

eGalaxTouch Driver Installation Guide for Embedded Windows® XP

eGalaxTouch driver package allows users to build the software/driver component for embedded Windows® XP via Microsoft® Component Designer. Then, add these eGalaxTouch 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 eGalaxTouch touchscreen controller.

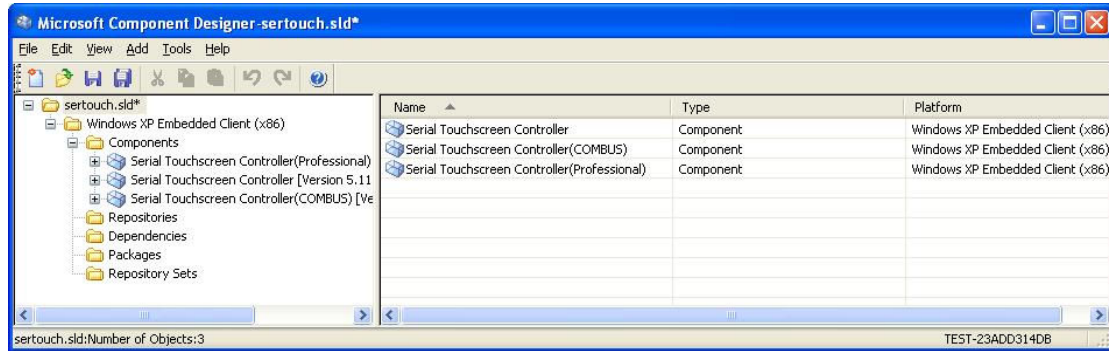
The Microsoft® Component Designer must be installed before the designer can build the software/driver packages for embedded Windows® XP. Then, follow the steps showed as below to build the components.

- 1.) Download the eGalaxTouch driver package for embedded Windows® XP.
- 2.) Copy the eGalaxTouch driver package into the developing machine.
- 3.) Launch Microsoft® Component Designer. Select File->Import to import the device components from .inf file. Then, choose the INF file in the eGalxtouch folder. For example under C:\Program Files\eGalaxTouch.
 - a.)If you want build Serial Touchscreen component, Please import INF file **sertouch.inf**. After importing sertouch.inf finished, there are 3 device components showed as below:

- I. Serial Touchscreen Controller(Professional) :
- II. Serial Touchscreen Controller
- III. **Serial Touchscreen Controller(COMBUS)**

PS: At this time we only use the “**Serial Touchscreen Controller (COMBUS)**” for serial touch device.

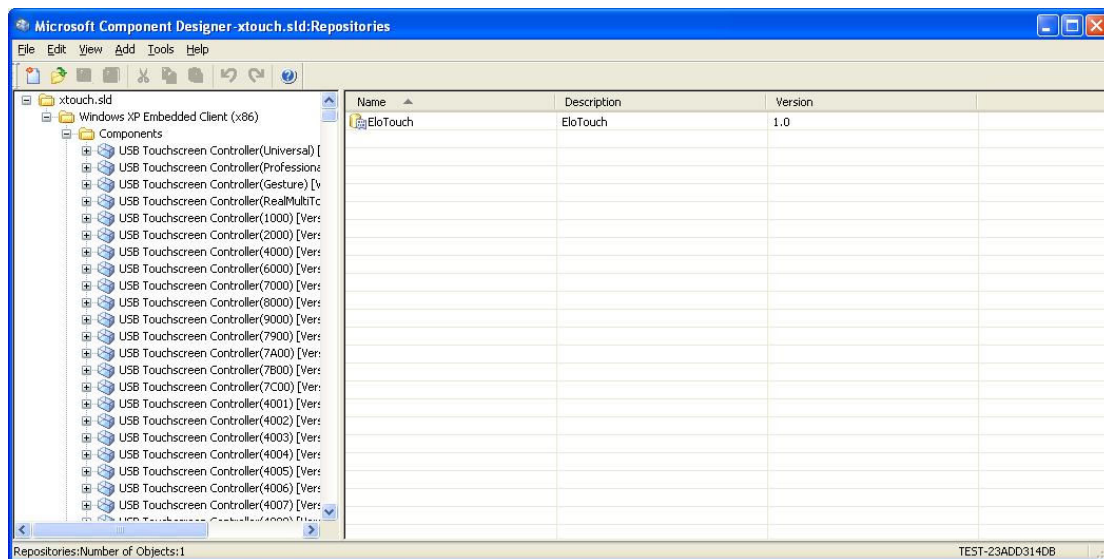
The screen will show the Component designer as below:



b.)If you want build USB Touchscreen component. Please import INF file **xtouch.inf**. After importing xtouch.inf finished. There 2 device components show as below :

- I. **USB Touchscreen Controller(Universal)** :
the device component for USB controller with VID 0EEF and PID 0001.
- II. **USB Touchscreen Controller(Professional)** :
the device component for USB controller with VID 0EEF and PID 0002
- III. **USB Touchscreen Controller(48xx)**
USB Touchscreen Controller(72xx)
USB Touchscreen Controller(73xx)
USB Touchscreen Controller(74xx)
USB Touchscreen Controller(79xx)
USB Touchscreen Controller(Axxx)
The device component for Multi-Touch USB controller.

