



User Manual



TPM-150-AS

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1. Table of Content

1. Table of Content	Page.1
2. Introduction	
2. 1 Overview.....	Page.2
2. 2 Features.....	Page.2
2. 3 LCD Specifications.....	Page.2
2. 4 Product package.....	Page.2
2. 5 Structure Diagram	Page.3
2. 6 Structure Diagram	Page.4
2. 7 Dimension Diagram	Page.5
3. Using the System	
3. 1 Power LED Indicator.....	Page.6
3. 2 OSD Control key.....	Page.6
3. 3 LCD OSD Menu Operation.....	Page.7
3. 4. Trouble Shooting.....	Page.11
4. Installing the Driver	
4. 1 Controller.....	Page.12
4. 2 Installing and using TouchKit.....	Page.15
4. 3 Configuration Utility and Right Button Emulator.....	Page.20
4. 4 Monitor Rotation setting.....	Page.32
4. 5 Uninstalling TouchKit	Page.36

2. Introduction

2.1 Overview

This product is a microprocessor-controlled to work with 15" TFT LCD panel. It is designed to meet the demanding performance requirements of today's business and industrial applications.

2.2 Features

- 15" color TFT LCD display support resolution up to 1024 x 768.
- OSD control keys to optimize the display
- Input signal: VGA and DVI
- Construction: Heavy duty steel chassis with VESA 100mm standard screw holes
- Mounting: Panel mount
- OS Support: MS DOS, Windows 98/SE, Windows NT4.0, Windows 2000, Windows XP
- Construction: Aluminium bezel with Touchscreen
- Power Supply: External 60W DC 12V power adapter

2.3 LCD Specifications

- Display Type: TFT LCD with XGA 15"
- Luminance: 250 cd/m²
- Pixel pitch: 0.297 x 0.297
- Max. Colors: 16.2M
- Max. Resolution: 1024 x 768
- Contrast Ratio: 700: 1
- Viewing Angle: 150°(H) , 135°(V)
- Lamp Life Time: 50,000 hrs.

2.4 Product package

Before using this monitor, please make sure that all the items listed below are present in your package

Accessory Box:

1. VGA cable x 1pcs ,
2. DVI cable x 1pcs ,
3. AUDIO cable x 1pcs
4. Power cord x 1pcs
5. Screw X 12pcs
6. User's manual (CD Disk) x 1pcs
7. AC adapter x 1pcs
8. USB Cable X 1pcs
9. Panel Mount bracket x 4pcs
10. Touchscreen pen x 1pcs

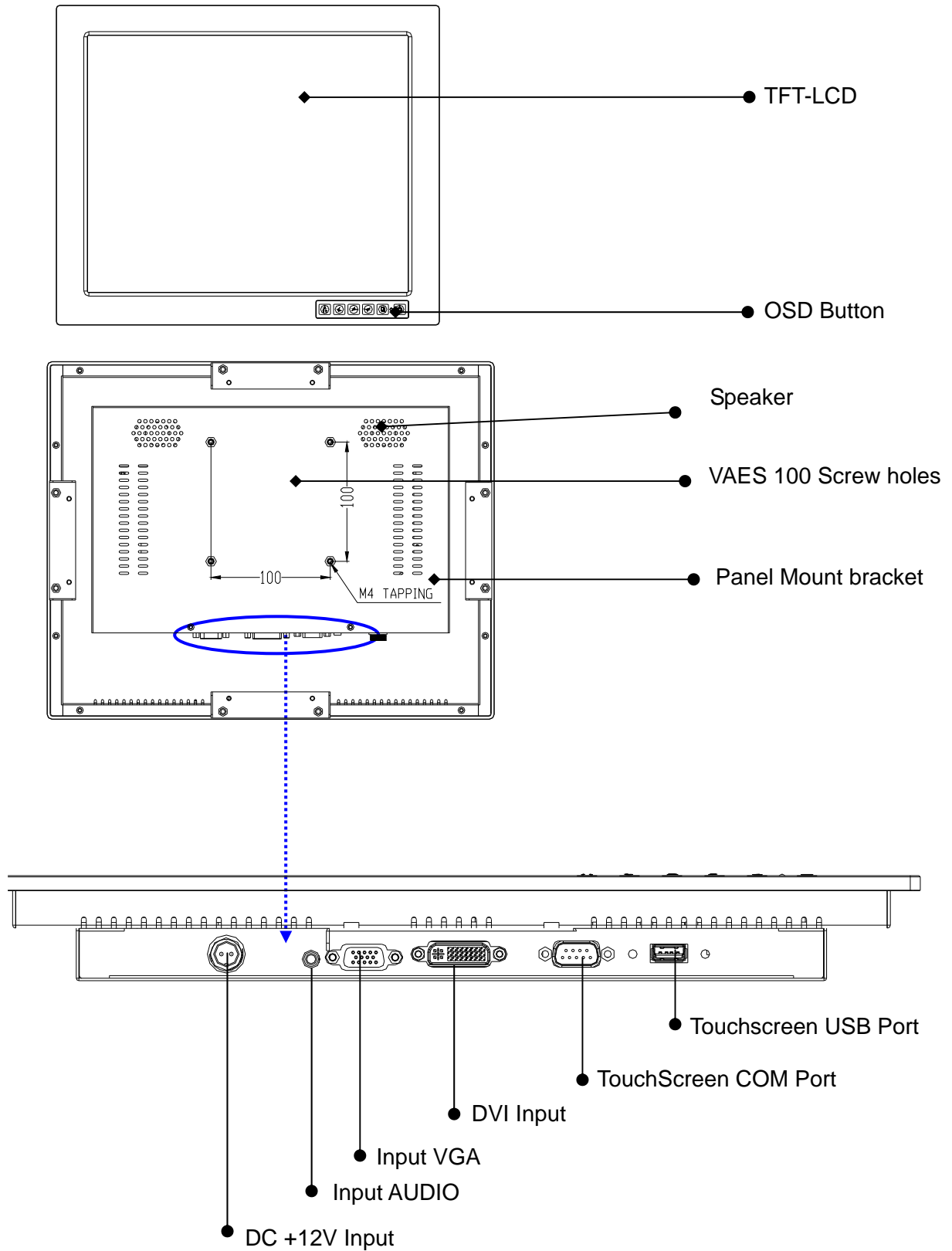
If any items are missing or damaged, contact your dealer immediately.

