(H) / 160(V)	170(H) / 160(V)	178(H) / 178(V)
Backlight Lifetime	50,000 hrs	50,000 hrs	50,000 hrs	50,000 hrs

1.3 Dimensions

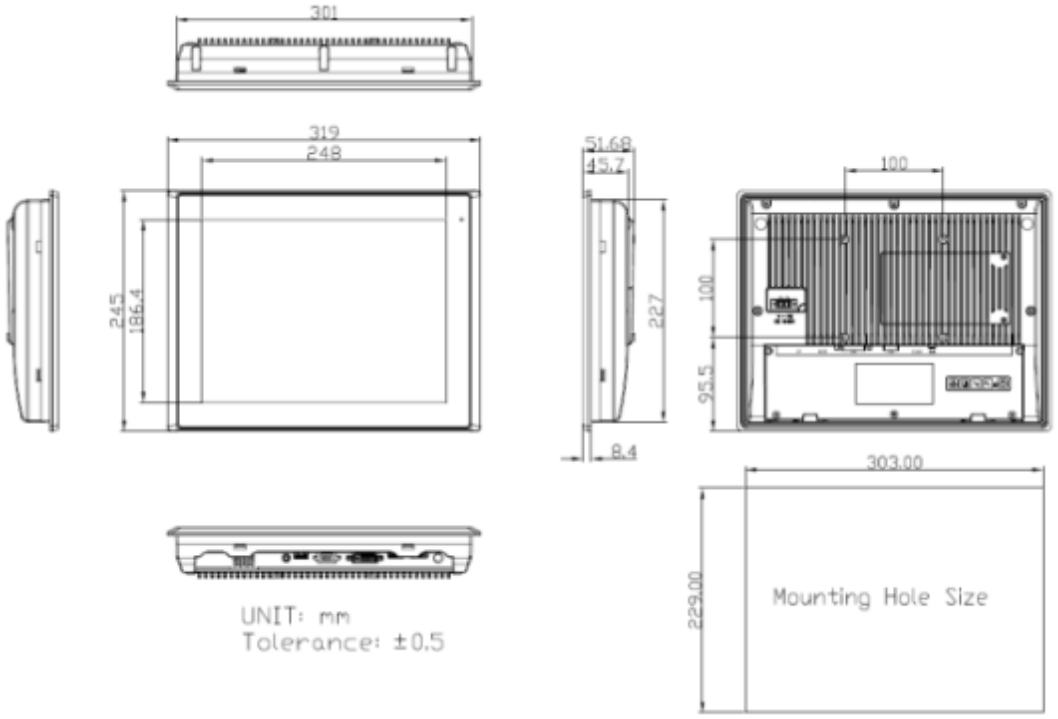


Figure 1.1: Dimensions of ARCDIS-112APRG(H)

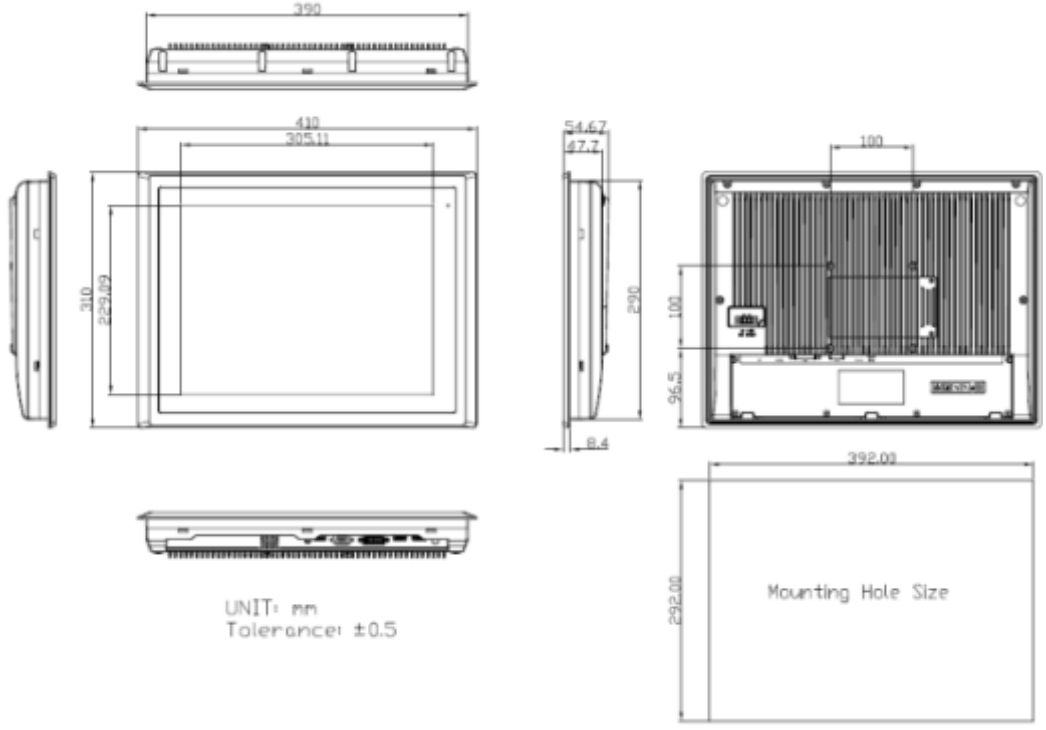


Figure 1.2: Dimensions of ARCDIS-115APRG(H)

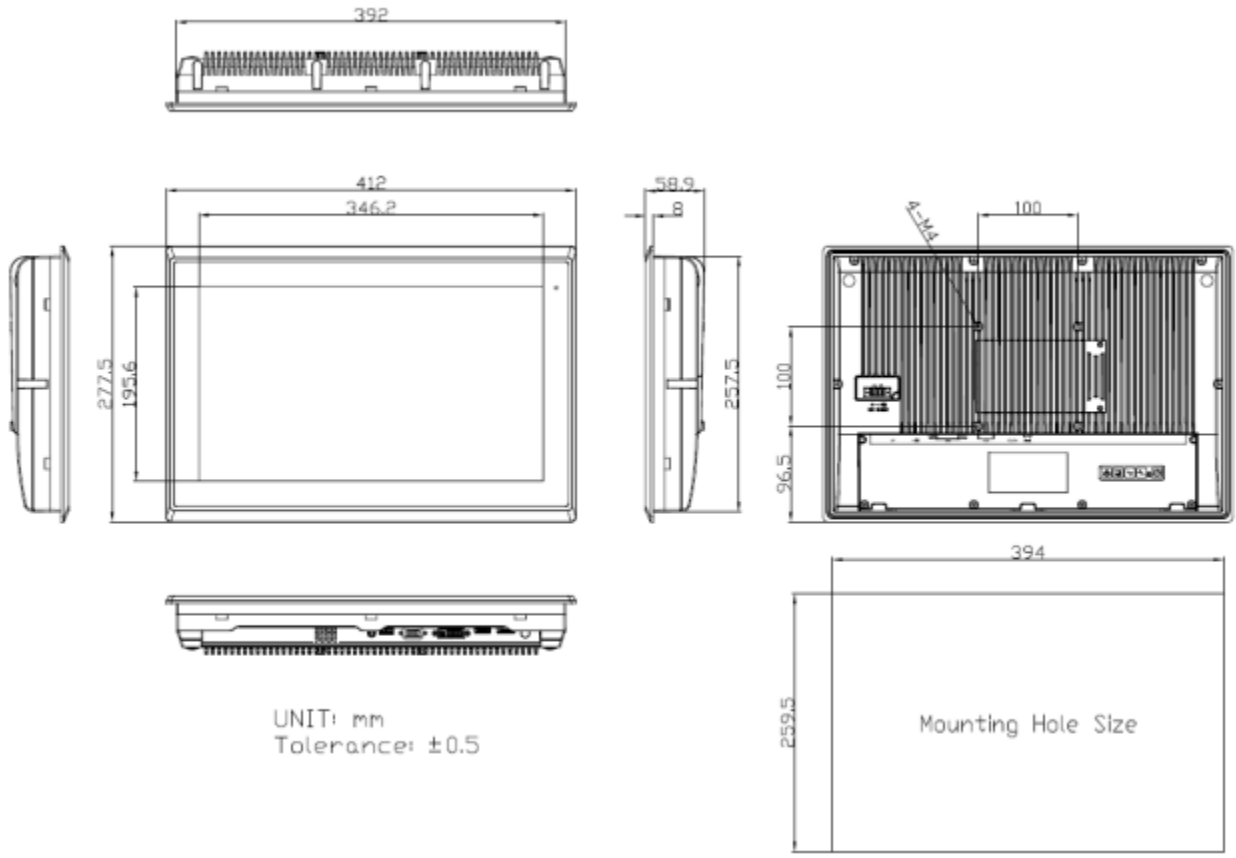


Figure 1.3: Dimensions of ARCDIS-116APRG(H)

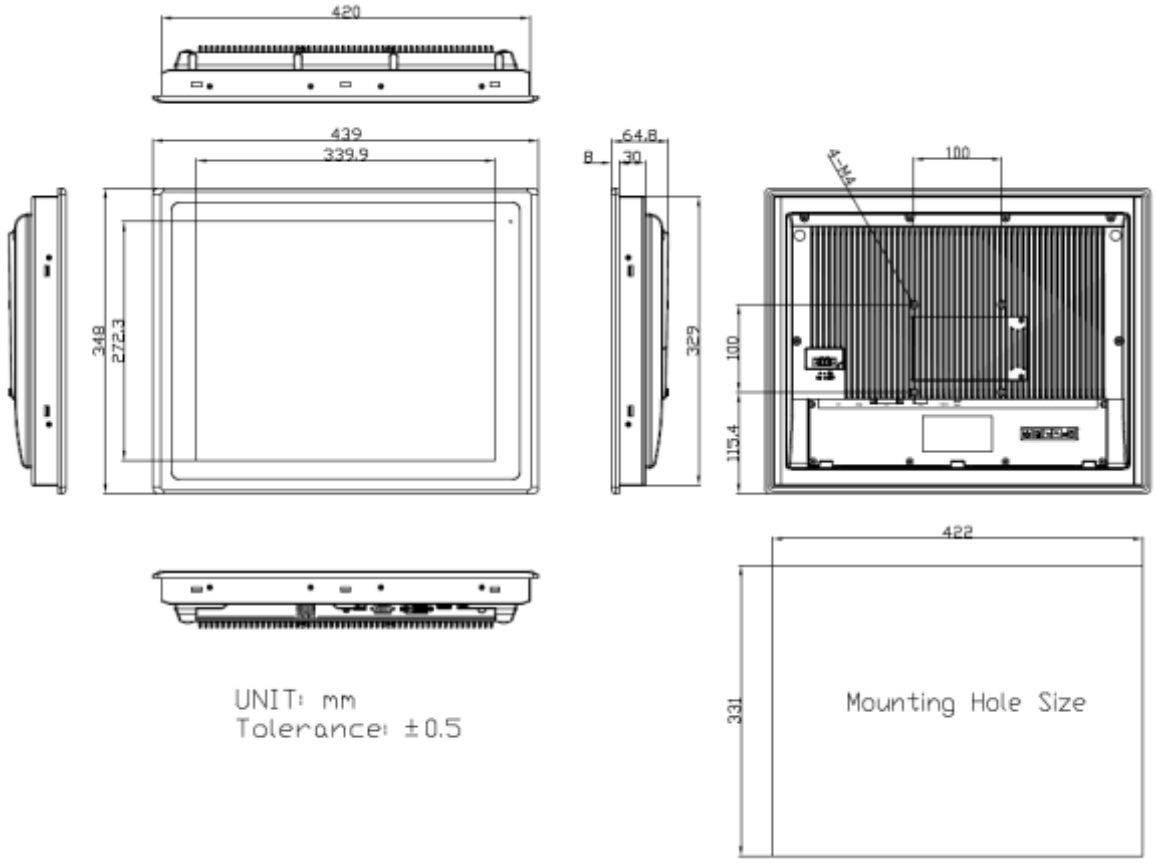


Figure 1.4: Dimensions of ARCDIS-117APRG(H)

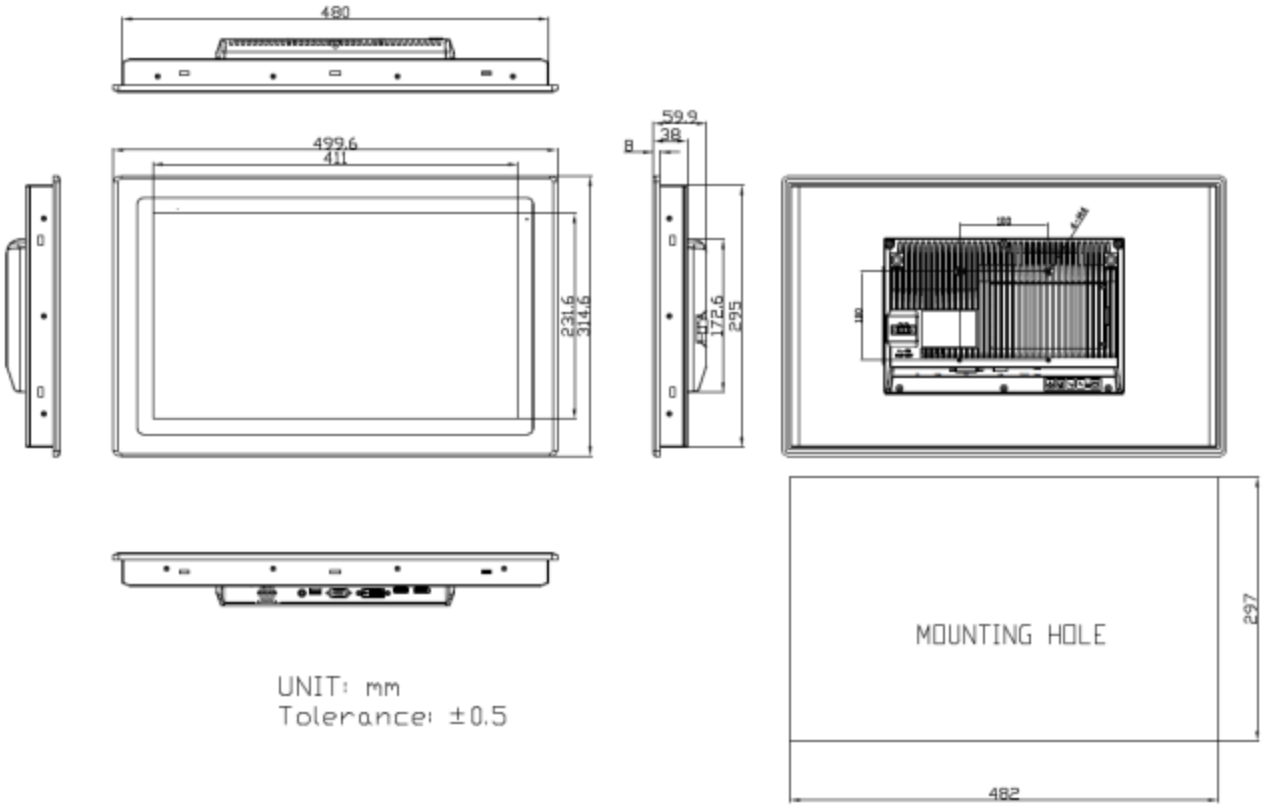


Figure 1.5: Dimensions of ARCDIS-118APRG(H)