The screen will show the Component designer as below:

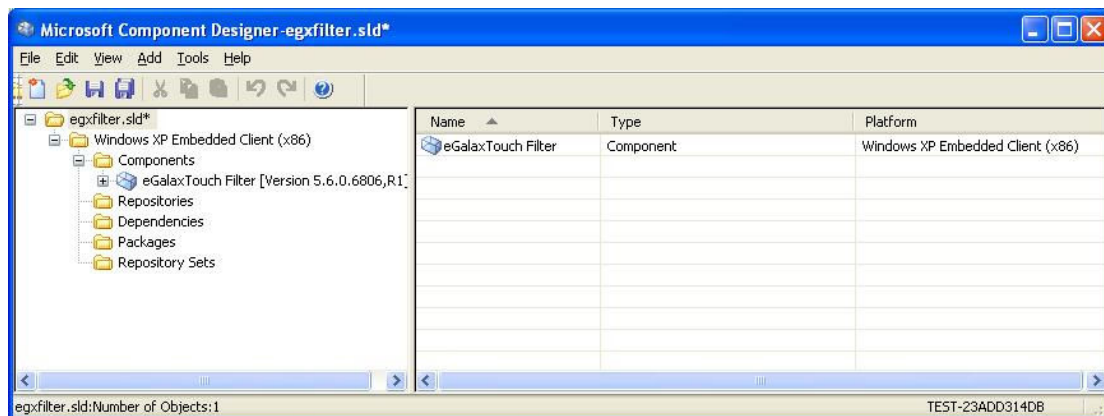


c.) If you want build PS/2 Touchscreen component. Please import INF file **egxfilter.inf**. After importing egxfilter.inf finished. There a Device component show as below :

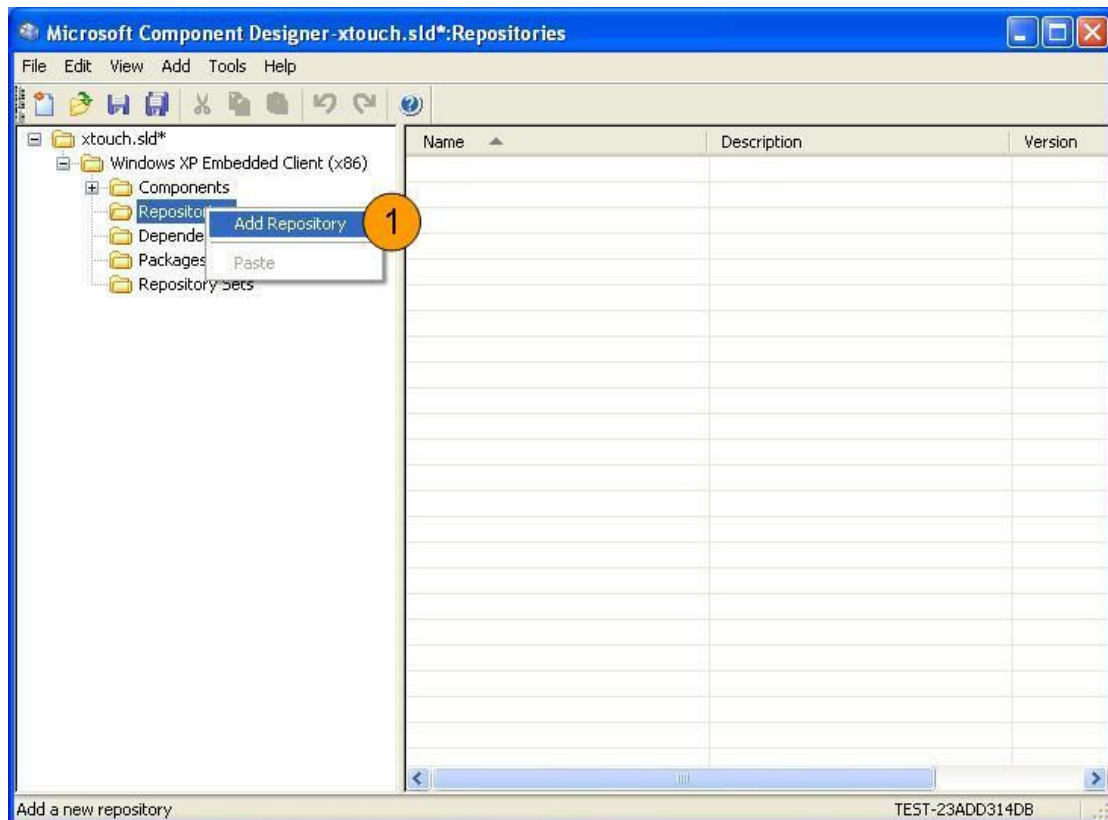
I. **eGalaxTouch Filter :**

the device component for PS2 controller.

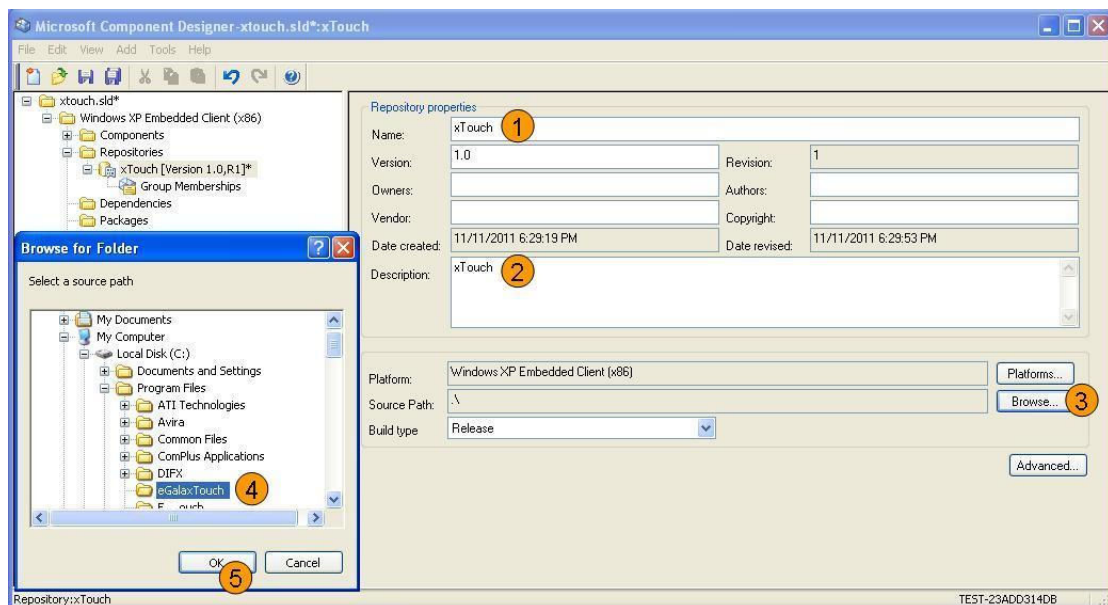
The screen will show the Component designer as below:



