

# ILITek iUniTouch Tool

## User Guide

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### **ILI TECHNOLOGY CORP.**

10F, No.1, Taiyuan 2nd St., Zhubei City,  
Hsinchu County 302, Taiwan  
Tel.886-3-5600099; Fax.886-3-5600585  
<http://www.ilitek.com/>

## Document Revision History

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1.00	2016/2/26	Kevin Chang	First Release Version
1.01	2016/6/29	Vincent Chen	Added New Features
1.02	2016/7/7	Kevin Chang	Added New Features
1.03	2016/10/19	Kevin Chang	Added Ubuntu Support
1.04	2016/11/22	Kevin Chang	Correcting Errors in Description
1.05	2020/07/15	Arik Huang	Added New Features
1.06	2020/11/16	Arik Huang	Modified for tool V1.2.3.0
1.07	2021/01/26	Arik Huang	Modified for tool V1.2.4.0
1.08	2022/11/22	Arik Huang	Modified for tool V1.2.5.9

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# 1 Description

ILITek iUniTouch Tool provides a configuration utility for all kinds of ILITek capacitive touch IC. This document would help to use ILITek iUniTouch Tool in detail.

## 1.1 System Requirements

- ILITek USB interface capacitive touch related products

- **Windows**

**OS:** Windows XP SP3, Windows 7, Windows 8/8.1 and Windows 10

- **Linux:**

**OS:**

- Ubuntu : Ubuntu 14.04, Ubuntu 16.04, Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04
- CentOS: CentOS 6.9 (64 bits), CentOS 8.
- Fedora: Fedora 29, Fedora 36.
- Debian: Debian 10, Debian 11.
- SUSE: SUSE 12, SUSE 15.

**Libusb:**

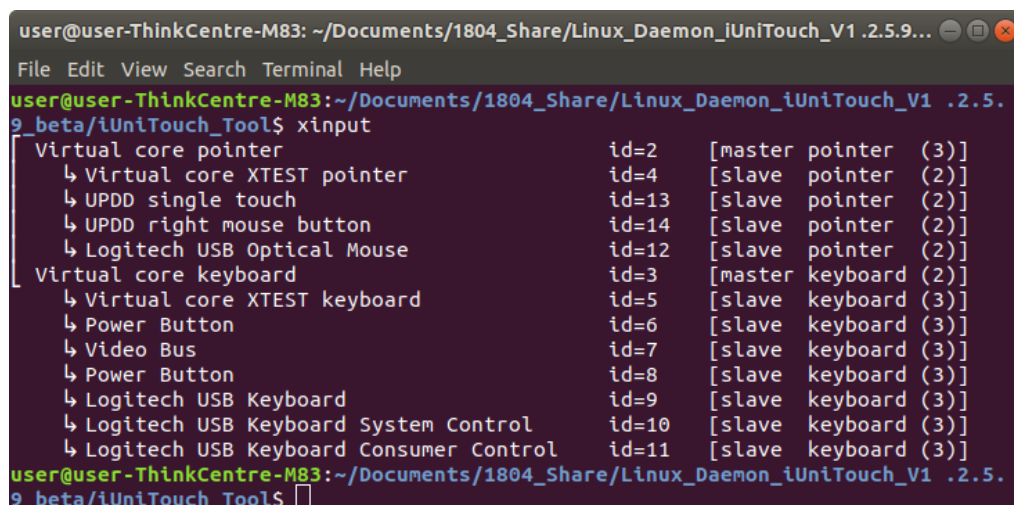
- libusb-1.0 and libusb-0.1 for CentOS 6.9.

**X display (X11):**

- Fedora, Debian, Cent OS 8 , Ubuntu 22.04 have to disable Wayland.

\* Refer to 4.2.1 How to Disable Wayland

**Xinput:**

A terminal window screenshot showing the output of the 'xinput' command. The terminal title is 'user@user-ThinkCentre-M83: ~/Documents/1804\_Share/Linux\_Daemon\_iUniTouch\_V1 .2.5.9\_beta/iUniTouch\_Tool\$'. The output lists various input devices with their IDs and capabilities. The devices listed are: Virtual core pointer (id=2, master pointer, 3 buttons), Virtual core XTEST pointer (id=4, slave pointer, 2 buttons), UPDD single touch (id=13, slave pointer, 2 buttons), UPDD right mouse button (id=14, slave pointer, 2 buttons), Logitech USB Optical Mouse (id=12, slave pointer, 2 buttons), Virtual core keyboard (id=3, master keyboard, 2 buttons), Virtual core XTEST keyboard (id=5, slave keyboard, 3 buttons), Power Button (id=6, slave keyboard, 3 buttons), Video Bus (id=7, slave keyboard, 3 buttons), Power Button (id=8, slave keyboard, 3 buttons), Logitech USB Keyboard (id=9, slave keyboard, 3 buttons), Logitech USB Keyboard System Control (id=10, slave keyboard, 3 buttons), and Logitech USB Keyboard Consumer Control (id=11, slave keyboard, 3 buttons).

```
user@user-ThinkCentre-M83: ~/Documents/1804_Share/Linux_Daemon_iUniTouch_V1 .2.5.9_beta/iUniTouch_Tool$ xinput
Virtual core pointer          id=2    [master pointer  (3)]
↳ Virtual core XTEST pointer  id=4    [slave pointer   (2)]
↳ UPDD single touch           id=13   [slave pointer   (2)]
↳ UPDD right mouse button     id=14   [slave pointer   (2)]
↳ Logitech USB Optical Mouse  id=12   [slave pointer   (2)]
Virtual core keyboard         id=3    [master keyboard (2)]
↳ Virtual core XTEST keyboard  id=5    [slave keyboard  (3)]
↳ Power Button                 id=6    [slave keyboard  (3)]
↳ Video Bus                     id=7    [slave keyboard  (3)]
↳ Power Button                 id=8    [slave keyboard  (3)]
↳ Logitech USB Keyboard        id=9    [slave keyboard  (3)]
↳ Logitech USB Keyboard System Control id=10   [slave keyboard  (3)]
↳ Logitech USB Keyboard Consumer Control id=11   [slave keyboard  (3)]
user@user-ThinkCentre-M83:~/Documents/1804_Share/Linux_Daemon_iUniTouch_V1 .2.5.9_beta/iUniTouch_Tool$
```

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**How to install:**

Fedora:

```
sudo yum -y install xinput
```

Debian:

```
sudo apt-get update
```

```
sudo apt-get install xinput
```

## 2 Software Installation

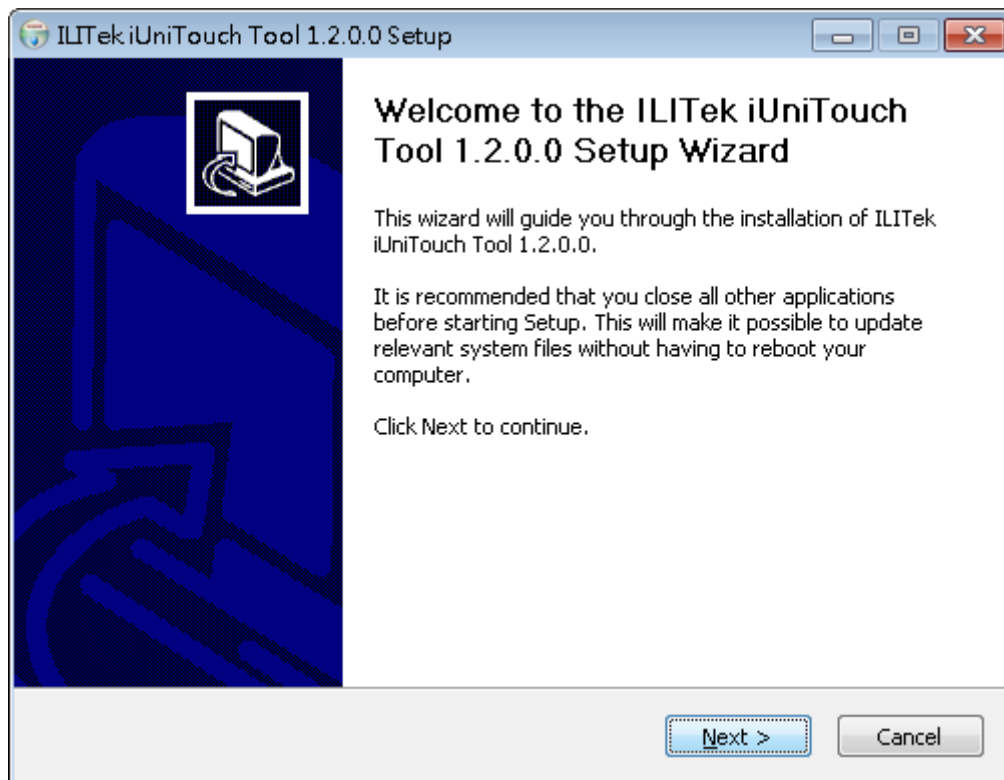
### 2.1 Windows Platform

Double click at the setup.exe file to start software driver installation. The setup program will guide user to complete software installation.



**Figure 2-1: Setup.exe**

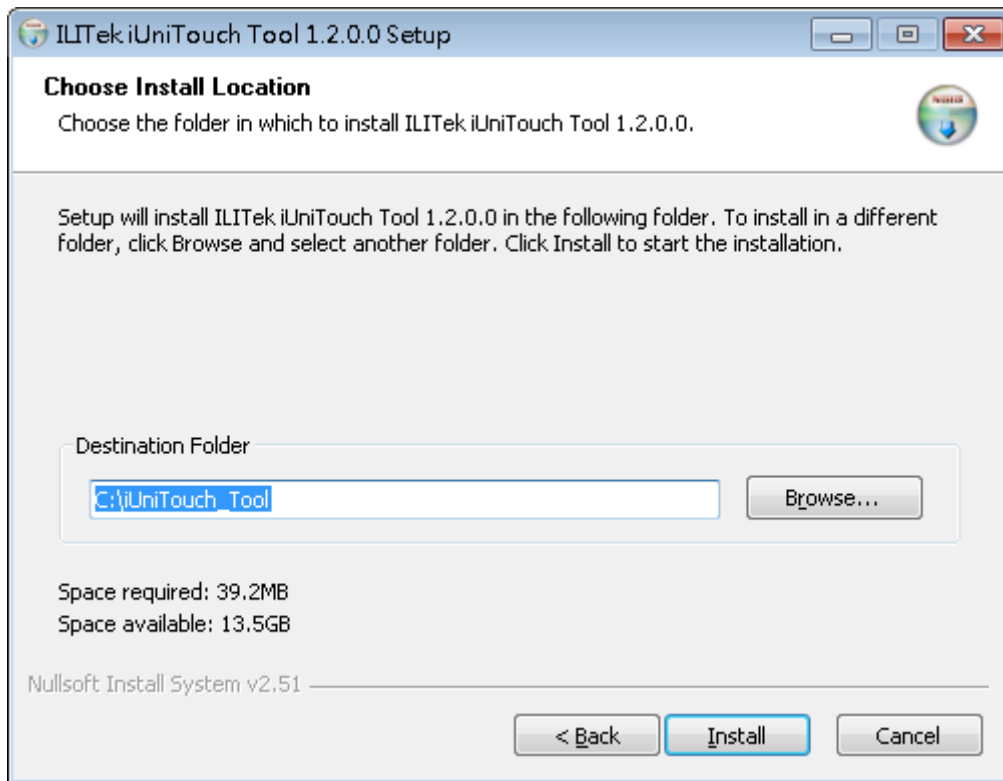
Press **Next** button to continue installation.