2. 5 Important safety Instructions

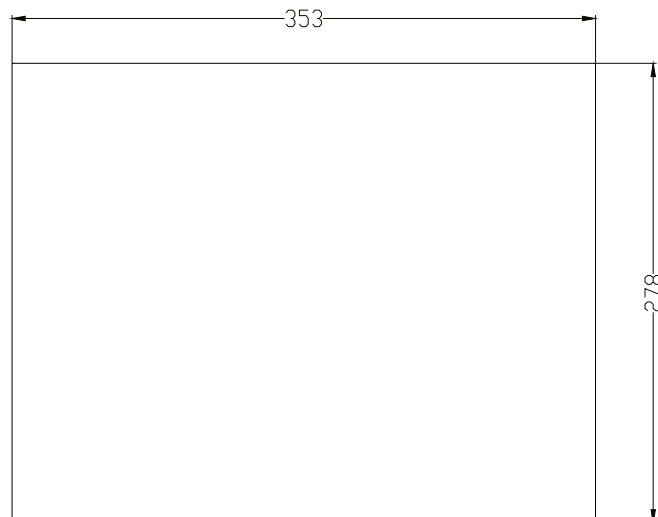
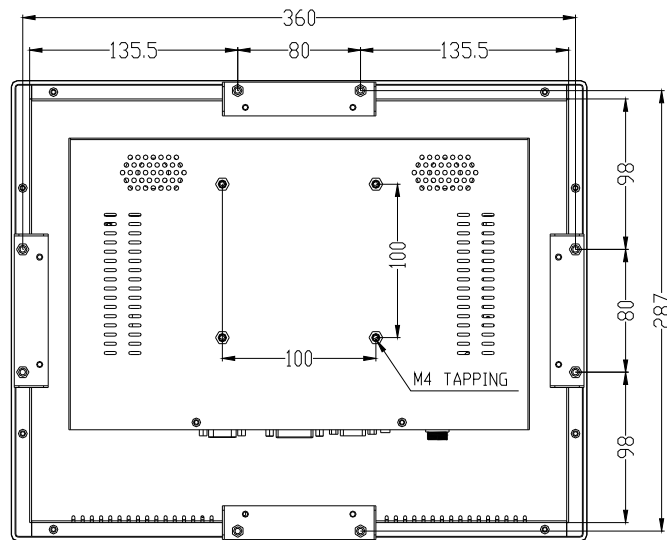
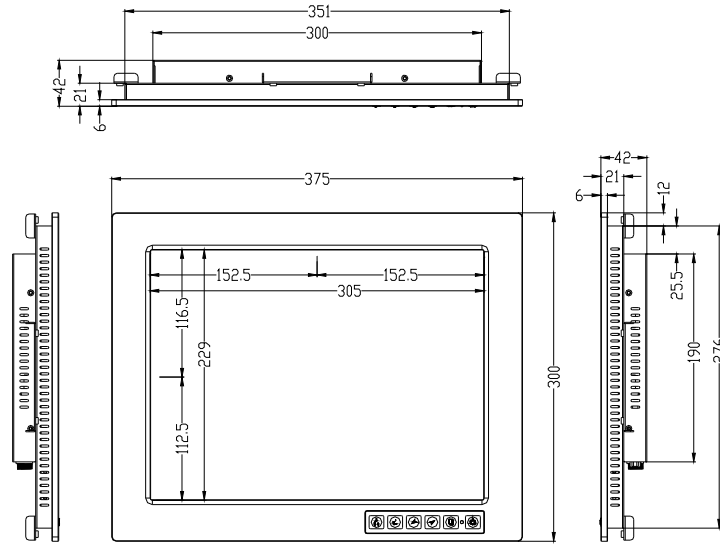
Please read the following instructions carefully. This manual should be retained for future use.

- Unplug the monitor from the power source when you clean the monitor. Don't use liquid cleaners or aerosol cleaners. Use soft cloth only, If it's not available, please consult hardware retailer for cleaning information.
- Do not place you monitor near a window. Exposing the Monitor to rain, water, moisture or sunlight may severely damage the display.
- Do not apply pressure to the monitor. Excessive pressure may Cause permanent damage to the display.
- Avoid dropping and strong impact.
- Do not remove the cover or attempt to repair this unit by yourself, as the warranty may be void Servicing of any nature should be Performed only by an authorized technician.
- Safe storage of the LCD Product is in the range of -4°F to 140°F (-20°C TO +60°C) . Storing you LCD Product beyond this range may result in permanent damage.
- Do not overload electrical outlets or extension cords as this can result in fir or electric shock.
- Do not use or store in dusty, dirty areas
- If any of the following occurs , immediately unplug your power cord and Call an technician. Authorized.
 - a.) The power cord is frayed or damaged.
 - b.) Liquid has been spilled onto the LCD Screen, or it has been exposed to rain.
 - c.) The LCD monitor has been dropped or the case has been damaged.

2. 6 Structure Diagram



2.7 Dimension Diagram



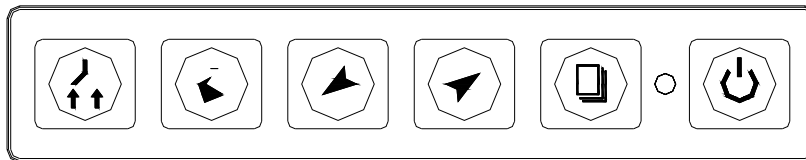
3 Using the System

3. Operation







OSD Control Panel

3.1 Power LED Indicator

When the monitor is working, the power LED is green.



3.2 OSD Control key

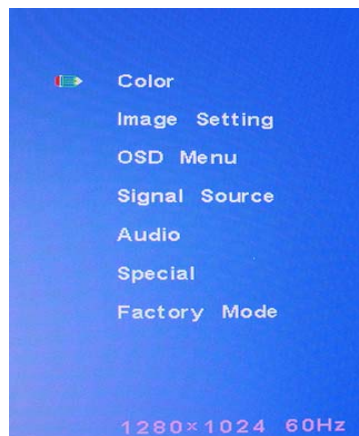
- 3.2.1  **Key** Press the power switch key to turn ON or OFF monitor display, NOT a system power switch.
- 3.2.2  **Key** Press the Menu key to activate the first menu item on tip layer. If continuing pressing it, enter(namely SELECT/BOUNCE)the next layer menu of menu item activated The operation has circle. In addition, for this key corresponds with SELECT, it can achieve exiting menu.
- 3.2.3  **Key** This button has multiple functions including navigating up to select function in the menu.
- 3.2.4  **Key** This button has multiple functions including navigating down to select function the menu.
- 3.2.5  **Key** Press the AUTO key to adjust screen display position and exit
- 3.2.6  **Key** Press the key to select VGA or DVI input

3.3 LCD OSD Menu Operation

3.3 LCD OSD Menu Operation

Main Menu

Color
Image setting
OSD Menu
Signal source
Audio
Special
Factory Mode



Color

Contrast: It can be adjust image get distinct or vague

Brightness: It can be adjust image get dark or bright

Color Adjust: Set favorite color of red,green,and blue

Color Temp: Set color to 9300,6500,5500 sRGB, User



image Setting

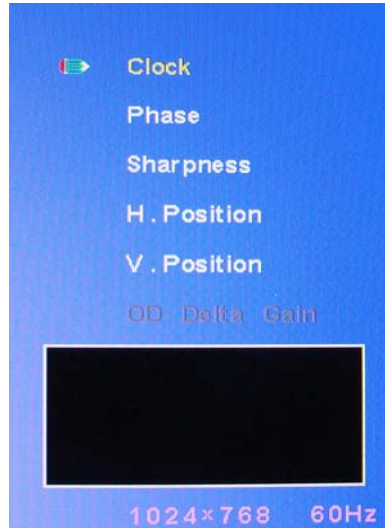
Clock: Adjust frequency to fill display

Phase: Adjust remove noise and sharpen the image

Sharpness: To mark the image become soft

H. Position: It can be moved to left or right side of image

V. Position: It can be moved to up or down side of image



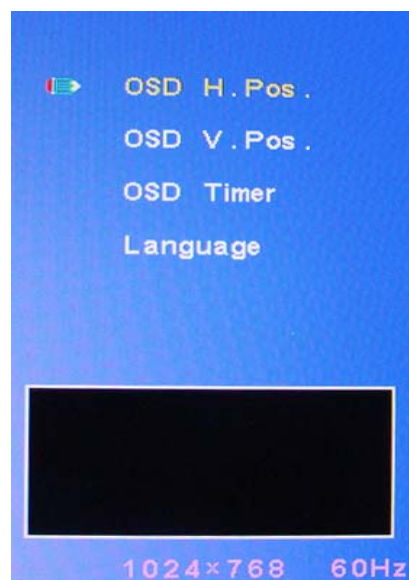
OSD Menu

OSD H. Pos: It can be moved to left or right side of OSD menu

OSD V. Pos: It can be moved to up or down side of OSD menu

OSD Timer: It can adjust OSD time

Language: English, simplified Chinese, traditional Chinese, Francais, Espanol, Japanese, Deutsch,

