

# SERVICE MANUAL



**PenSketch 9X12**

**Version 1.0**

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## Preface

The service guide is divided into four sections and provides the basic instructions related to our tablet products. The four sections consist of *Introduction of Tablet*, *Diagnose Problems, Disassembly and Replacement*, and *Important Notes*. You can follow the instructions of service guide to diagnose the problems caused by tablet mal-function and replace simply the tablet by yourself.

## Chapter 1. Introduction of Tablet

The tablet consists of a digital pen and a tablet. The tablet applies electromagnetic technology to receive signals from digital pen and position the cursor on the screen. The main functions of the digital pen and the tablet appearances are described as below.



**Figure 1. Tablet**

- **Pen Holder**

The place digital pen is put.

- **Pen Indicator**

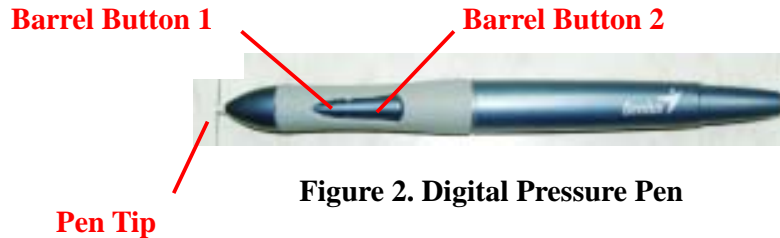
The green LED light is the key indicator for hardware verification. The green light comes on when the digital pen closes or touches the tablet or system is detecting the tablet.

- **Working Area**

The tablet can detect accurately pen position and pressure in this area. You can adjust the size of working area through **PenLauncher** setting.

- **Hot Cells and Symbols**

Users can implement directly certain commands or programs by tapping hot cells and symbols on the tablet. The detailed Hot Cell setting is described in *Driver Manual*.



**Figure 2. Digital Pressure Pen**

- **Pen Tip**

The pen tip's functions are same as mouse's left button but it possesses pressure sensitivity. Users can operate pressure pen as real writing and drawing situation.

- **Barrel Button 1**

The functions are same as mouse's middle button or scroll wheel. When users press the barrel button of digital pen to move the page you want to read.

- **Barrel Button 2**

The functions are same as mouse's right button to call out the function menu.



**Figure 3. Digital Mouse**

- **Left Button**

Mouse left button

- **Right Button**

Mouse right button

- **Scroll Button**

Scroll button simulates mouse scroll wheel function. Users can push the scroll button up and down to control screen pages.

## Chapter 2. Diagnose Problems

### 2.1 Distinguish the Problems

The problems could be made by software, hardware or mechanism. Users can follow the simple steps to judge what reasons is belonged to.

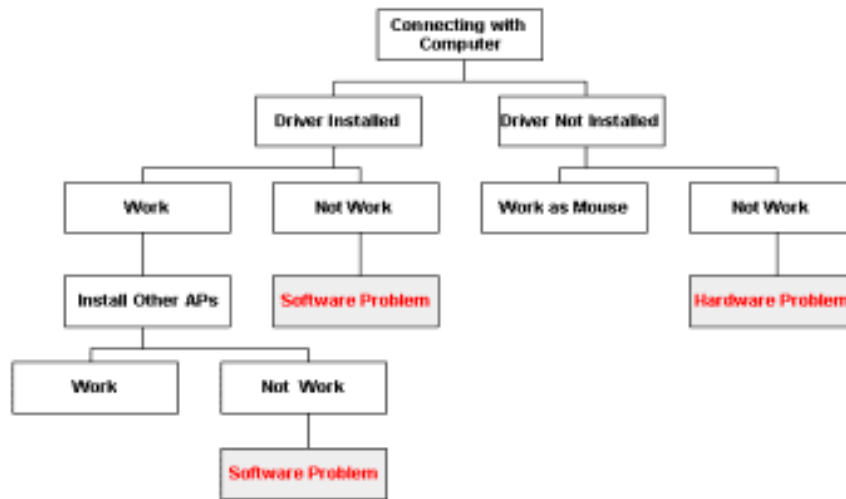


Figure 4. Initial Self-Diagnose Problem

For software problems, they could be related to programs incompatible or system wrong setting. Users can re-install our latest version driver or programs or contact our customer service. In this service guide, we focus on the checking and replacing tablet's hardware problems.

### 2.2 Define the Problems

To realize the problems caused by hardware's mal-function, we shall follow the steps in **Figure 4** and observe these conditions. We summarize several probably problems and these reasons and solutions of these problems are analyzed in **Tablet 1**.