**Figure 2-2: Welcome Installation**

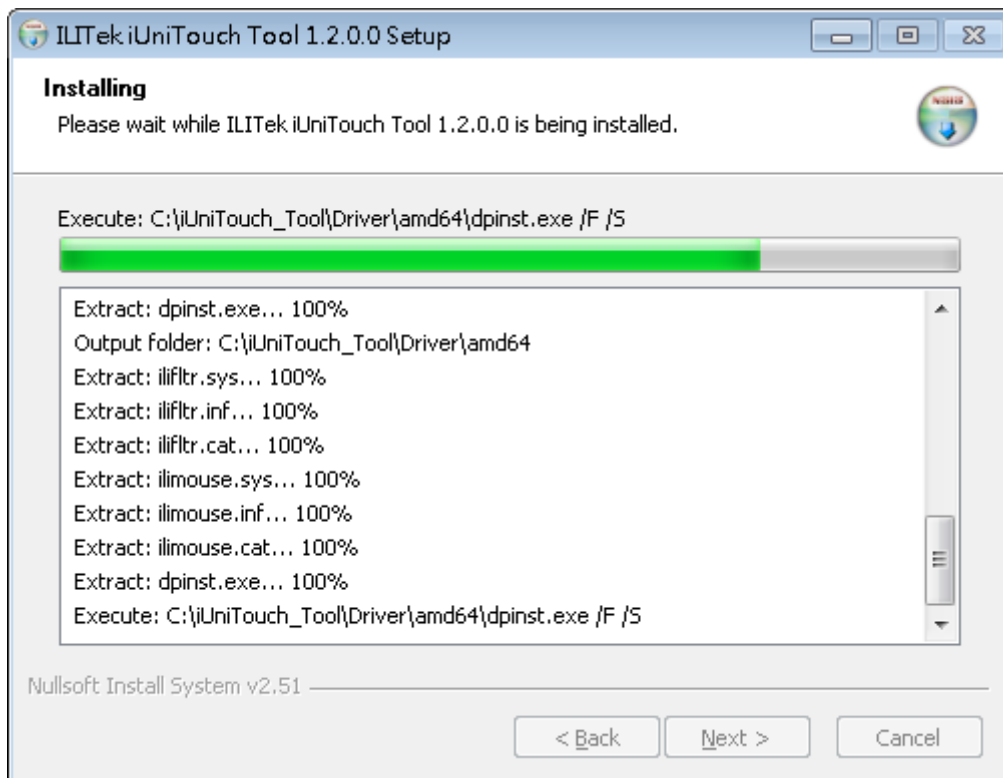


User can choose the destination folder. Press **Install** to continue.



**Figure 2-3: Destination Folder**

Installation will take a few minute, please wait patiently.

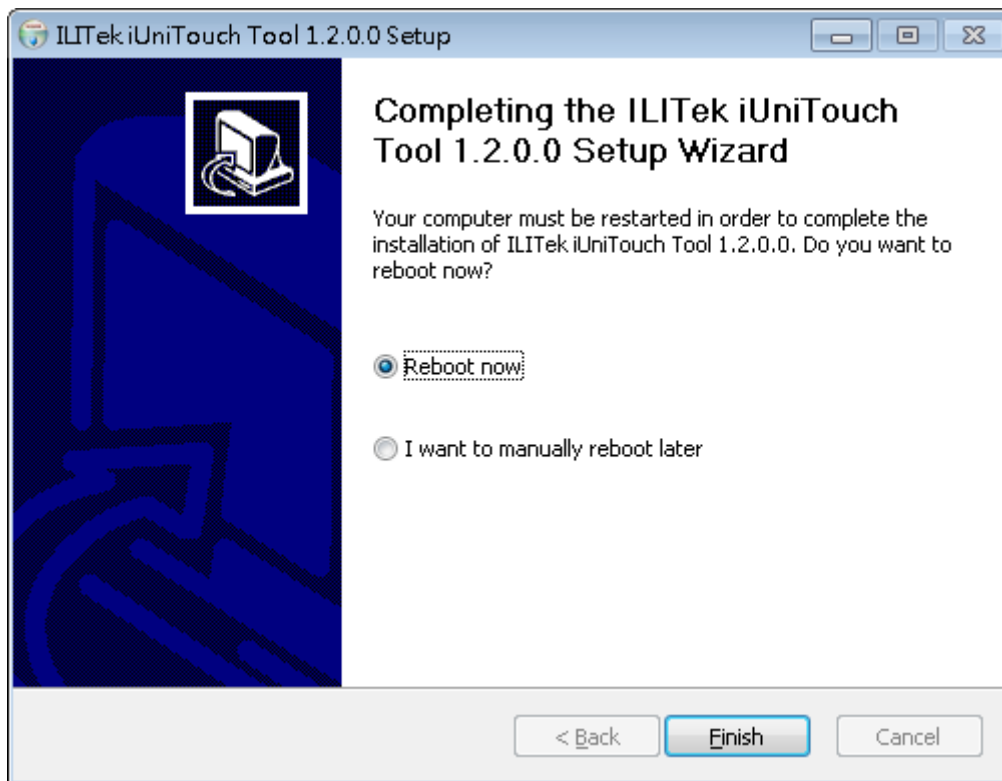


**Figure 2-4: Installation Progress Window**

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When completed install please reboot your computer to make change take effect.

After reboot, you can see the ILITek iUniTouch Tool shortcut on desktop and start menu.



**Figure 2-5: Installation finish**

## 2.2 Linux Platform

Extract zip file

Use Ctrl+Alt+T shortcut to open terminal

### 1. Install daemon:

Enter “sudo ./Linux\_Daemon\_iUniTouch\_install.sh” command in /Daemon\_Install/ folder

(if you cannot execute shell file, please enter

“sudo chmod +x Linux\_Daemon\_iUniTouch\_install..sh” to modify file permission)

Please reboot machine after installation finish

### 2. Install iUniTouch Tool:

Enter “sudo ./iUniTouch\_Tool\_install.sh” command in /iUniTouch\_Tool/ folder.

Application path is “/usr/share/Applications/”, you have to become root before you execute the application

### 3 ILITek iUniTouch Tool

The following sections describe the tool function. ILITek iUniTouch Tool provide the same user interface on windows and linux. Therefore, the functions will be introduced together.

#### 3.1 TP List Page

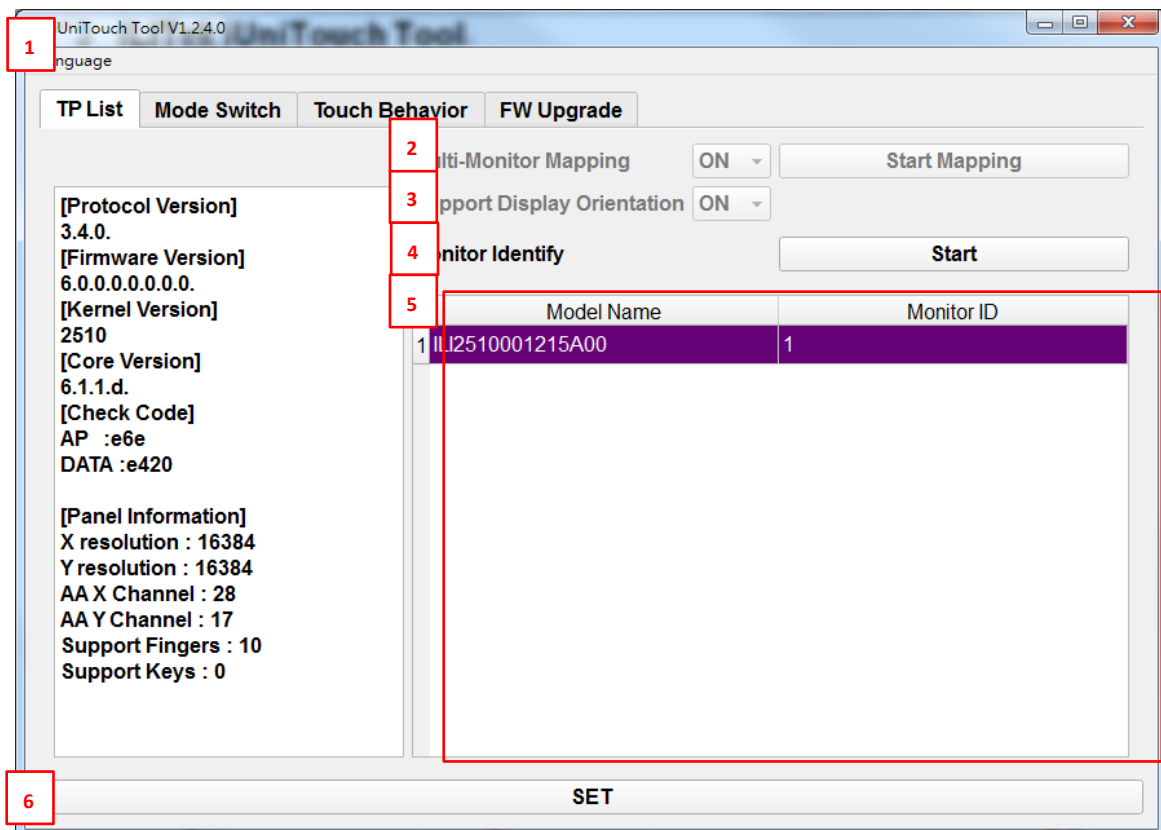
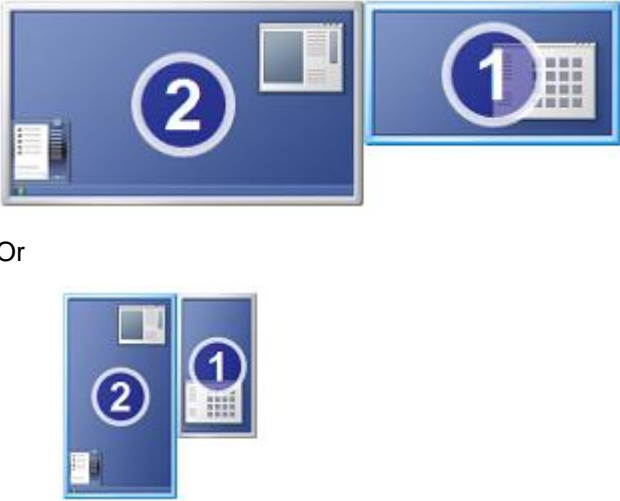


Figure 3-1: TP List Page

Table 3-1: Detailed description of TP List Page

No.	Item	Description
1	<b>Language Setting</b>	The UI language selections provide English, Traditional Chinese and Simplified Chinese.
2	<b>Multi-Monitor Mapping</b>	<p>Monitor mapping switch (for mouse mode only)</p> <p>If user select “ON”, and then click ”Start Mapping”, This function will help user to does monitor mapping. a new window will be popped-up on a monitor as below</p> <ul style="list-style-type: none"> <li>● Condition exclusion               <ol style="list-style-type: none"> <li>(a) If you plug / unplug a monitor and your ‘touch to mouse’ position was incorrect, please remap again to fix it.</li> <li>(b) If you change display settings and your “touch to mouse” position was incorrect, close tool and launch again to fix it.</li> <li>(c) <b>Screen Orientation</b> of both monitor must be the same.</li> </ol> </li> </ul> <div style="text-align: center;">  <p>Or</p> </div> <p>Not support more than 2 monitors.</p>
3	<b>Support Display Orientation</b>	Monitor display orientation support. If user select “ON”, this utility will correct the touchscreen orientation to match with monitor display orientation whenever it detects monitor rotation.
4	<b>Monitor Identify</b>	The tool shows the monitor ID on every screens
5	<b>TP List</b>	User can double click to select the TP list in the window to do configuration for it. Also, all of the other property pages will be updated for this selected TP.
6	<b>SET Button</b>	Make change take effect.