4.) Create a new repository for the component.



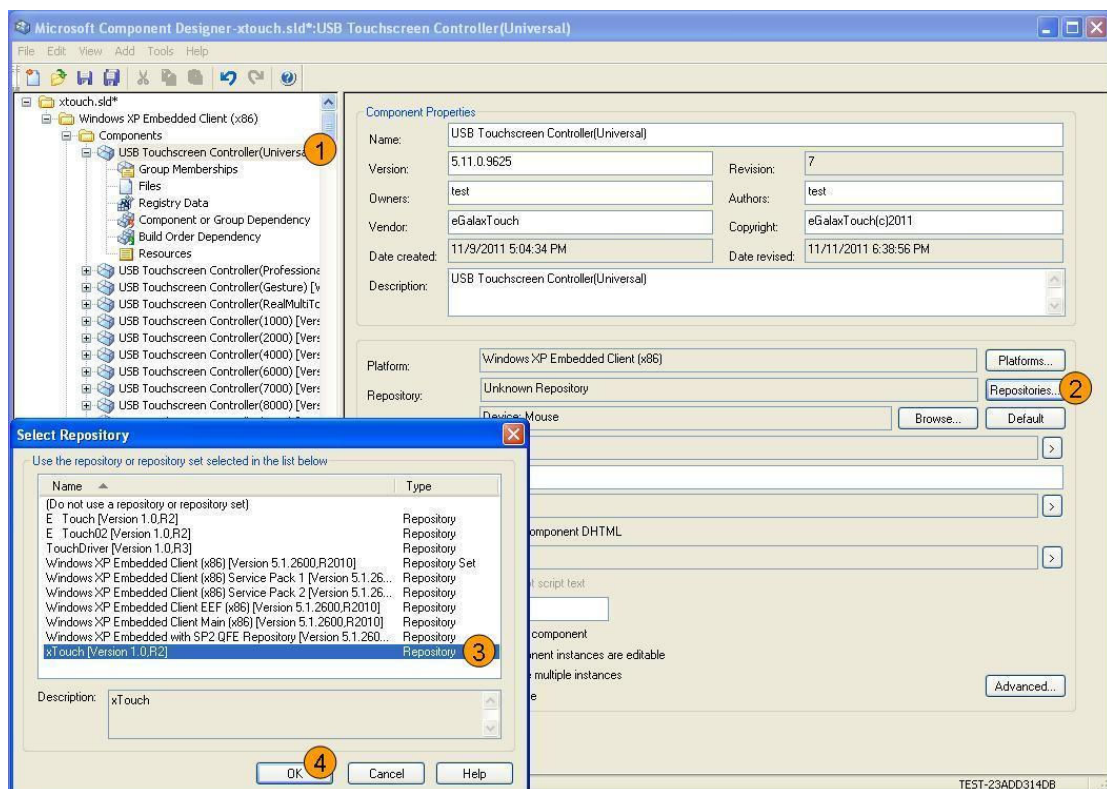
Next, the display of screen will be showed as below. The source path must be assigned to the folder where the eGalaxTouch installed.
For example: C:\Program Files\eGalaxTouch.



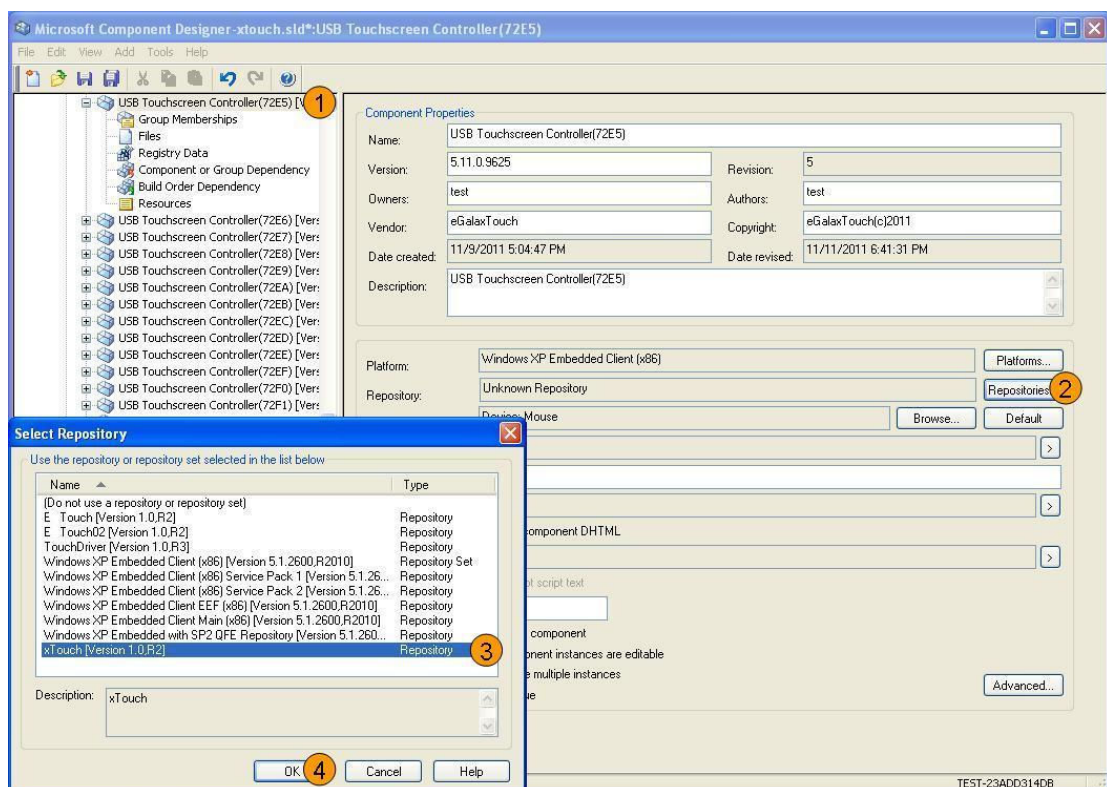
5.) Set the device components.

