

# **Instruction Manual**

## **LCD Signature Tablet STU-500B**

**Ver. 1.1  
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**WACOM Co., Ltd**

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## 1. Scope

This instruction manual applies to the LCD Signature tablet STU-500B.

## 2. Summary

The Wacom® STU-500B LCD signature tablet combines the benefits of a liquid crystal display (LCD) with the control, comfort, and productivity of Wacom's cordless, battery-free pen technology. This gives you a direct pen-on-screen interface that leads to a truer pen-on-paper writing experience.

The basic components of the LCD signature tablet include a Wacom pen tablet internally mounted behind a 5" diagonal TFT monochrome LCD display, and a Wacom pen.

The LCD signature tablet is equipped with a USB and RS-232C interfaces.

## 3. Precautions on use and handling

Be sure to follow all instructions, cautions, and warnings found within this guide.

Failure to do so could cause the loss of data or damage to your computer. Failure to do so could also void your warranty, in which case Wacom shall have no responsibility to repair or replace the product.

### Usage

#### WARNING

**Do not use the STU-500B LCD signature tablet in a facility control system that requires extremely high reliability;** it may cause other electronic devices to malfunction, or other devices may cause the LCD signature tablet to malfunction.

Where use is prohibited, power off the STU-500B to prevent the possibility of it causing other electronic devices to malfunction. Wacom does not accept any liability for direct or consequential damages.

For details, please refer to your Warranty located at the end of this guide.

### Environment

#### Temperature and humidity

- Operating temperature and humidity: 5° to 35°C, 20 to 80% RH
- Storage temperature and humidity: -10° to 60°C, 20 to 90% RH

#### CAUTION

**Do not use or store the LCD signature tablet where:**

- Temperature changes are severe or exceed specifications (e.g., outdoors or inside a vehicle).
- The LCD signature tablet and pen are exposed to direct sunlight or heat from an appliance, or are exposed to water or any other kind of liquid.

**Do not use the LCD signature tablet in a dusty environment;** this may damage the unit.

## Handling

### **WARNING**

If using a power adapter with the STU-500B, only use the power adapter (Serial kit FUZ-A147) that designed for use with the STU-500B.

If a different type of power adapter is used, the LCD signature tablet will not work properly or may be damaged. Using a different type of power adapter also has the potential to result in fire. Use of a different power adapter will void your warranty.

When not using the LCD signature tablet for long periods of time, unplug the power adapter from the AC outlet.

### **WARNING**

**High Voltage. Do not open or disassemble the STU-500B LCD signature tablet.**

**There is a risk of electrical shock when the casing is open.** This will also void your warranty and Wacom shall have no responsibility to repair or replace the product.

**If the LCD screen has been damaged, DO NOT touch any liquid that may be leaking from it;** this liquid is an irritant. In case of contact with skin, eyes, or mouth, rinse immediately with running water for at least 15 minutes or more. If contact is made with the eyes or mouth, also consult a physician.

**Prevent children from swallowing the pen tip.** The pen tip may accidentally be pulled out if children are biting on them.

### **CAUTION**

**Do not disassemble the pen.** This may cause the device to malfunction. In this case, Wacom shall have no responsibility to repair or replace the product.

**Do not scratch the display screen.** Avoid placing sharp objects on the display screen surface.

**Avoid intensive shock or vibration to the STU-500B or the pen.** Hitting or dropping the LCD signature tablet may damage the display screen or other components.

**Do not put heavy articles on the LCD signature tablet or push against it with a strong force;** This may damage the display screen.

**Do not place heavy articles on the STU-500B cabling, repeatedly bend the cables sharply, or apply heavy stress to the cable connectors;** this may damage the unit or cabling.

**If the pen tip becomes sharp or angular, it may damage the coating on the display screen.** Please replace the pen tip if necessary.

**Do not use any organic solvent (e.g., alcohol) or even mild detergent to clean the display screen. Use of these cleaners can damage the coating on the screen.**

**Please note that damage of this kind is not covered by the manufacturer's warranty.**

- To clean the display screen, use an anti-static cloth or a slightly damp cloth. When cleaning, apply only a light amount of pressure to the display screen and do not make the surface wet.
- To clean the LCD signature tablet casing or pen, use a soft cloth with mild detergent (such as dish washing liquid) diluted with water.

**Do not expose the STU-500B to high voltage electrostatic discharges or to a build-up of an electrostatic charge on the LCD screen.** This may result in a temporary blotching of the LCD monitor. If

blotching occurs, leave the STU-500B's display on and the blotching should disappear within a few hours.

Wacom LCD signature tablet products comply with the European Union RoHS Directive 2002/95/EC (RoHS Directive).

### **Federal Communications Commission (FCC) notice**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether the equipment is causing interference by powering it off. If the interference stops, it was probably caused by the equipment.

If the equipment does cause interference to radio or television reception, you may be able to correct the interference by using one or more of the following measures:

- Rotate the television or radio antenna until the interference stops.
- Move the equipment farther away from the television or radio.
- Plug the equipment and computer into an outlet that is on a different circuit from the television or radio.

If necessary, consult your Wacom dealer or an experienced radio/television technician for help.

Changes or modifications to this product not authorized by Wacom could void the FCC Certification and negate your authority to operate the product.

### **INDUSTRY CANADA (CANADA ONLY)**

Industry Canada, Class B

“This Class (B) digital apparatus complies with Canadian ICES-003”

“Cet appareil numérique de la classe (B) est conforme à la norme NMB-003 du Canada.”