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Tap this screen with your finger to set it as the Tablet PC screen.  
If this is not Tablet PC screen. Press Enter to move to next screen. Press Esc to exit.

It will move to next screen in 10 seconds.

### 3.2 Mode Switch

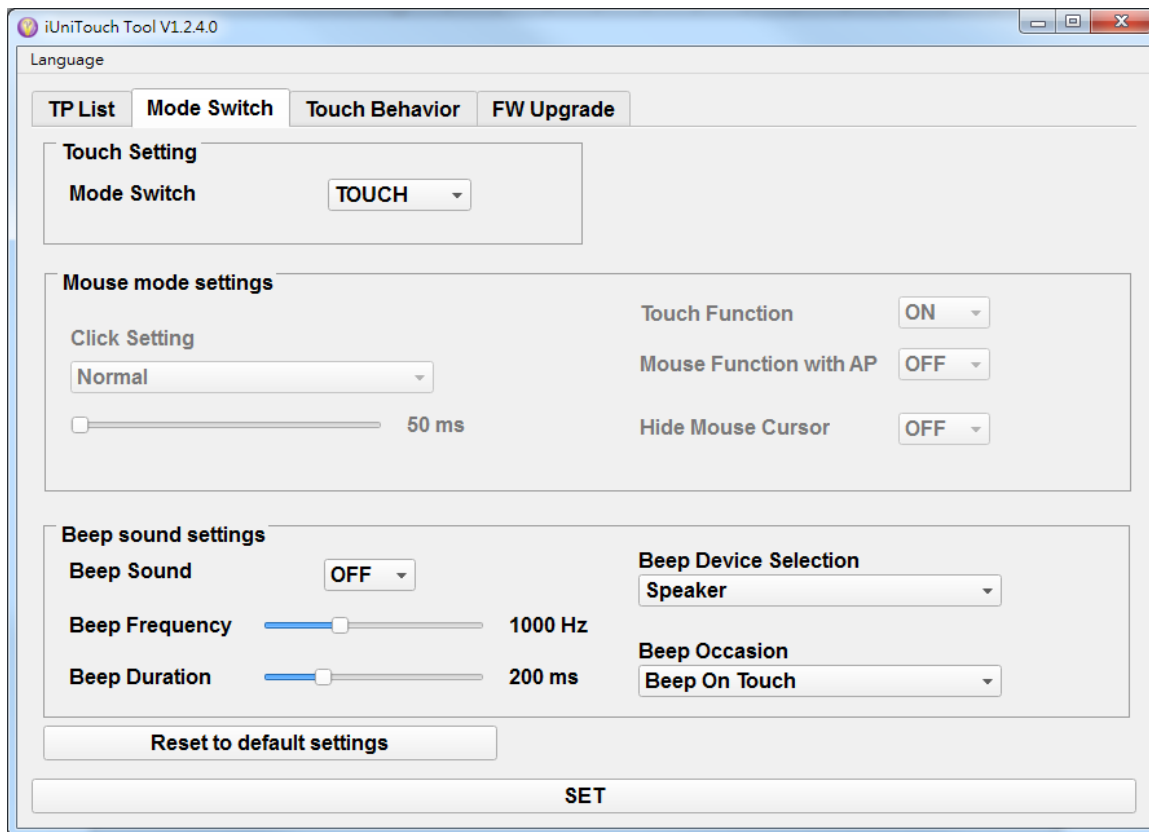


Figure 3-2: Mode Switch

Table 3-2: Detailed description of Mode Switch

No.	Item	Description
1	Mode Switch	If user select "MOUSE" TP will become mouse with configuration If user select "TOUCH" TP will become touch panel without configuration
2	Reset to default	Click to clear all settings and load default.
3	Touch Function	Select "OFF" will turn off touch function.  ● Note In multiple TP/Monitor system, Only one TP will be turned off.
4	Hide Mouse Cursor	Select "ON" will hide mouse cursor (Linux has no this item)
5	Mouse Function with AP	Configuration whether resident with software
6	Click Setting	There are 7 mouse emulation modes for ILITek touchscreen controllers. Click combo box to change the emulation mode.  <b>1. Normal</b> Behaves mouse button down and mouse move. User can select this

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mode to select object, and dragging the object.

**2. Drag OFF**

With this “Drag OFF” mode, the driver emulates a mouse release when the finger move or finger release.

**3. Click on touch**

With this “Click on touch” mode, the driver emulates a mouse click event when the touchscreen state was switched from un-touched state to touched state. Then, the driver always generate mouse move event and is tracking the touch position until the touchscreen state switched to un-touch state.

**4. Click on touch without moving cursor**

With this mode, the driver behaves similar as “Click on touch” mode. The cursor does not move to the touch position except the first touch point.

**5. Click on release (needs fw support)**

With this “Click on release” mode, the driver emulates a mouse click event when the touchscreen state was switched from touched state to un-touched state.

**6. Click on release without moving cursor (needs fw support)**

With this mode, the driver behaves similar as “Click on release” mode. The cursor does not move to the touch position except the lift-off point.

**7. Desktop mode**

With this mode, the driver behaves similar as “Normal” Mode. But the driver will not report mouse button down immediately after user touches down.

User needs to touch and stay at one point for a few milliseconds and then the driver will report mouse touch down.

The following slider is used to set time period.

Finger Option	Touch TP	Moving after touch	Leave TP
Normal	Press left button	Move cursor	Release left button
Drag Off	Press left button	Release left button	Release left button
Click on touch	Click left button	Move cursor	No action
Click on touch	Move cursor	No action	No action



		<table border="1"> <tr> <td>without moving cursor</td> <td>and click left button</td> <td></td> <td></td> </tr> <tr> <td>Click on release</td> <td>Move cursor</td> <td>Move cursor</td> <td>Click left button</td> </tr> <tr> <td>Click on release without moving cursor</td> <td>No action</td> <td>No action</td> <td>Move cursor and click left button</td> </tr> <tr> <td>Desktop mode</td> <td>Press left button (Need to wait)</td> <td>Move cursor</td> <td>Release left button</td> </tr> </table>	without moving cursor	and click left button			Click on release	Move cursor	Move cursor	Click left button	Click on release without moving cursor	No action	No action	Move cursor and click left button	Desktop mode	Press left button (Need to wait)	Move cursor	Release left button
without moving cursor	and click left button																	
Click on release	Move cursor	Move cursor	Click left button															
Click on release without moving cursor	No action	No action	Move cursor and click left button															
Desktop mode	Press left button (Need to wait)	Move cursor	Release left button															
		<ul style="list-style-type: none"> <li>Note</li> </ul> <p>In multiple TP/Monitor system, Only one TP will be changed.</p>																
7	Beep Sound	Beep sound on/off switch.																
8	Beep Occasion	<p>User can select beep occasion</p> <p>Beep On Touch meaning driver generate beep when finger touch TP</p> <p>Beep On Release meaning driver generate beep when finger release TP</p>																
9	Beep Frequency	Adjust the beep sound frequency, set range 500Hz~2000Hz																
10	Beep Duration	Adjust the beep sound duration, set range 100ms~500ms																
11	Beep Device Selection	<p>To select beep from buzzer or speaker (Linux has no this item)</p> <ul style="list-style-type: none"> <li>Condition exclusion</li> </ul> <p>(a) Beep from speaker needs iUniTouch tool is running.</p>																

### 3.3 Touch Behavior

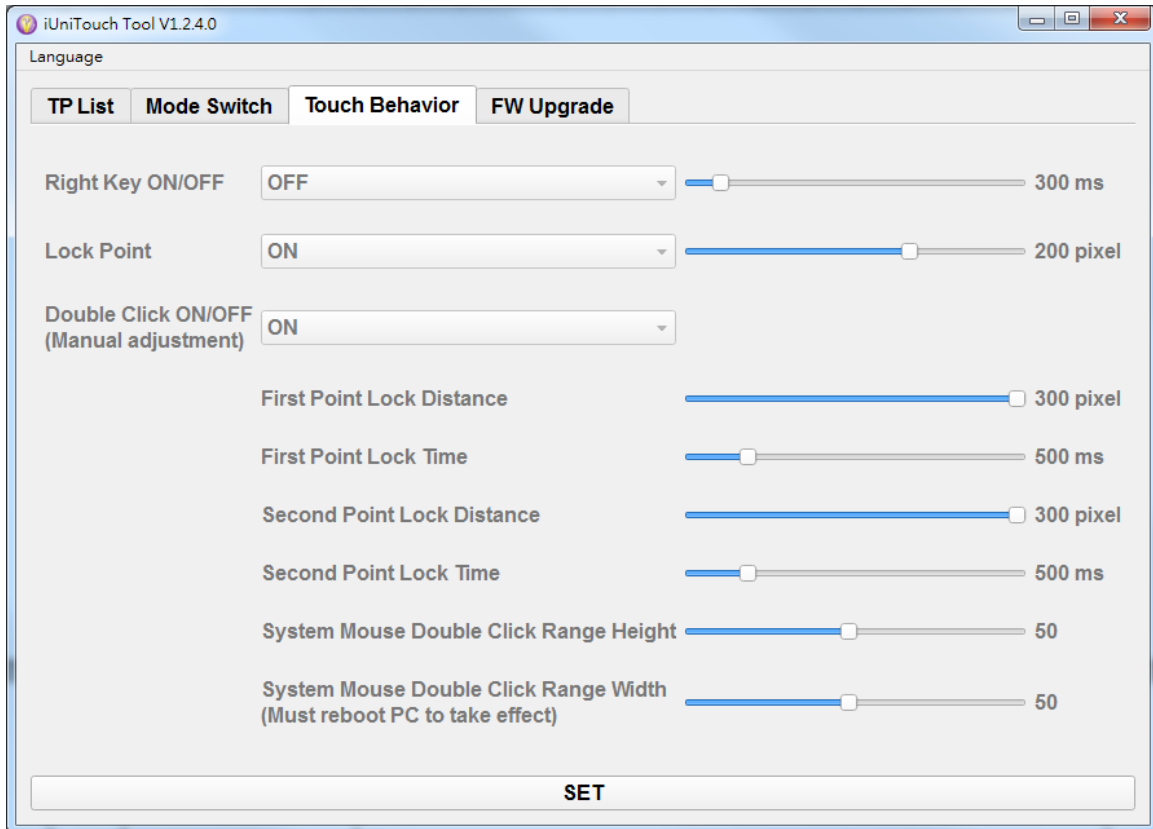


Figure 3-3: Touch Behavior

Table 3-3: Detailed description of Touch Behavior

No.	Item	Description
1	<b>Right Key ON/OFF</b>	If the touchscreen was kept touched for a specified time, the driver will generate a mouse right button click event if this function was enabled. The following slider used to adjust trigger time.
2	<b>Double Click ON/OFF</b>	Two continuous clicks at the same area within this specified time and area will be recognized as a double click event. When select "OFF" the following sliders used to adjust area and time to prevent OS recognized two continuous clicks as a double click event.  <ul style="list-style-type: none"> <li>● Condition exclusion</li> </ul> Due to "System Mouse Double Click Range" is setting of Windows, must reboot System to take effect. (Linux has no this item)
3	<b>Lock Point</b>	If Lock Point is "ON" · this is a criterion to judge if the most recent touched point is same as the previous touched point. If the points difference is within this area, it will be recognized as the same touch point and the driver does not generate new mouse event for this new touch point.