Select the component **“USB Touchscreen Controller(Universal)”** for USB controller to set the properties of the component and assign the

correct repository.



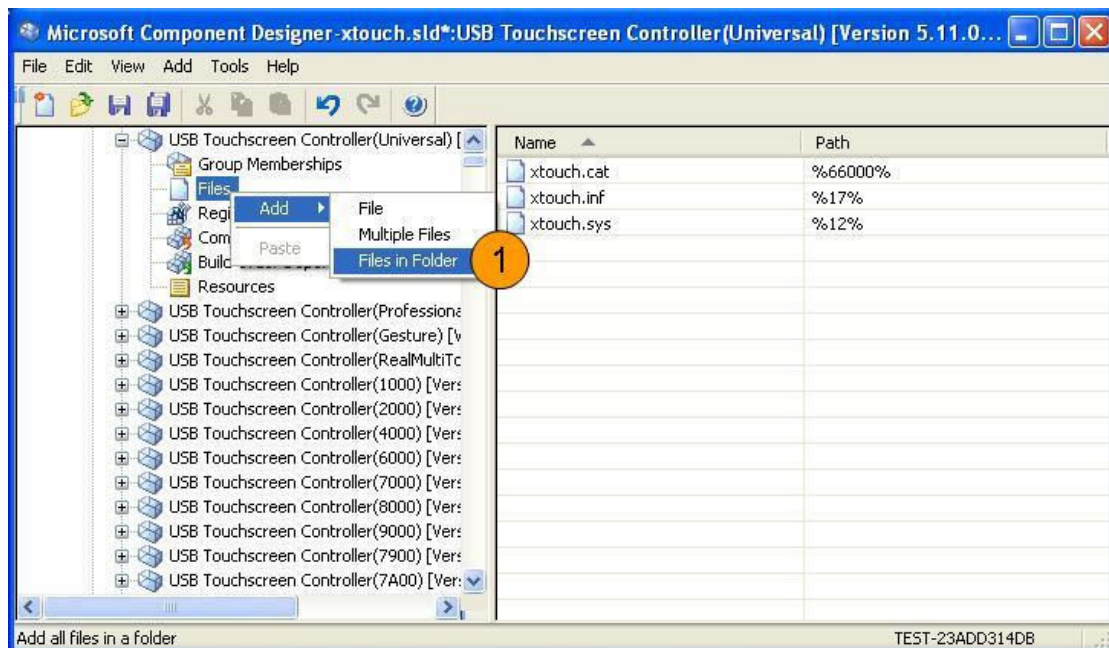
(Please check the hardware ID of your USB touch device and select a correct component. Example : If your device PID is 72E5 , please select the “USB Touchscreen Controller(72E5)” component.)



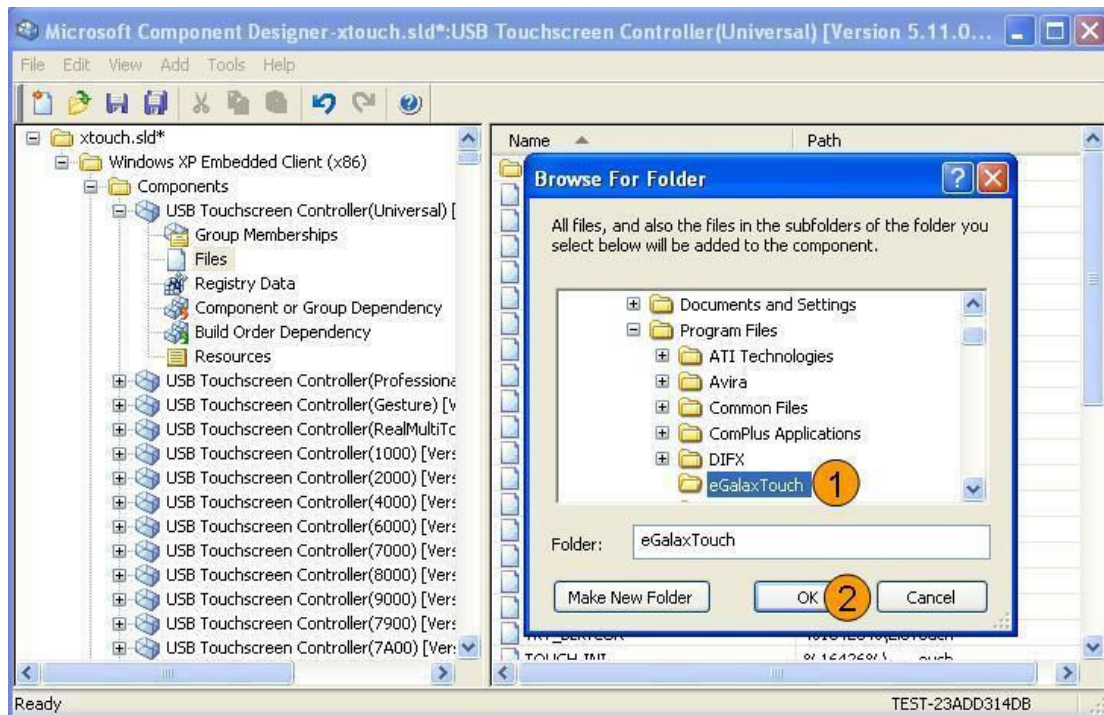
(if you want install RS232 Driver, you have to select “**Serial Touchscreen Controller(COMBUS)**” or if you want install PS2 Driver , you have to select “**eGalaxTouch Filter**”)