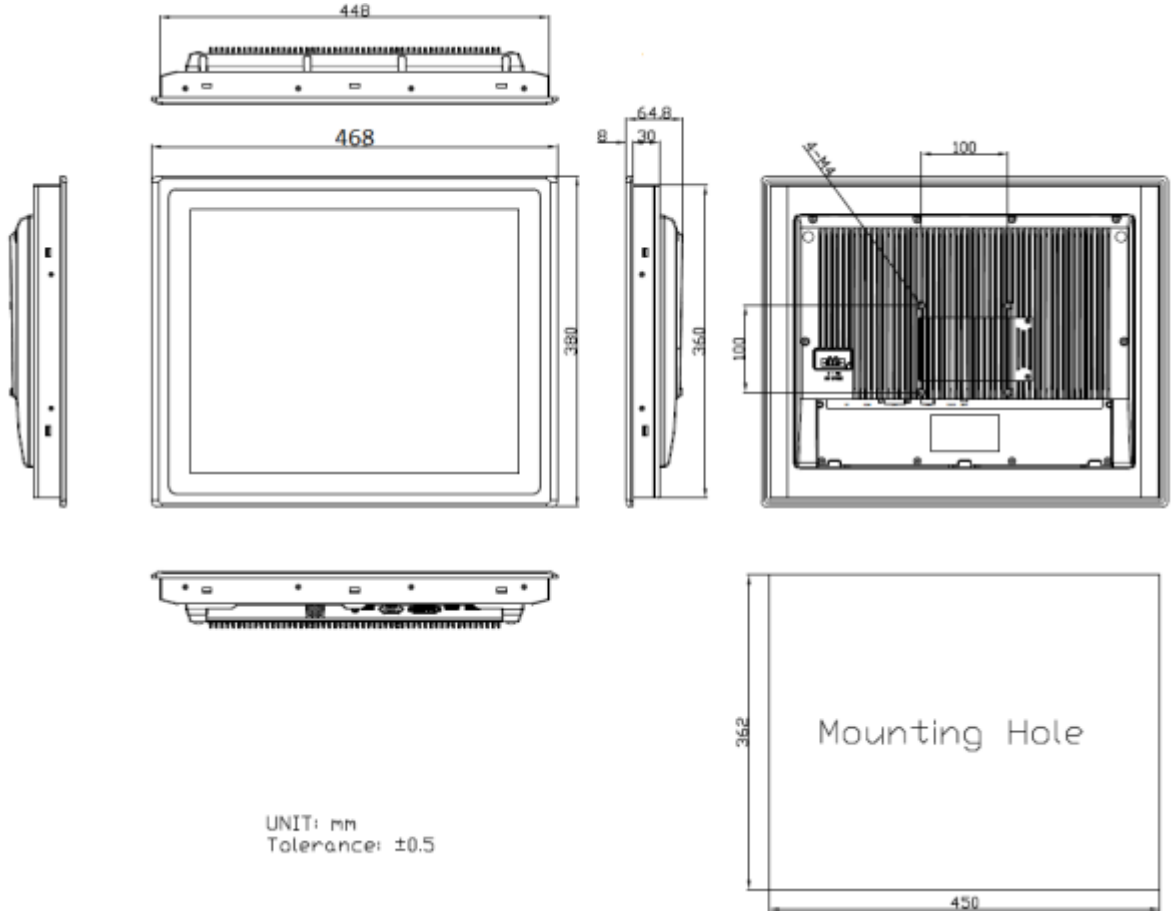


Figure 1.6: Dimensions of ARCDIS-119APRG(H)

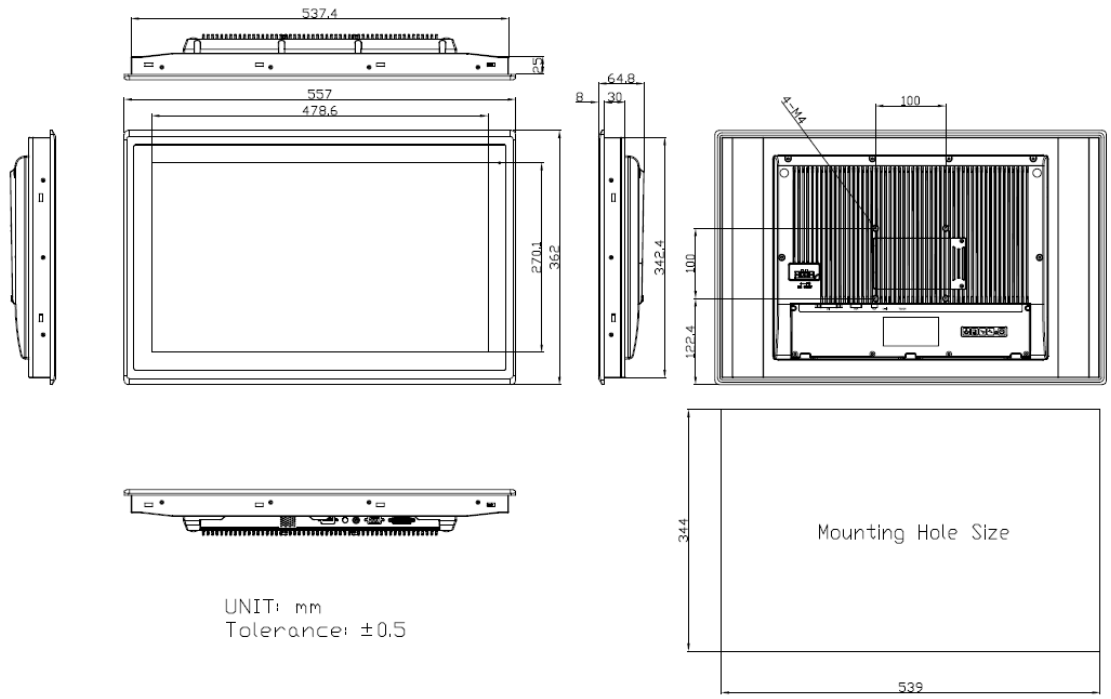


Figure 1.7: Dimensions of ARCDIS-121APRG(H)

1.4 Brief Description of ARCDIS-1XXAPRG(H)

ARCDIS-1XXAPRG(H) with TB-6029 AD board is an IP66 / **IP69K(option)** compliant front bezel aluminum die-casting chassis display, which comes with 12.1”, 15”, 15.6”, 17”, 18.5”, 19”, and 21.5” color TFT LCD. The optional high brightness 1,000nits LCD is ideal for sunlight readable semi-outdoor applications. Furthermore, 12.1” display can be XGA 1024 x 768 resolution designed for option. The model series supports VGA, DVI-D, DP, and HDMI input, and it can be VESA 100 x 100 mounted. ARCDIS-1XXAPRG(H) series has more outstanding features, thus giving the best in monitoring and control applications.

Figure 1.8: Front View of ARCDIS-112APRG(H)

Figure 1.9: Rear View of ARCDIS-112APRG(H)

Figure 1.10: Front View of ARCDIS-115APRG(H)

Figure 1.11: Rear View of ARCDIS-115APRG(H)

Figure 1.12: Front View of ARCDIS-116APRG(H)

Figure 1.13: Rear View of ARCDIS-116APRG(H)

Figure 1.14: Front View of ARCDIS-117APRG(H)

Figure 1.15: Rear View of ARCDIS-117APRG(H)

Figure 1.16: Front View of ARCDIS-118APRG(H)

Figure 1.17: Rear View of ARCDIS-118APRG(H)

Figure 1.18: Front View of ARCDIS-119APRG(H)

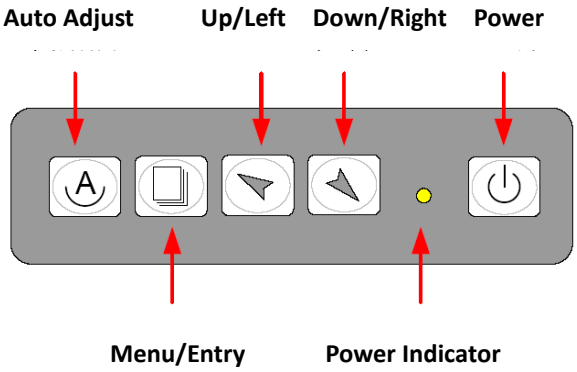
Figure 1.19: Rear View of ARCDIS-119APRG(H)

Figure 1.20: Front View of ARCDIS-121APRG(H)

Figure 1.21: Rear View of ARCDIS-121APRG(H)

Chapter 2 OSD

2.1 AD Board 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 second. 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.

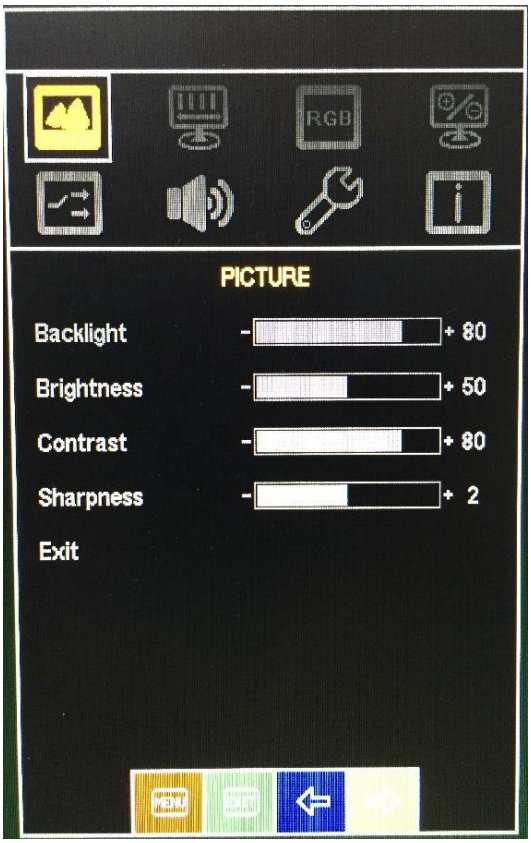
2.) If the “RGB” is not found, disconnect the AC power cord first. Then press the buttons (don’t let them go) until the AC power cord is connected, and wait for 2 to 3 seconds. When “RGB” appears, repeat the above steps.

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



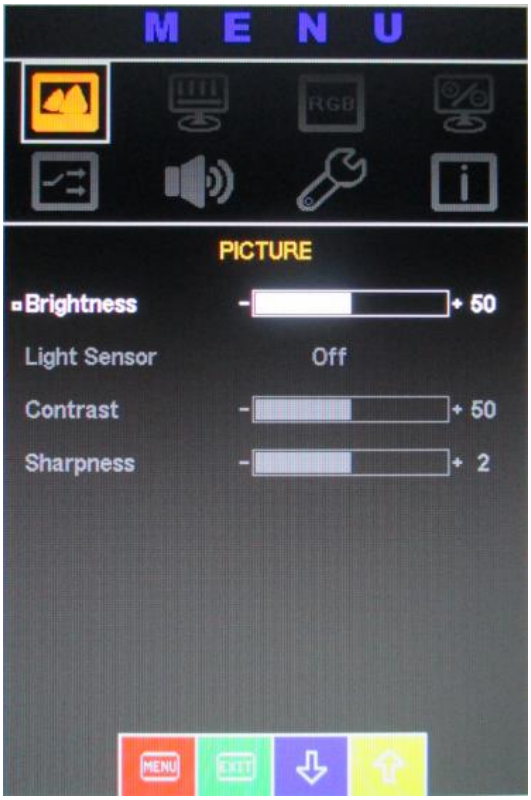
In the **PICTURE**, there are the following items:

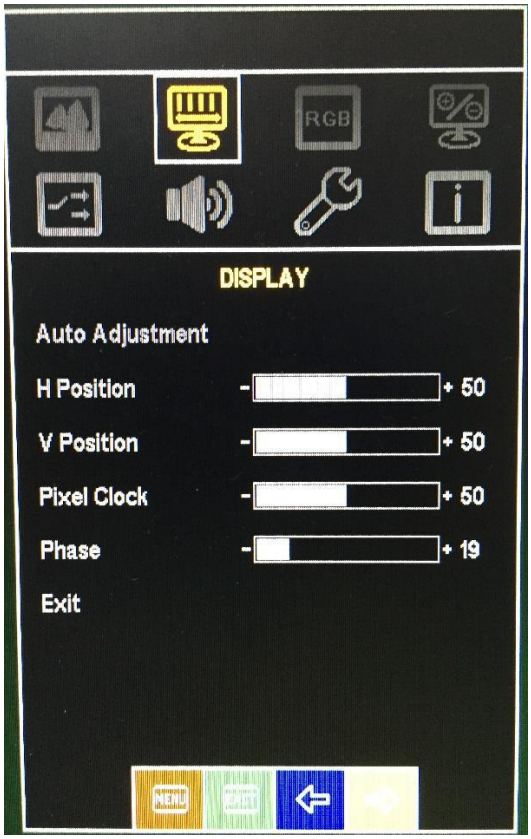
- Backlight
- Brightness:

  Light Sensor: Set auto dimming function

  Off: Auto dimming off

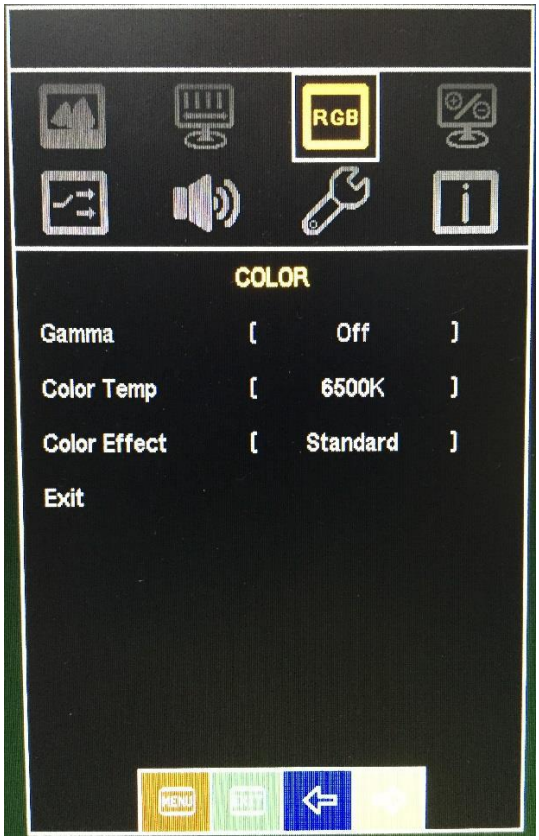
  On: Auto dimming on
- Contrast
- Sharpness
- Exit





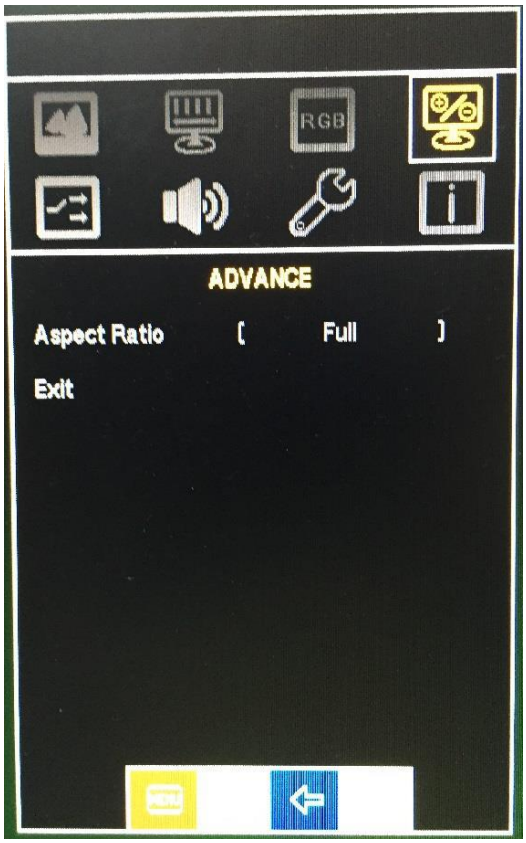
In the **DISPLAY**, there are the following items:

- AutoAdjustment
- H Position
- V Position
- Pixel Clock
- Phase
- Exit



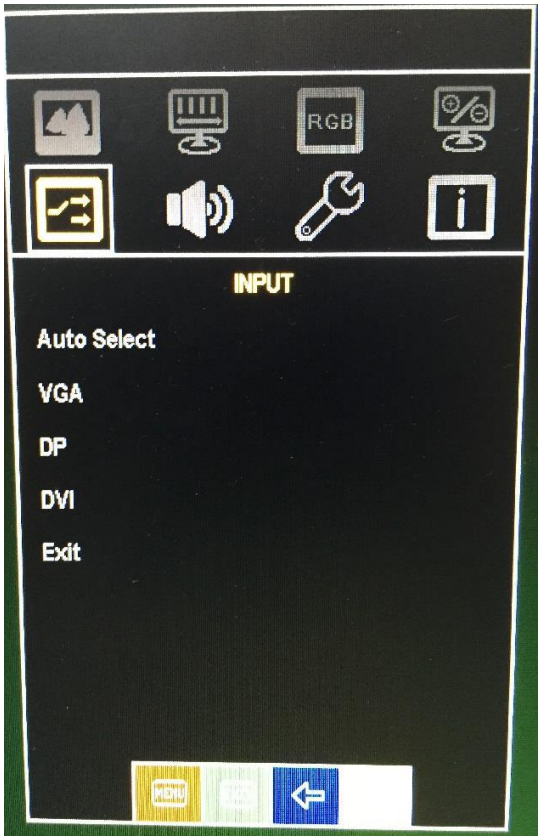
In the **COLOR**, there are the following items:

- Gamma
- Color Temp
- Color Effect
- Exit



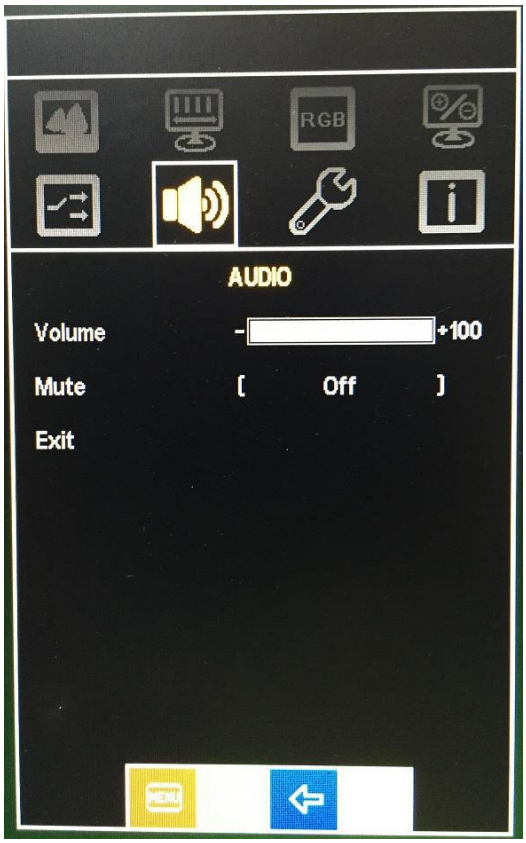
In the **ADVANCE**, there are the following item:

