TouchKit Touch Panel User manual for Windows2000 Version: 3.1.4

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Chapter 1. Touch Panel Controller

This touch panel controller provides the optimistic performance of analog resistive touch panels for 4 wire, 5 wire and 8 wire models. It communicates with PC system directly through RS232, PS/2 or 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.

1.1 Controller

Interface	RS232	USB	PS/2
4-wire	Ready	Ready	Ready
5-wire	Ready	Ready	Ready
8-wire	Ready	Ready	Ready

1.2 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 ℃
Protocol	RS232 Model: 9600 bauds, None parity, 8 data bits, 1 stop bit
	USB Model: USB 1.1 Low speed
Resolution	PS/2 Model: PS/2 mouse 2048 X 2048
Report rate	RS232 Model: Max. 160 points/sec
Report late	USB Model: Max. 160 points/sec
	PS/2 Model: Max. 140 points/sec
Response time	Resistive: Max. 35 ms
	Capacitive: Max. 20 ms
Pin out definition	4 wire model: X, Y, X, Y
	5 wire model: UL, UR, COM, LR, LL
	8 wire model: X+, X+ref, Y+, Y+ref,
	X- , X-ref, Y-, Y-ref
Panel resistance	4, 8 wire resistive model: 200 ~ 900 ohm (pin to pin
	on the same layer)
	5 wire resistive model: 50 ~ 200 ohm (pin to pin on
	drive layer)
Regulatory Approvals	FCC-B, CE

Features for Touchkit software

Features	
Calibration	1. Fast full oriental 4 points position
	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	1. Support multiple controllers
	2. Dynamical add / remove controllers
	3. Change Controller interface without reboot.
Language	Support 9 languages for Windows
Mouse Emulator	1. Right / Left button emulation
	2. Normal / Click on touch / Click on release mode
	3. Cursor visibility
Sound Notification	1. No sound
	2. Touch Down
	3. Lift Up
	4. Frequency adjustment
	5. Duration adjustment
Double Click	1. Configurable double click speed
	2. Configurable double click area
OS support	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, 640x200, 640x350, 640x480, 800x600, 1024x768 and
	1280x1024
COM port support	1. Support COM 1 ~ COM 256 for Windows and
	Linux
	Support COM 1 ~ COM 8 for DOS

Chapter 2. Installing and using TouchKit

TouchKit is software, which contains drivers of the touch panel controllers for the specified communication connectors, RS232, PS/2 and 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.

and the same first of	×
a sadde	
a recus.	10.
(Back Ment)	Cancel
	×
ave checked the PS2 interfa ay does not work after ne:	
OK	
	we checked the PS2 interfa ay does not work after ne:

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

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.

tep Setup Type			
Choose the setup type that best out	o your needo.		16
Touchkit Accensory Unity			
F Rotating Monitor Utility			
F Shuldown Ulliky			
nulti yald			
	(Ba	ck Ment)	Carcel

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

house Destination Location		
Select folder where Setup will install	riles.	10
Setup will install Touch⁢ in the follo	oving tolde.	
To install to this folder, click Next. To another folder.	o install to a different folder	click Bronce and celect
Destination Foldet		
Destination Folder E (Program File)/TouchKit		Blowne .

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

Setup	×
Select Program Folder	E
Please select a program folder.	10-
Setup will add program icono to the P mane, or celect one from the existing	rogean Folder listed below. You nay, type a new folder foldere list. Click New to continue.
Evagram Folders	
Toucher	
Emoting Folders:	
Accession	
Administrative Toole Startus	
statup	
a contraction of the	
Lestal5iiid	
	(Back Next) Carcol
	(Back Heat) Cancel

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

Informat	ion	×
?	Touch Controller Found in COM1. Add thi	s controller now ?
	<u>Y</u> es <u>N</u> o	

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.

Setup	Setup Complete Setup has finished installing Touch Kit on your computer.
3	(* [<u>fex</u> ,] werito restat ray computer non] C No, I will restart an computer late. Touchfill was installed it needs neboot to ensure driver works well
	<unix freh<="" td=""></unix>

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.

Active Panel C Interface	омз Туре	Venion -	
COM3	4 Wire	1.05	A01
COM1	4 Wire	1.05	1008
PS2ALK	4 Wire	1.05	1
USBING Deelt Pi_		2.09 *	Henove
		· · · · · ·	
1		Language	_
(and the second		English	-
		A pts Cal	Diavi Tati
4		Adva	oced.