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### 3.4 FW Upgrade

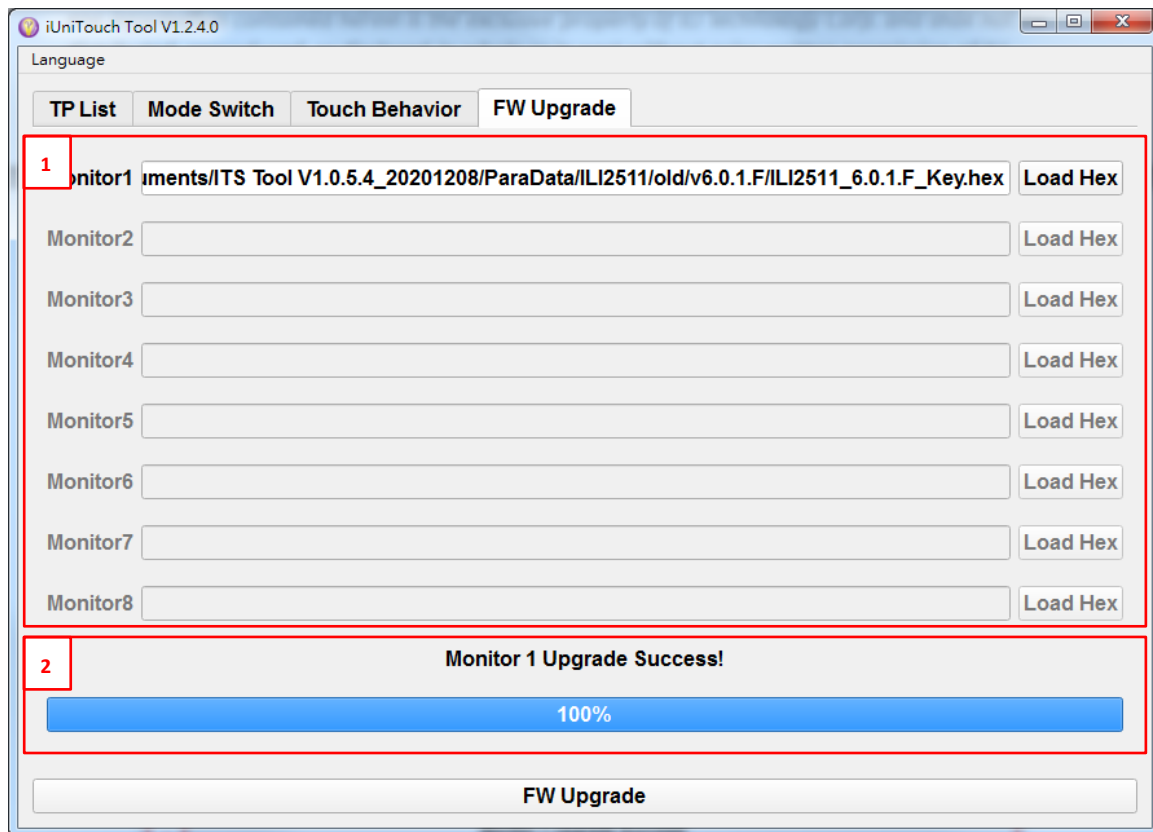


Figure 3-4: FW Upgrade

Table 3-4: Detail description of FW Upgrade

No.	Item	Description
1	Hex File Selection	User select hex for FW upgrade
2	Upgrade Progress	<p>Show FW upgrade progress during upgrade FW</p> <ul style="list-style-type: none"> <li>Note</li> </ul> <ol style="list-style-type: none"> <li>After upgrade completed, have to reboot system or re-plug Device to make it effect.</li> <li>If you use other application to upgrade FW, Multi-monitor mapping will lose. You have to map again (reference to section 3.1)</li> </ol>

## 4 Troubleshooting.

### 4.1 Windows system.

#### 4.1.1 iUniTouch Tool can't find touch device in Win 7, Win10.

**Root cause 1: Load driver failed.**

**Solution:**

Check device manager -> Human interface device,

- a. VID must be 222A,
- b. PID must be 0001, 0002 or 0003
- c. REV must be 0002

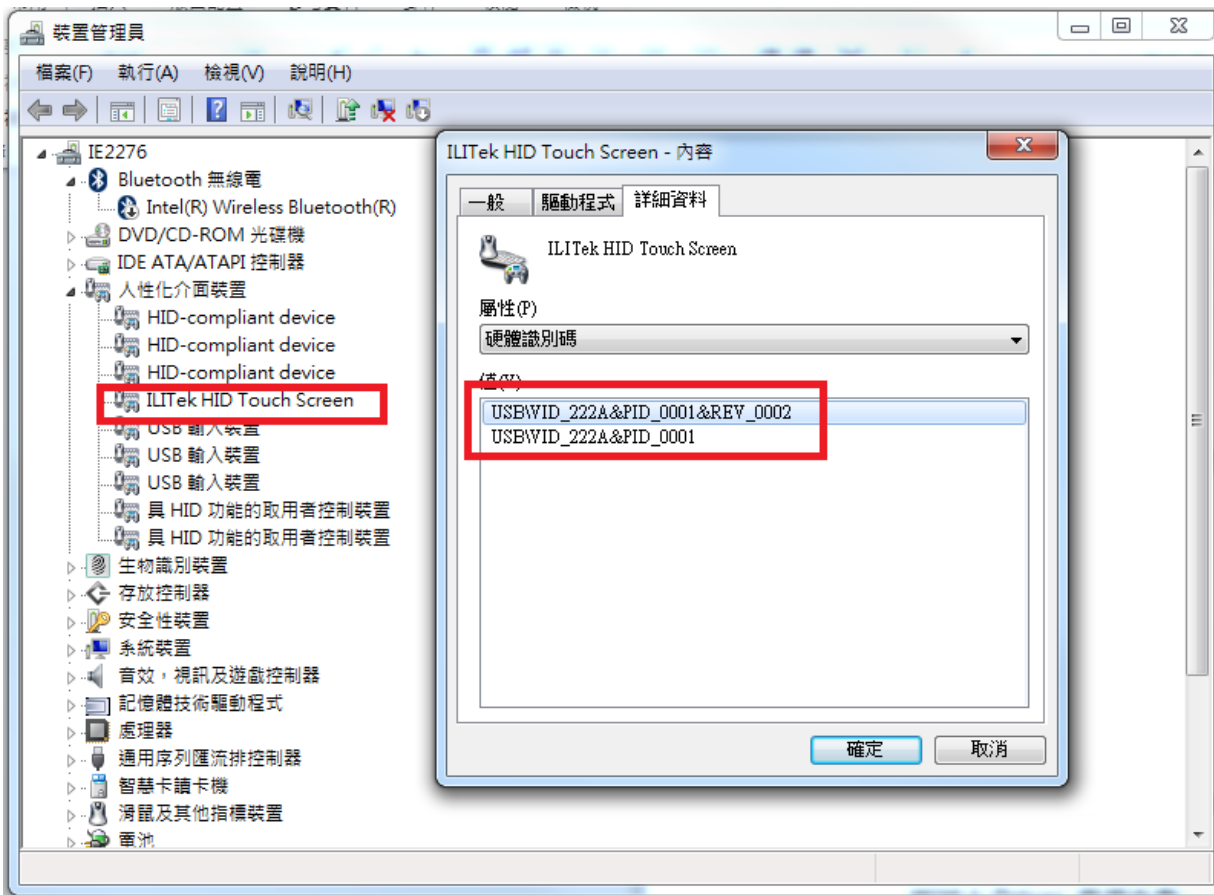


Figure 4-1:

**Root cause 2: The FW is not support 0xDE command.**

**Solution:**

Use latest FW.

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## 4.1.2 Install driver failed in WinXP, Win 7 Embedded.

Root cause: can't load driver automatically.

### Solution 1:

Install driver manually.

### Solution 2:

Install patch for windows (Win7 only).

**KB4474419**

<https://www.catalog.update.microsoft.com/Search.aspx?q=kb4474419>

**KB4490628**

<https://www.catalog.update.microsoft.com/Search.aspx?q=kb4490628>

**KB5006749**

<https://www.catalog.update.microsoft.com/Search.aspx?q=kb5006749>

How to install:

1. Click the links. You will see this page, select your Windows version X86 or X64 and click download

Title	Products	Classification	Last Updated	Version	Size	Download
2019-09 適用於 x64 系統 Windows Server 2008 的安全性更新 (KB4474419)	Windows Server 2008	安全性更新	2019/10/8	n/a	43.5 MB	Download
2019-09 適用於 Itanium 系統 Windows Server 2008 的安全性更新 (KB4474419)	Windows Server 2008	安全性更新	2019/10/8	n/a	26.9 MB	Download
2019-09 適用於 x86 系統 Windows Server 2008 的安全性更新 (KB4474419)	Windows Server 2008	安全性更新	2019/10/8	n/a	30.5 MB	Download
2019-09 適用於 x64 系統 Windows Server 2008 R2 的安全性更新 (KB4474419)	Windows Server 2008 R2	安全性更新	2019/9/9	n/a	53.3 MB	Download
2019-09 適用於 Itanium 系統 Windows Server 2008 R2 的安全性更新 (KB4474419)	Windows Server 2008 R2	安全性更新	2019/9/9	n/a	30.3 MB	Download
2019-09 適用於 x64 系統 Windows Embedded Standard 7 的安全性更新 (KB4474419)	Windows Embedded Standard 7	安全性更新	2019/9/9	n/a	53.3 MB	Download
2019-09 適用於 x86 系統 Windows Embedded Standard 7 的安全性更新 (KB4474419)	Windows Embedded Standard 7	安全性更新	2019/9/9	n/a	34.3 MB	Download
2019-09 適用於 x86 系統 Windows 7 的安全性更新 (KB4474419)	Windows 7	安全性更新	2019/9/9	n/a	34.3 MB	Download
2019-09 適用於 x64 系統 Windows 7 的安全性更新 (KB4474419)	Windows 7	安全性更新	2019/9/9	n/a	53.3 MB	Download

Figure 4-2:

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2. Right-click on the file link, and select “save link as..”

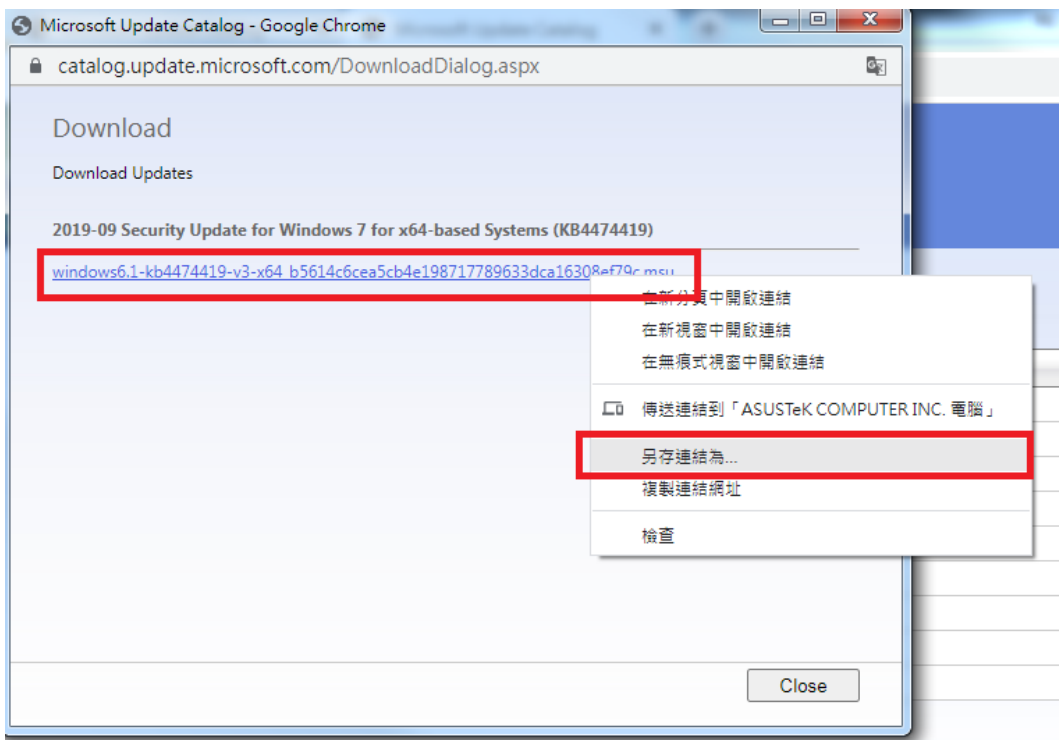


Figure 4-3:

