# Touchkit Driver Installation Guide for Embedded Windows XP

Touchkit driver package allows users to build the software/driver component for embedded Windows XP via Microsoft Component Designer. Then, add these touchkit software/driver components to the component database, such that the system designer can select them to add to system platform image with Microsoft Target Designer.

1. Build software/driver component for Touchkit touchscreen controller.

The Microsoft Component Designer must be installed before the designer can build the software/driver packages for embedded Windows XP. Then, follow the steps shown as below to build the components.

1.) Download the touchkit driver package for embedded Windows XP.

2.) Setup the touchkit driver on the developing machine.

3.) Copy 2 files "touchkit.cat ", and "xAuto4PtsCal.exe" manually to the folder where the touchkit software installed. For example
, in G:\Program Files\TouchKit
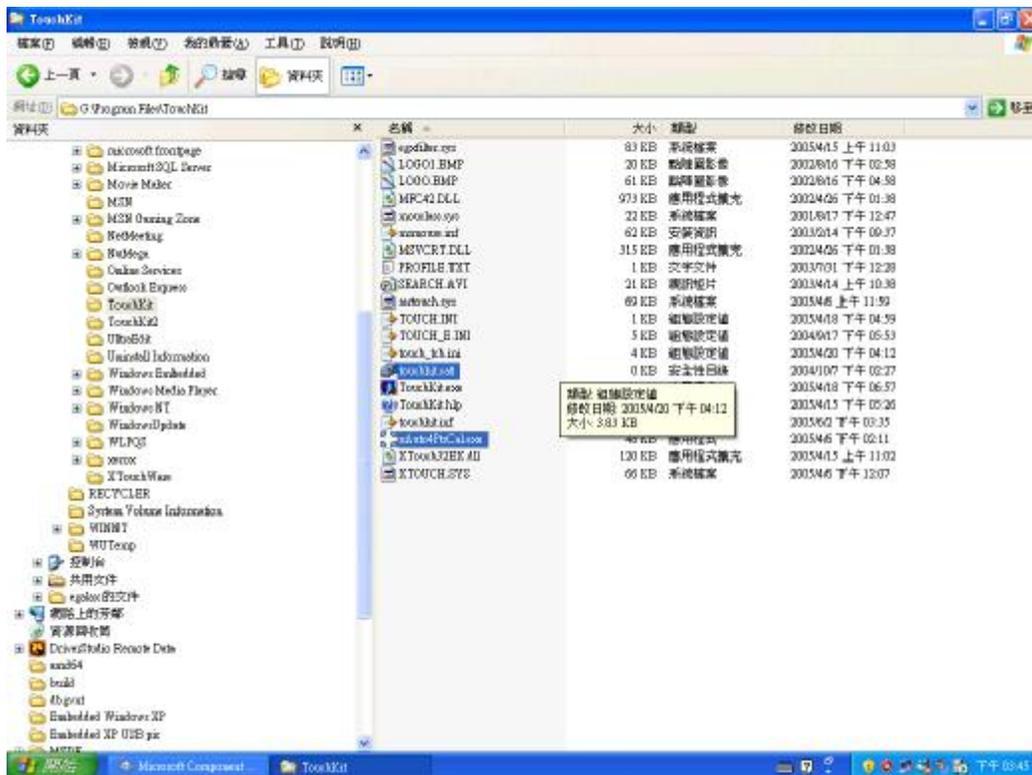
4.) Launch Microsoft Component Designer. Select File->Import to import the device components from .inf file. Then, choose the INF file "touchkit.inf" in the folder under G:\Program Files\TouchKit. After importing touchkit.inf finished, 5 device components will be list as below:

    I.   Serial Touchscreen Controller(Professional) :
          the device component for serial controller.

    II.   USB Touchscreen Controller(Universal) :
          the device component for USB controller with VID 0EEF and PID 0001.

    III. USB Touchscreen Controller(Professional) :
          the device component for USB controller with VID 0EEF and PID 0002

    IV. Touchkit Filter :
          the device component for PS2 controller.

    V.   TouchScreen Enumerator :
          the device component for serial controller.

PS: If you want install Serial Touchscreen Controller driver , you must set "Serial Touchscreen Controller(Professional)" and "TouchScreen Enumerator" both.

The screen will show the Component designer as below:

5.) Create a new repository for the component.

Next, the source path must be assigned to the folder where theTouchKit installed.

For example: G:\Program Files\TouchKit.
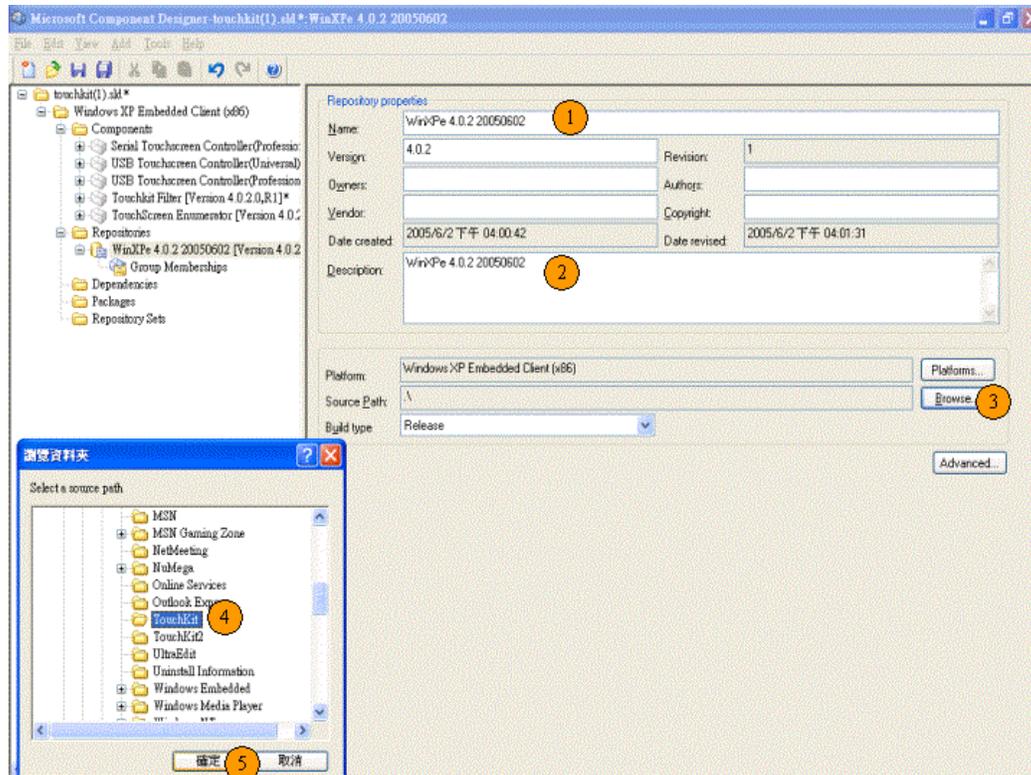
6.) Set the device components.