- Aspect Ratio
- Exit



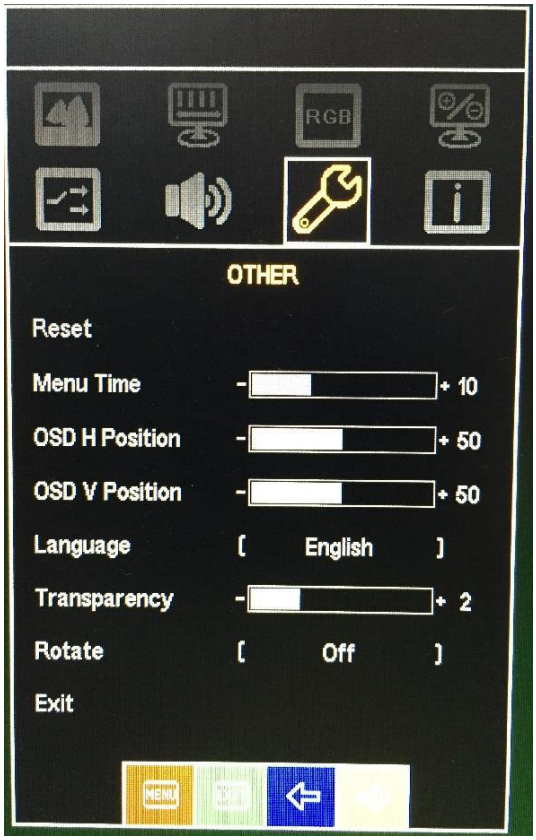
In the **INPUT**, there are the following items:

- Auto Select
- VGA
- DP
- DVI
- Exit



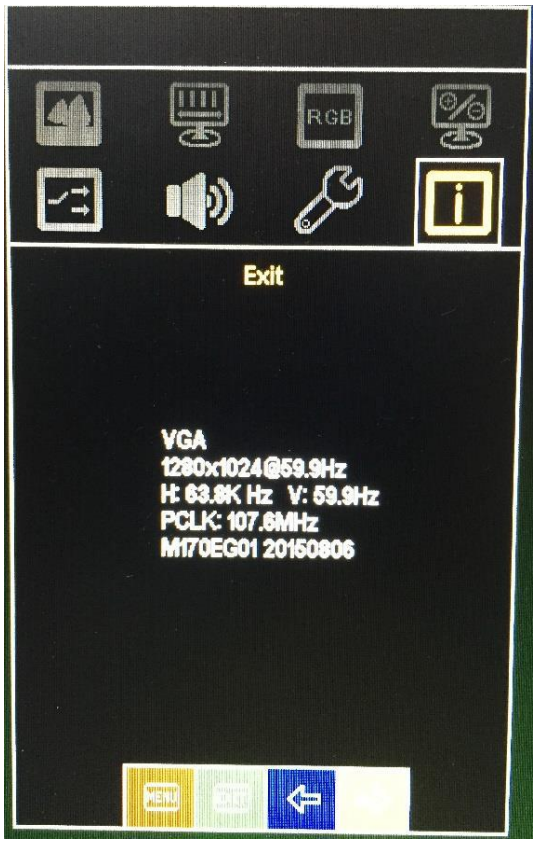
In the **AUDIO**, there are the following items:

- Volume
- Mute
- Exit



In the **OTHER**, there are the following items:

- Reset
- Menu Time
- OSD H Position
- OSD V Position
- Language
- Transparency
- Rotate
- Exit


RGB
Exit
VGA
1280x1024@59.9Hz
H: 63.8K Hz V: 59.9Hz
PCLK: 107.6MHz
M170EG01 20150806

Exit part.

Chapter 3 Installation

This chapter describes how to install drivers and other software that will allow your touch screen work with different operating systems.

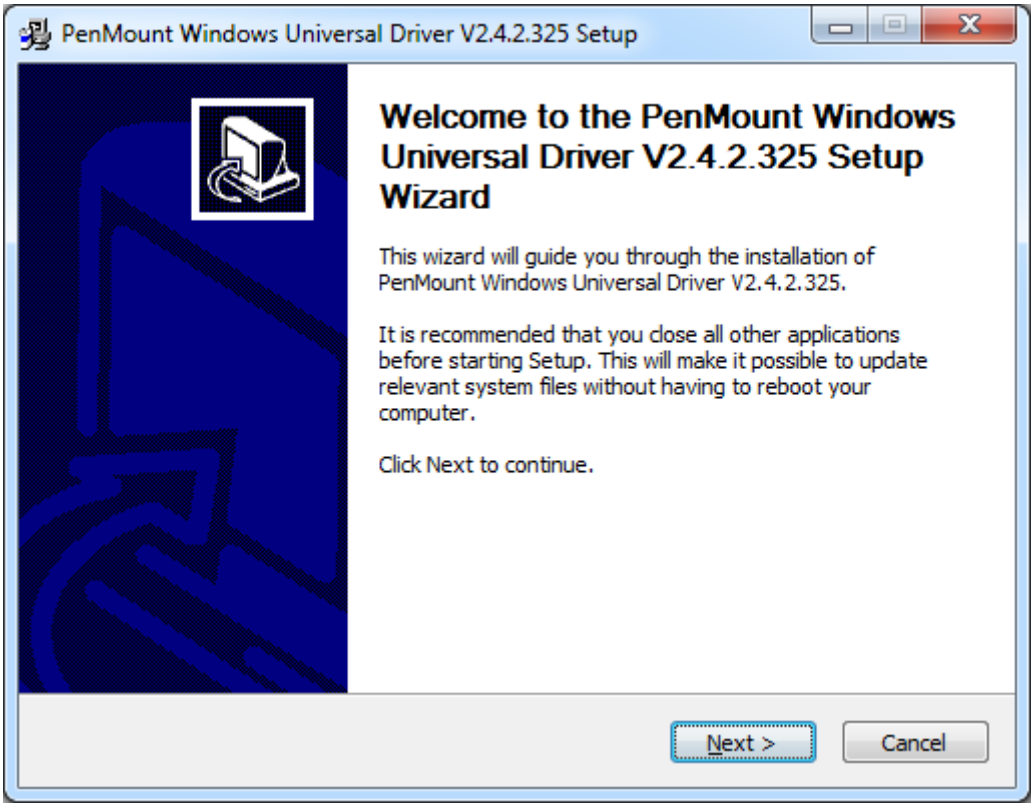
3.1 Windows 7 Universal Driver Installation for PenMount 6000 Series

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.

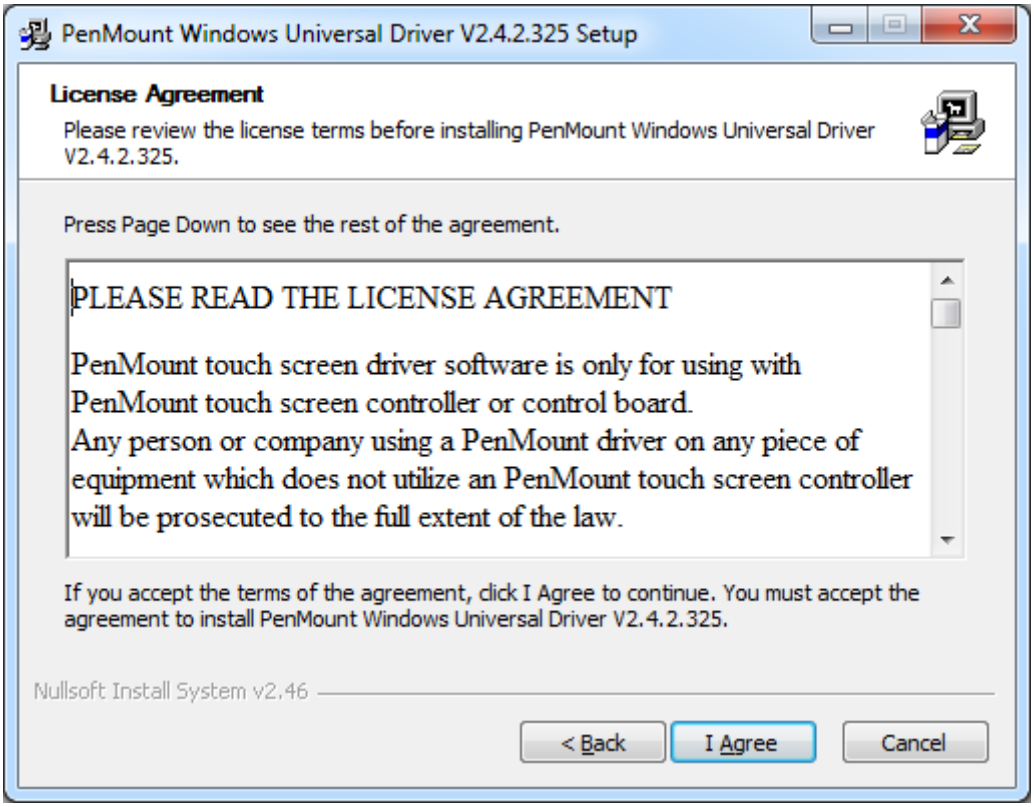
3.1.1 Installing Software(Resistive Touch)

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.

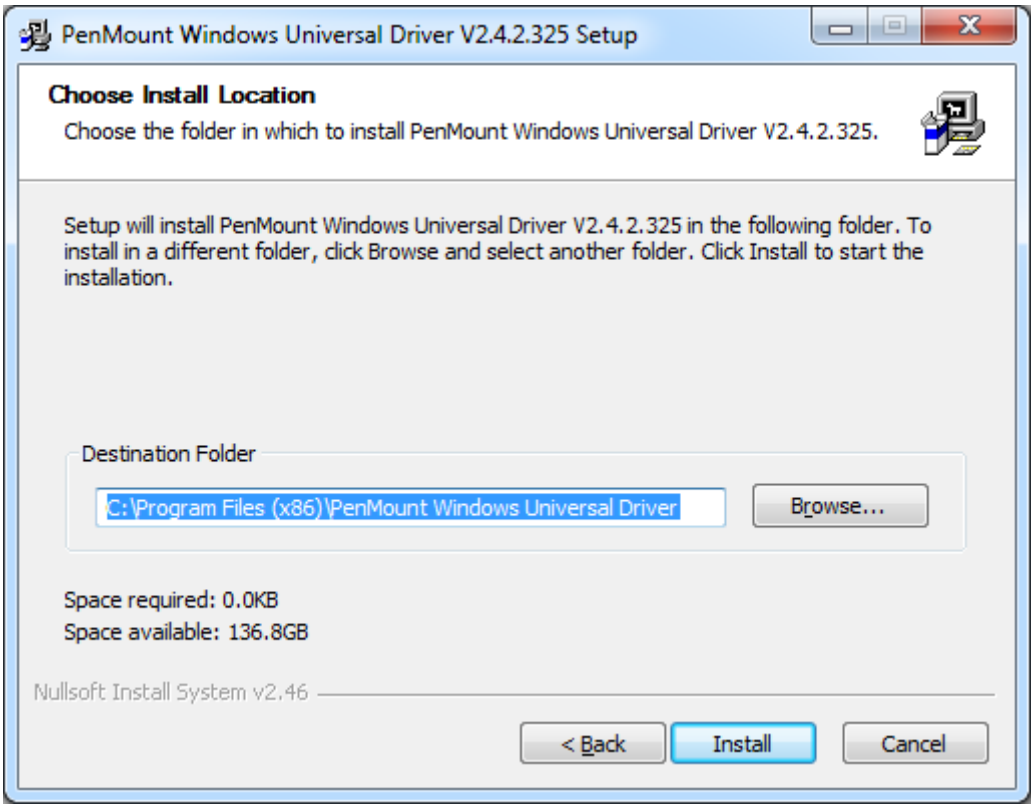
Step 1. Click **Next** to continue.



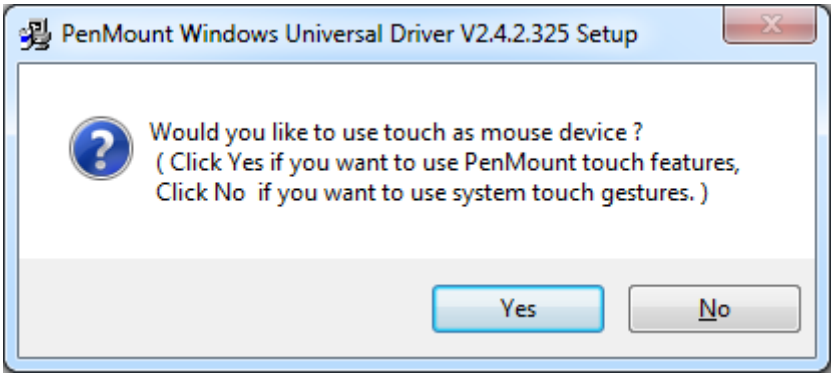
Step 2. Read the license agreement. Click **I Agree** to agree the license agreement.



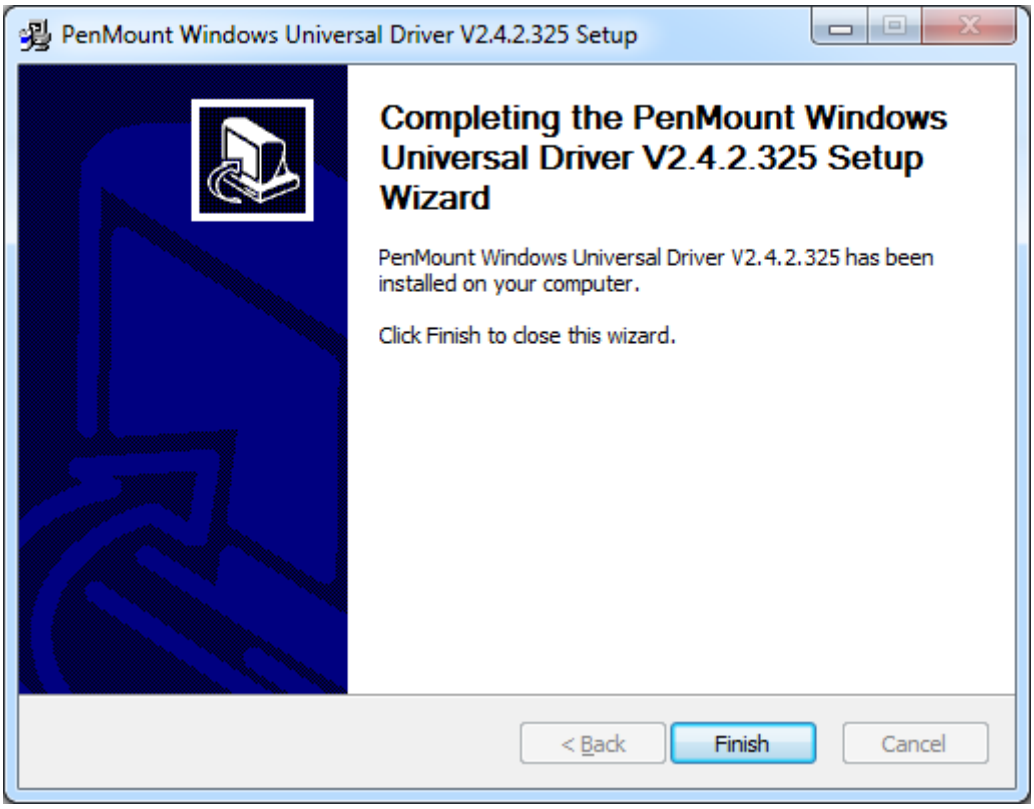
Step 3. Choose the folder in which to install PenMount Windows Universal Driver. Click **Install** to start the installation.