6.) Add Utility files to the component.

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



Choose the files from the repository folder. For example : C:\Program Files\eGalaxTouch



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

If you want to build USB Touchscreen component , you should remove these four files from USB Touchscreen component:

egxfilter.inf , egxfilter.cat , egxfilter.sys , sertouch.inf , sertouch.cat.
sertouch.sys

If you want to build Serial Touchscreen component , you should remove these four files from Serial Touchscreen component.

xtouch.inf , xtouch.cat , xtouch.sys
egxfilter.inf , egxfilter.cat , egxfilter.sys

If you want to build PS/2 Touchscreen component , you should remove these four files from PS/2 Touchscreen component.

xtouch.inf , xtouch.cat , xtouch.sys , sertouch.inf , sertouch.cat.
, sertouch.sys

Add these below files again and make sure these files path to

A.) If you want to build USB Touchscreen component

- a.) xAuto4PtsCal.exe %11%
- b.) XTouch32Ex.dll %11%
- c.) xtkutility.dll %11%
- d.) xtouch.inf %17%

- e.) xtouch.cat %12%
- f.) xTouch.sys %12%

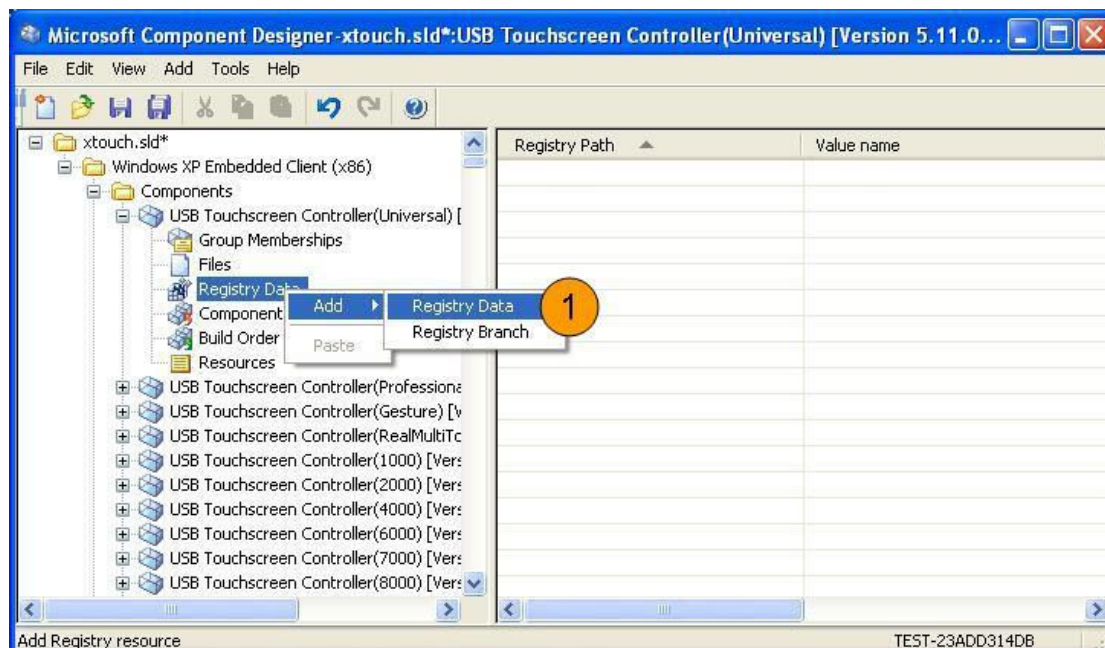
B.)If you want to build Serial Touchscreen component.

- a.) xAuto4PtsCal.exe %11%
- b.) XTouch32Ex.dll %11%
- c.) xtkutility.dll %11%
- e.) sertouch.inf %17%
- f.) sertouch.cat %12%
- g.) sertouch.sys %12%
- h.) combus.inf %11%
- i.) combus.sys %11%
- j.) combus.cat %11%
- k.) eGalaxDevOp.exe %11%

C.)if you want to build PS/2 Touchscreen component.

- a.) xAuto4PtsCal.exe %11%
- b.) XTouch32Ex.dll %11%
- c.) xtkutility.dll %11%
- d.) egxfilter.inf %17%
- e.) egxfilter.cat %12%
- f.) egxfilter.sys %12%

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



Add this registry data into component.

A.)If you want to add a RS-232 touch device , you have to add these two registry data “BaudRate” and “AutoSearch” into the **Serial Touchscreen Controller(COMBUS)** component.

a.)Registry Root : HKEY_LOCAL_MACHINE

Registry Key Name :

SYSTEM\CurrentControlSet\Services\xTouch\DeviceDefault

Value name : BaudRate

Value Type : REG_DWORD

Value : if baudrate is 9600 , the value is 0x00002580.