Select the component "USB Touchscreen Controller(Universal)" for USB controller to set the properties of the component and assign the correct repository.

(if you want install RS232 Driver, you have to select "Serial Touchscreen Controller(Professional)" and "TouchScreen Enumerator" or if you want install PS2 Driver , you have to select "Touchkit Filter")
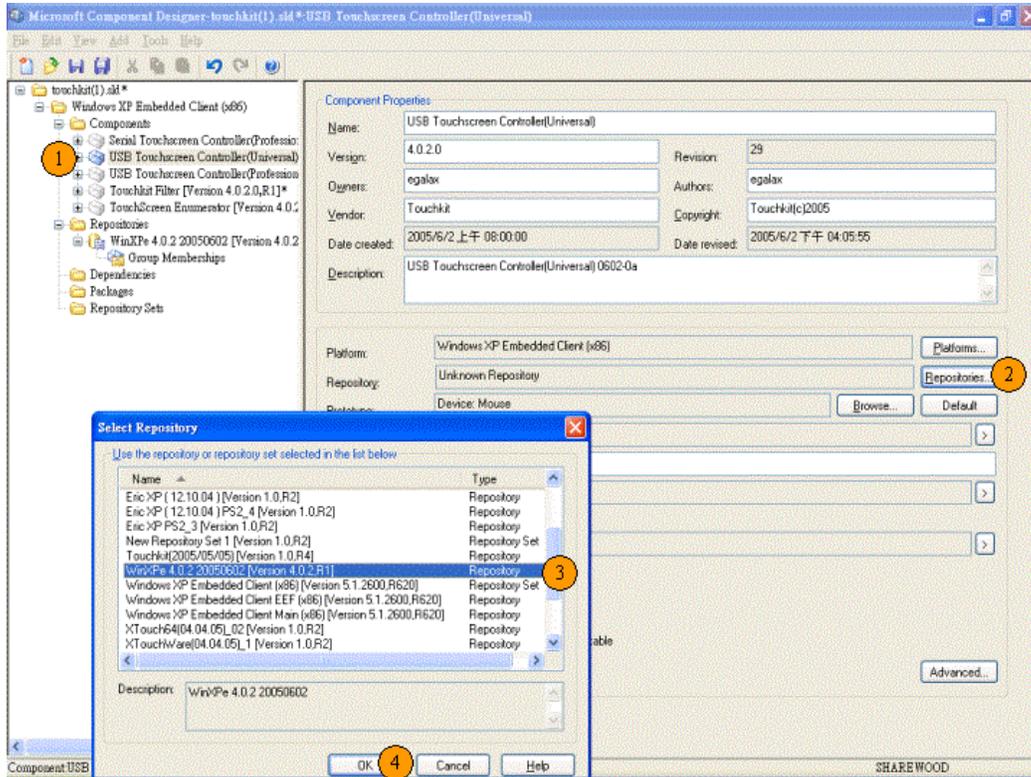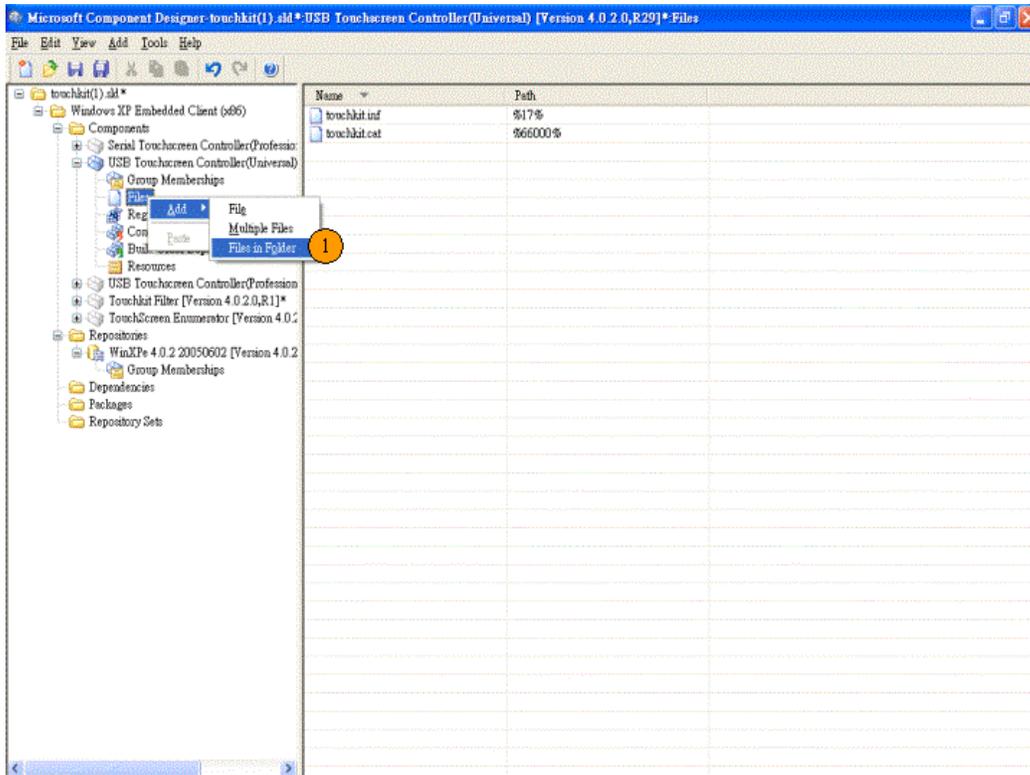
PS: If you set "TouchScreen Enumerator "device component , you must set
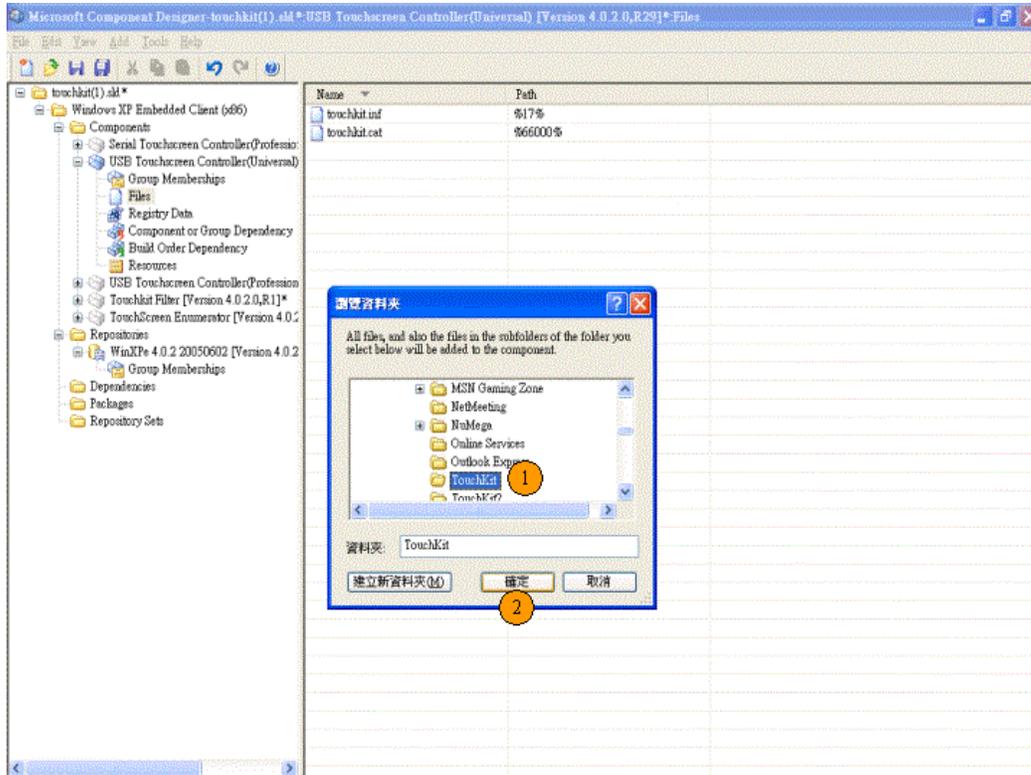   "Prototype" to "Device: Ports".
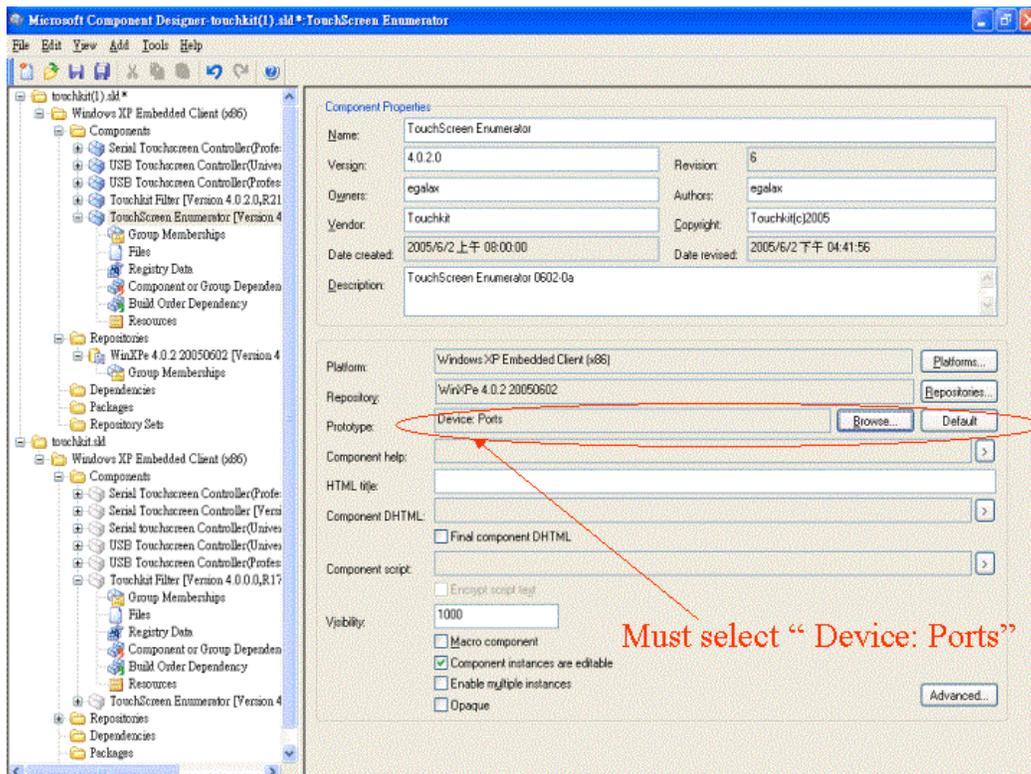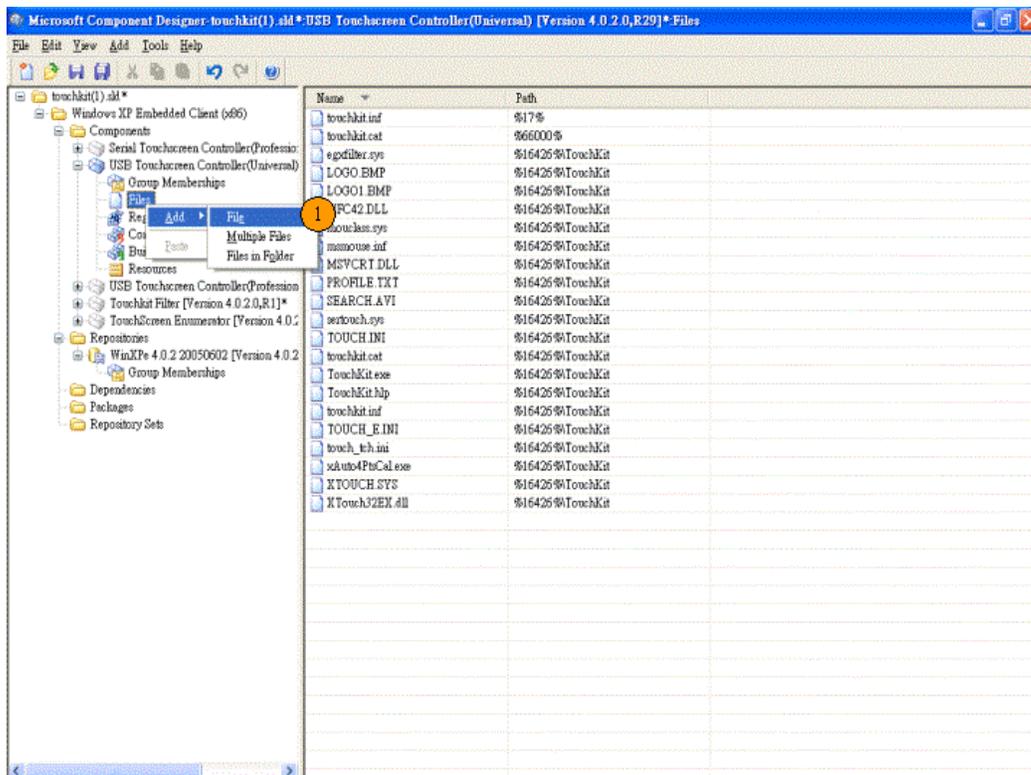
7.) Add Utility files to the component.