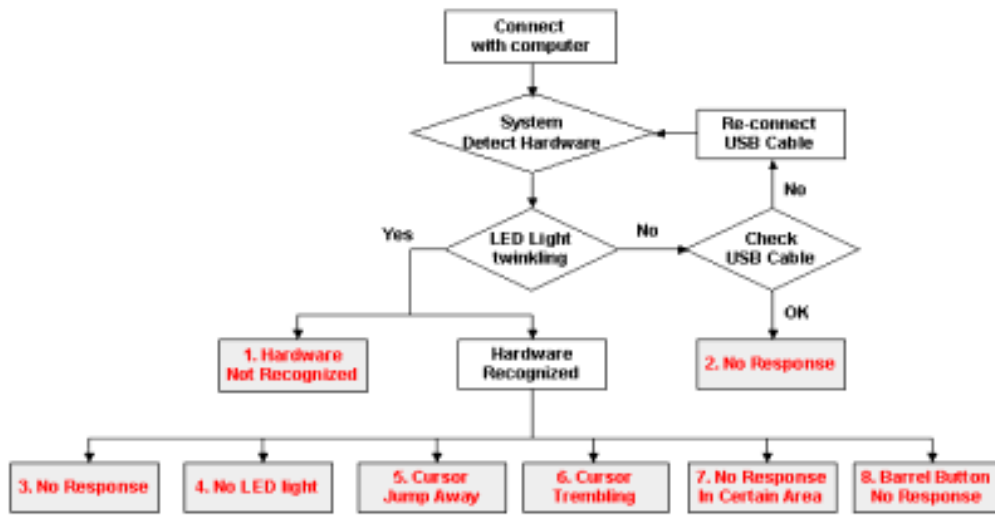


Figure 5. Diagnose Symptoms

### 2.3 Analyses of the Problems

Problems	Condition Description	Probable Reasons	Solutions
1. Hardware Not Recognized	When tablet connects with computer, LED light is constantly twinkling. It shows system is searching hardware but can't recognize hardware. Or hardware is recognized as Human Interface Device but not as Tablet Pointing Device	1. Incompatible with computer system or hardware 2. PCB defect 3. USB Cable defect	1. Restart PC or Reinstall driver 2. Change PCB 3. Change USB Cable
2. No Response	When tablet connects with computer, the LED doesn't come on and system doesn't search hardware.	1. PCB defect 2. USB cable defect	1. Change PCB 2. Change or re-assemble USB cable
3. No Response	Hardware can be recognized but tablet doesn't work	1. PCB defect 2. Digital pen mal-function	1. Change PCB 2. Check digital pen
4. No LED Light	Tablet can work but no LED light	1. LED defect 2. PCB defect	Change PCB
5. Cursor not be Positioned and Jump Away Randomly	When digital pen move to the certain area of tablet, the cursor jumps to another place of the screen.	1. PCB Defect	Change PCB
6. Cursor Trembling	When digital pen tip closes to or touches with tablet, the cursor is trembling and can't stop in the certain point.	1. Digital pen low battery power 2. Digital pen defect 3. GND springs is	1. Change battery 2. Change digital pen 3. Adjust the

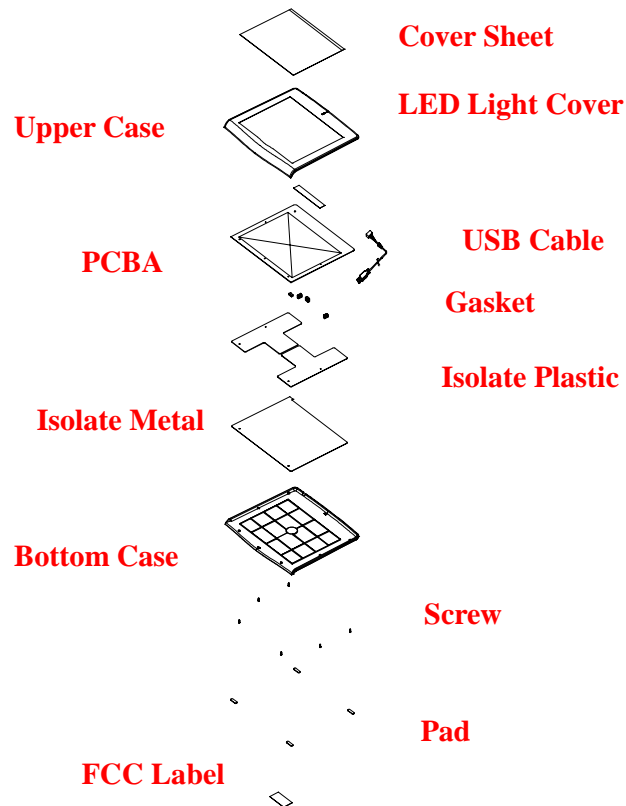
		not contacted with rear flat well	tightness of screw near PCB
7. No Response in Certain Area	In the certain area of tablet, users can't write, draw or move cursor.	PCB defect	Change PCB
8. Barrel Buttons No Response	No response in pressing barrel buttons	Digital pen defect	Change digital pen