3. Save the file.

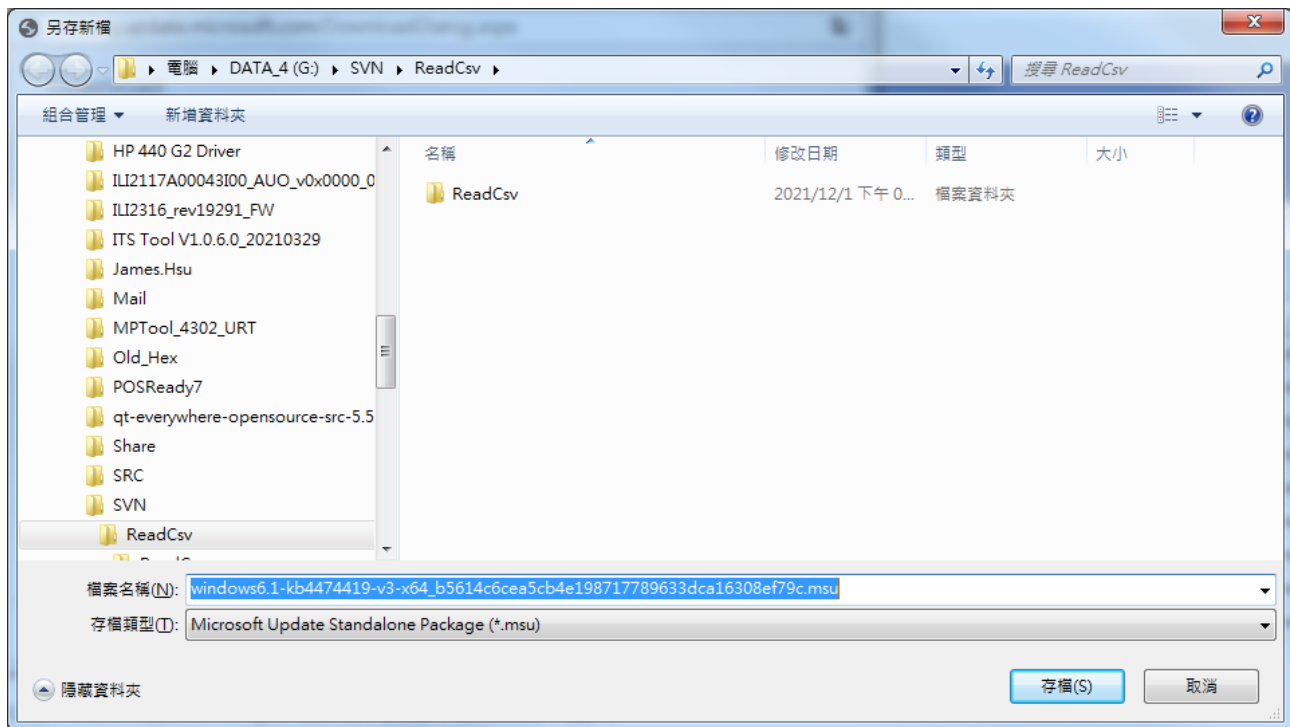


Figure 4-4:

4. If it shows can't download, please select save.

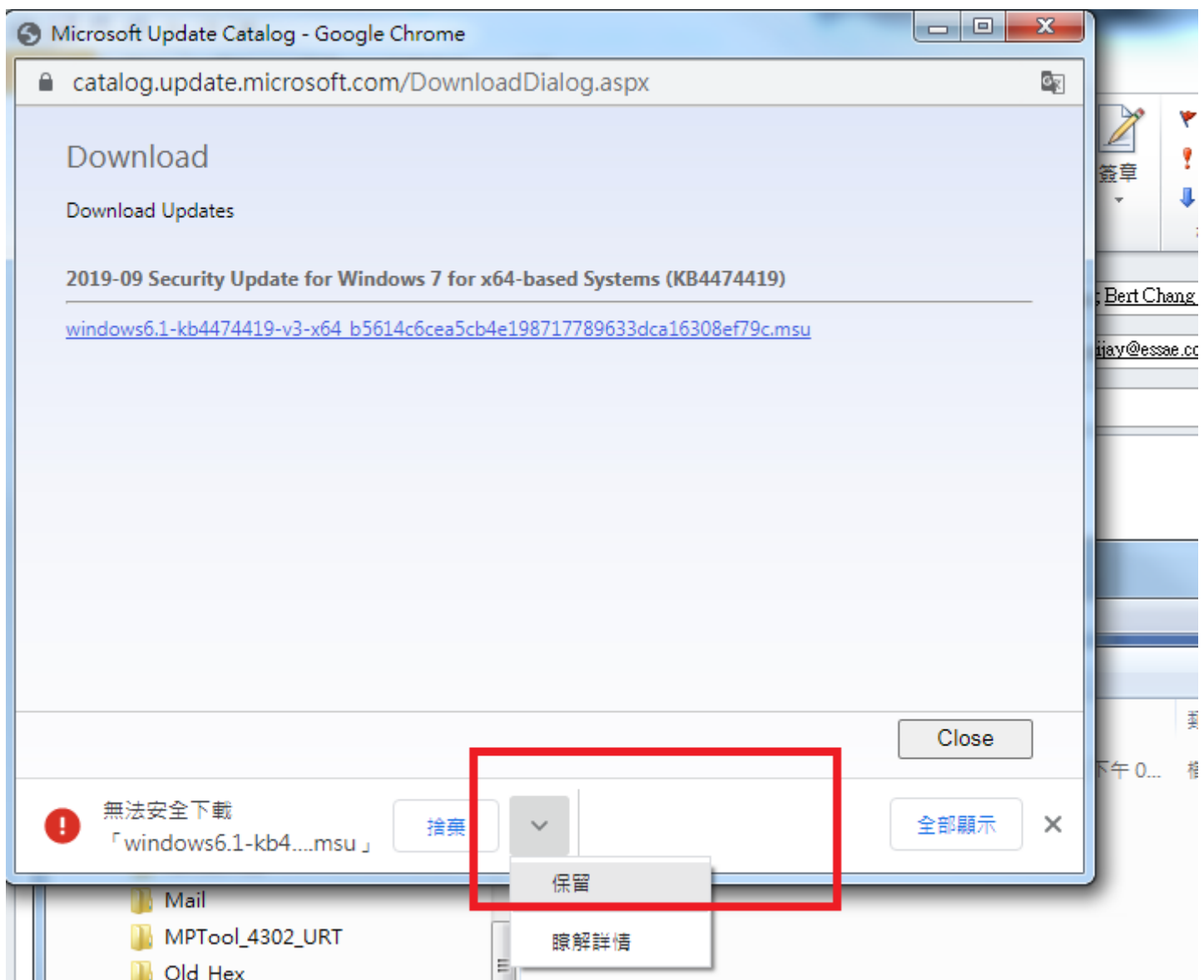


Figure 4-5:



### 4.1.3 Install and Update driver of WinXP.

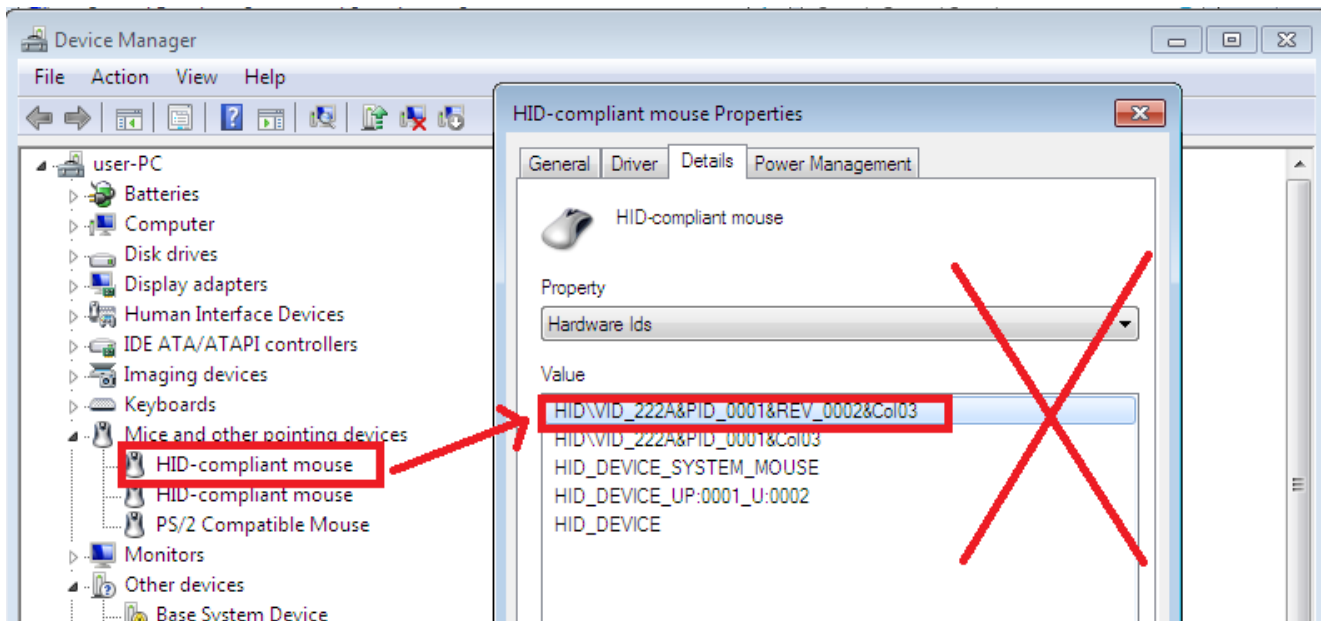
- 4.1.3.1 Check the device.

1. Check the Interface mode and Mouse mode settings of Tuning Tool,
  - a. Interface mode must be 1.
  - b. Mouse mode must be 0.

System	Position	NA	Basic	Separate	Grouping	Palm	Tracking	Filter	DeLCM	ABG	Hopping	Water	CDC	Key
Item	Value													
FW_VERSION_C3(MSB)	0x2													
FW_VERSION_C2	0x46													
FW_VERSION_C1	0x0													
FW_VERSION_C0(LSB)	0x0													
USB_PID	0x1													
POINT_LIMIT	10													
INTERFACE_MODE	1													
MOUSE_RIGHT_EVENT_TRIGGERCNT	60													
MOUSE_RIGHT_EVENT_DISTANCE	16													
INDUSTRYMODE_FUNCTION	3													
TOUCH_IDLE_FRAME_CNT	0													
TOUCH_IDLE_TIME	50													
HID_IIC_MODE	0													
MOUSE_MODE	0													
MONITOR_IDLE_CNT	1000													

2. Plug in TP and check device manager before install iUniTouch Tool, there is no any

PID 0x222A and VID 0x0001 device in HID-compliant mouse.