Add the files for touchkit controller utility so that the user can do alignment or calibration and other enhanced features for touchscreen.

Choose the files from the repository folder

Select all of the files in the folder to add to the component.

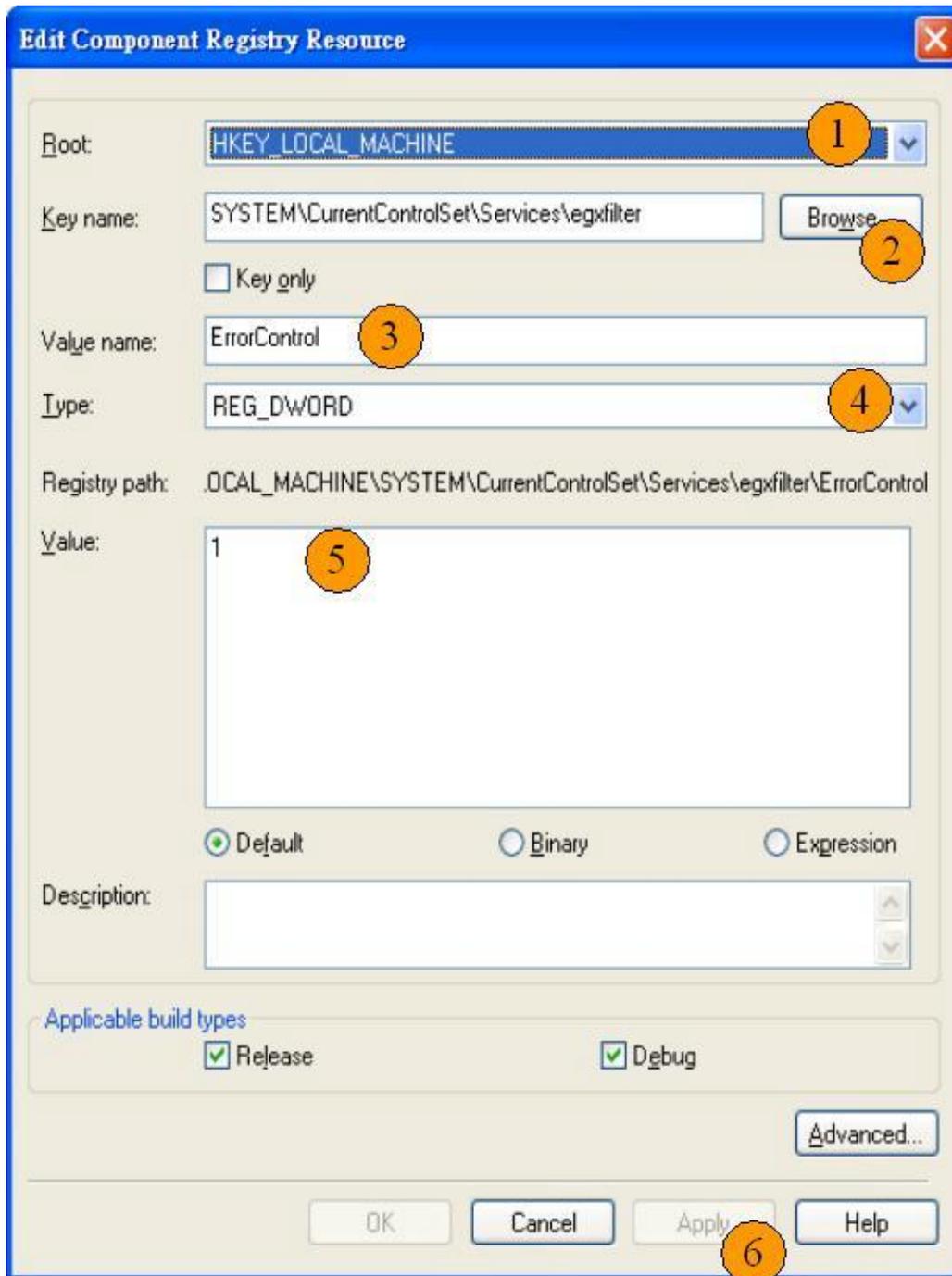Modify the file path for some files and make sure these files path to

a.) xAuto4PtsCal.exe   %11
b.) touchkit.inf   %17%
c.) touchkit.cat   %12%
d.) xTouch.sys   %12%
e.) sertouch.sys   %12%
f.) XTouch32Ex.dll   %11%
g.) egxfilter.sys   %12%