**Tablet 1. Analysis of Problems**

### Chapter 3. Disassembly and Replacement

#### 3.1 Assembly of Tablet





The tablet components consist of membrane, PCB, cover, rear flat, and so on. **Figure 6** shows all components to assemble a tablet and you can know the kinds of tablet components and standard numbers a tablet needs in **Appendix 1**.







**Figure 6. The Components of PenSketch 9x12 Tablet**

### 3.2 How to Disassemble the Tablet and Replace the Components

To replace the components of tablet, you have to realize each step of disassembling and the probably problems caused by assembling process or defect components

Step	Description	Picture
1. Turn over tablet	<p>To disassemble the tablet, you have to turn over tablet. You can see several pads and screws.</p> <p>Please note some screws are under pads.</p>	
2. Take off pads	<p>Pads are pasted on rear flat so you can take off all of them by hand.</p>	
3. Loose screws	<p>Using screwdriver to loose all screws.</p> <p>If the screw is loosen, it causes rubber strap can't press the membrane tightly.</p>	
4. Take apart rear flat	<p>After taking all screws off, you can take up rear flat.</p> <p>If rear flat is not placed well, rubber rims and the rubber strap may be loosened and moved.</p>	



<p>5. Take apart isolate metal</p>	<p>After take up rear flat, you can take up isolate metal.</p> <p>Be care of the metal knife finger!</p>	
<p>6. Take apart isolate plastic</p>	<p>After take up isolate metal, you can take up isolate plastic.</p>	
<p>7. Take apart PCB</p>	<p>After PCBA is taken up. You can also take apart PCBA from upper case.</p> <p>PCBA is the most important part of tablet. It controls USB communication interface and LED light.</p>	
<p>8. Pull out USB plug</p>	<p>USB cable is connected to PCB. Whatever replaces USB cable or PCB, you have to separate them.</p> <p>LED light is also welded on the PCB so you have to replace the whole PCB when LED light is mal-function</p>	

### 3.3 Mal-functions of Digital Pen

The digital pen is not designed for replacing the components by users themselves because it has more fine design and needs detailed adjustment. We suggest that you can change a new one if the digital pen is broken.

Problems	Condition Description	Reasons
Not write or control cursor	There is no response when user operates digital pen	1. Digital pen defect 2. Pen is still in "Standby Mode", not "wakes up"
No pressure	User can't write or draw the different thickness of line by pressing pen tip on tablet.	1. Digital pen defect 2. Driver is not installed 3. System can not recognition tablet
Inking automatically	The pen doesn't touch with the tablet but it can "ink" automatically	Digital pen defect
Barrel buttons no response	No response in pressing barrel buttons	Barrel button defect
Cursor Trembling	When digital pen tip closes to or touches with tablet, the cursor is trembling and can't stop in the certain point.	Low battery power, voltage is not stable

**Table 2. The Symptoms of Digital Pen's Mal-function**

### 3.4 Change Pen Tip and Battery

The digital pen tip could become flat after using for a period of time. The blunt pen tip can not affect normal using way but you can still change a new pen tip for their digital pen. The following figures shows how to use pliers to pull out the pen tip from the digital pen.