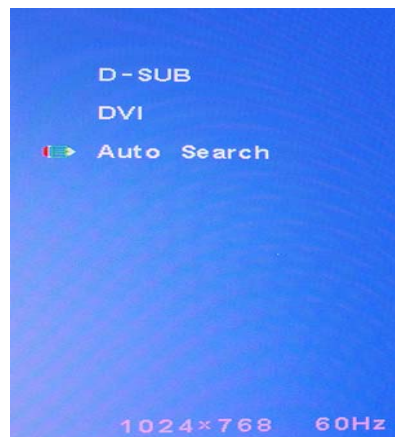


Signal Source

D-SUB: Input source for VGA

DVI: Input source for DVI

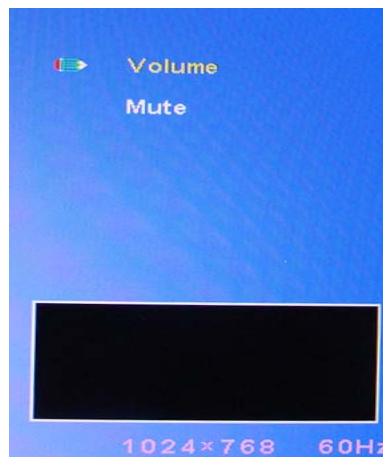
Auto Search: Auto select input source



Audio:

Volume: Go back MENU

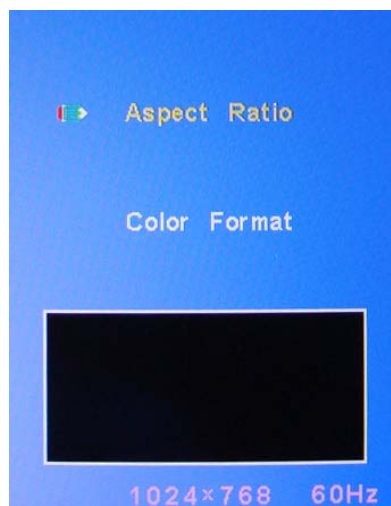
Mute: Go back MENU



Special:

Aspect Ratio: It can be adjust image get full screen or narrow screen

Color Format: Set favorite color of RGB or YUV



Factory Mode:

Factory mode: Adjust the screen display image

Auto Color	
Reset	
ADC Offset	R128 G128 B128
ADC Gain	R128 G128 B128
9300K	R 98 G104 B111
6500K	R113 G112 B104
5800K	R122 G119 B105
sRGB	R128 G128 B128
User	R128 G128 B128
Brightness	128
Auto Config	
Exit	

3.4. Trouble Shooting

If your monitor fails to operate correctly, consult the following chart for possible solution before calling for repairs:

1. The picture does not appear
 - Check if the signal cable is firmly seated in the socket.
 - Check if the Power is ON at the computer
 - Check if the brightness control is at the appropriate position, not at the minimum.
2. The screen is not synchronized
 - Check if the signal cable is firmly seated in the socket.
 - Check if the output level matches the input level of your computer.
 - Make sure the signal timings of the computer system are within the specification of the monitor.
 - If your computer was working with a CRT monitor you should check the current signal timing and turn off your computer before you connect the VGA Cable to this monitor.
3. The position of the screen is not in the center
 - Adjust the H-position, and V-position, or Perform the Auto adjustment..
4. The screen is too bright (too dark)
 - Check if the brightness or contrast control is at the appropriate position, not at the Maximum (Minimum).

If you are unable to correct the fault by using this chart, stop using your monitor and contact your distributor or dealer for further assistance.

4. Installing the Driver

This touch panel controller provides the optimistic performance of analog resistive touch panels for 4 wire models. It communicates with PC system directly through USB connector. user can see how superior the design is in sensitivity, accuracy and friendly operation. The touch panel driver emulates mouse left and right button function and supports operation systems including Microsoft Windows 95/98/ME/2000/NT/XP/XP Tablet PC Edition, Windows CE 2.12/3.0/.NET, Linux, iMac and DOS.

4.1 Controller

Interface	USB
4-wire	Ready

4.1.1 Specifications and Features

Specifications for Touchkit controller.

Specifications	
Power requirements	+5VDC (Maximum 100mA, typical 70mA, 50mV peak to peak maximum ripple)
Operating temperature	0 to 50 °C
Storage Temperature	-40 to 80 °C
Relative Humidity	95% at 60 °C
Protocol	USB Model: USB 1.1 Low speed
Resolution	2048 X 2048
Report rate	USB Model: Max. 160 points/sec
Response time	Resistive: Max. 35 ms Capacitive: Max. 20 ms
Pin out definition	4 wire model: X, Y, X, Y
Panel resistance	4 wire resistive model: 200 ~ 900 ohm (pin to pin on the same layer)
Regulatory Approvals	FCC-B, CE

Features for Touchkit software

Features	
Calibration	<ol style="list-style-type: none"> 1. Fast full oriental 4 points position 2. Support monitor / display rotation 3. Support multiple monitor / display 4. Support QVGA and Half-VGA function
Compensation	Accuracy 25 points linearity compensation.
Draw Test	Position and linearity verification
Controller Setting	<ol style="list-style-type: none"> 1. Support multiple controllers 2. Dynamical add / remove controllers 3. Change Controller interface without reboot.
Language	Support 9 languages for Windows
Mouse Emulator	<ol style="list-style-type: none"> 1. Right / Left button emulation 2. Normal / Click on touch / Click on release mode 3. Cursor visibility
Sound Notification	<ol style="list-style-type: none"> 1. No sound 2. Touch Down 3. Lift Up 4. Frequency adjustment 5. Duration adjustment
Double Click	<ol style="list-style-type: none"> 1. Configurable double click speed 2. Configurable double click area
OS support	<ol style="list-style-type: none"> 1. Windows 95/98/ME/NT4/2000/XP/ Windows XP Tablet PC Edition 2. Windows CE 2.12, 3.0, .NET 3. Linux (X Window Version: 3, 4 Red Hat 6.0 ~ 8.0 Mandrake 5.0 ~ 9.0) 4. iMac. OS9 5. MS-DOS: Support display resolution: 320x200, 640x200, 640x350, 640x480, 800x600, 1024x768 and 1280x1024

4.2. Installing and using TouchKit

TouchKit is software, which contains drivers of the touch panel controllers for the specified communication connectors USB, and the other two utilities:

- **Touch Tray support**

This is utility for emulating the right and left button of mouse through controlling touch panel. User can toggle between right or left mouse buttons by this utility.

- **Configuration support**

The calibration and draw test of touch panel are done by this utility. Besides, user can add or remove for new RS-232 or PS/2 touch panel devices.

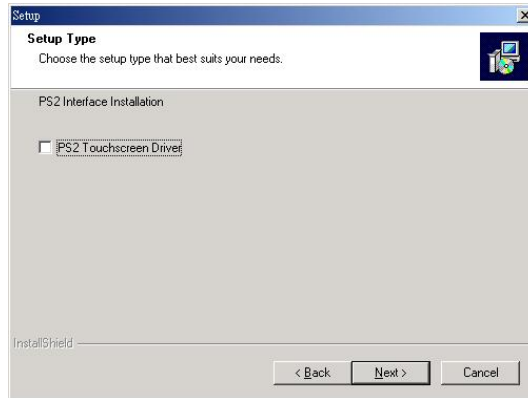
Follow these steps to install **TouchKit**.

1. Put the **TouchKit** CD to CD-ROM.
2. Change directory to **Win2000_XP**
3. Double click the **Setup.exe**, then windows starts to run the installation program.
Notice that do not plug the USB controller on the system before the installation has been finished.
4. Just click **[Next >]** button to continue installation.



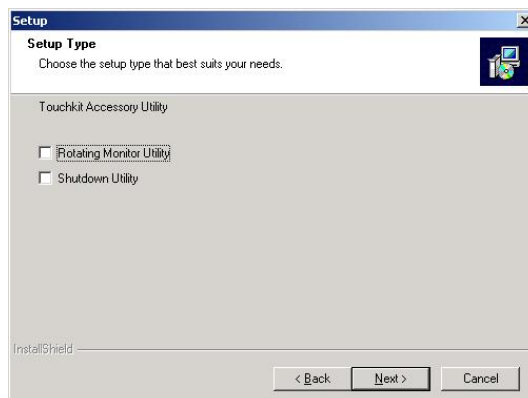
5. Then check the check box if PS/2 touch controller is to be installed. The default is

unchecked. Then Press **[Next >]** to continue installation.