8.) Add the registry resource for the component for some specific setting
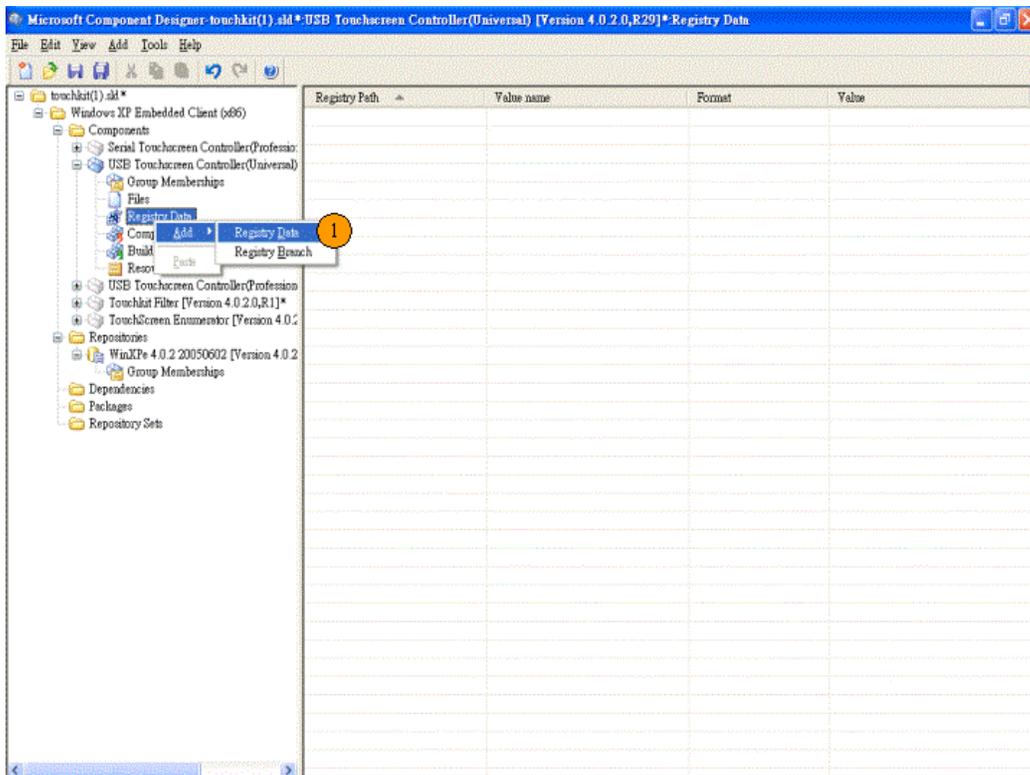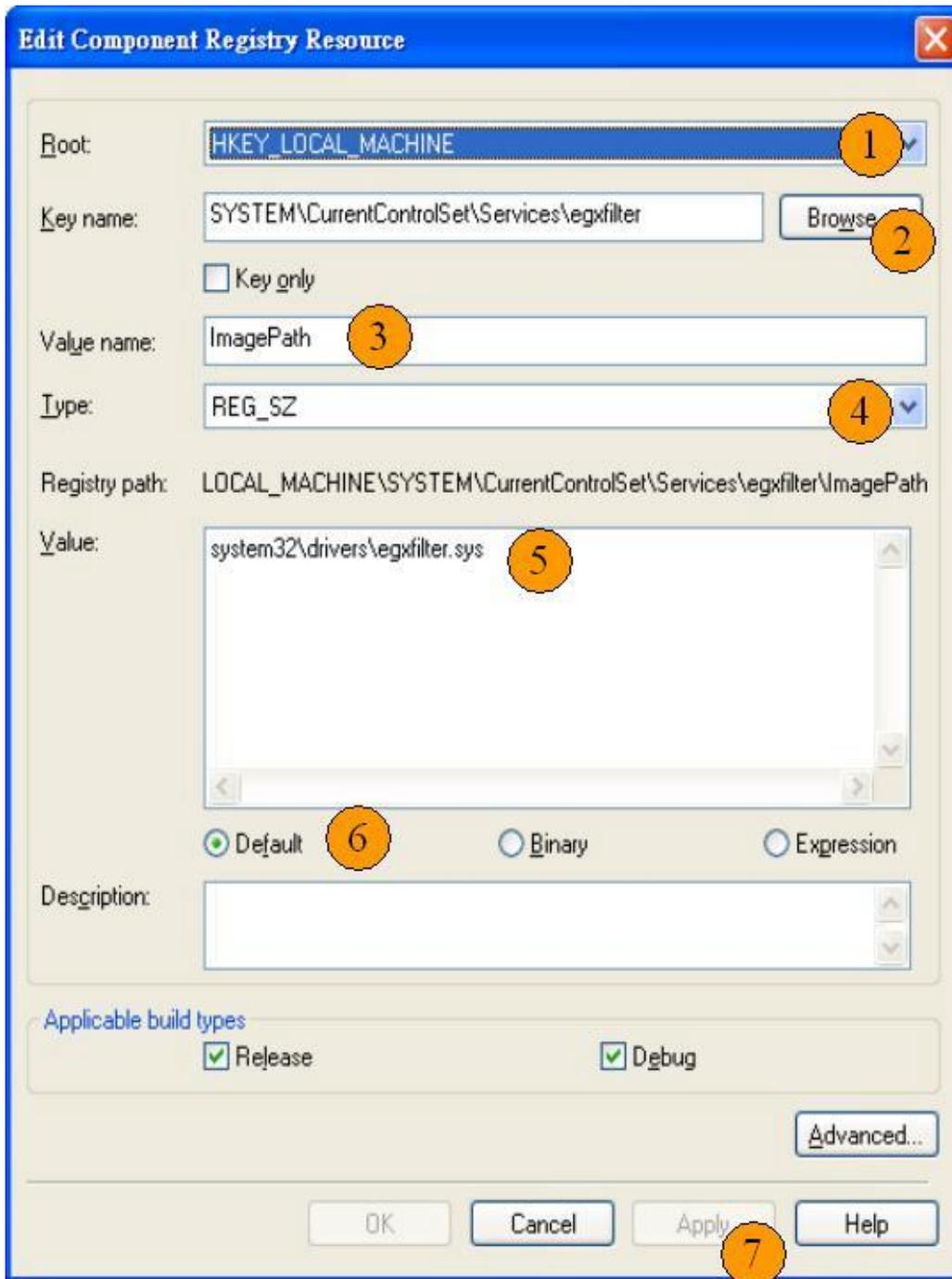