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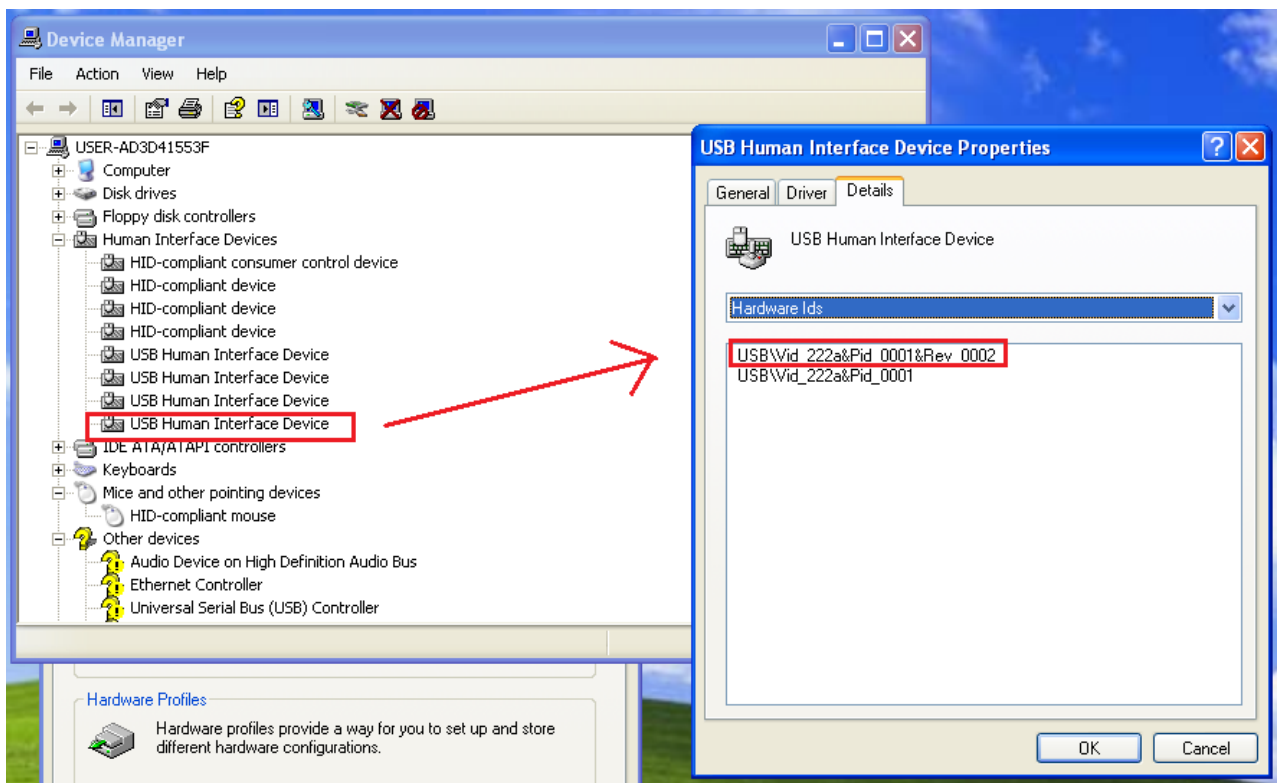
- 4.1.3.2 Install and update driver

1. Run the iUniTouch\_Windows\_V1.2.5.7\_XP.exe to install driver and tool.

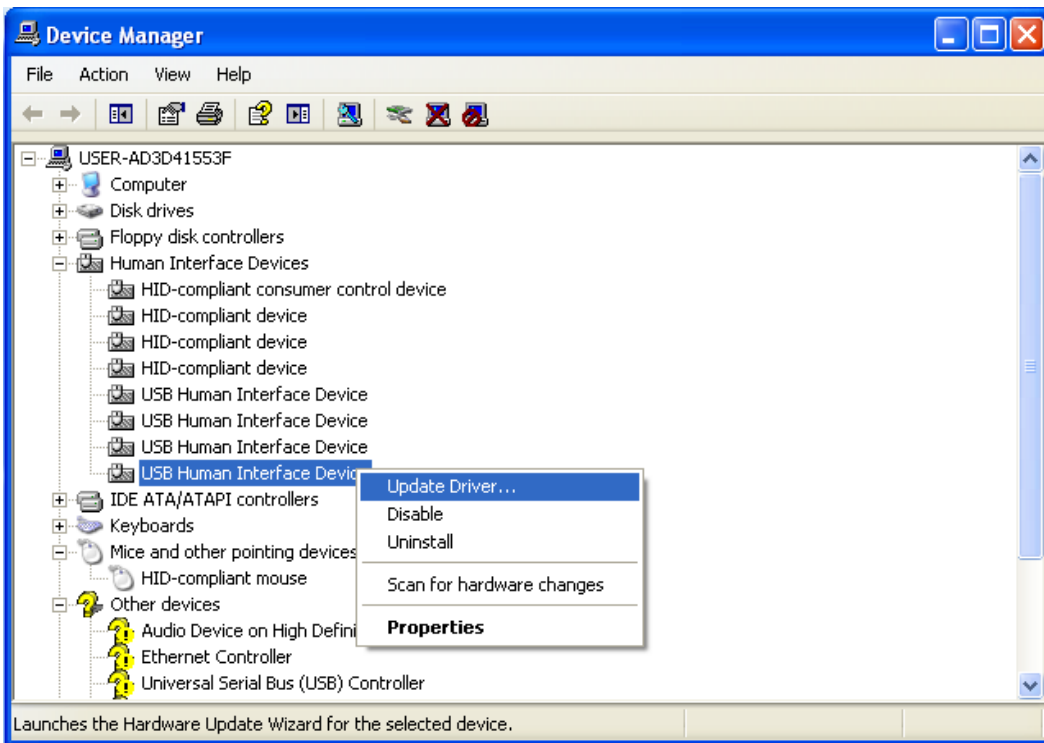
(The default folder is C:\iUniTouch\_Tool\)

2. Find the “USB Human Interface Device” in Human Interface Devices and

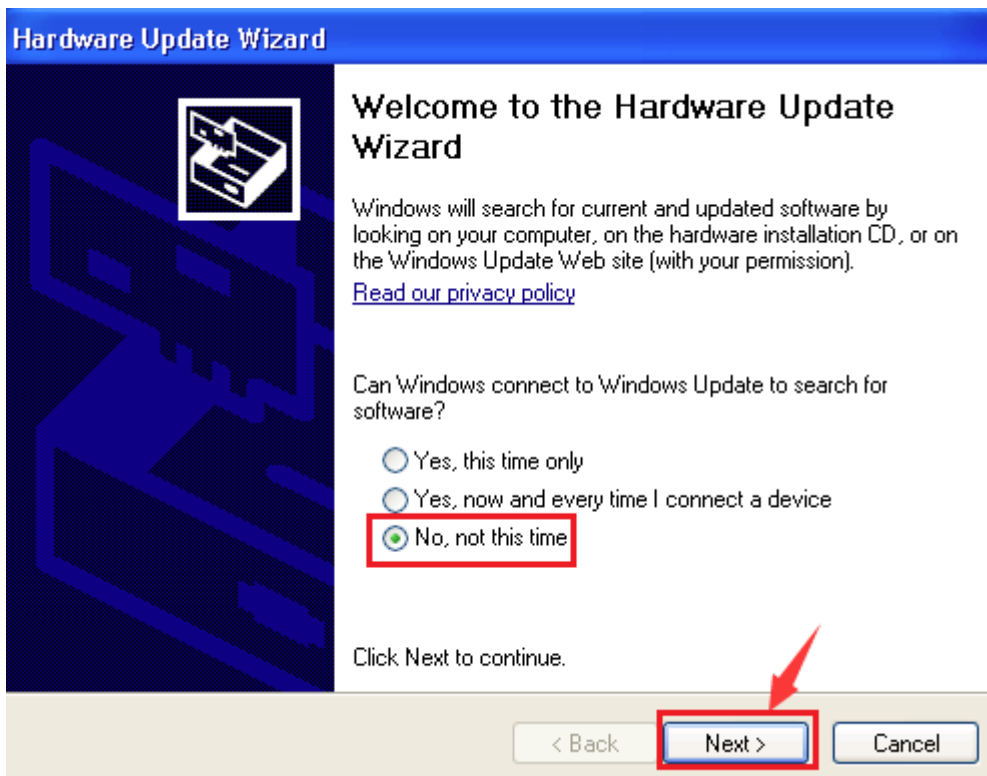
Double-click on it to make sure the VID is 222a and PID is 0001.



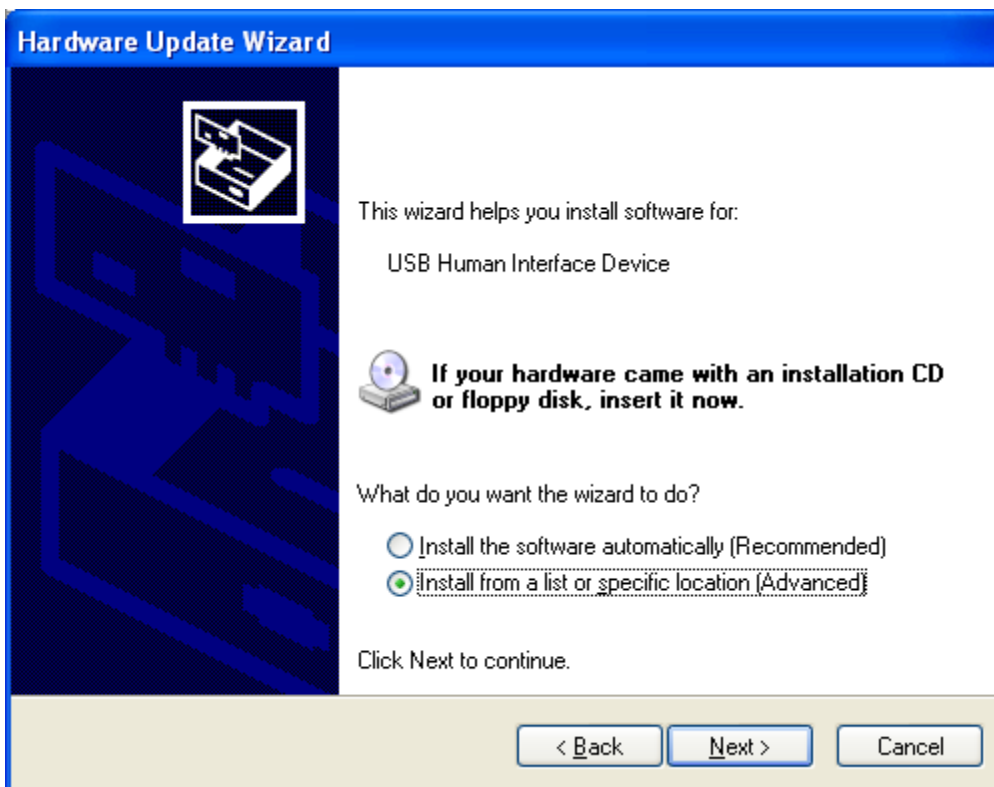
3. Right-Click on it then selects “Update Driver...”