A. Pull out pen tip.



Step 1



Step 2

B. Push in pen tip.



Step 1

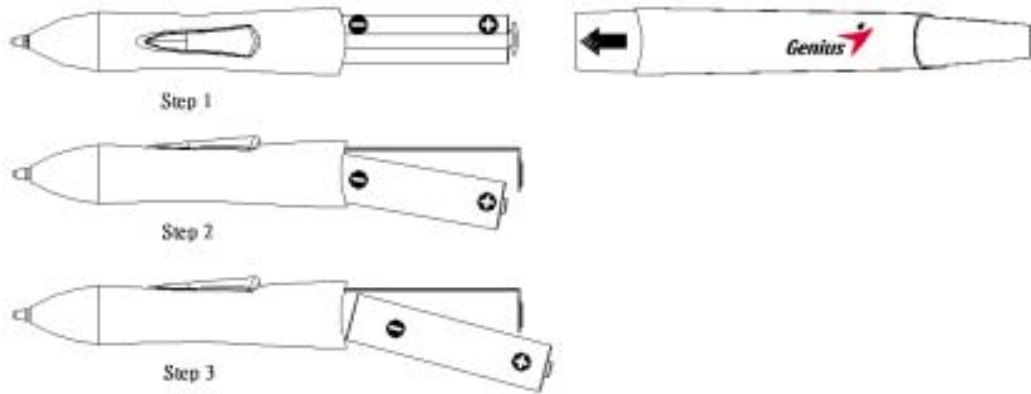


Step 2

There are several points must be attention when you replace the pen tip. First, don't use the sharp part of pliers to hold the pen tip in order to prevent cutting off the pen tip. Once the pen tip is cut off, you can not pull out the pen tip anymore. Second, when you put a new pen tip inside the pen, the new pen tip must be pressed forcibly in order to make sure the new pen tip can be jointed tightly. If the pen tip can not be set in correct position, it will influence the digital pen sending signal to tablet.

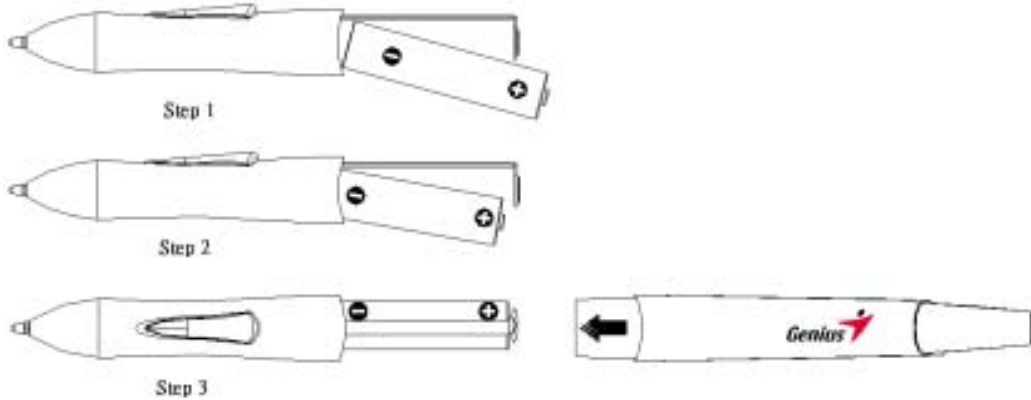
When the battery within the digital pen is running out, you can shell follow the instrument of *Driver Manual* to change a new 1.5V, AAA alkaline battery.

A. Shell Step



### B. Dressing Step

Note: The direction of arrow must aim the metal positive pole on Step 3.



### 3.5 Mal-functions of Digital Mouse

Users could have the problems in using digital mouse as bellows:

Problems	Condition	Reasons
Not control cursor	There is no response when user operates digital pen	Digital mouse defect
Right button miss-function	Users press right button and will show the result of pressing left button.	Digital mouse defect
Cursor Trembling	When digital pen tip closes to or touches with tablet, the cursor is trembling and can't stop in the certain point.	<ol style="list-style-type: none"> <li>1. Low battery power, voltage is not stable</li> <li>2. If this condition is happened in Win2K OS, please check Control Panel's "Mouse" and disable "accelerating cursor moving function"</li> </ol>

If users find the problem as above, we suggest that changing new one is the better method.

### 3.6 Change Digital Mouse's Battery

Digital mouse needs a 1.5V, AAA alkaline battery in using. The battery is set in the bottom of mouse. For changing new battery of mouse, you shall turn over digital mouse and you can see the battery cover. After taking apart the battery cover, the battery can be taken away and change the new one.



## Chapter 4. Important Notes

**Note:** Most tablet problems are caused by the defects of PCB . If you want to replace Tablet's PCB , please note the PCB must be contacted tightly.

**Note:** Tablet can't be placed near magnetic objects. It will influence the tablet accuracy.

**Note:** Please do not disassemble the digital pen by yourself.

**Note:** Avoid water entering the tablet inside.

**Note:** Don't use the sharp part of pliers to hold the pen tip and pull it out.

**Note:** Press the new pen tip forcibly into the pen.

## Appendix – Part Lists

### Part List

Item	Component No.	Standard Number	Note
Cover Sheet	130-A2A7-510	1	
Upper Case	15T-A200-519	1	
LED light Cover	15T-A218-006	1	
PCBA	02T-PF1209-101	1	
USB Cable	737-5156-013	1	
Pad	172-1030-030	4	
Isolate Plastic	15T-A120-000	2	
Screw	113-0308-010	6	
Isolate Plastic	15T-A120-001	1	
Digital Pen	01P-236L-510	1	
Digital Mouse	O1M-10I4-516	1	
Bottom Case	15T-A120-001	1	