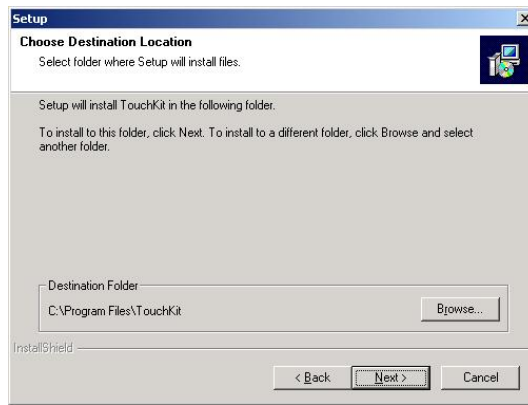


System will give you a warning, if user checks the PS2AUX check box,

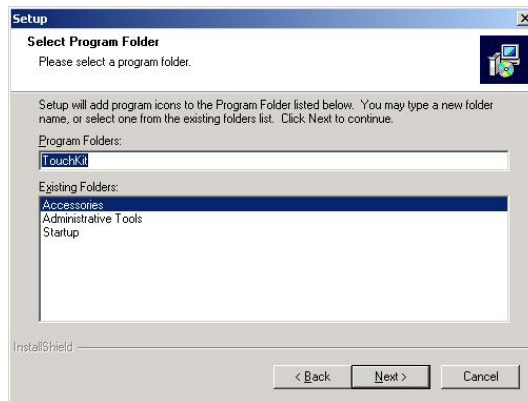
6. Choose the setup type that best suits your needs. There are two **TouchKit** accessory utilities for choosing, **Rotation Monitor Utility** and **Shutdown Utility**. Users can install the utility they want by checking the box. Then Press **[Next >]** to continue installation.



7. Select the appropriate folder where set-up files will be installed. Then Press **[Next >]** to continue installation.



8. Then type in the name of program folder for **TouchKit** or press **[Next >]** to continue. There will be a default name for it.

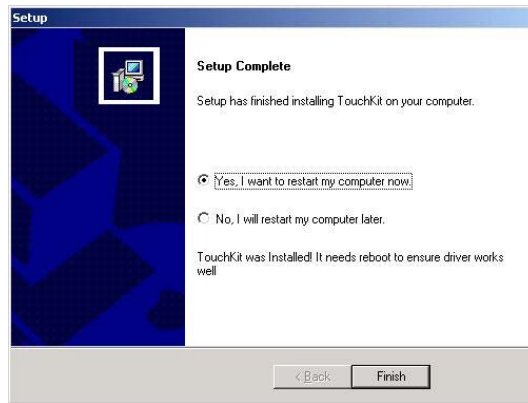


During driver installation, the setup program will scan COM port for RS232 **Touchkit** controller. Once the controller was scanned, the setup program will display a dialog as

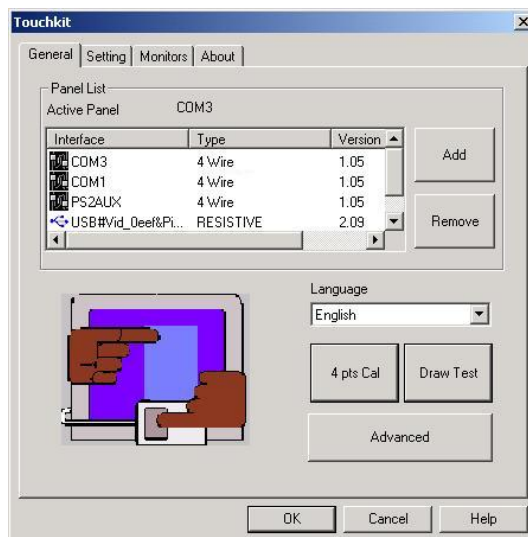


Click Yes to add the controller on the specified COM port automatically.

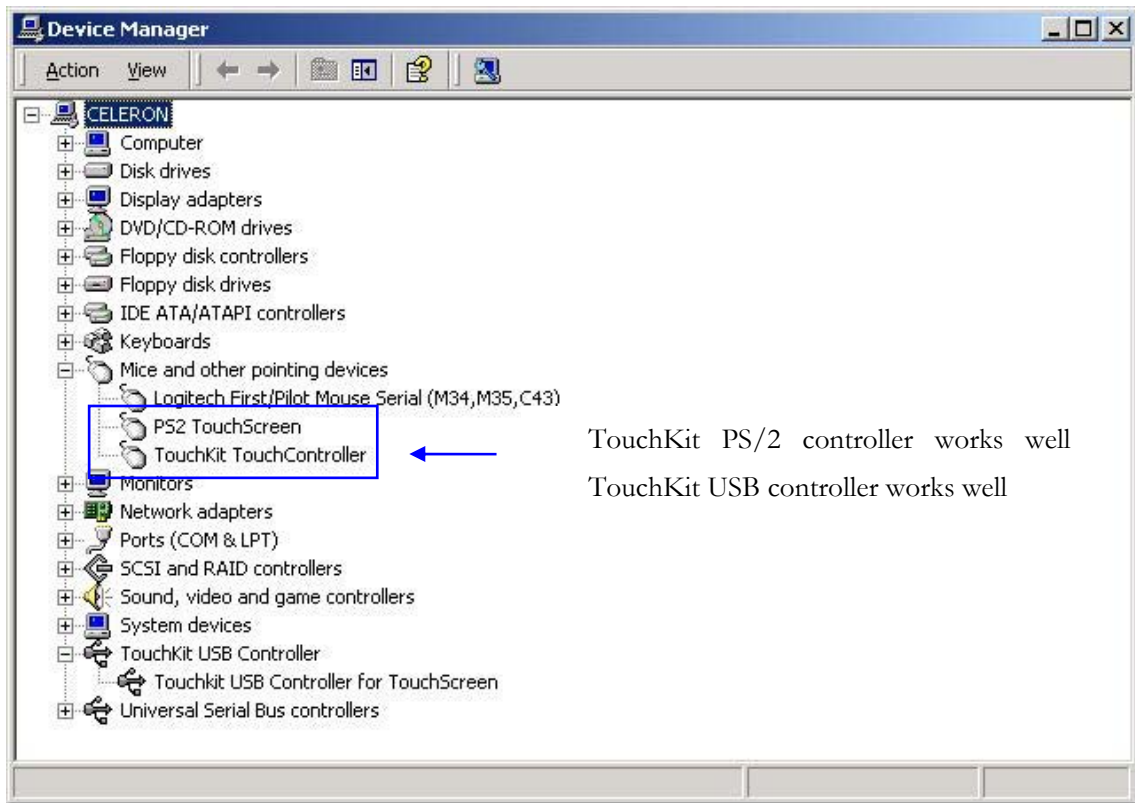
9. Windows is copying files to disk and the setup is complete. After finishing the installation, if PS/2 touch controller is installed, it needs to reboot the computer.



10. Setup is complete. After **TouchKit** installation, the USB device will be found automatically as soon as it was plugged into the computer. Then user can see the new device on the application program window. And, the program will remove the USB Device automatically as soon as it was unplugged.



11. Users can check the situation of controllers in Device Manager. If the controller is set up well, there will be messages as the following picture.