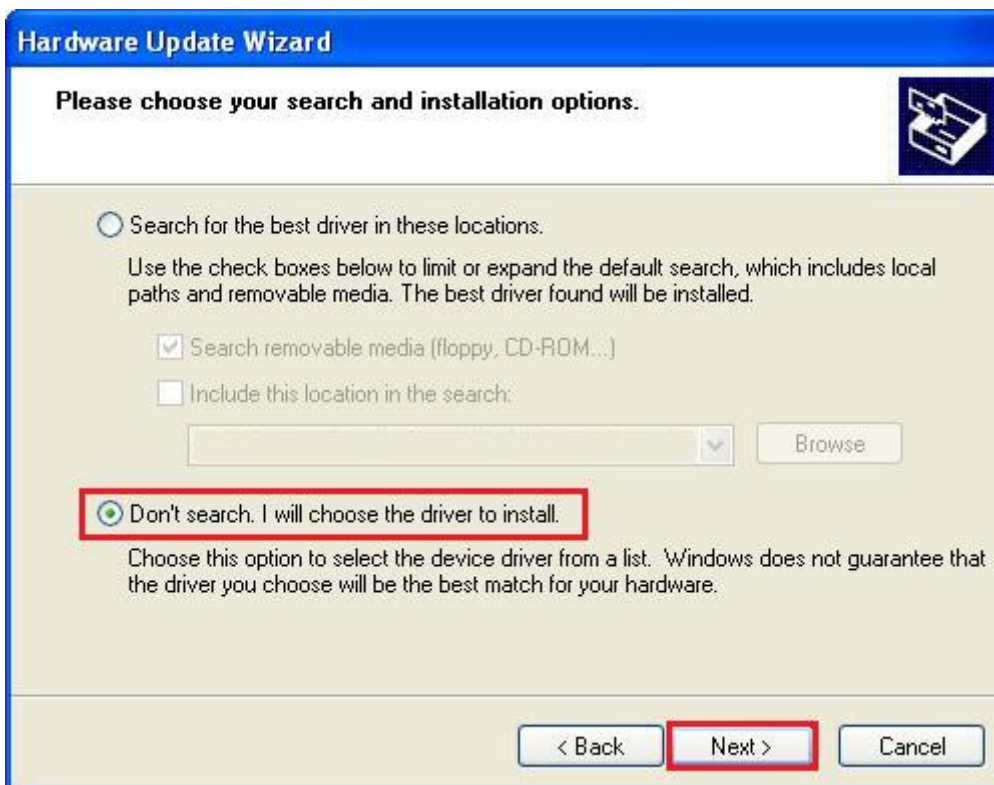
4. Select “No, not this time”.



5. Select the "Install from a list or specific location (Advanced)"

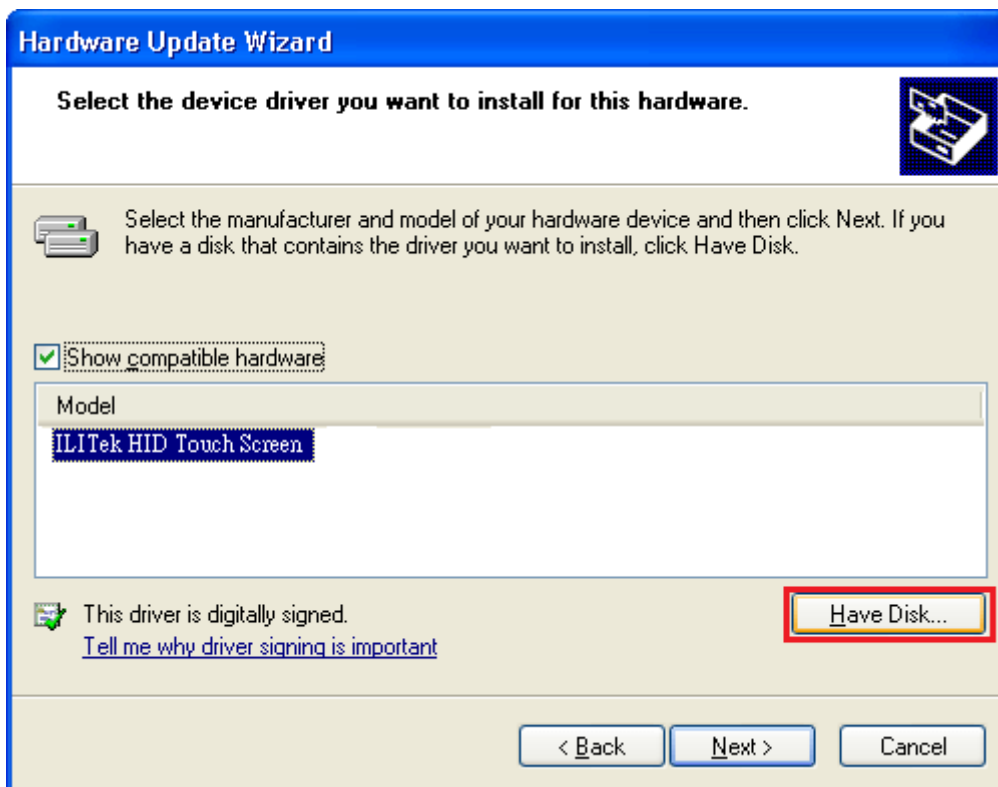


6. Select the "Don't search, I will choose the driver to install" option, and then Next.

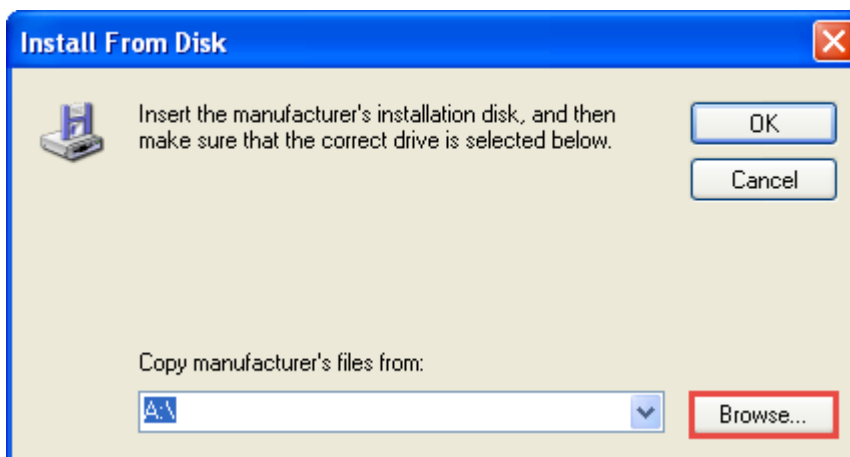


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7. Click the “**Have Disk**” button.

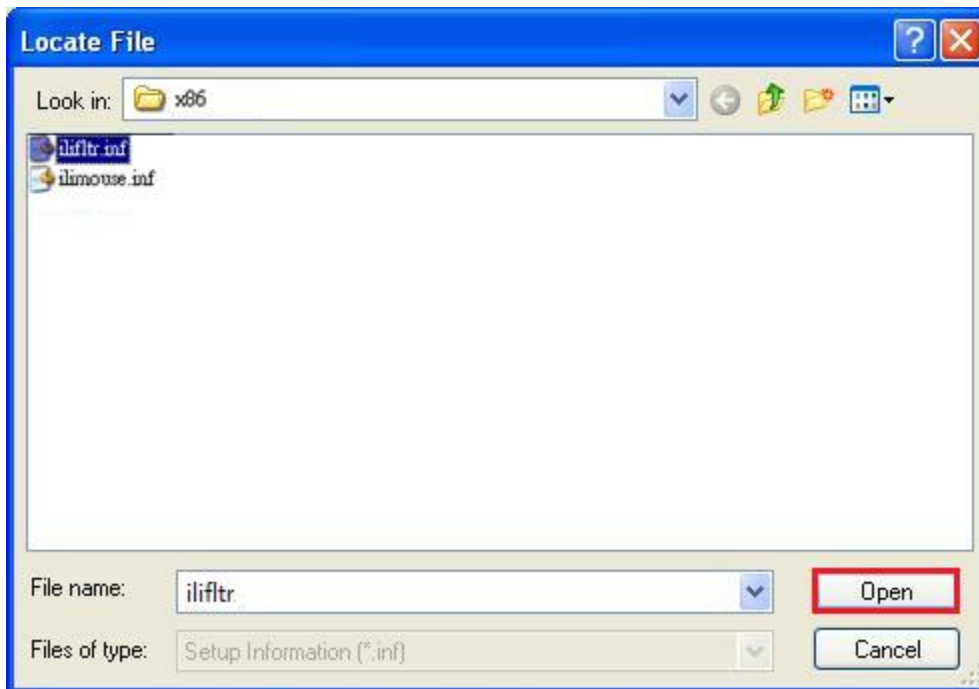


8. Click the “**Browse**” button.



9. Browse the directory where you installed the driver, then select "ilifltr.inf"

and click **open**. (The default folder is C:\iUniTouch\_Tool\Driver\x86 )