If you have set "TouchScreen Enumerator" Component , please add these four Registry Data in "TouchScreen Enumerator" Component.
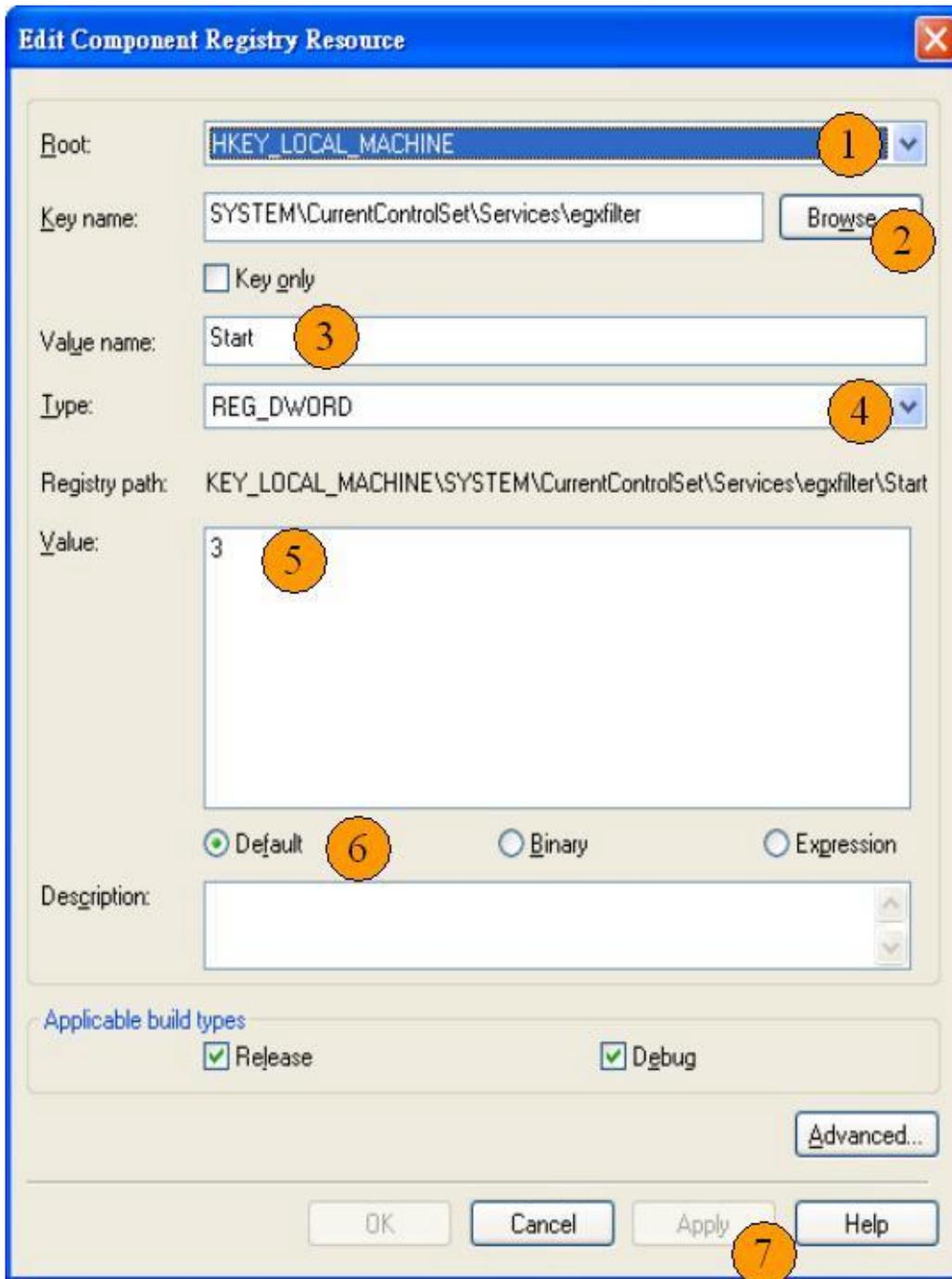
I. Set Key value " ErrorControl = 0x00000001 "

Edit Component Registry Resource

Root: HKEY_LOCAL_MACHINE ①

Key name: SYSTEM\CurrentControlSet\Services\egxfilter [Browse...] ②

☐ Key only

Value name: ErrorControl ③

Type: REG_DWORD ④

Registry path: .OCAL_MACHINE\SYSTEM\CurrentControlSet\Services\egxfilter\ErrorControl

Value:
```
1  ⑤
```

◉ Default   ○ Binary   ○ Expression

Description:

Applicable build types
☑ Release   ☑ Debug

[Advanced...]

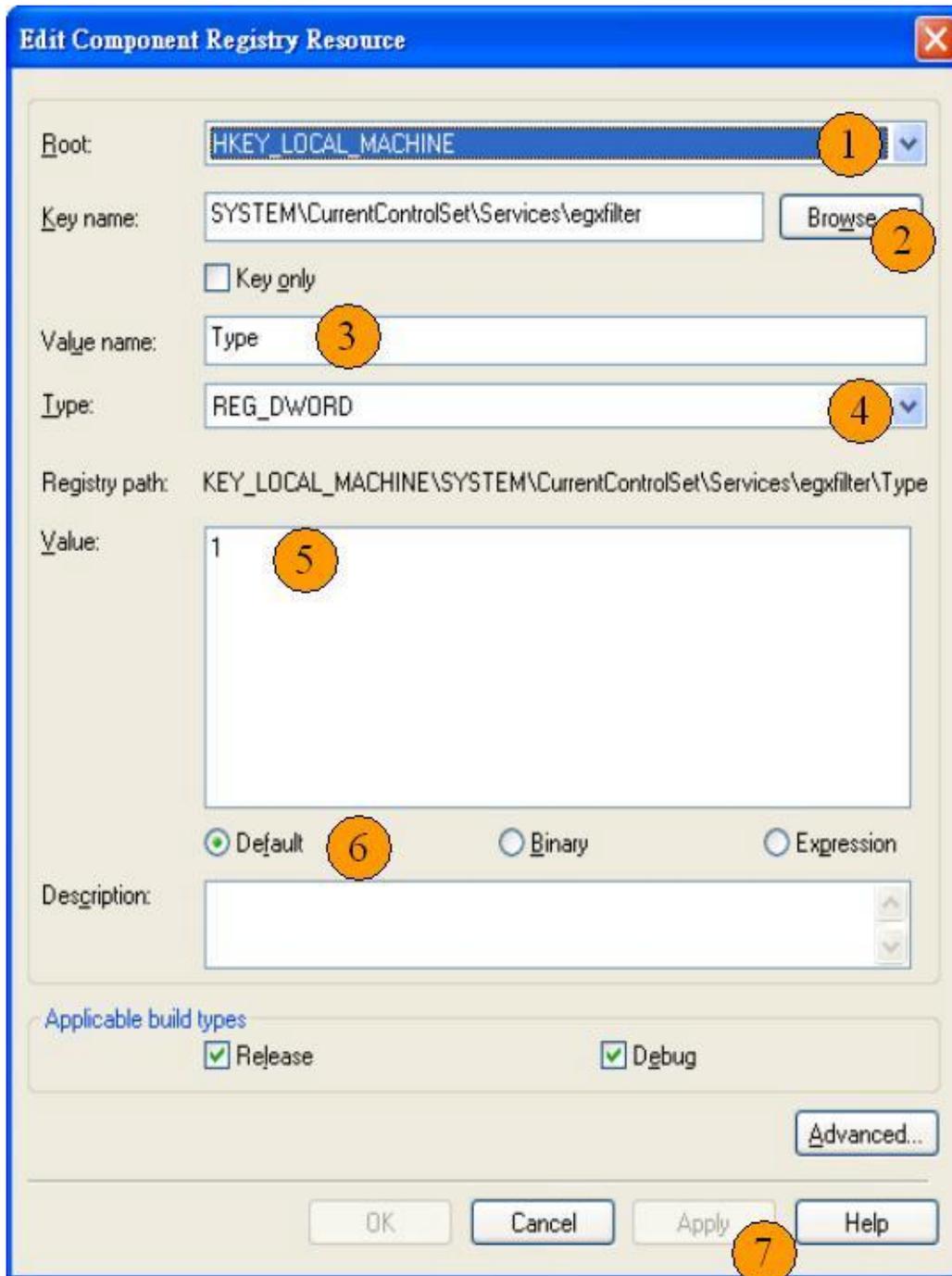[OK] [Cancel] [Apply] ⑥ [Help]