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

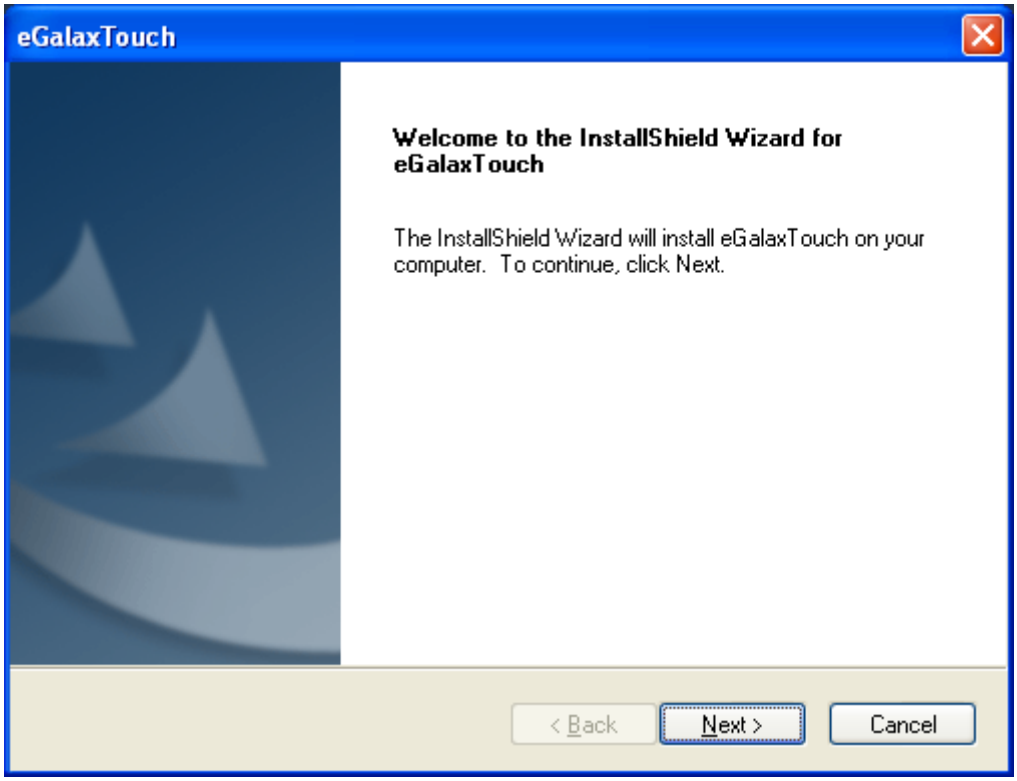


Step 5. Click **Finish** to complete installation.

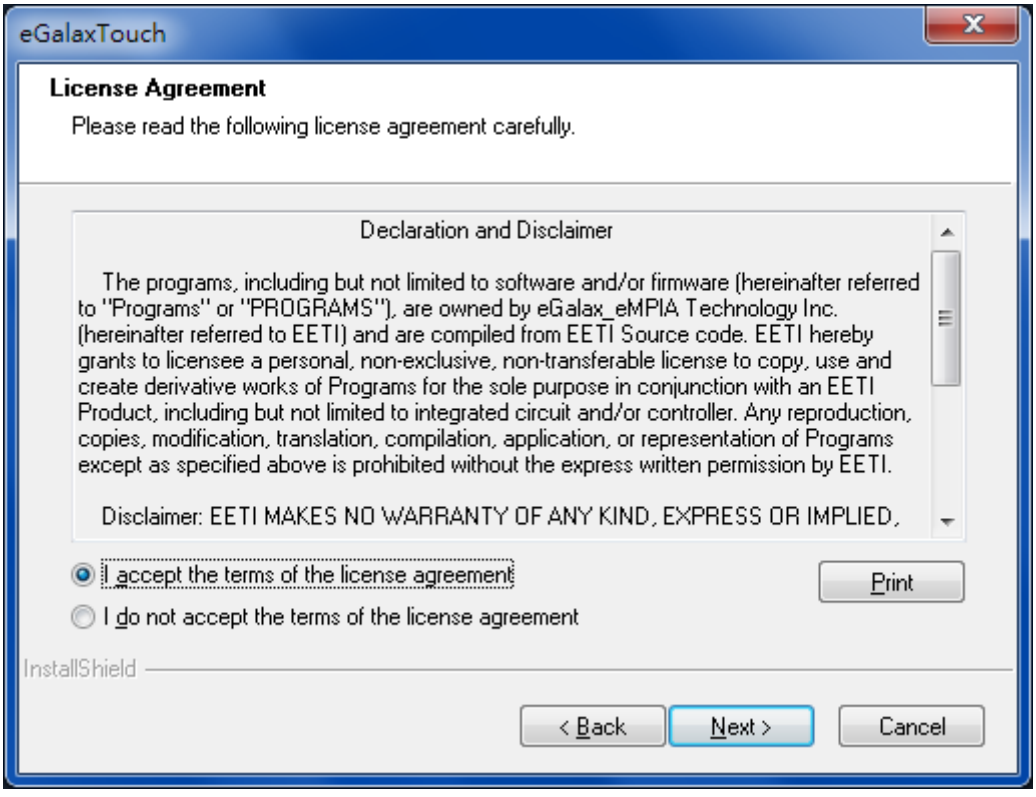


3.1.2 Installing Software (Projected Capacitive)

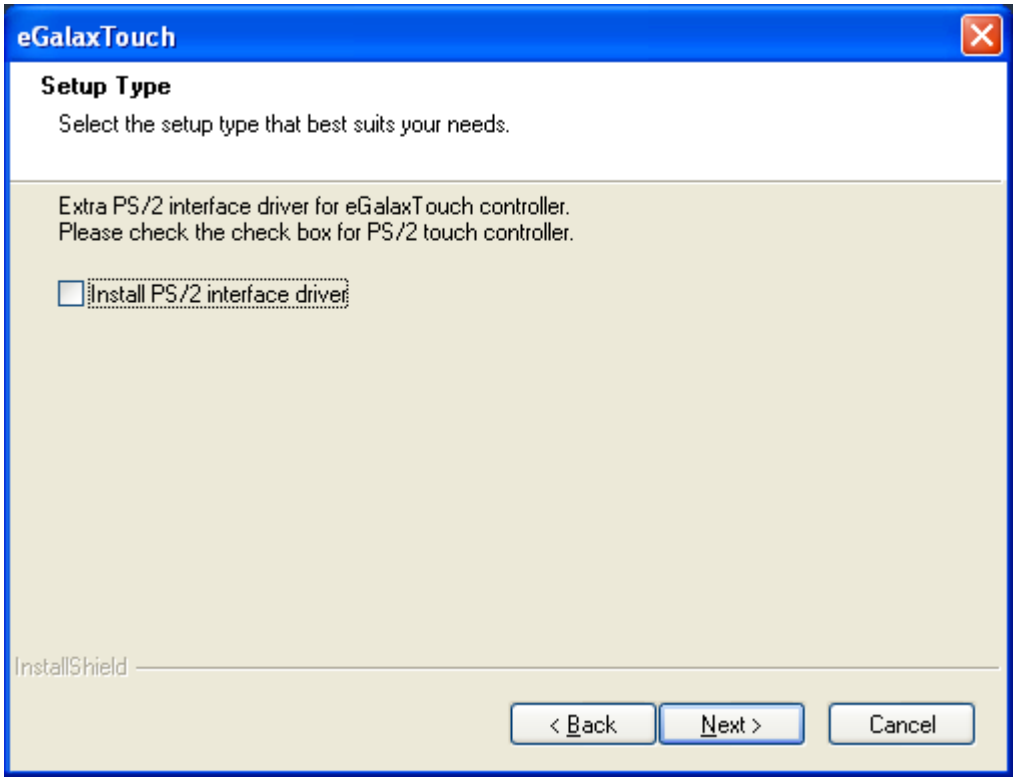
Step 1. Click **Next** to continue.



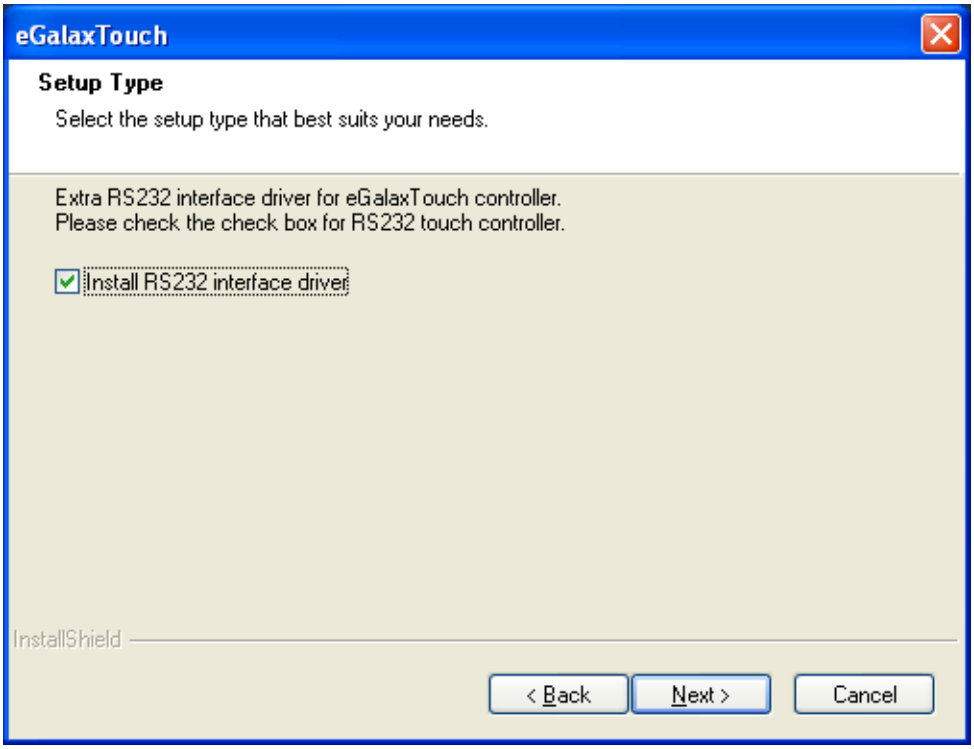
Step 2. Select **I accept the terms of the license agreement**. Click **Next.**



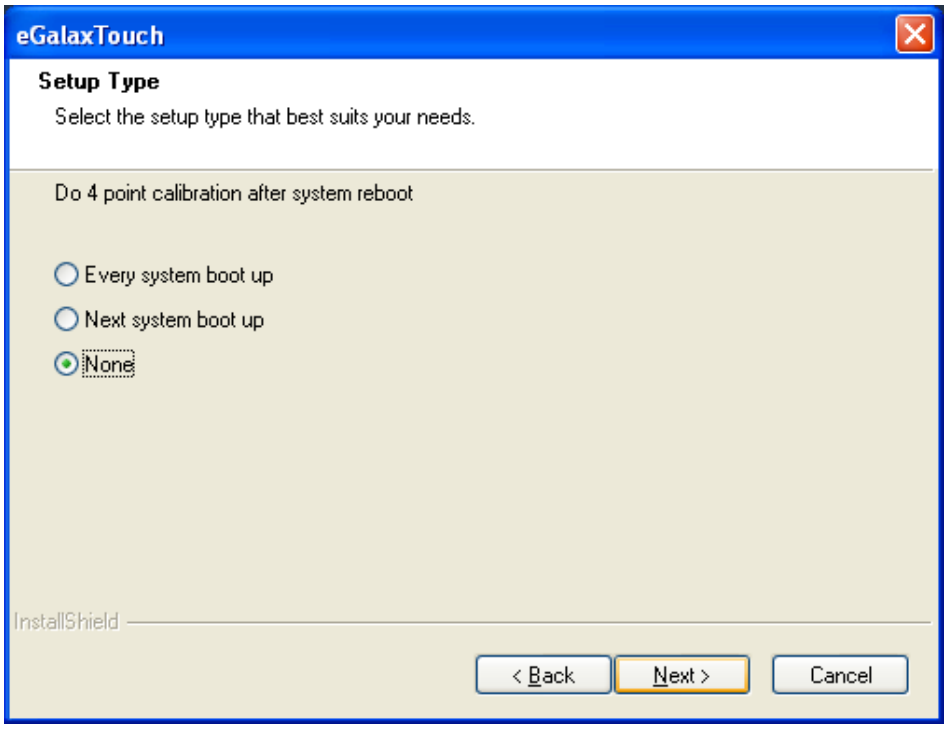
Step.3. Click **Next** to continue.



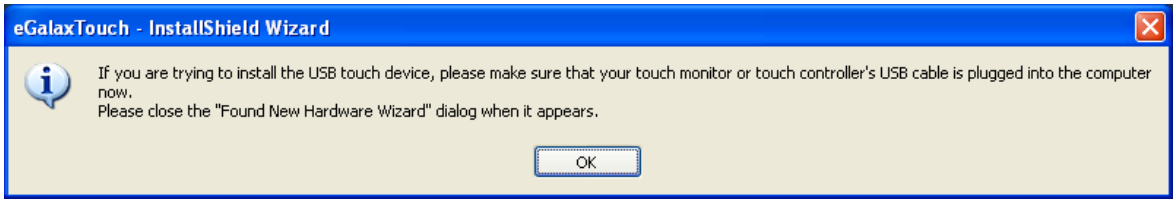
Step 4. Click **Install RS232 interface driver**.



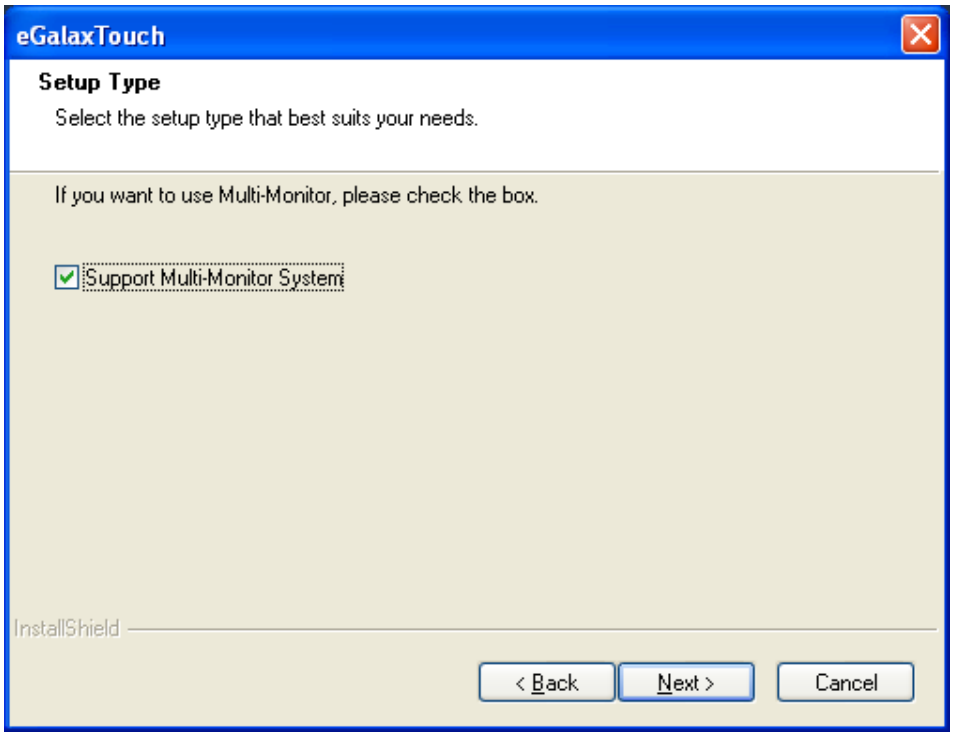
Step 5. Select **None**. Click **Next**.