If baudrate is 57600 , the value is 0x0000E100.

The screenshot shows the 'Add Component Registry Resources' dialog box. It contains the following fields and controls:

- Root:** A dropdown menu set to 'HKEY_LOCAL_MACHINE' (callout 1).
- Key name:** A text box containing 'SYSTEM\CurrentControlSet\Services\xTouch\DeviceDef' and a 'Browse...' button (callout 2).
- Value name:** A text box containing 'BaudRate' (callout 3).
- Type:** A dropdown menu set to 'REG_DWORD' (callout 4).
- Registry path:** A text box showing the full path: 'INE\SYSTEM\CurrentControlSet\Services\xTouch\DeviceDefault\BaudRate'.
- Value:** A large text box containing '0x00002580' (callout 5).
- Radio buttons:** Three radio buttons labeled 'Default' (selected), 'Binary', and 'Expression'.
- Description:** An empty text box.
- Applicable build types:** Two checkboxes, 'Release' and 'Debug', both of which are checked.
- Buttons:** 'OK', 'Cancel', 'Add' (callout 6), and 'Help' buttons at the bottom. An 'Advanced...' button is also present.

b.)Registry Root : HKEY_LOCAL_MACHINE

Registry Key Name :

SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce

Value name : AutoSearch

Value Type : REG_SZ

Value : rundll32 xtouch32ex.dll, SearchSerialTouch COMxxx

if **xxx** string is 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.

The screenshot shows the 'Add Component Registry Resources' dialog box. It contains the following fields and controls:

- Root:** A dropdown menu set to 'HKEY_LOCAL_MACHINE' (annotated with a 1).
- Key name:** A text box containing 'SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce' (annotated with a 2) and a 'Browse...' button.
- Value name:** A text box containing 'AutoSearch' (annotated with a 3).
- Type:** A dropdown menu set to 'REG_SZ' (annotated with a 4).
- Registry path:** A text box showing the full path: 'HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce\AutoSearch'.
- Value:** A large text box containing 'rundll32 xtouch32ex.dll, SearchSerialTouch COM1' (annotated with a 5).
- Options:** Three radio buttons: 'Default' (selected), 'Binary', and 'Expression'.
- Description:** An empty text box.
- Applicable build types:** Two checkboxes: 'Release' and 'Debug', both of which are checked.
- Buttons:** 'OK', 'Cancel', 'Add' (annotated with a 6), and 'Help'. There is also an 'Advanced...' button.

B.) Add this registry data into component.

Add Component Registry Resources

Root: HKEY_CURRENT_USER 1

Key name: Software\Microsoft\Windows\CurrentVersion\Run Browse... 2

☐ Key only

Value name: ClearTKHandle 3

Type: REG_SZ 4

Registry path: T_USER\Software\Microsoft\Windows\CurrentVersion\Run\ClearTKHandle

Value: C:\Program Files\GalaxyTouch\ClearTKHandle.exe 5

☒ Default ☐ Binary ☐ Expression

Description:

Applicable build types

☒ Release ☒ Debug

Advanced...

OK Cancel Add 6 Help

C.) Add this registry data into component.

The screenshot shows the 'Add Component Registry Resources' dialog box. It contains the following fields and controls:

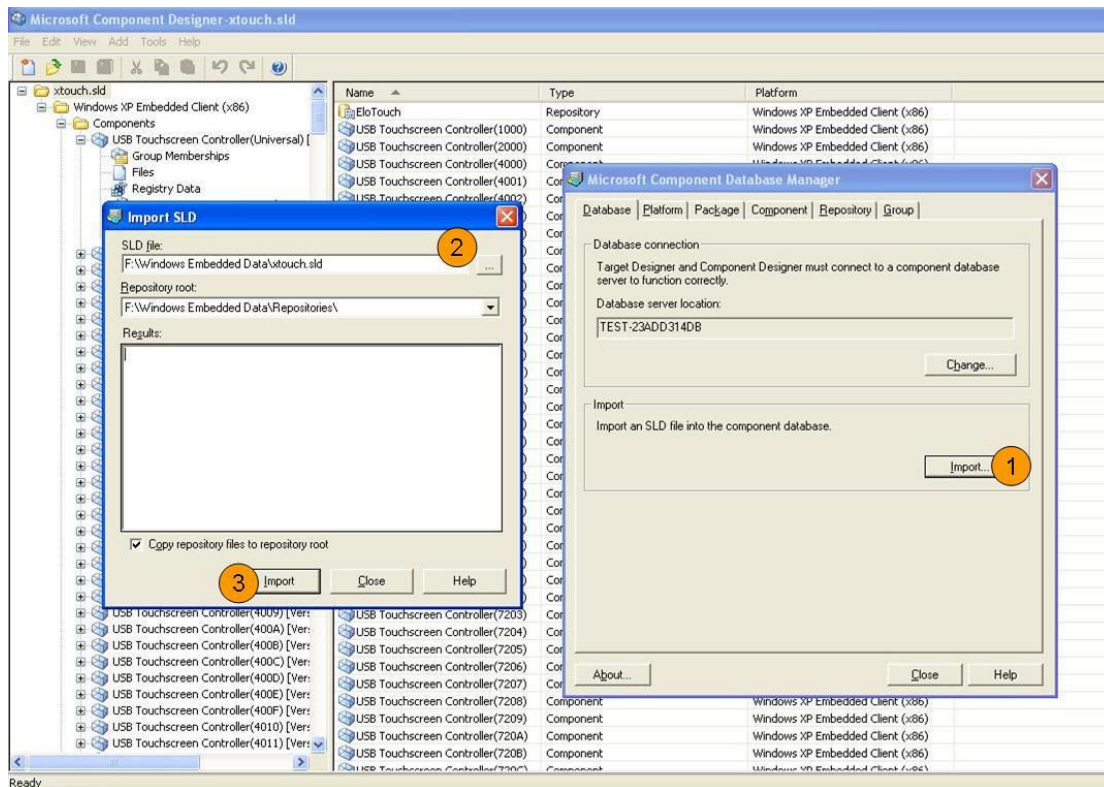
- Root:** A dropdown menu set to 'HKEY_CURRENT_USER' (annotated with 1).
- Key name:** A text box containing 'Software\Microsoft\Windows\CurrentVersion\Run' (annotated with 2) and a 'Browse...' button.
- Value name:** A text box containing 'xTouchMon' (annotated with 3).
- Type:** A dropdown menu set to 'REG_SZ' (annotated with 4).
- Registry path:** A text box showing the full path: 'ENT_USER\Software\Microsoft\Windows\CurrentVersion\Run\xTouchMon'.
- Value:** A text box containing 'C:\Program Files\GalaxTouch\xTouchMon.exe' (annotated with 5).
- Options:** Three radio buttons: 'Default' (selected), 'Binary', and 'Expression'.
- Description:** An empty text box.
- Applicable build types:** Two checkboxes: 'Release' and 'Debug', both of which are checked.
- Buttons:** 'OK', 'Cancel', 'Add' (annotated with 6), and 'Help'. There is also an 'Advanced...' button.