II. Set Key value " ImagePath = system32\drivers\egxfilter.sys "

III. Set Key value " Start = 0x00000003 "

IV.   Set Key value " Type = 0x00000001 "

If you need to launch 4-points calibration (xAuto4PtsCal.exe)after system first boot. Please set this Rigistry data.
(PS : You need not attach 4-points calibration for "TouchScreen Enumerator " device component)

9.) Modify inf file for serial controller. (Only for RS232 controller)

Edit the "touchkit.inf" in the folder G:\Program Files\TouchKit.

Locate the string "rundll32 xtouch32ex.dll, SearchSerialTouch XXX".

Where, XXX is the string to make the system scan the specified

COM ports. For example , if xxx string is COM1 , Edit XXX string to be COM1, the system will scan COM1 for touchscreen controller only. If XXX string is COM1COM2, the system will scan both COM1 and COM2 for touchscreen at boot time.

10.) Tool->Component database manager to import current SLD file to the component database.
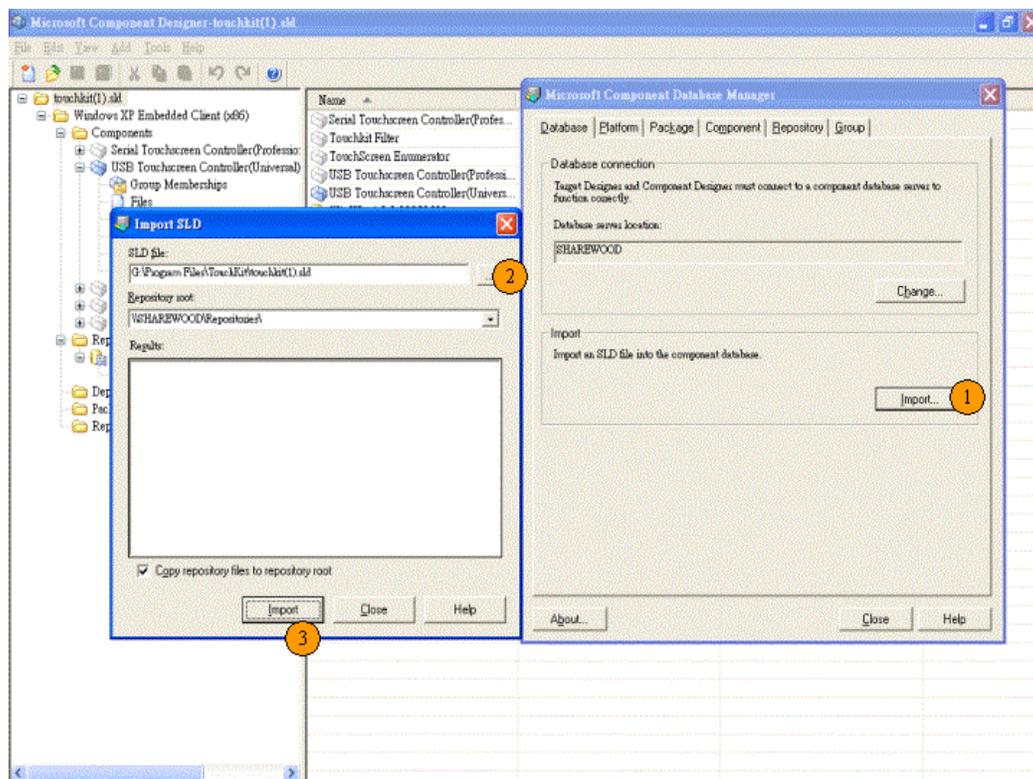
2. Include the touchscreen component to the platform image

After the components were added to the component database, The component name will be shown in the folder of Hardware/"mice and other pointing devices" when the Microsoft Target Designer launched. Then, just double click on the component "USB Touchscreen Controller(Universal)" (for USB controller) or "Serial Touchscreen Controller(Professional)" and "TouchScreen Enumerator "(for serial RS232 controller) or "Touchkit Filter" (for PS2 controller)to add them to the platform image.
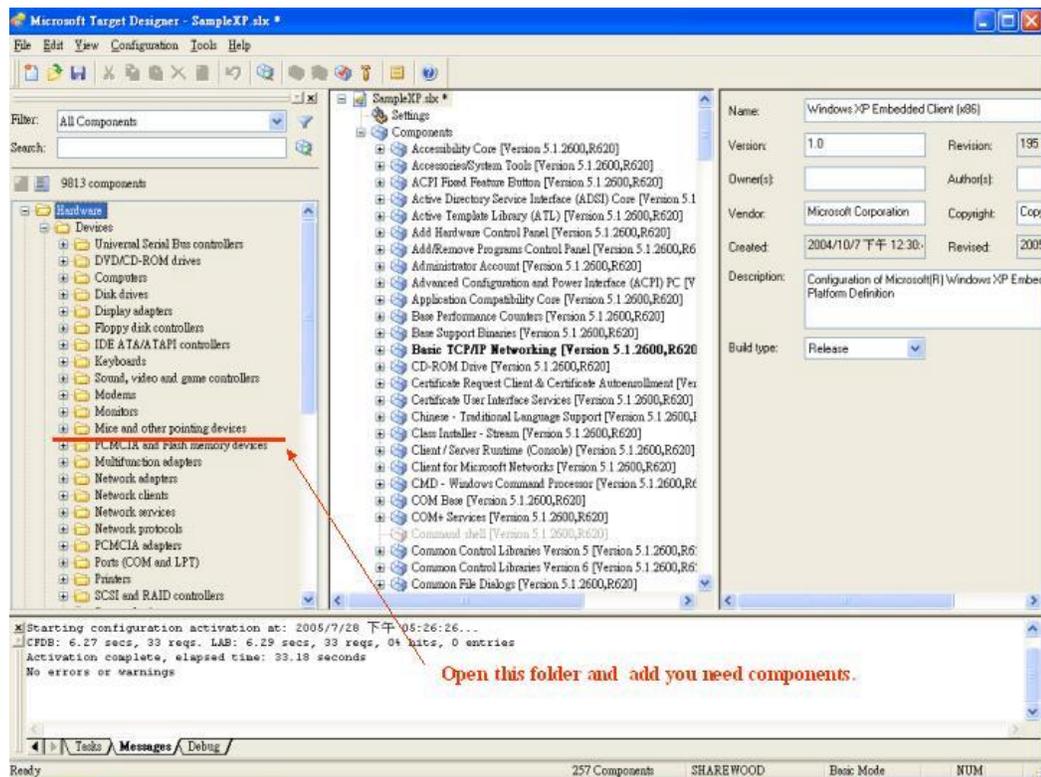
After added components , please press 'Save' button.