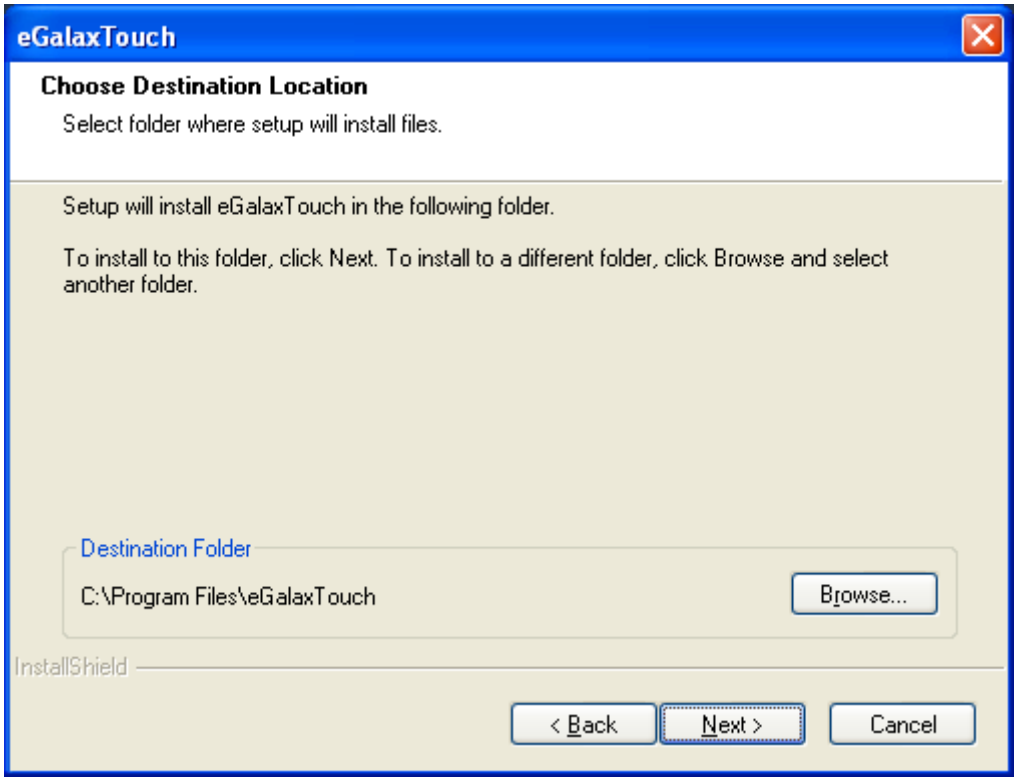
Step 6. Click **OK.**



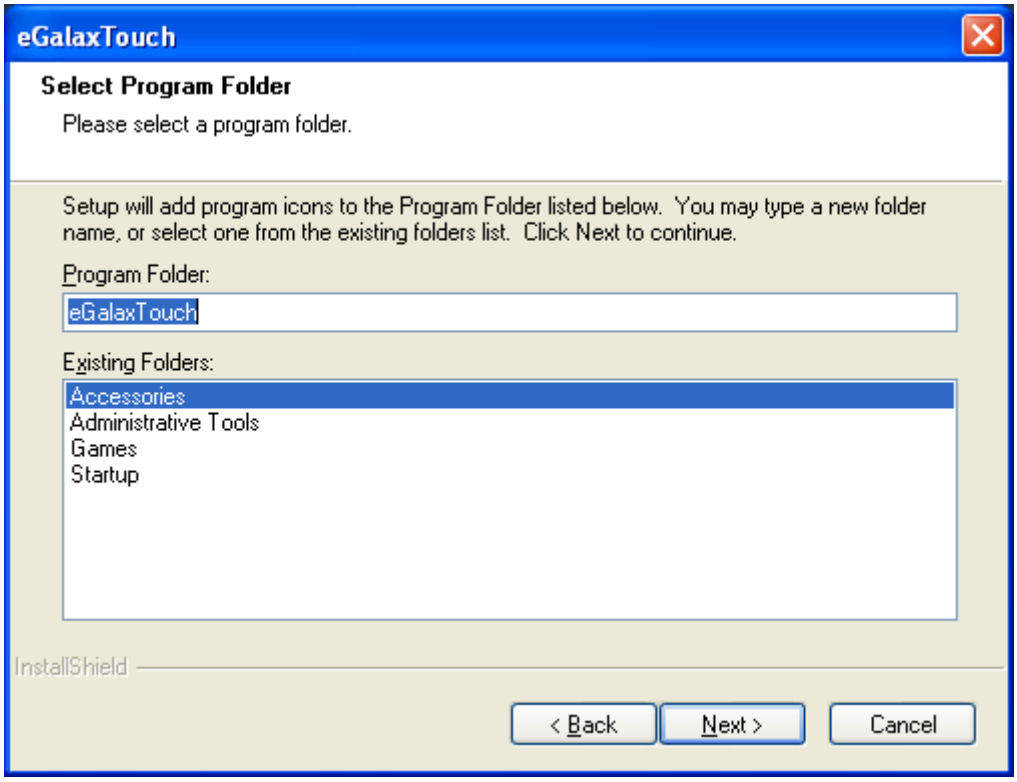
Step 7. Click **Support Muti-Monitor System**. Click **Next.**



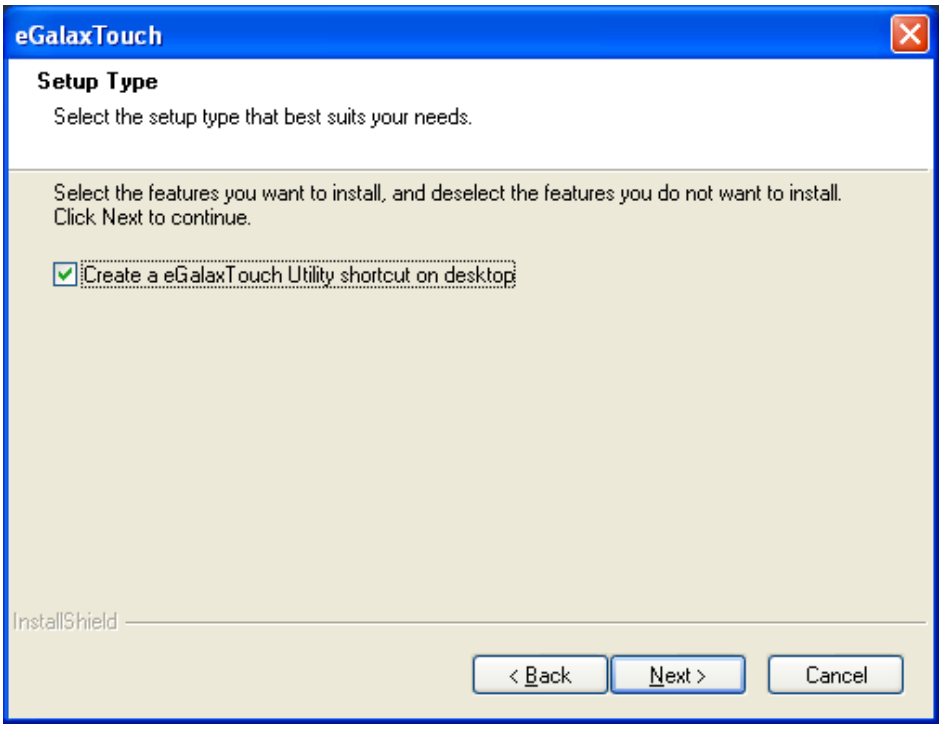
Step 8. Go to **C:\Program Files\eGalaxTouch**. Click **Next**.



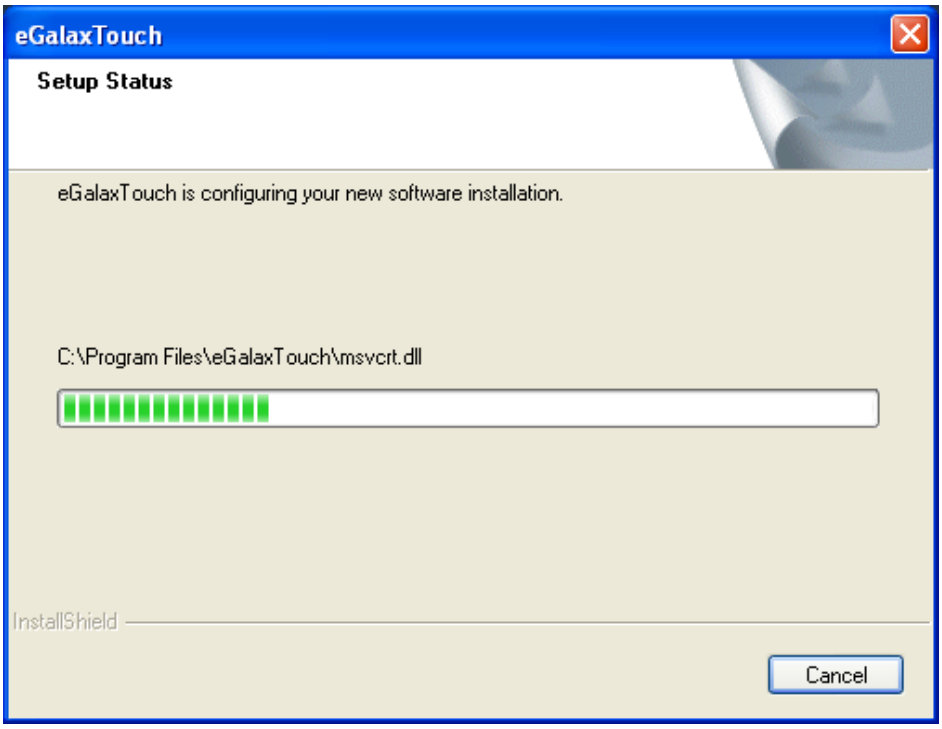
Step 9. Click **Next.**



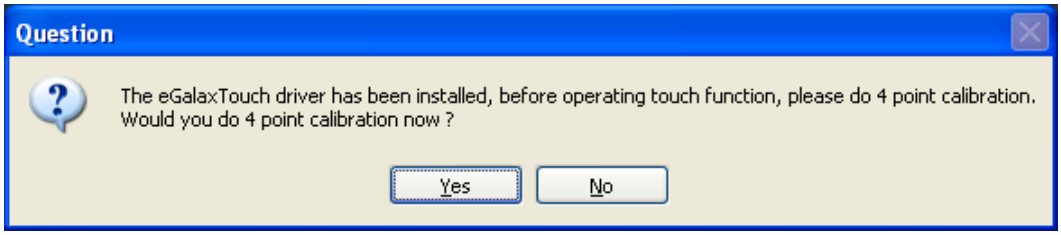
Step 10. Click **Create a eGalaxTouch Utility shortcut on desktop**. Click **Next**.



Step 11. Wait for installation.



Step 12. Click **Yes** to do 4 point calibration.



3.2 Software Functions

3.2.1 Software Functions(Resistive Touch)

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.

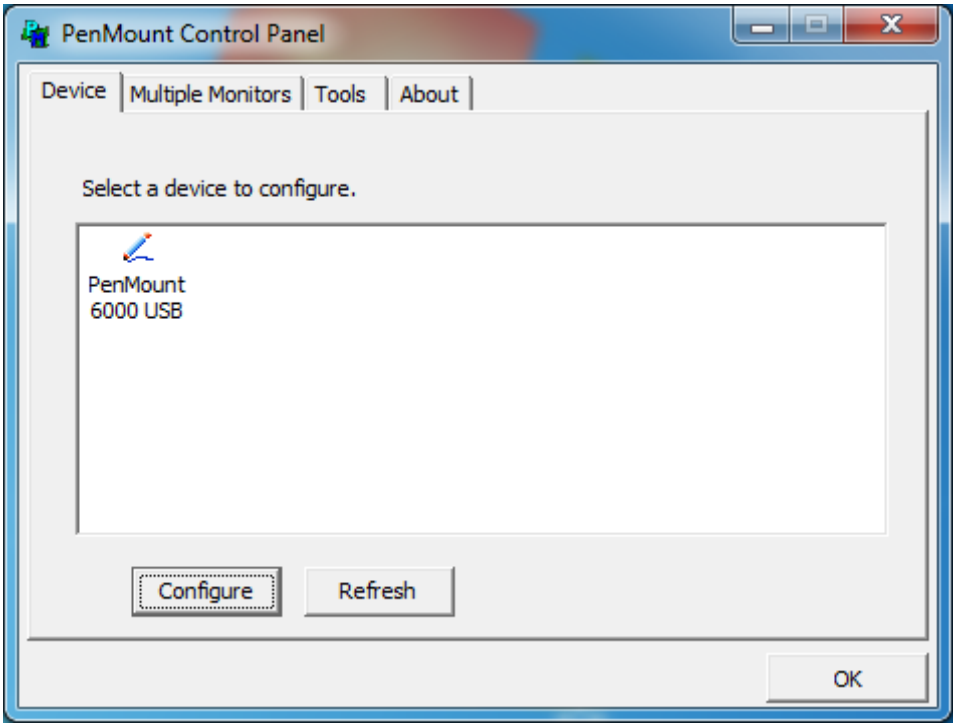
1. After installation, click the PenMount Monitor icon “PM” in the menu bar.
2. When the PenMount Control Panel appears, select a device to “Calibrate.”

PenMount Control Panel(Resistive Touch)

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

Device

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

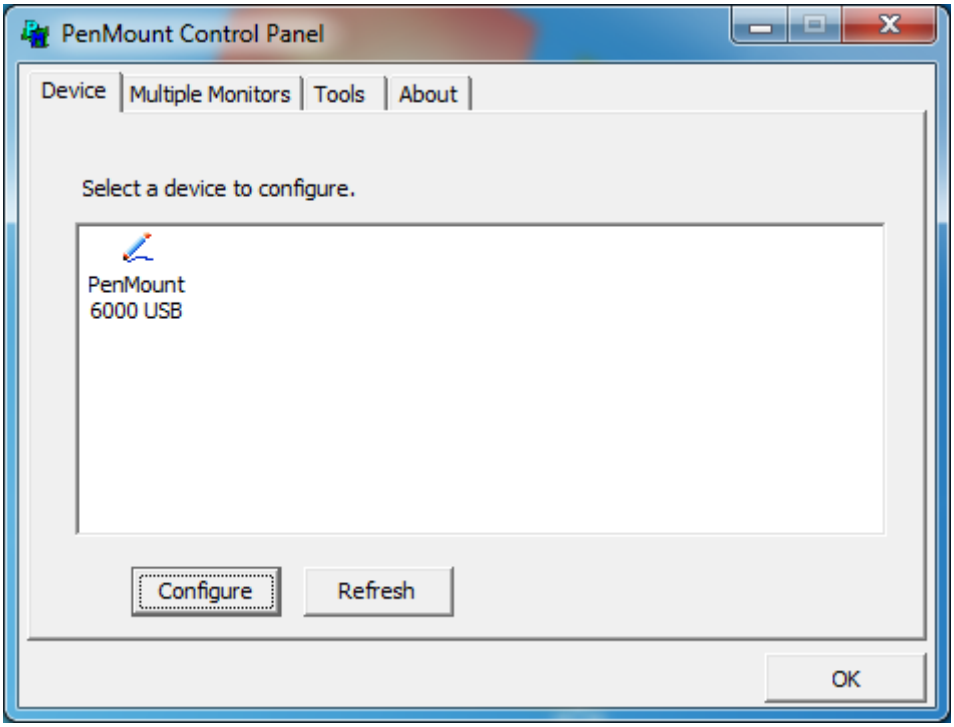


Calibrate

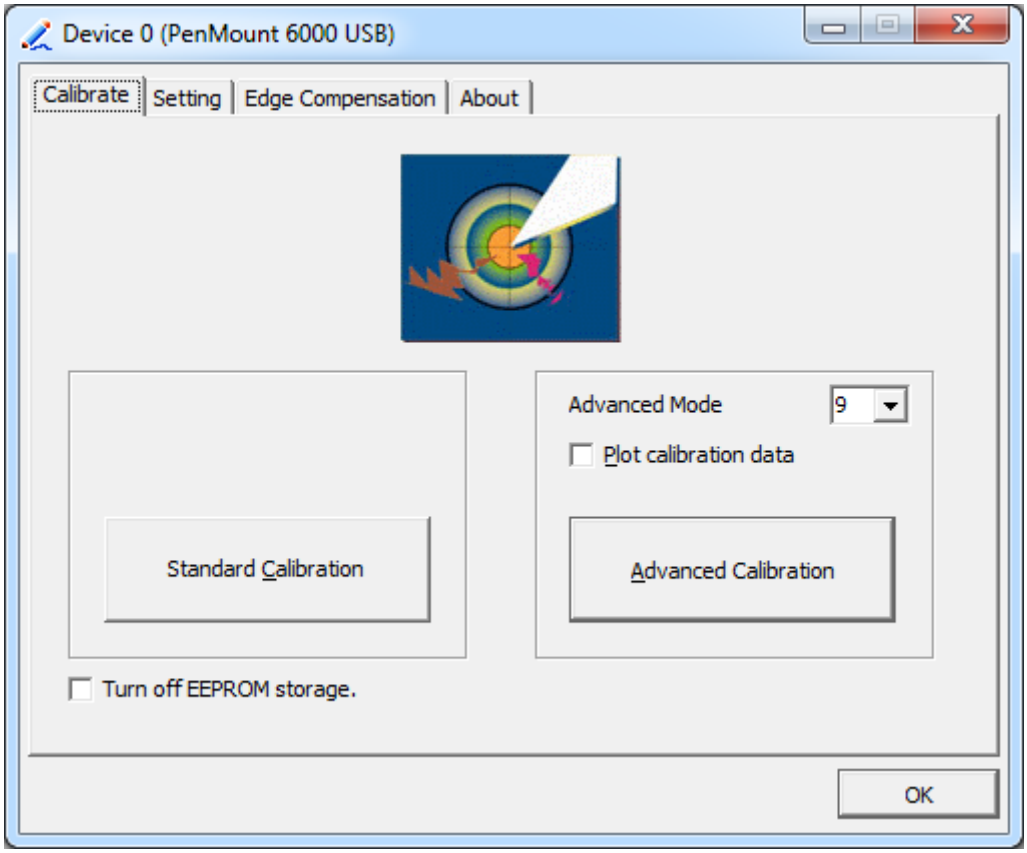
This function offers two ways to calibrate your touch screen. ‘Standard Calibration’ adjusts most touch screens. ‘Advanced Calibration’ adjusts aging touch screens.