D.) If you need to launch 4-points calibration (xAuto4PtsCal.exe) after system first boot. Please set this Registry data.

The screenshot shows the 'Add Component Registry Resources' dialog box. It contains the following fields and controls:

- Root:** A dropdown menu set to 'HKEY_LOCAL_MACHINE' (callout 1).
- Key name:** A text box containing 'SOFTWARE\Microsoft\Windows\CurrentVersion\Run' and a 'Browse...' button (callout 2).
- Value name:** A text box containing 'xAuto4PtsCalOnce' (callout 3).
- Type:** A dropdown menu set to 'REG_SZ' (callout 4).
- Registry path:** A text box showing the full path: 'E:\SOFTWARE\Microsoft\Windows\CurrentVersion\Run\xAuto4PtsCalOnce'.
- Value:** A large text box containing 'C:\Windows\System32\xAuto4PtsCal.exe' (callout 5).
- Options:** Three radio buttons: 'Default' (selected), 'Binary', and 'Expression'.
- Description:** An empty text box.
- Applicable build types:** Two checkboxes: 'Release' and 'Debug', both of which are checked.
- Buttons:** 'OK', 'Cancel', 'Add' (callout 6), and 'Help'. There is also an 'Advanced...' button.

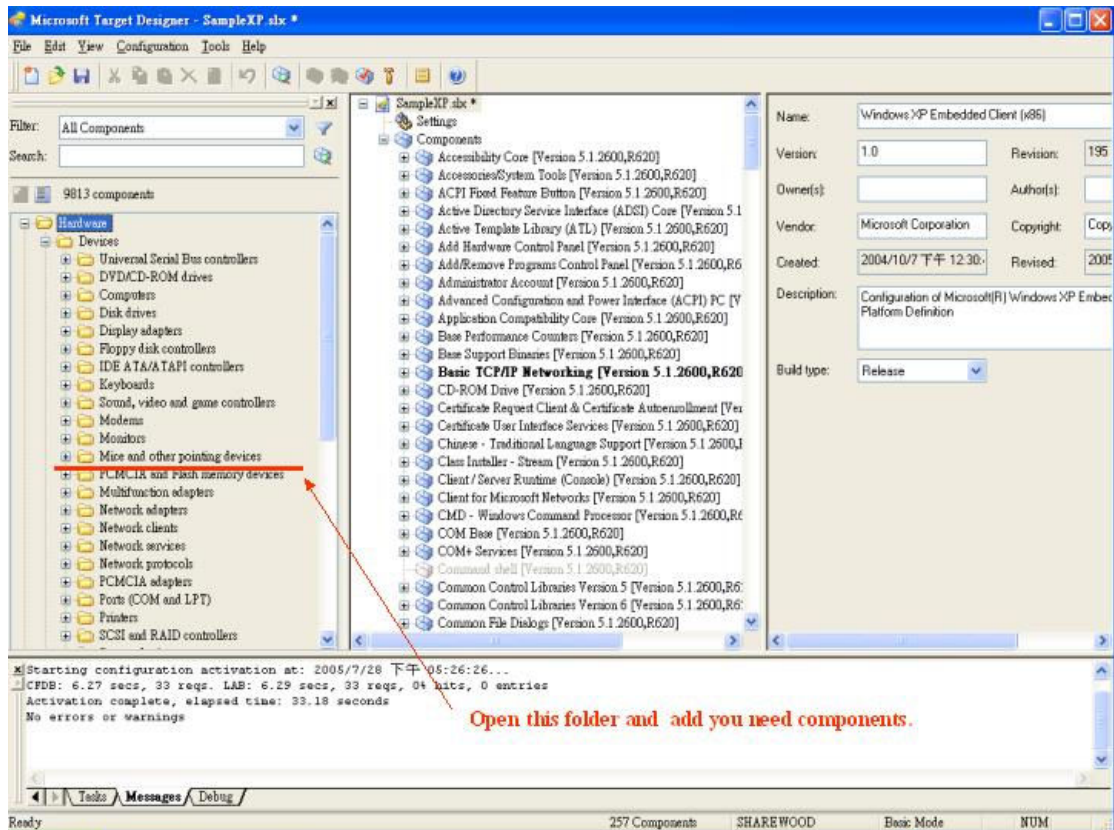
8.) Tool->Component database manager to import current SLD file to the component database.