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.



Chapter 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.

	Touchkit			1
Functional Group Tab	General Setting	Montors About		
	Panel List Active Panel			
	Interface	Туре	Vention	Add
	e		,	-flavoia
			Language English	
	E		-Aphila	Daw San
			650	ocet
		0	Cano	el Help

<u>General</u>

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*.

Gerweit Setting Monitors About Panel List Active Panel		
	Version Add Revoce English Star International Add Revoce English Star Star Revoce OK Cencel Help	Note to select the compatible language first.

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.

Touchlet	1	3
General Setting Nonitors About Panel Lei Active Ponel CDM1	1	1
Interface Type	Venion Add	Device is found in COM1
(Language	
	English	
	Advanced	
	OK Cancel Help	J

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.

Active Panel	EDMT		
Interface COM1	Type E602002	Vention 0.39	Add
¢		>	Renove
-		Language	
		Englieh	
E		4 pts Cal	Diaw Tatt
4		Adva	ored .

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.

Interface	Туре	0001#52716/c01#k	1
and the second se	RESISTINE	2.09	Add
		,	THEORE
		Language English	
E		4 pts Cal	Diava Tatif
4			inced

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.

Clear	
?	Sure to clear 25 points calibration parameters?
	Yes No

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:

ienikivik, Sibe of Touchscreen		121 - 174	*	
enalizit,				
580F	<u>i</u>		Week	
ignal				ah.
Sweping Time	100			44
60	1		160	
The above celling will	a valid only	after restad for	nivale.	Restart

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

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

<u>Setting</u>

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.

Sound options>	Touchkit Source Source Noneton About Source Find About About About Source Find About S
	Nouse Node Mouse Builson Nouse Node Nouse Node
	Double Click Speed Slover Fatter Fatter
	Double Clock Area SmolenLarge

<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:

	Touchici Gerwal Setting Monton About
	Sound Feedwards (Adduct)
Mouse Mode	Mouse Mode Mouse Builton Nouse Node Normal Mode
	Double-Olick Speed
	Slower Faster Double Olick Area
	OK. Cancel Help

<Mouse Button>

Click it to **show / hide** *Touch Tray* on the right bottom corner of the desktop. The touch panel system starts with the computer booting, and a mouse icon shows in the taskbar.

Users can choose show or hide **Touch Tray** from the mouse icon in the taskbar. Just right click the mouse icon, there will be a pop-up box. Using the **Button** to choose show or hide, and if user wants to disable the touch panel system, choose **Exit**.



Change **right / left** button by clicking the upper small rectangular box of **Touch** *Tray*. Blue area expresses what button has been selected.

<Shutdown utility>



Click on shutdown utility in the task bar

1	
Standby	Shutdown
Reboot	Cancel
E	×it

Shutdown utility dialog

There are five modes in shutdown utility for users convenience.

[Standby] to enter standby mode that saves power consumption.

[Shutdown] to turn off PC.

[Reboot] to restart PC.

[Cancel] to escape from the Shutdown utility dialog.

[Exit] to disable the Shutdown utility.

Please notice that Windows NT doesn't support this function.

<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.

<Cursor Visibility>

Cursor visibility function provides user to hide the cursor in the display. Please go to **Start / Control Panel / Mouse / Pointers / Scheme**, and choose **TouchKit Hide Cursor**. Press **[Apply]** to make setting change, and press **[OK]** to escape the property page.

		Pointer Option	is Har	dware		
16.2						
Sche	me					
Tou	chkit Hide	Cursor			~	
3D-\ Con E Dinc Han Han Mag Old Varia Win Win Win Win Win Win Win Win	Bronze (syst White (syste ductor (syste disaur (syste ds 1 (syste ds 2 (syste nified (syst Fashioned shkit Hide ations (syst dows Anim dows Black dows Black dows Black dows Black dows Black dows Black dows Inver dows Inver	tem scheme) em scheme) tem scheme) m scheme) m scheme) (system scheme) em scheme) em scheme) ated (system scher ((system scher ((system scher ted (system scher ted (large) (system ted (large) (system dard (large) (system dard (large) (system scher ted (system scher ted (large) (system scher ted (large) (sher ted (large) (sher ted (large) (sher ted (lar	heme) ystem so scheme eme) (system em sche eme) e) (syster	e) 1 scheme 1 me) 1 scheme	·	×

If user wants to cancel the function of TouchKit Hide Cursor, do the steps again and choose the other scheme.