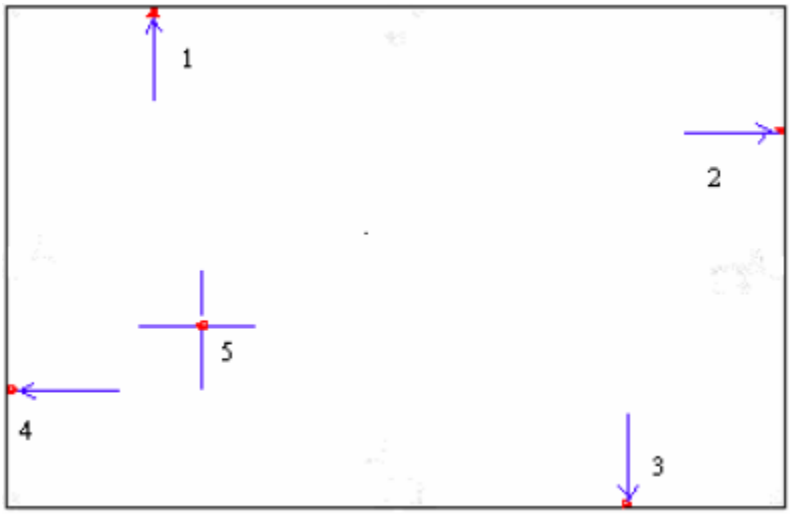
Standard Calibration	**Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press 'ESC'.**
Advanced Calibration	**Advanced Calibration uses 4, 9, 16 or 25 points to effectively 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.



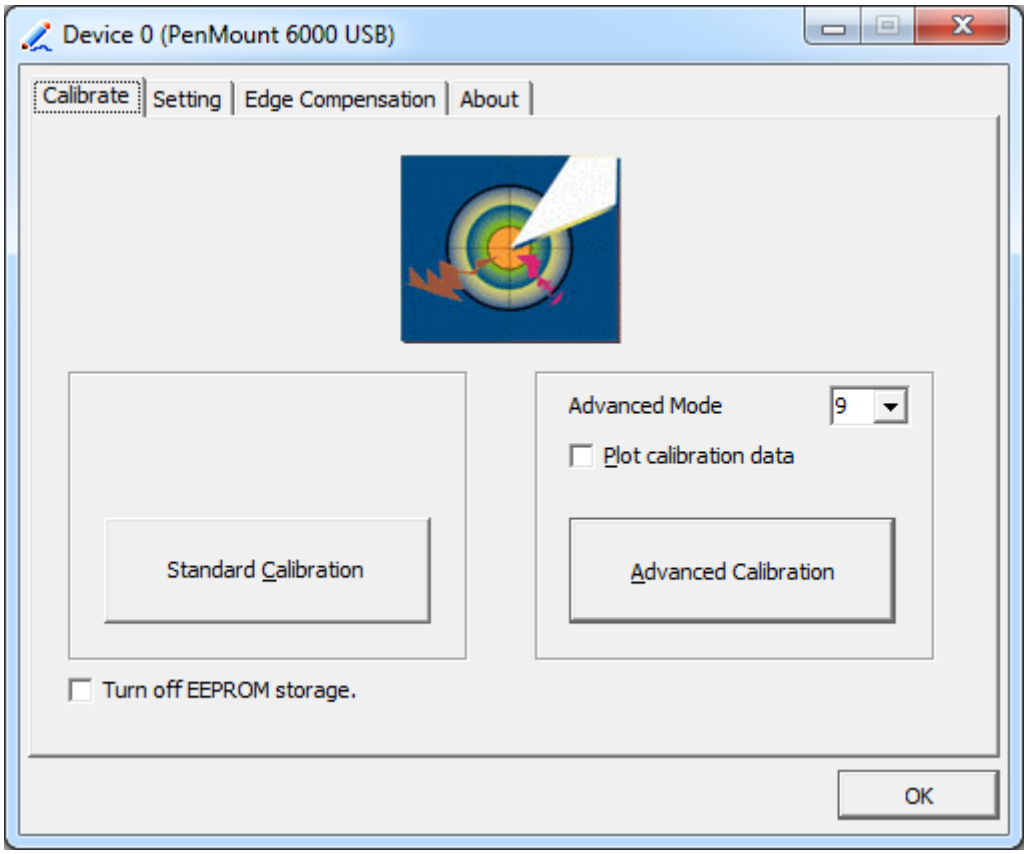
Step 2. Click "**Standard Calibration**" to start calibration procedure



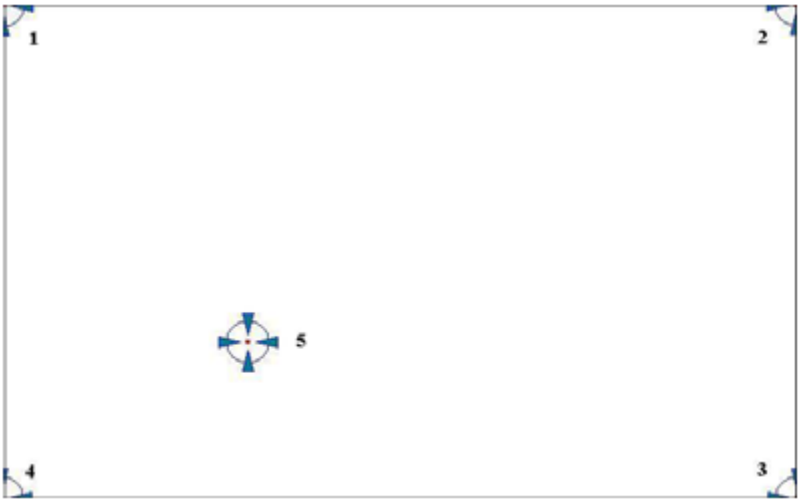


NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:

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

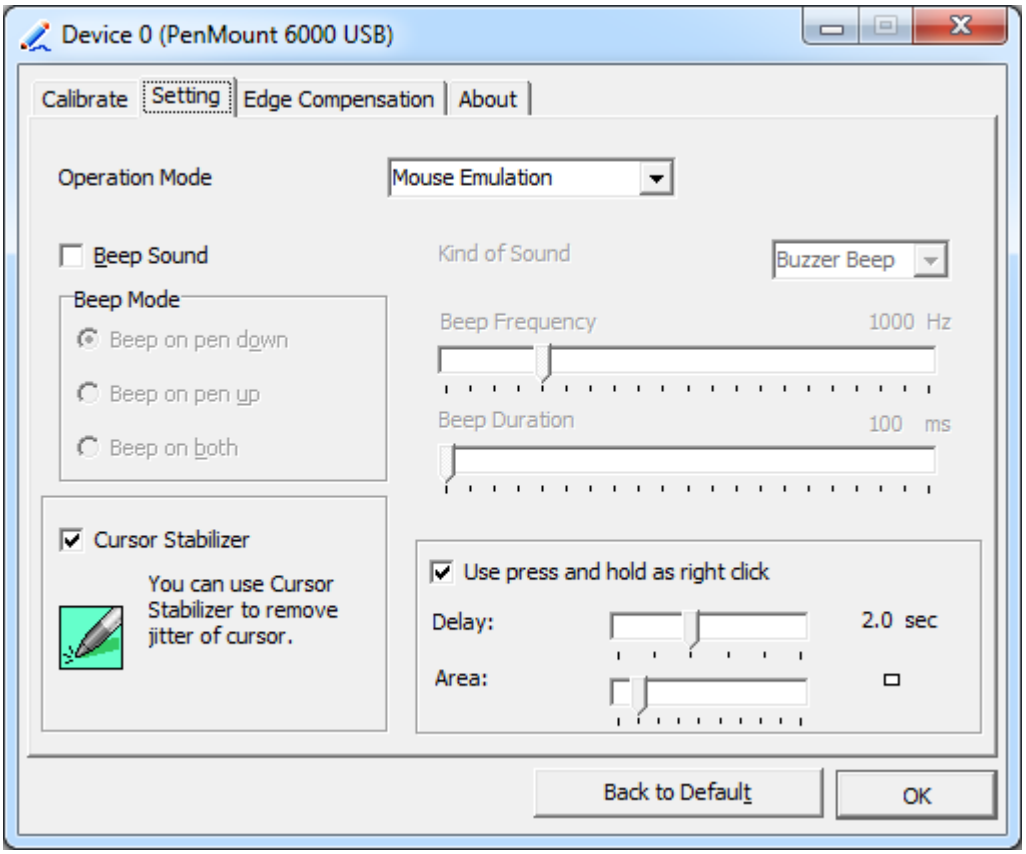


NOTE: Recommend to use a stylus during Advanced Calibration for greater accuracy.



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.**

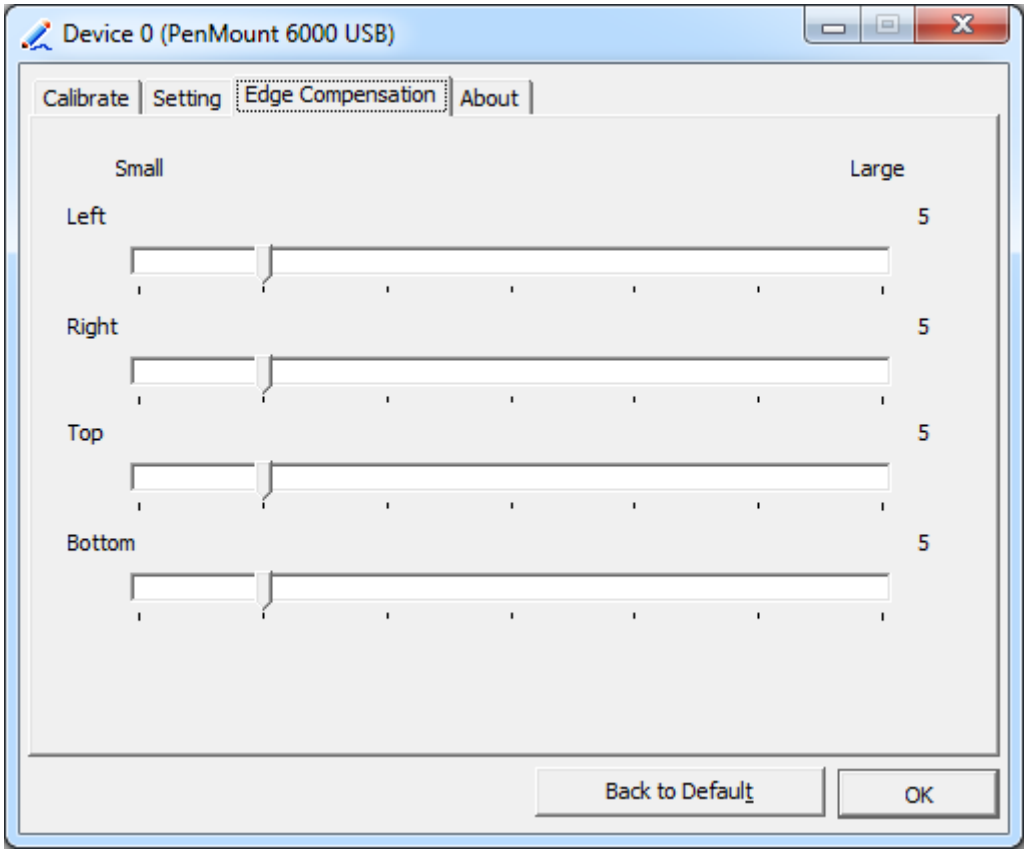
Setting



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

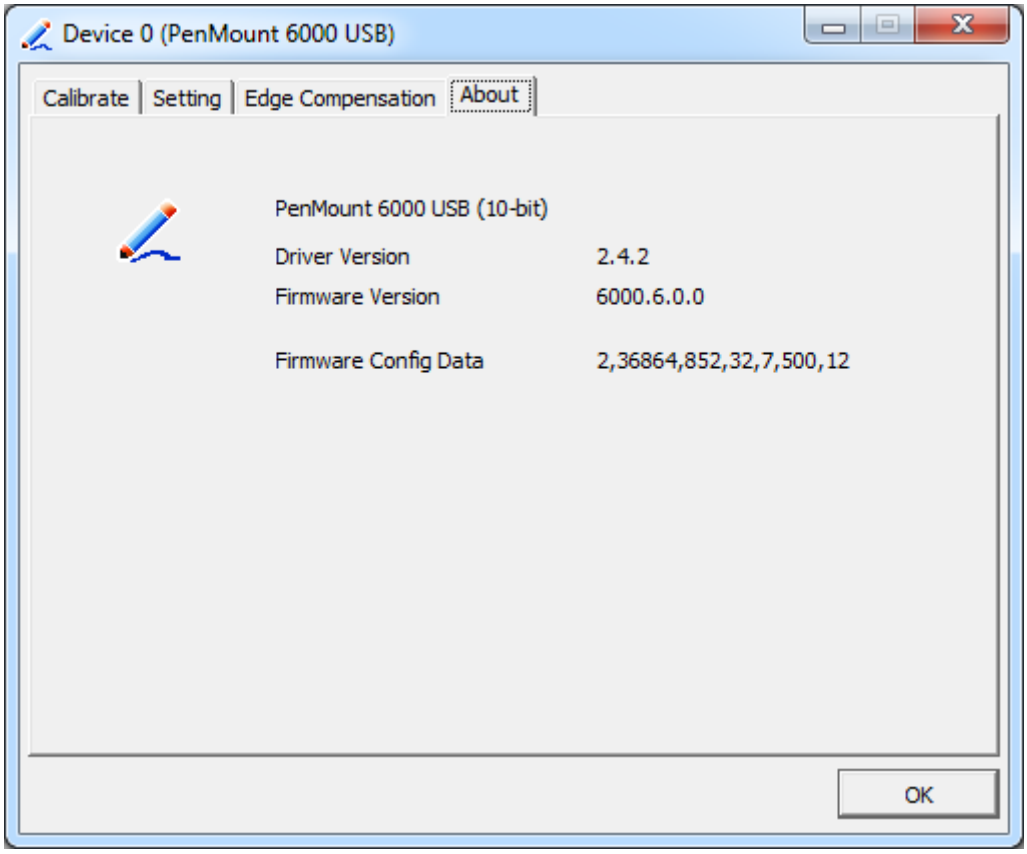
Edge Compensation

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:

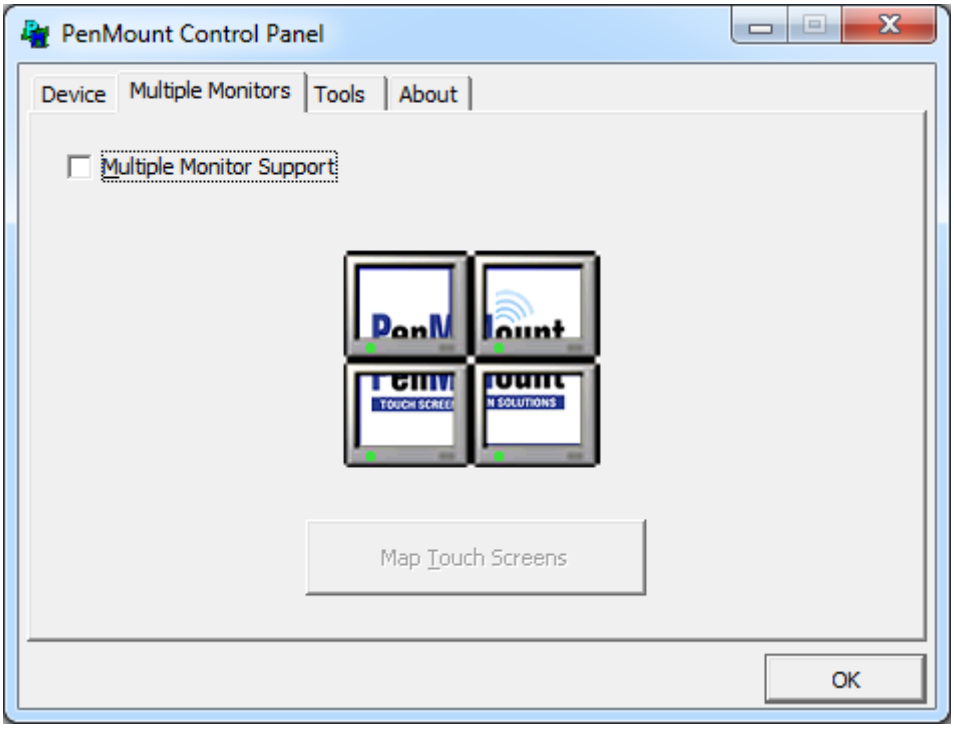
Windows Extends Monitor Function
Matrox DualHead Multi-Screen Function
nVidia nView Function

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.

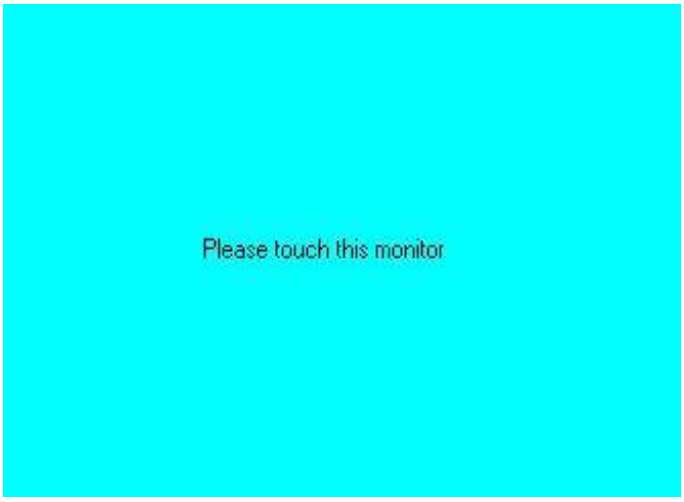
Enable the multiple display function as follows:

1. Check the **Enable Multiple Monitor Support** box; then click **Map Touch Screens**

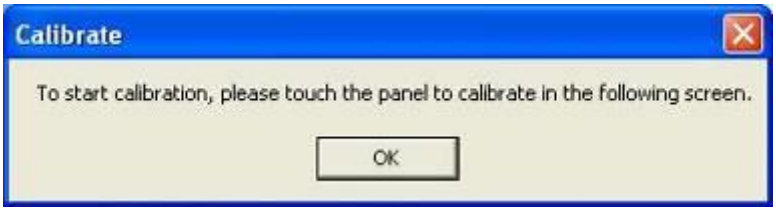
to assign touch controllers to displays.