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)”** or other **“USB Touchscreen Controller(yyyy)”** (for USB controller) or **“Serial Touchscreen Controller(COMBUS)”**(for serial RS232 controller) or **“eGalaxTouch Filter”** (for PS2 controller)to add them to the platform image.

PS : If your touch device is not PS/2 interface device , please do not add the **“eGalaxTouch Filter”** component. Because If your system has PS/2 mouse , the PS/2 interface touch driver will be installed.

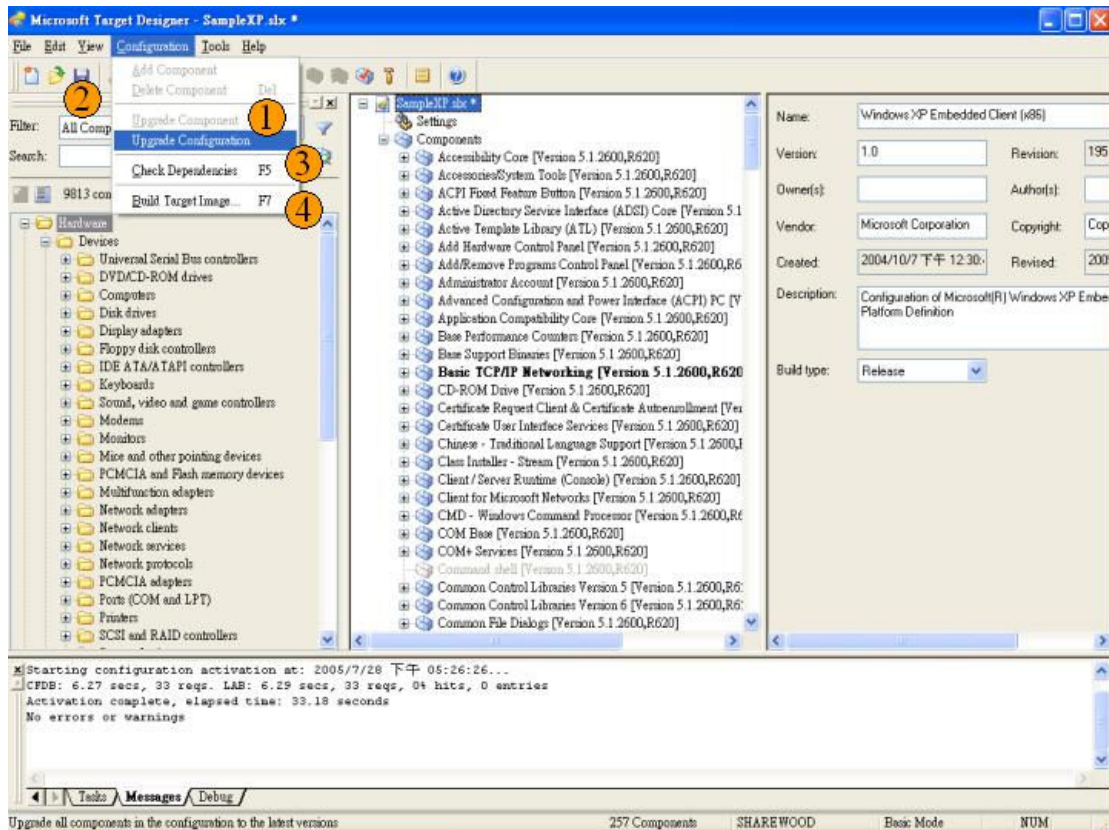


After added components , please press 'Save' button.

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. Set Touchscreen Default values

If you want set Touchscreen Default values , like on/off Beep or Enable/disable Auto right button and others.

You can refer the below value and add these registry data into component.

Name	Value	Description
BeepMode	0x00000000	Off Beep
	0x00000001	Beep when touched
	0x00000002	Beep when released
BeepFrequency	0x00000064	Beep Frequency
	~0x00000FA0	
BeepDuration	0x00000019	Beep duration
	~0x000001F4	
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 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00	ILeft (4 bytes) Edge compensation parameter in left side. IRight (4 bytes) Edge compensation parameter in right side. ITop (4 bytes) Edge compensation parameter in upper side IBottom (4 bytes) Edge compensation parameter in bottom side IOffsetX (4 bytes)

	0x00 0x00 0x00 0x00	Offset parameter in X direction. OffsetY (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
BeepSource	0x00000000 0x00000001 0x00000010	Off Beep Beep from system beep Beep from sound card

Example :

If you want to set enable auto right button feature and set the mouse emulation mode to Desktop mode, you have to set the MouseMode value to 0x40000005.

And please add this registry data into component

If the touch device is a USB interface device , the registry path is

“HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\xTouch\DeviceDefault”.

If the touch device is a RS-232 interface device , the registry path is

“HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\sertouch\DeviceDefault”.

If the touch device is a USB interface device , the registry path is

“HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EGXfilter\DeviceDefault”.

Edit Component Registry Resource [X]

Root: HKEY_LOCAL_MACHINE 1

Key name: SYSTEM\CurrentControlSet\Services\xTouch\DeviceDef Browse 2

☐ Key only

Value name: MouseMode 3

Type: REG_DWORD 4

Registry path: E:\SYSTEM\CurrentControlSet\Services\xTouch\DeviceDefault\MouseMode

Value: 0x40000005 5

☒ Default ☐ Binary ☐ Expression

Description: |

Applicable build types

☒ Release ☒ Debug

Advanced...

6

OK Cancel Apply Help