The **Double Click adjustment** provides user to set up the tolerance while double clicking. They are as follows:

1	Touchki)
	General [Setting] Monitors About Sound Frequency @ No Sound @ TouchDown Outdion @ Lift Up
	Mouse Mode Mouse Button Nouse Node
Double Click Adjustment	Double Click Speed
	Double Click Ares
	OK. Cancel Help

<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.

<u>Monitors</u>

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.

Interface	Туре	Recolution	Position A	Napping
00M1		1024 X 768	(0.0+0.0	
		1024 X 768 1024 X 768	(0,0)-(0,0)	Spit Settin
C HORMES			mm m-	-
Support Mul	tiple Monitor			Apply
Support Split	display			1
Aconters				
_				18

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.

10.005000	Resolution Resolution	102	4×768	Upper Ha
Panel P	netiten			Left Half
Lett	μ.	Right		Quarter
Тор	0	Bottom	9	Clear

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**.

<u>About</u>

Information about TouchKit.



Chapter 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.

- I Rotating display by way of nVidia or ATI driver
- I 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.

8

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.

- I Rotating display by way of Pivot hotkey or function menu
- I 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.





- 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.





 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.

	😟 🦲 stisvc 🛛 🔼	Name	Туре	Data	1
	🕀 🦲 swenum	BUration	REG DWORD	0x00000032 (50)	
	🕀 🦲 swmidi	ErrorControl	REG DWORD	0×00000001 (1)	
	🕀 🦲 SwPrv	Filter	REG DWORD	0×00000001 (1)	
	🗉 🧾 sym_hi	Filter Threshold	REG DWORD	0x00000100 (256)	
	🕀 🦲 sym_u3	Frequency	REG DWORD	0×000001f4 (500)	
	🕀 🦲 symc810	Group	REG SZ	Pointer Port	
	🕀 🦲 symc8xx	ab ImagePath	REG_EXPAND_SZ	System32\DRIVERS\TouchKit.sys	
	😟 🦲 sysaudio 🕀 🧰 SysmonLog		REG DWORD	0×00000000 (0)	
	🕀 🛄 SysmonLog 🕀 🧰 TapiSrv	B Low	REG DWORD	0×00000001 (1)	
		10 MaxRotation	REG DWORD	0×00000004 (4)	
		않 <mark>않</mark> Modify	/ORD	0x40000001 (1073741825)	
		Modify Binary	Data /ORD	0×00000000 (0)	
	🕀 🦲 TermDD	om	/ORD	0×00000000 (0)	
	🕀 🦲 TermService	200	/ORD	0×00000000 (0)	
	🕀 🦲 Themes	Rename Roamon wind	NES_OWORD	0x000100ac (65708)	
	🗉 🧰 TintSvr	ShutMonHwnd	REG DWORD	0x000100aa (65706)	
	📄 TosIde	R8 Start	REG DWORD	0x00000003 (3)	
	🕀 🔄 Touchkit	RE Tag	REG DWORD	0x0000001e (30)	
	🕀 🧰 TrkWks	Type	REG DWORD	0×00000001 (1)	
	🕀 🦲 TSDDD 📃	1 Upper	REG_DWORD	0x00000024 (36)	
	🔚 Udfs 📄	ab USB	REG SZ	C:\WINDOWS\INF\oem2.inf	
	🕀 🧰 ultra 👘	Virtual Desktop	REG DWORD	0x00000003 (3)	
	🕀 🦲 Update	Virtual Desktop H		0xffffffff (4294967295)	
	🗈 🦲 uploadmgr	Virtual Desktop	REG DWORD	0x00000400 (1024)	
1	🕀 🧰 upnphost 🔛	Mal All Code Desidop	KEG_DWORD	0.00000100(1021)	64 - 50 L

Right click on MaxRotation to Modify Value data

7. Choosing the Hexadecimal Base, and replace the value data "4"(default) with "FFFFFFF".

Edit DWORD Value	? 🛛
Value <u>n</u> ame: MaxRotation	
Value data: FFFFFFFF	Base Hexadecimal Decimal OK Cancel

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°	FFFFFFF
Other Version	0°, 90°	2

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.