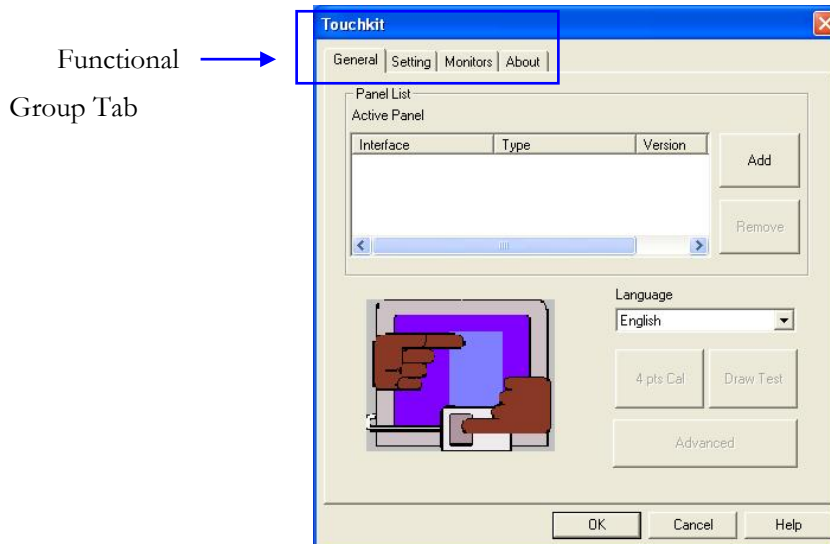


TouchKit PS/2 controller works well

TouchKit USB controller works well

4.3. Configuration Utility and Right Button Emulator

There are four property pages in *TouchKit* utility, and they are General, Setting, Monitors and About. Each property page contains different functions for users to do the adjustments. Therefore, users can easily manage all the *TouchKit* controllers through *TouchKit* Utility.

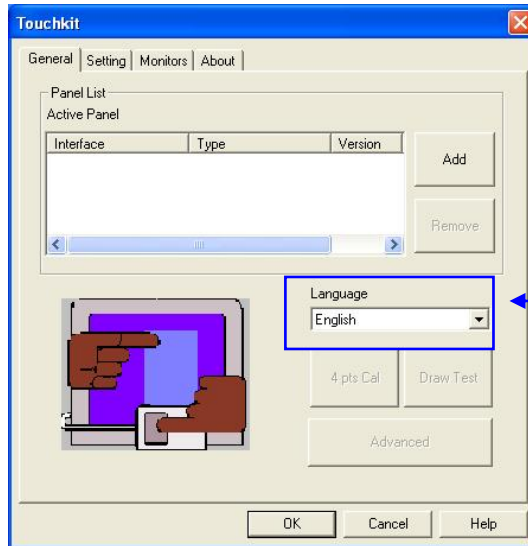


General

General property page contains the functions of **language selection**, **devices add/remove**, **4 points calibration**, **Draw test** and **advanced**.

<Language>

TouchKit supports multi-language user interface. Users could select native language that is compatible to operation system support. For example, if the operation system is a traditional Chinese version, user could see the normal display words under the traditional Chinese and English mode. There are nine different languages, **English**, **Traditional Chinese**, **Simplified Chinese**, **French**, **Spanish**, **German**, **Japanese**, **Italian** and **Korean**, supported in this feature of **TouchKit**.

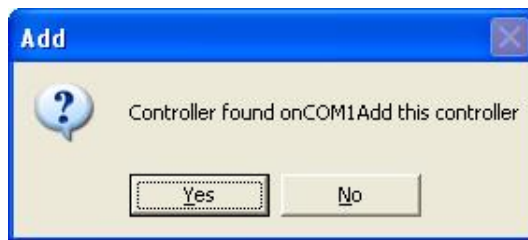


Note to select the compatible language

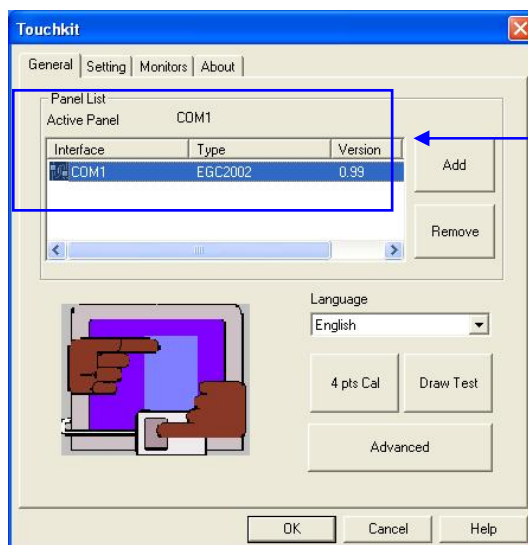
Select the compatible language first or user may not see the normal display of each button.

<Add> / <Remove>

Please check the touch panel devices (including its controller) are equipped well, then click **[Add]** button to add all of those RS-232 and PS/2 components to the **Panel List** dialogue box.



There is one devices found. Press **[Yes]** to continue.

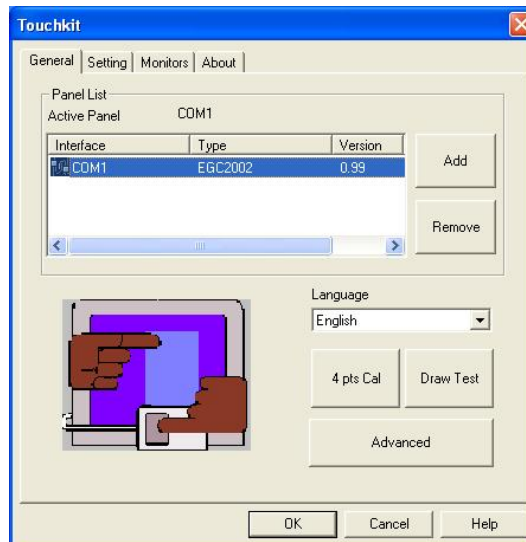


Device is found in

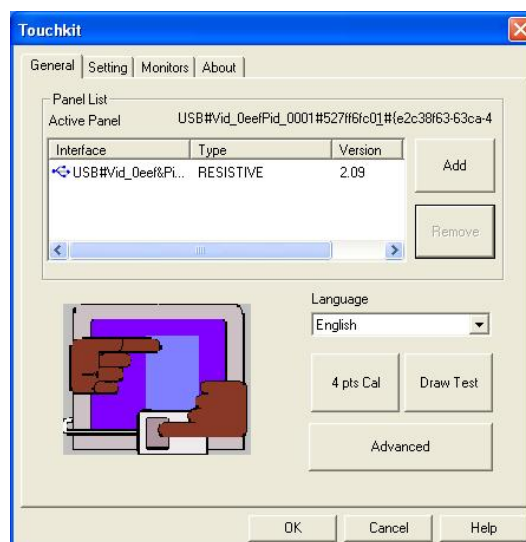
The controller is displayed on the Panel List box. users can get the information of interface, type, firmware version and baud rate for each controller.

Select one device after added more than one device at the panel list window.

The one selected will activate the panel, and remember to do the calibration before starting to use touch panel.



But, for hot-swapping USB touch controller, it will be added automatically as soon as it was plugged into the computer. Then users can see the new device on the application program window. And, the program will remove the USB touch controller automatically as soon as it was unplugged.



There are three buttons, **[4pts Cal]** **[Draw Test]** **[Advanced]**, at the lower section of the **General** property page.

<4pts Cal>

Correct 4 point locations on screen with the panel. Press **[4 pts Cal]**, screen displays as follows.

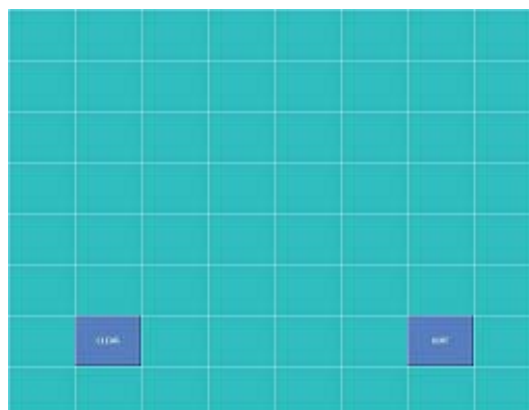


Touch the blinking symbol on panel until beep or stop blinking.