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.**



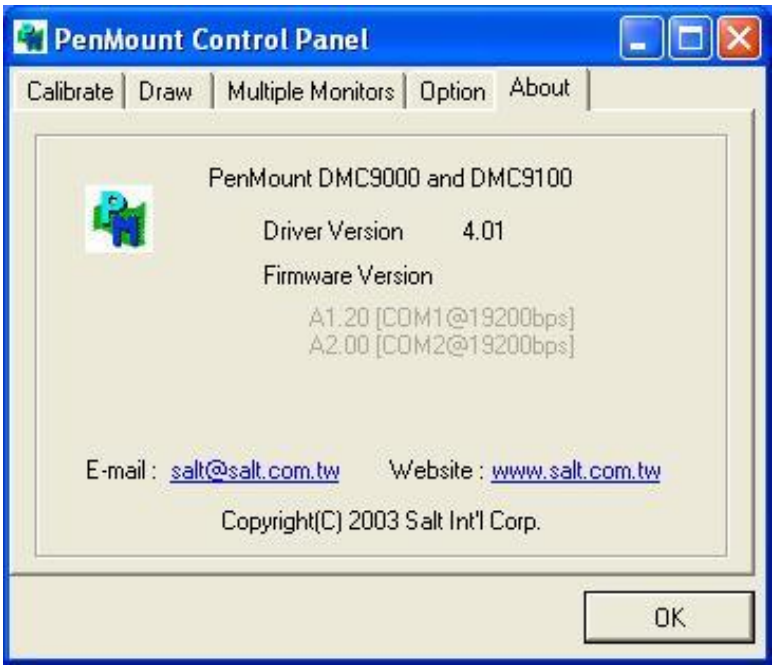
6. “Touch this screen to start its calibration” appears on one of the screens. Touch the screen.
7. “Touch the red square” messages appear. Touch the red squares in sequence.
8. Continue calibration for each monitor by clicking **Standard Calibration** and touching the red squares.

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.

About

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



PenMount Monitor Menu Icon

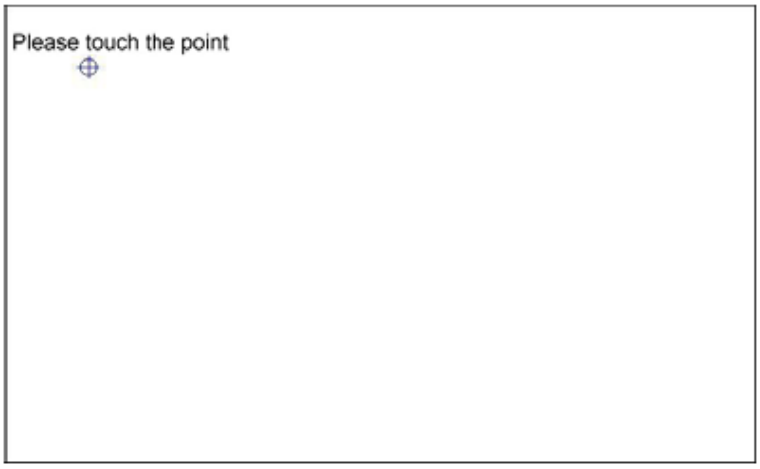
The PenMount monitor icon (PM) appears in the menu bar of Windows 7 system when you turn on PenMount Monitor in PenMount Utilities.

PenMount Monitor has the following function

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

Configuring the Rotate Function

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

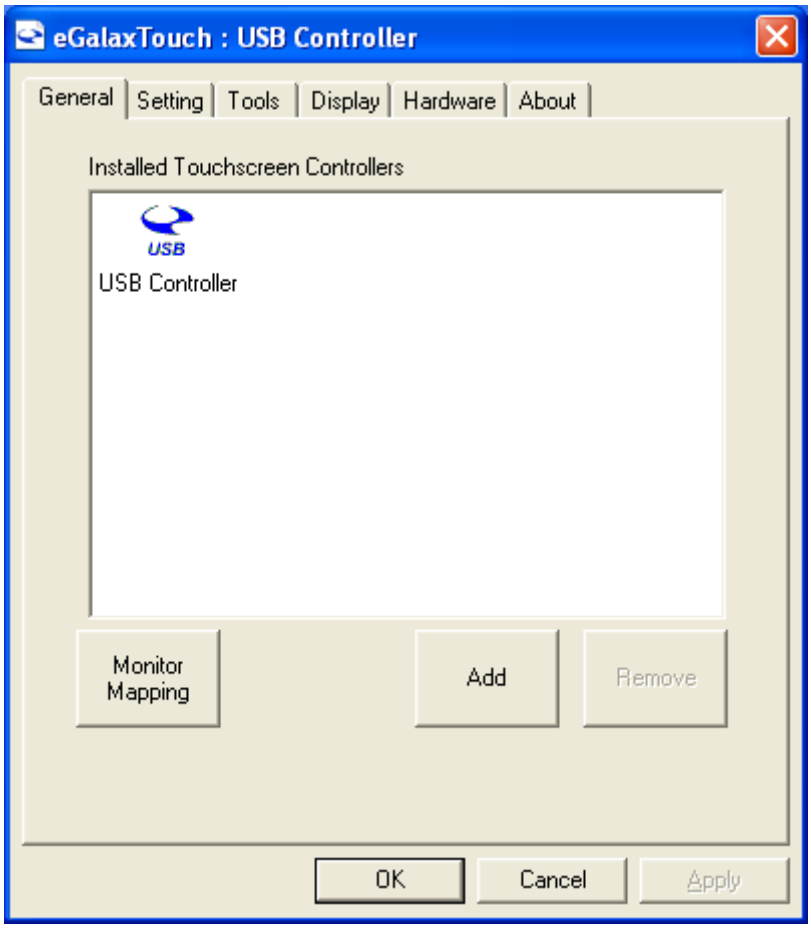


NOTE: The Rotate function is disabled if you use Monitor Mapping

3.2.2 Software Functions(Projected Capacitive)

General

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



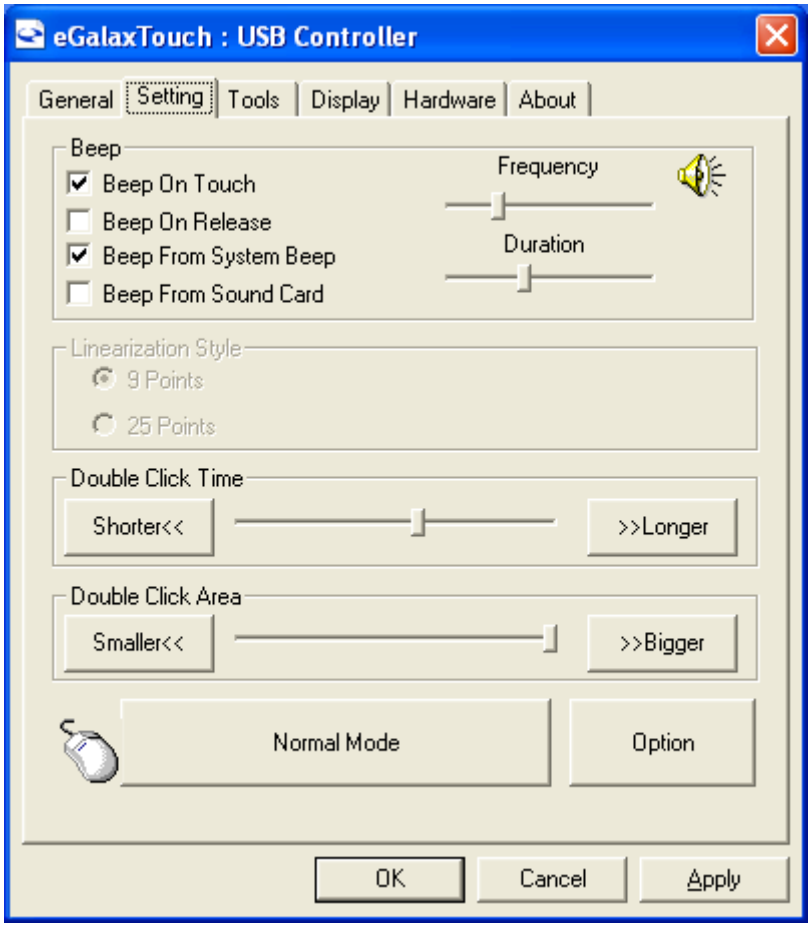
Monitor Mapping

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

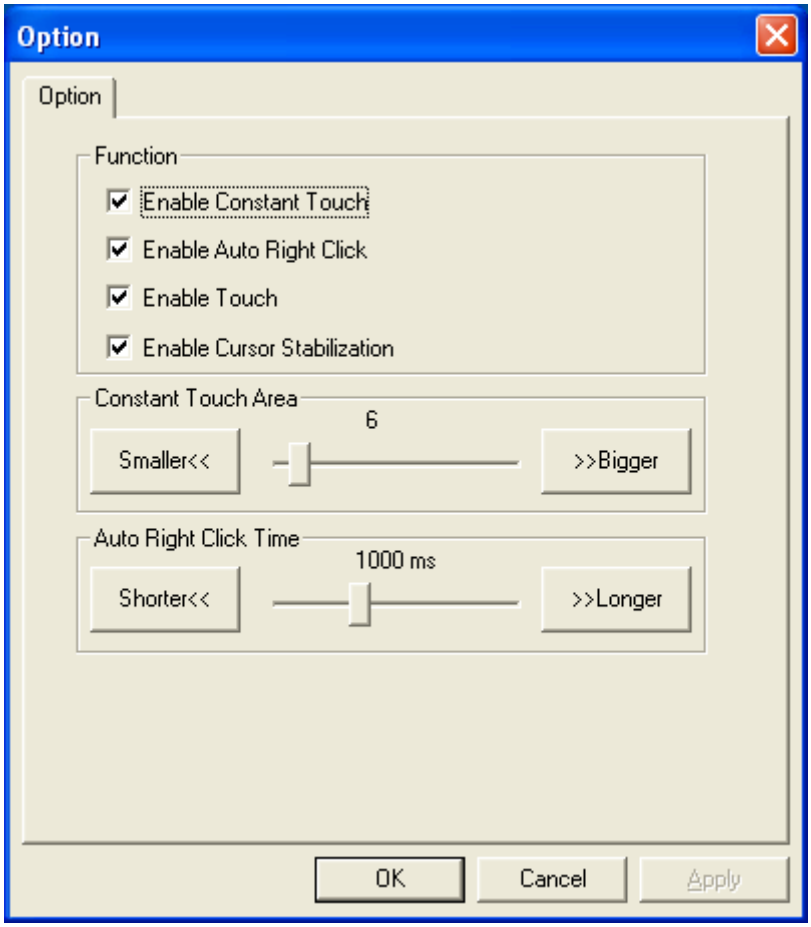
Double Click Area

Smaller

Bigger

Normal mode

Simulate the mouse mode



Option

Function

Enable Constant Touch

Enable Auto Right Click

Enable Touch

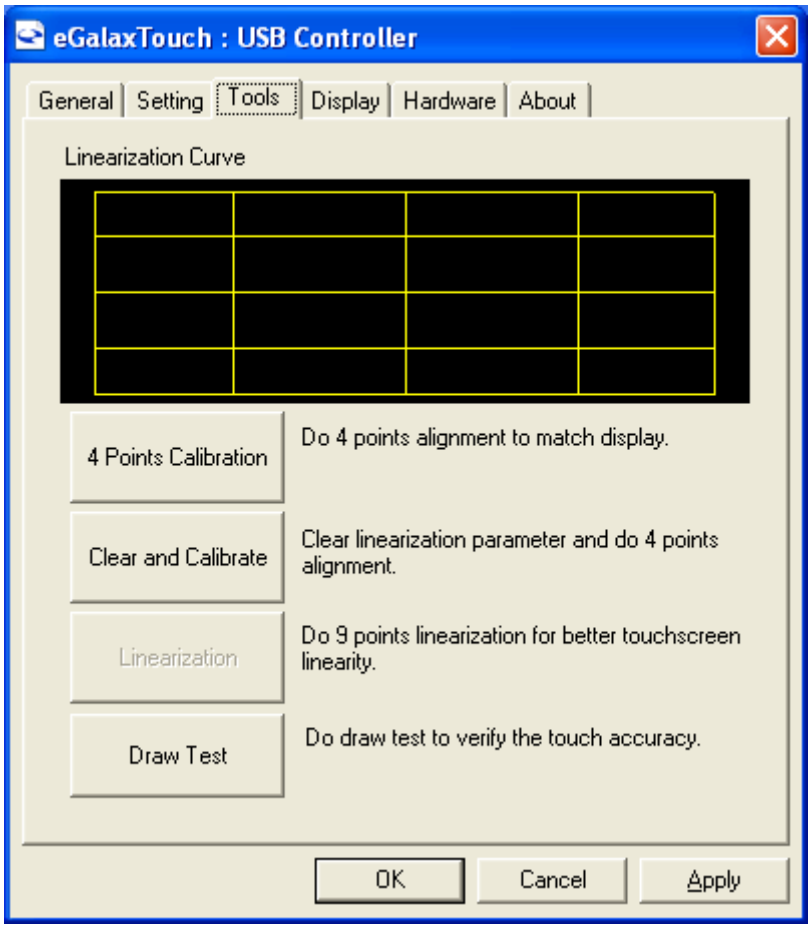
Enable Cursor Stabilization

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

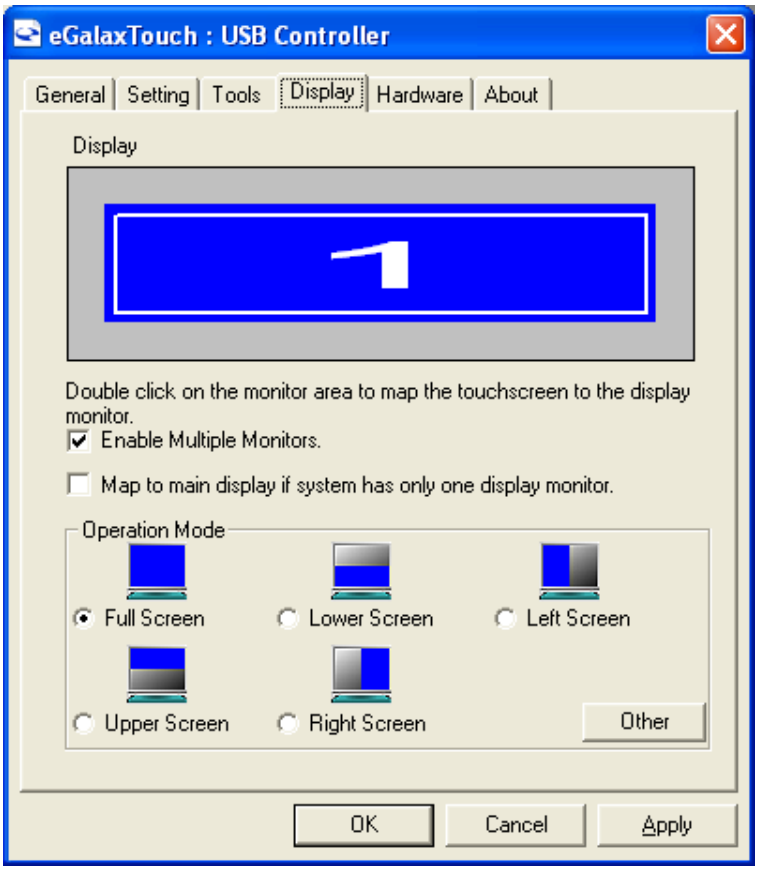
Do 9 points linearization for better touchscreen linearity.