Then refer to following steps :

1. Select ' Configuration -> Upgrade Configuration ' to upgrade components.
2. Press ' Save ' button.
3. Select ' Configuration -> Check Dependencies ' .
4. Select ' Configuration -> Build Target Image…'

The Embedded Windows XP image will be built.

3. Replace Touchscreen Default values

If you want replace Touchscreen Default values , like on/off Beep or Enable/disable Auto right button and others.
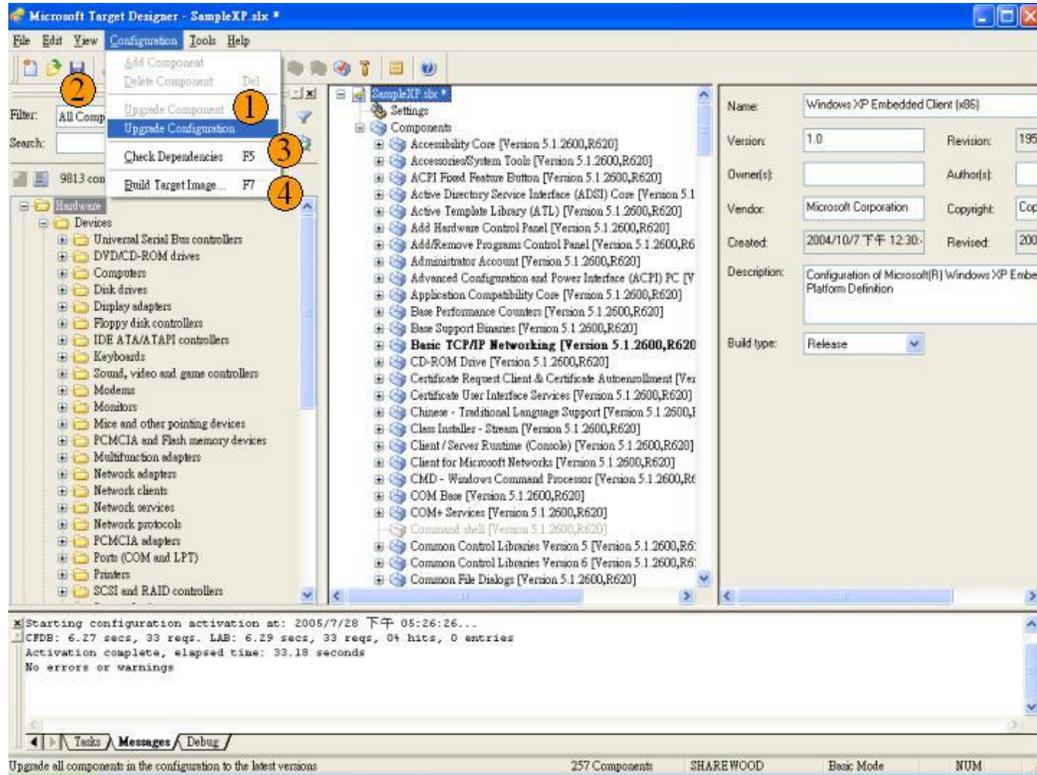
Edit the "touchkit.inf" in the folder G:\Program Files\TouchKit.

Locate the section [usb_AddReg] , [egxfilter.HW.AddReg] or [sertouch_Inst_AddReg] . You can attach some entry in this three sections.

example : if you want set Beep , you can attach this entry.

HKR,,"BeepMode",0x00010003,xxxxxxx

Set to 0x00000000 =   Off Beep

Set to 0x00000001 =   Beep when touched

Set to 0x00000002 =   Beep when released

Name	Value	Description

BeepMode	0x00000000	Off Beep
	0x00000001	Beep when touched
	0x00000002	Beep when released
BeepFrequency	0x00000064 ~0x00000FA0	Beep Frequency
BeepDuration	0x00000019 ~0x000001F4	Beep duration
MouseMode	0x80000000	make driver to report right button.
	0x40000000	enable auto right button feature.
	0x20000000	disable driver to report mouse event.
	0x10000000	Set this flag to make driver to by pass the software filter to get more fast response.
	0x00000000	Default value of mouse emulation mode.
	0x00000001	set the mouse emulation mode to be "Click on Touch".
	0x00000002	set the mouse emulation mode to be "Click on Release".
	0x00000003	set the mouse emulation mode to be "Click On Touch No Move".
	0x00000004	set the mouse emulation mode to be "click On Release No Move".
ConstDuration	0x00000000 ~0x00000078 (0 ~ 120)	constant touch parameter which define the touch duration in milli-second for auto right click.(3Sec = 120 * 0.025)
ConstRange	0x00000020 ~0x000008C0	constant touch parameter which define the touch range for auto right click. (1 pixel = 0x00000020 >> 5)
EdgeInfo	0x00 0x00 0x00 0x00	lLeft (4 bytes) Edge compensation parameter in left side.
	0x00 0x00 0x00 0x00	lRight (4 bytes)

		Edge compensation parameter in right side.
	0x00 0x00 0x00 0x00	ITop (4 bytes) Edge compensation parameter in upper side
	0x00 0x00 0x00 0x00	IBottom (4 bytes) Edge compensation parameter in bottom side
	0x00 0x00 0x00 0x00	IOffsetX (4 bytes) Offset parameter in X direction.
	0x00 0x00 0x00 0x00	IOffsetY (4 bytes) Offset parameter in Y direction.
	0x00 0x00 0x00 0x00	ulMode (4 bytes) Flag to enable/disable edge compensation. This flag must be either 0 or 1