<Draw Test>

Test the drawing position related to the display screen on panel.

Click on the **[Draw Test]** button. There will be a squared blue display showing.

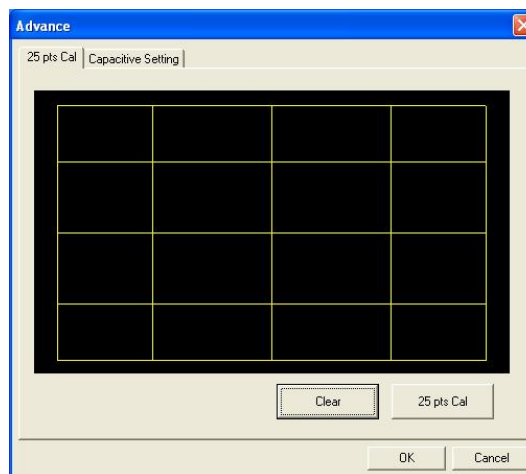


In drawing test window, users can click **[Clear]** button to clear the window. Also, User can click **[Quit]** or press mouse right button to quit from the drawing test.

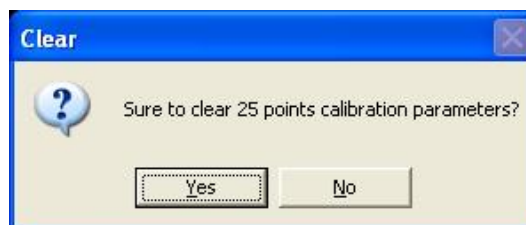
If **no touch action** happen within minutes, it will quit from the draw test window automatically. In drawing test window, users can verify the panel linearity, calibration capability, and drawing line quality.

<Advanced>

Touchkit provide more accuracy 25 points calibration for touch sensor. In addition, **Touchkit** provide controller setting for capacitive touch sensor. If the capacitive controller is selected, a capacitive setting property page appears on the advanced sheet. In general case, it does not need to do 25 points calibration other then bad linearity sensor.



Press **[Clear]** to clear the previous calibration records.



Press **[Yes]** to clear previous records. The record will become default record.

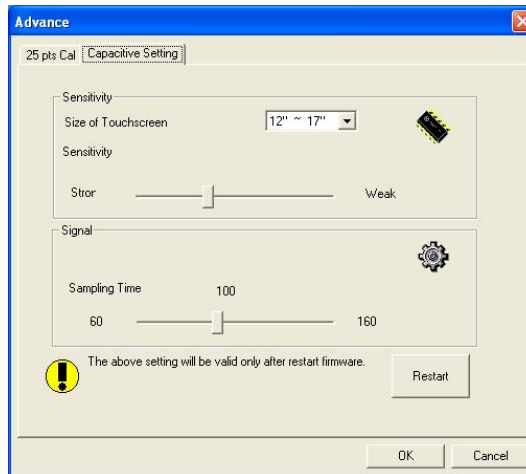
Press **[25ptCal]** to do 25 points calibration. Correct 25 point locations on screen with the panel.



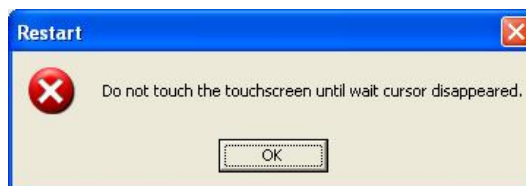
Touch the blinking symbol on panel until beep or stop blinking.

After the calibration, the new record will overwrite the old one.

If the selected controller is capacitive type, an extra property page for capacitive setting adjustment shown as below:



Please select property size of capacitive screen first, and press **[Restart]**



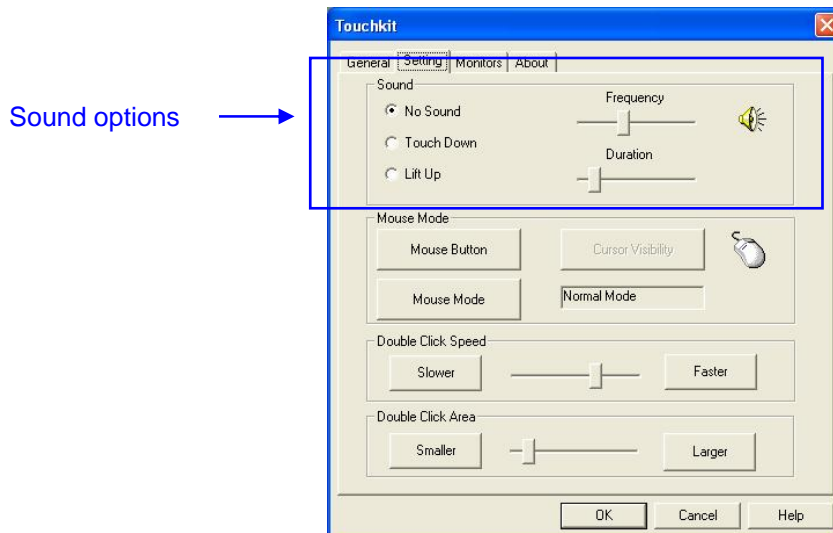
The capacitive controller will restart, and do not touch the screen before the warning message disappears

Warning: Do not adjust the sensitive and sampling time without RD help

Setting

There are three functional groups in **Setting** property page, and at the upper section of the property page is **sound option**; at the middle section is **Mouse Mode**; and at the lower section is **Double Click Adjustment**.

The **Sound** options provide user the click feedback while touching the panel. Select preferred option first.



<No Sound>

Users could choose to make no sound while using the touch panel.

<Touch Down>

The system will make a sound while touching the panel.

<Lift Up>

The system will not make any sound until finger leaves the touch panel.

<Frequency>

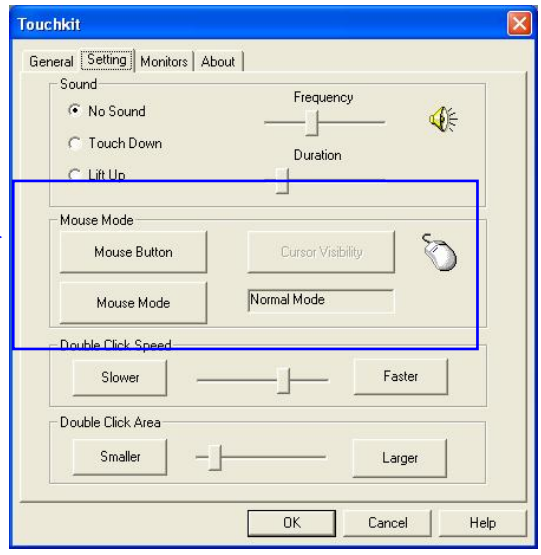
Sound frequency, drag the cursor from left to right is low to high.

<Duration>

Sound duration, drag the cursor from left to right is short to long.

The **Mouse Mode** provides user different operating options. They are as follows:

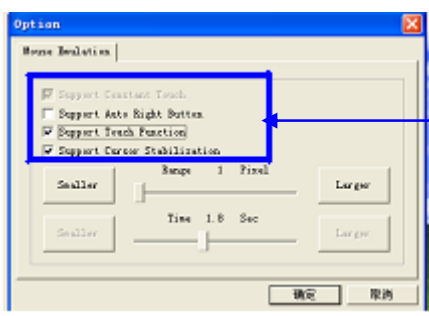
Mouse Mode →



<Mouse Button>

Setting

There are three functional groups in **Setting** property page, and at the upper section of the property page is right button **option**; at the middle section is **Mouse Mode**; and at the lower section is **Double Click Adjustment**.



Button to show right function

Change **right** button by clicking the upper small rectangular box of **Support auto right Button**. Blue area expresses what button has been selected.