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

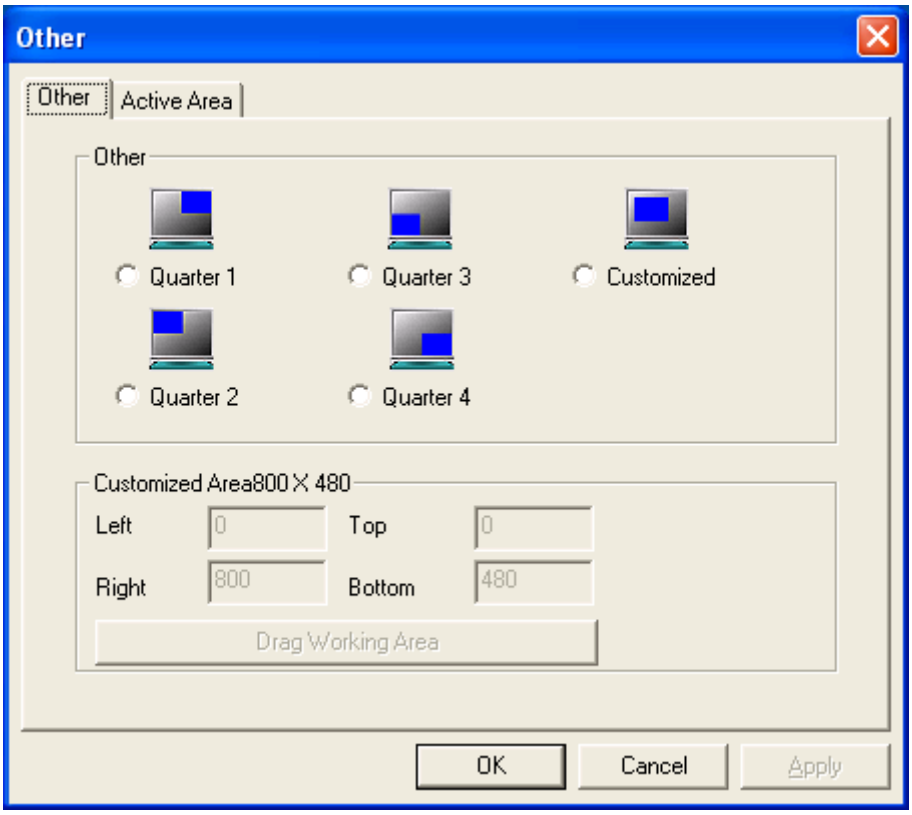
Full Screen

Lower Screen

Left Screen

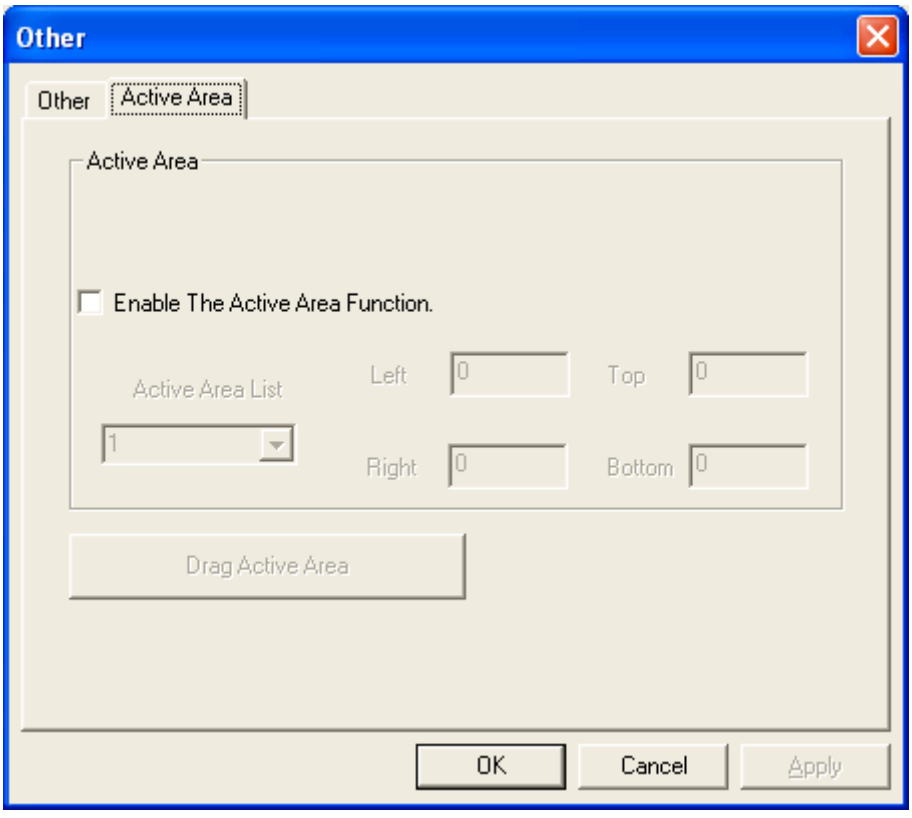
Upper Screen

Right Screen



Other

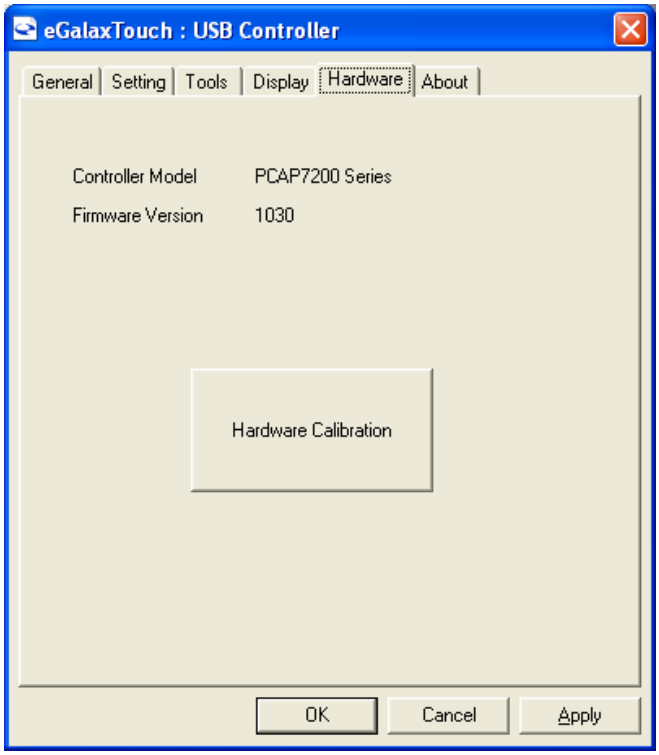
Other mode of display. Quarter1~4 and Customized area.



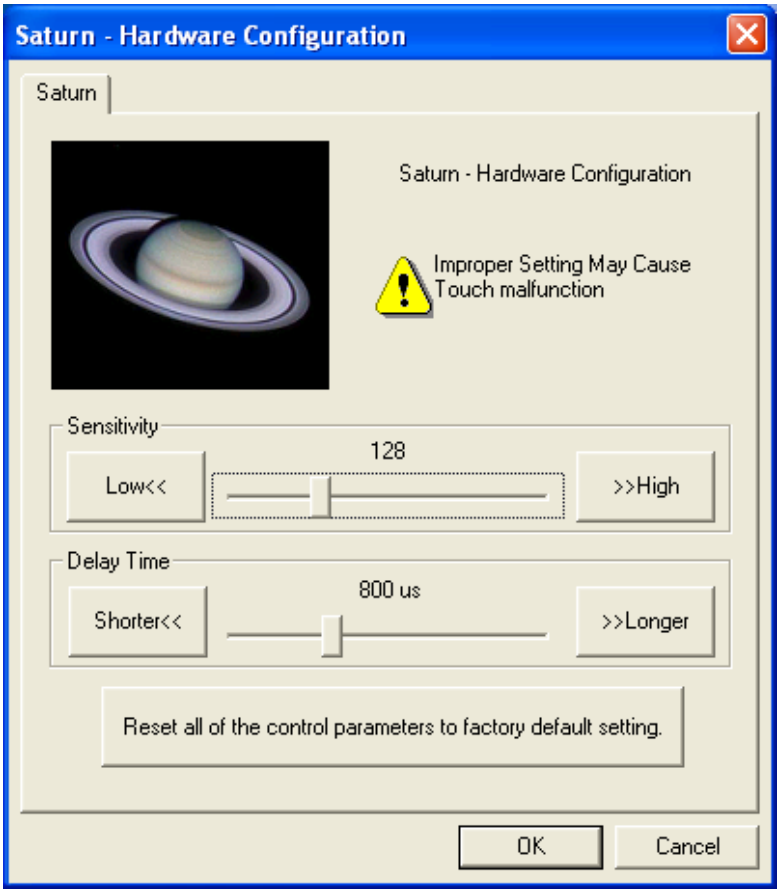
Active Area

Drag active area to enable Active Area Function.

Hardware

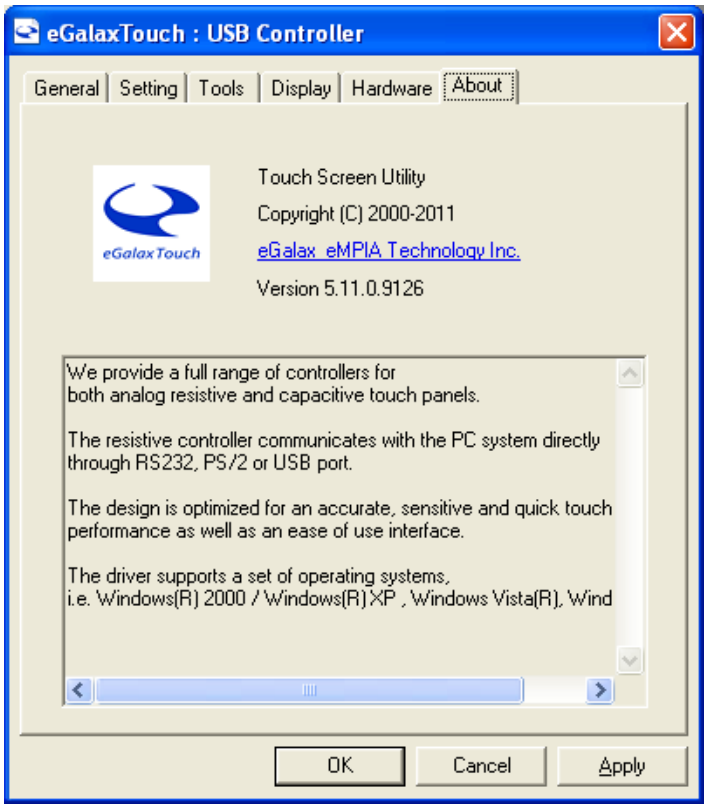


Saturn Hardware Configuration



About

To display information about eGalaxTouch and its version.



Appendix A: Board Dimensions

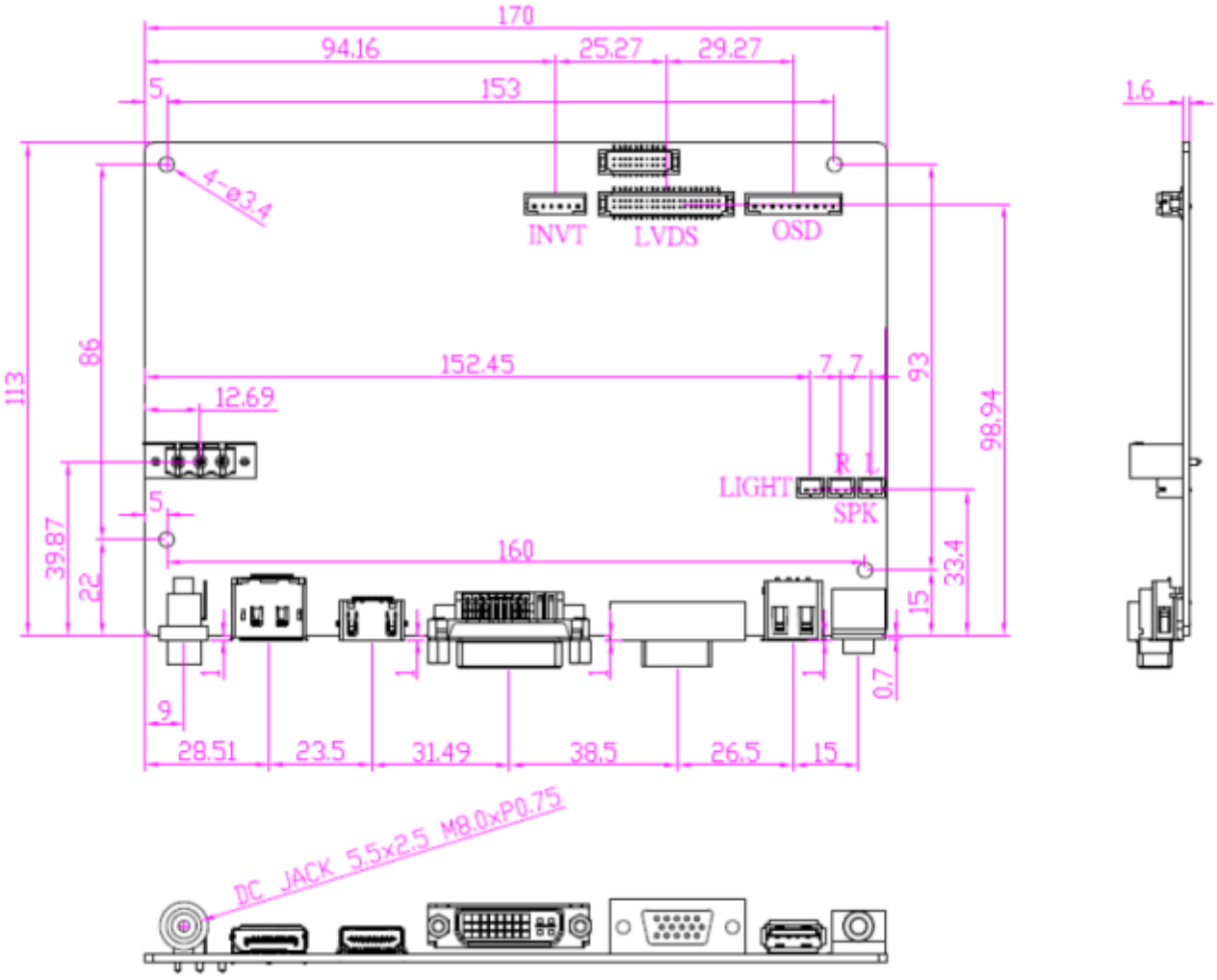


Figure A: Dimensions of TB-6029

Appendix B: Panel Mounting and VESA Mounting

The ARCDIS-1XXAPRG(H) is designed to be panel-mounted and VESA mounted as shown in Picture. Just carefully place the unit through the hole and tighten the given screws from the rear to secure the mounting.

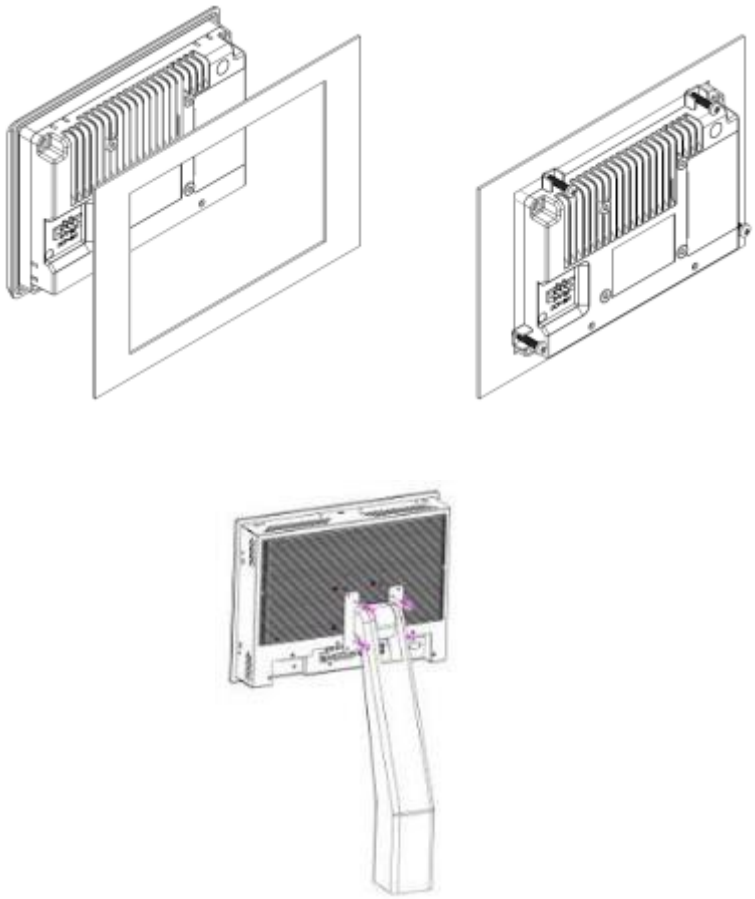


Figure B: Panel mounting and VESA mounting

Attention

***Notice：**

Tighten the mounting clip screws by hand until the gasket seal contacts the mounting surface uniformly.

Tighten the mounting clips screws to a torque of 8 ~ 10 kgf-cm by using the specified sequence, making sure not to overtighten.

*Tighten the mounting clips to the specified torque to provide a proper seal and to prevent damage to the product. Aplex assumes no responsibility for water or chemical damage to the product or other equipment within the enclosure due to improper installation.