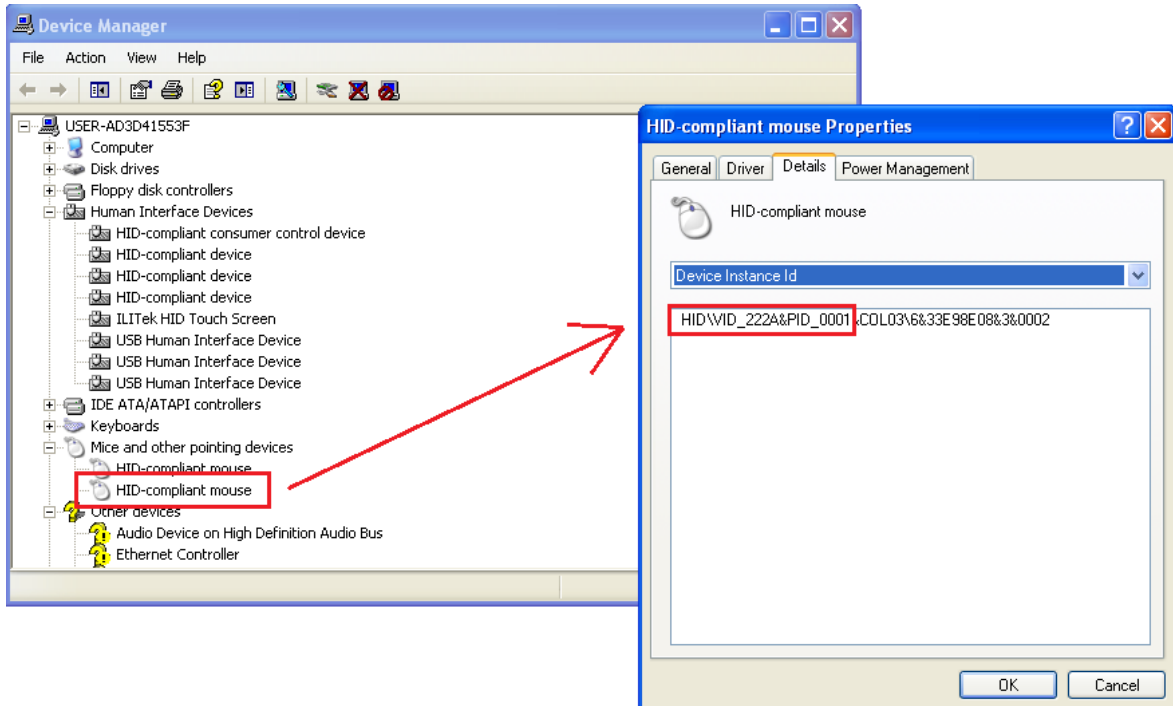


10. Click Continue Anyway

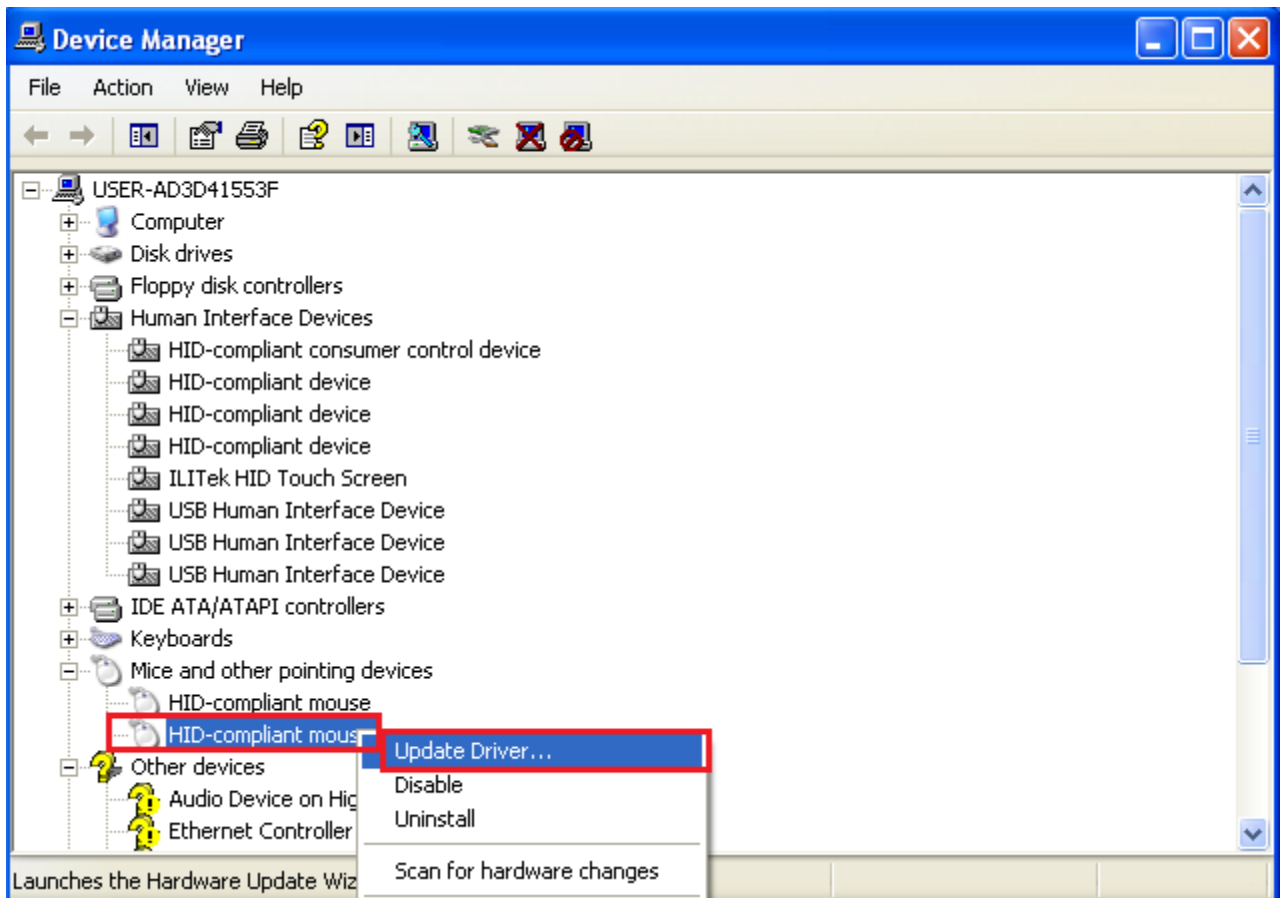


11. After installation completed, check the “**HID-compliant mouse**” device in

**Mice and other pointing devices** and double-click on it to make sure the VID is 222a and PID is 0001. .



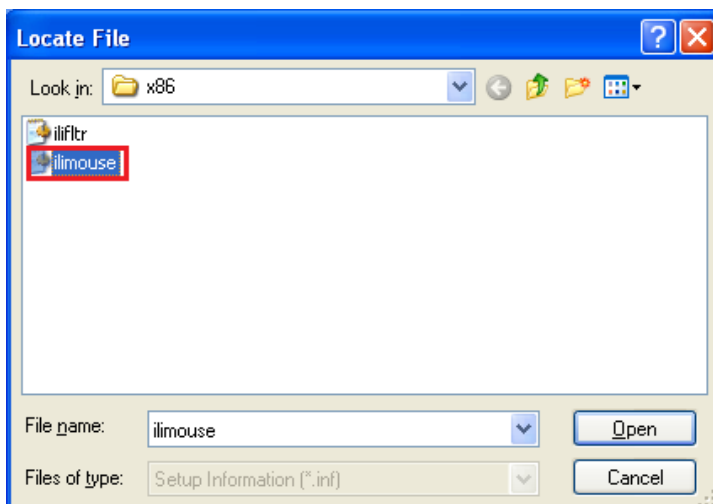
12. Right-Click on it then select “Update Driver...”



13. Repeat step 4 to 7

14. Browse the directory where you installed the driver, then select “ilimouse.inf”

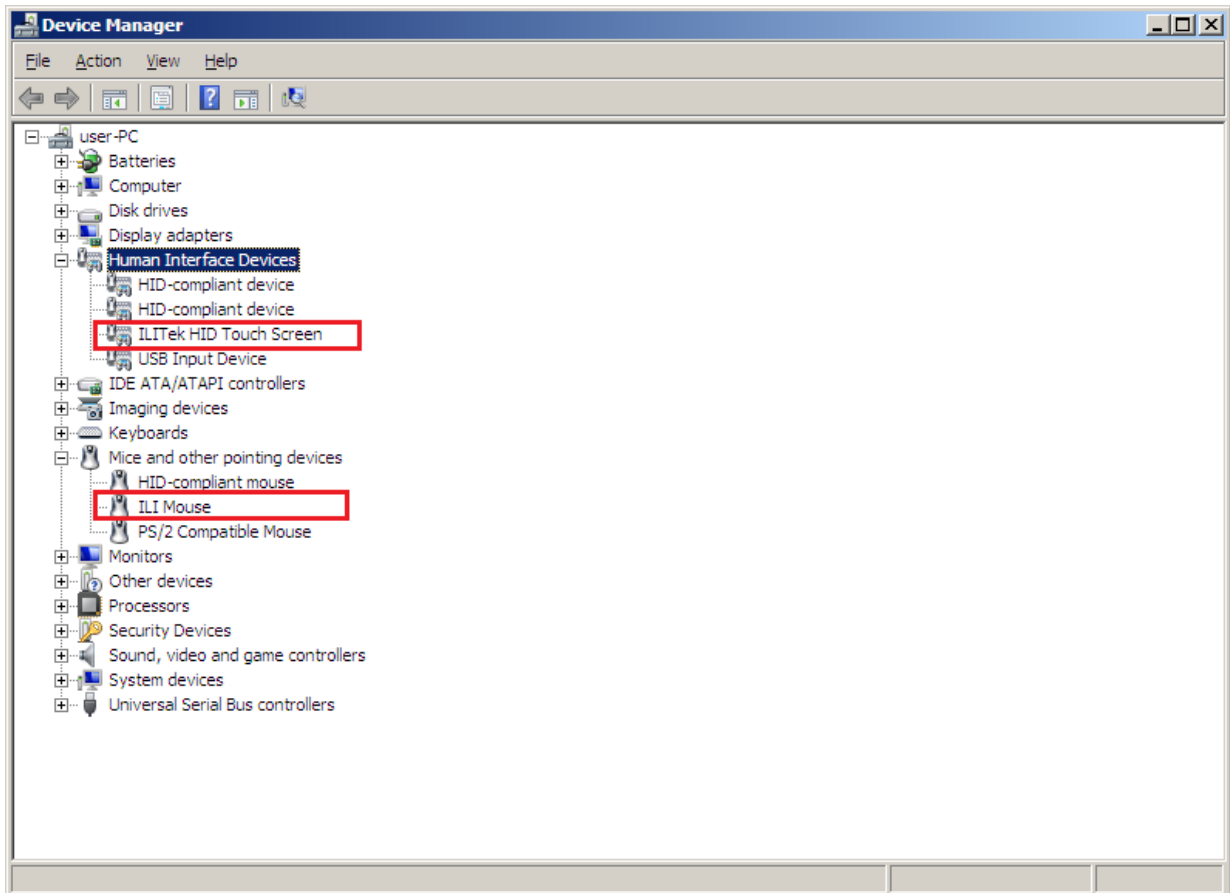
and click **open**



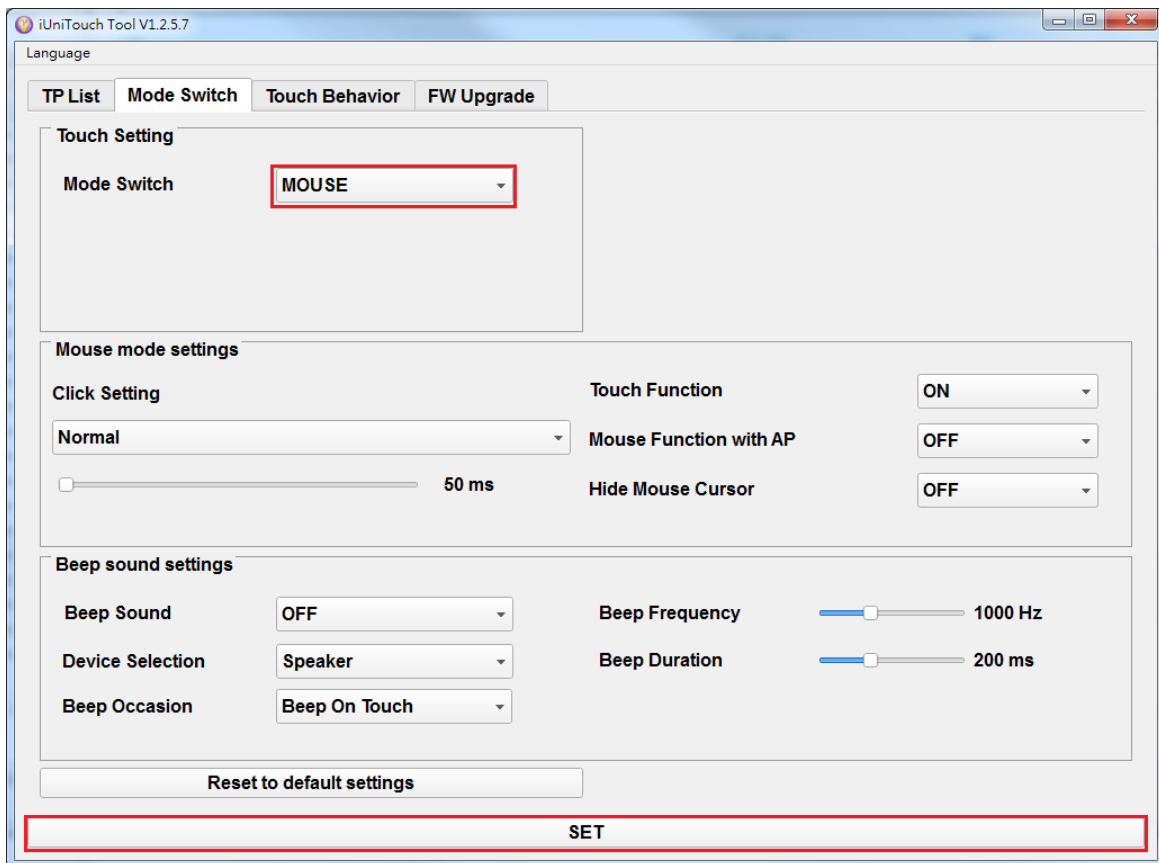
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15. After installation completed, check the device manager again to make sure the drivers were installed properly.



16. Run the iUniTouch\_Tool.exe, switch to "Mouse" mode and click "SET" button.



## 4.2 Linux system.

### 4.2.1 How to Disable Wayland

1. Open the file `/etc/gdm3/custom.conf`
2. Search for the `WaylandEnable` config. You should set it to false.

```
# GDM configuration storage
#
# See /usr/share/gdm/gdm.schemas for a list of available options.
```

```
[daemon]
# Uncomment the line below to force the login screen to use Xorg
WaylandEnable=false
```

```
# Enabling automatic login
# AutomaticLoginEnable = true
# AutomaticLogin = user1
```

3. Save the file and exit.
4. Reboot the system.