<Support auto right button>

Users could choose to make right button while using the touch panel.

<Support touch function>

The system will disable the touch panel function

<Support Cursor Stabilization>

The system will finger leaves the touch panel stabilization

Each one touch has its own touch tolerance once someone may not fix in one point. So if user set the Double Click Area to **<Smaller>**, the panel will be very sensitive about micro-move while user wants to fix on a point. If user set it to **<Larger>**, it tolerates the larger touch point movement while user want to point at a fixed position.

<Mouse Mode>

There are three kinds of mouse mode user could choose,

[Normal Mode]

It provides all the mouse functions, including the dragging function.

[Click on Touch]

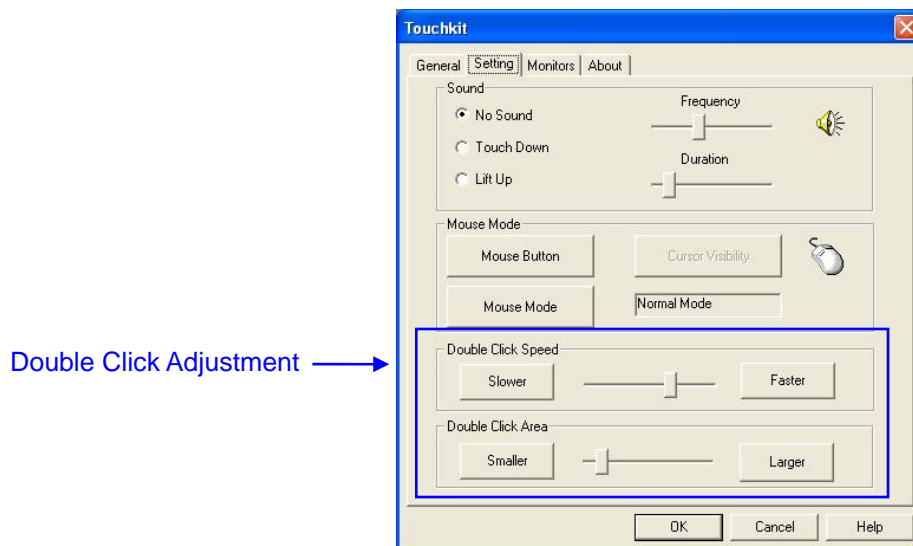
Click action is executed as soon as user touches the panel.

[Click on Release]

Click action will not be executed until finger leaves the panel.

The **Double Click adjustment** provides user to set up the tolerance while double

clicking. They are as follows:



<Double Click Speed>

Double Click Speed is the double click response time for Windows system. User can adjust the proper double click for easy double click by touch panel.

<Double Click Area>

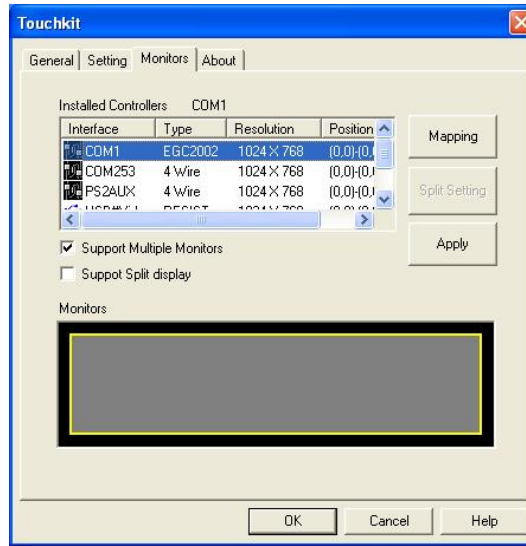
Each one touch has its own touch tolerance once someone may not fix in one point. So if user set the Double Click Area to **<Smaller>**, the panel will be very sensitive about micro-move while user wants to fix on a point. If user set it to **<Larger>**, it tolerates the larger touch point movement while user want to point at a fixed position.

Monitors

There are two functions in this property page, and they are **Multiple Monitors** and **Split Monitor**. Such a trendy and yet innovated design provides viewing pleasures, viewing flexibility and convenience to the users.

<Multiple Monitors>

To configure the mapping relationship between the monitors and the touch panels, select the monitor page as below.



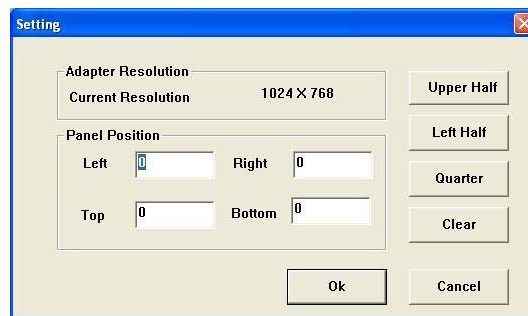
Set the check box (Use Multiple Monitors) to enable multiple monitors mapping. Uncheck this box will disable multiple-monitor configuration, and all of the touch panel controllers will be mapped to the primary monitor. The gray shadow area is the monitor mapped the selected controller/panel. The button **[Mapping]** is used to find the mapping relationships between the monitors and touch panel controllers. Press the **[Mapping]**, the software will guide the user to touch the corresponding monitor to obtain the mapping relationship.



After finish monitor mapping, Press **[Apply]** to apply the mapping relation.

<Split Monitors>

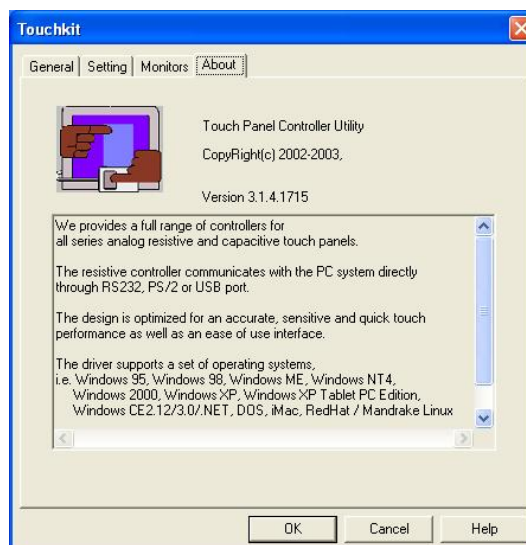
To use the Split Monitor function, users need to select which controller you want to launch this function, then check the Multiple Monitors box and Split Monitor at the same time as showing as the follow picture. Press the **[Split Monitor]** button to set up the activate area.



It shows the current resolution of display and users can set up the activate area by inputting the value by yourself or use the default button **[Upper Half]**, **[Left Half]** or **[Quarter]**. The default value of panel resolution should be full screen as Left: **0** , Right: **0**, Top: **0** and Bottom: **0**.

About

Information about *TouchKit*.



4.4 Monitor Rotation setting

TouchKit driver package for Windows 98/ME/2000/XP provides two easiest ways to rotate the touch panel while the display is rotated.

- Rotating display by way of nVidia or ATI driver
- Rotating display by way of [Pivot.](#)

4.1 [Rotating display by way of nVidia or ATI driver](#)

1. After activating the rotation of nVidia or ATI driver, there will be one blinking symbol show as the following picture. Touch near the blinking symbol until stop blinking, and the touch panel will rotate itself.

Please touch the blinking symbol until stop blinking.



One touch blinking symbol adjustment

2. However, 180° rotation of touch panel can not be done in one step, users need to rotate 90° twice.

4.2 Rotating display by way of Pivot

There are two ways to rotate the display by way of Pivot.

- Rotating display by way of Pivot hotkey or function menu
- Rotating display by way of [RotTray icon provided by TouchKit](#).

< Rotating display by way of Pivot hotkey or function menu >

1. To rotate the display, please install Pivot pro 6.05 first. Then reboot PC to activate Pivot.
2. There will be a pivot icon in the task bar. User can click on it, and user can choose four angles: 0°, 90°, 180°, 270° to rotate the display.
3. After choosing the angle users want to rotate, there will be one blinking symbol showing as the following picture. Touch this blinking symbol until stop blinking, and the touch panel will rotate itself.

Please touch the blinking symbol until stop blinking.



One touch blinking symbol adjustment

4. However 180° rotation of touch panel can not be done in one step, users need to rotate 90° twice.

< Rotating display by way of RotTray icon provided by TouchKit >

1. To rotate the display, please install Pivot pro 6.05 first. Then reboot PC to activate

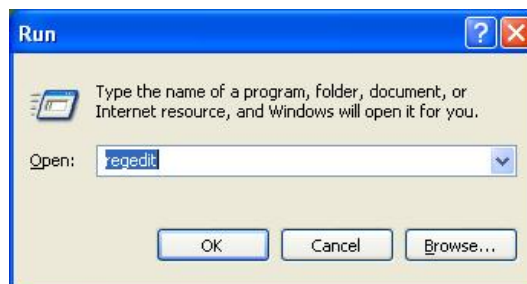
Pivot.

2. Users will see **RotTray** icon in the task bar.



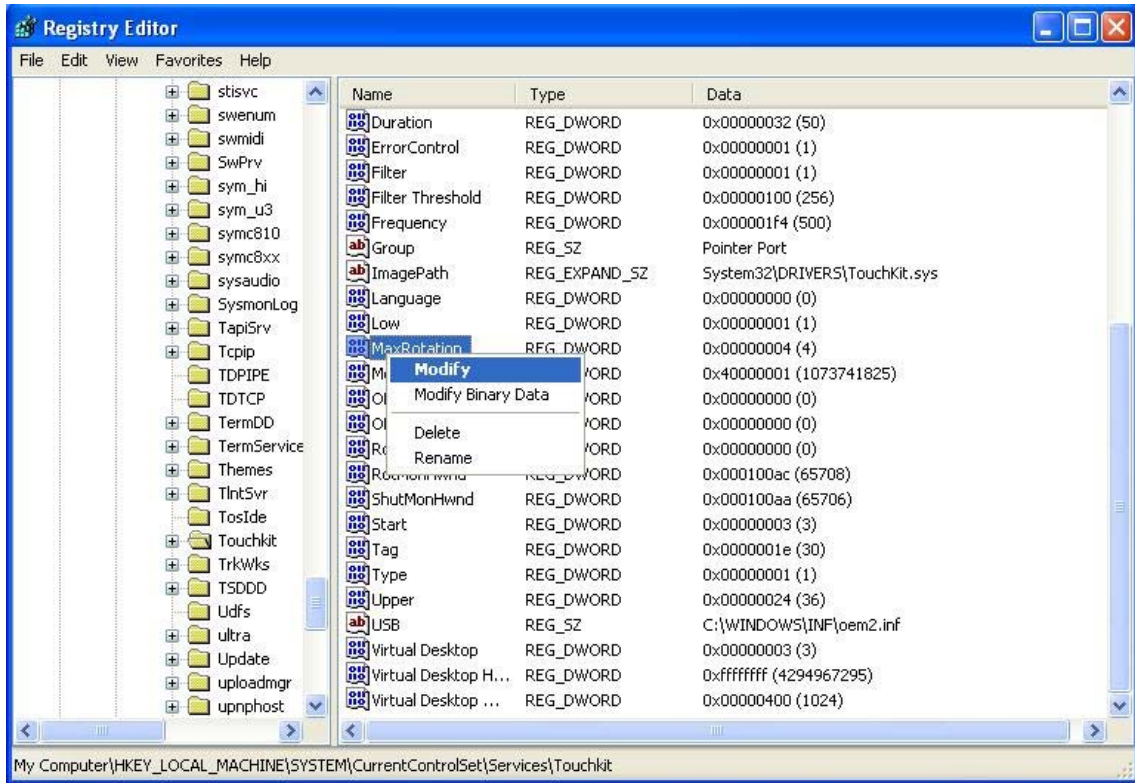
RotTray icon

3. Clicking on **RotTray**, it will call Pivot to rotate the display and touch panel 90° at the same time. Clicking it again, it will rotate another 90° to 180°. Every click on **RotTray**, display will rotate clockwise. Recalibration and one symbol adjustment won't be necessary anymore.
4. However this version of **RotTray** is design for Pivot pro 6.05. If users want to use older version of Pivot, like Pivot 5.1, users need to amend the value of windows registry. The next step is an example for setting Pivot 5.1 on Win98.
5. Go to **Start / Run**, and execute regedit.



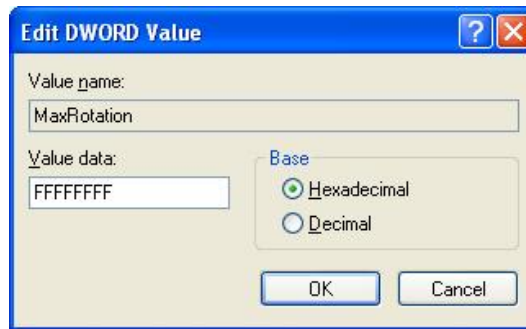
Press **[OK]** to execute

6. **For Windows 95/98/ME OS**, The Registry Editor will show as the follow picture.
Then go to
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\VxD\TKIT.
For Windows 2000/ XP, please go to
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Touchkit
Right click on the **MaxRotation**, and choose Modify.



Right click on MaxRotation to Modify Value data

7. Choosing the Hexadecimal Base, and replace the value data “4”(default) with “FFFFFFFF”.



Pressing **[OK]** to confirm.

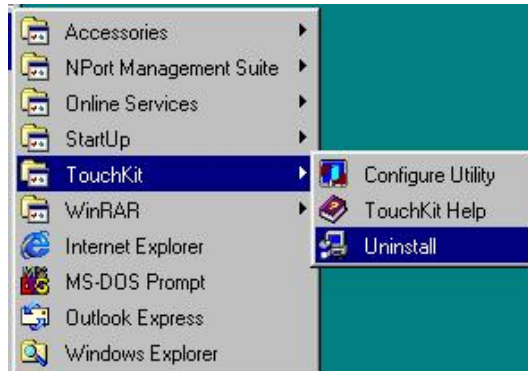
8. Here bellow are the value data for different version of Pivot:

Version of Pivot	Available Angle	Value Data
Pivot pro 6.05	0°,90°,180°270°	4 (default)
Pivot 5.1	0°,-90°	FFFFFFFF
Other Version	0°, 90°	2

4.5. Uninstalling TouchKit

Follow these steps to uninstall *TouchKit*.

1. Go to **Start / Programs / TouchKit / Uninstall**, and execute it.



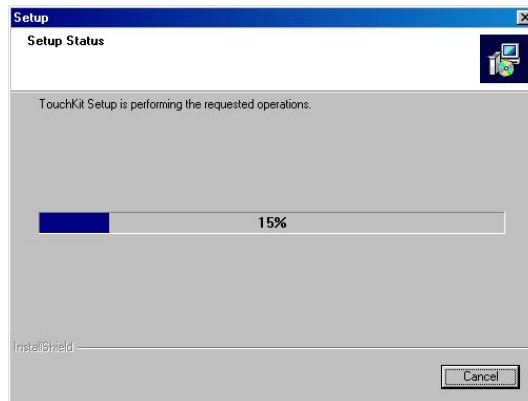
2. *TouchKit* setup dialog appears, and prepares to uninstall.



3. Confirm dialog, press **[OK]** to start un-installation; **[Cancel]** to cancel un-installation.



4. Start to uninstall **TouchKit**.



If user does not want to uninstall **TouchKit** at this moment, press **[Cancel]** to terminate the uninstall process.

5. **TouchKit** will not be removed until system re-boot. Press **[Yes]** to re-boot immediately or **[No]** to re-boot later.