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

### **RF exposure compliance**

1) To comply with FCC/IC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### **4. Cautions for using STU-500B**

##### **Connecting the tablet**

The STU-500B can be connected to a host computer via a USB or serial cable. However, do not connect both USB and serial cables simultaneously.

##### **Power supply**

The STU-500B is designed to be powered by your computer's USB port. In most cases, the USB cable will provide sufficient power to operate the STU-500, but in some cases the optional AC adapter power supply may need to be attached to the STU-500B.

For example, when devices other than the STU-500B are connected, the host computer may not provide sufficient power. In that case, connect and use the optional AC adapter. Also, when you connect this unit with the host computer via a serial cable, the optional AC adapter is required.

##### **Replacing the pen tip**

The pen tip (nib) can wear with normal use. In the unlikely case that the nib gets too short or develops a sharp edge, you can replace it with spare nibs. For replacement please refer chapter 8.

##### **USB connection with AC adaptor**

The STU-500B detects power supply from USB bus or AC adaptor automatically. In case USB connection with power supply from AC adaptor, please disconnect all cable from STU-500B first.

Then please connect AC adaptor to STU-500B. After AC adaptor connection, please connect USB cable.

If USB is connected first, possibly STU-500B miss detect power supply. In this case please disconnect all cable from STU-500B and reconnect AC adaptor first.

##### **USB connection through the USB HUB**

In case USB connection through the USB HUB, please use the HUB which is powered by AC adaptor.

The USB bus powered HUB doesn't supply power to STU-500B.

##### **LCD**

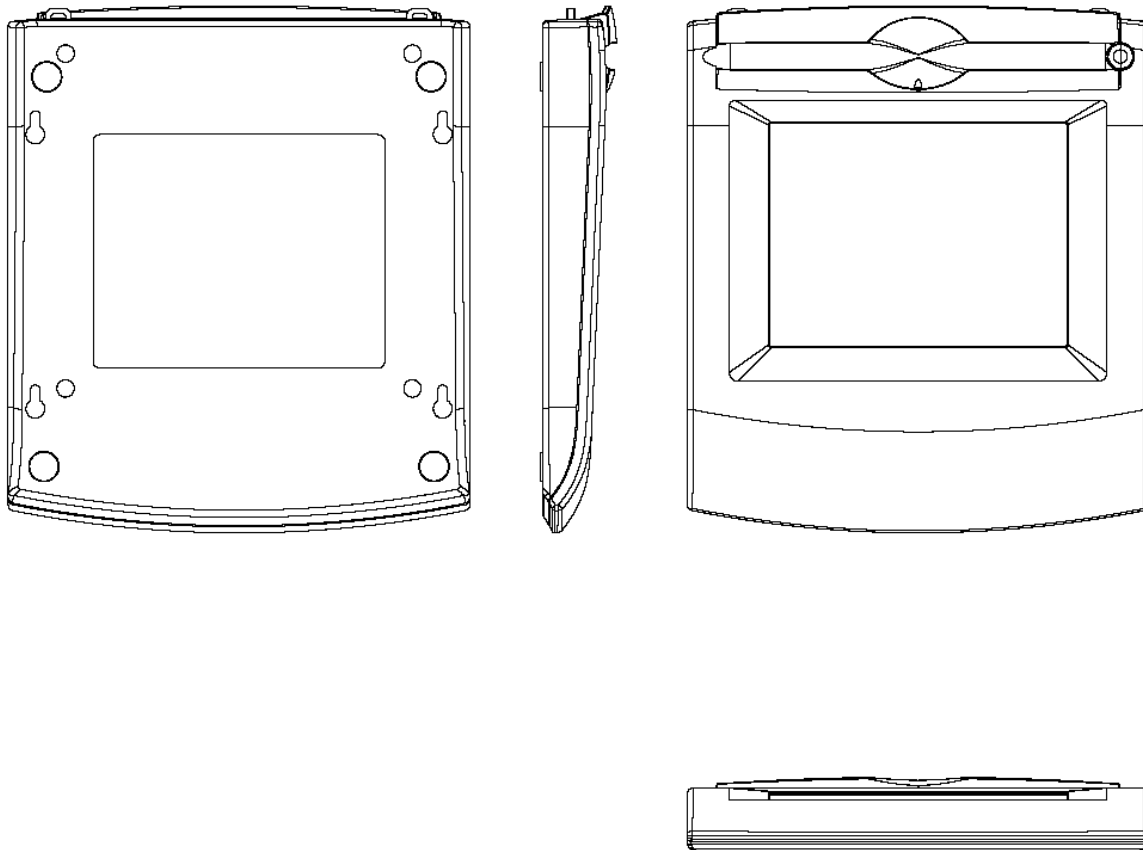
Each STU-500B LCD panel is produced under very stringent quality standards. Production techniques cannot guarantee an absolutely perfect TFT display. A small number of pixels to be always white or always black are allowed. This does not mean the display is defective.

## 5. Product specification

### 5-1 General Specifications

Main body exterior color	Dark gray
Size	160.0mm(W) X 182.5mm(D) X 24.6mm(H)
Mass	400g
Pen holder	Tray and penholder hole
Main body fixation	Bottom fixation hole
Status display	LED
Power Supply Voltage	+5V DC
Power Consumption	2.6 W Max

### Externals drawing



### 5-2 Compliance

VCCI Class B

FCC (Part 15 Subpart B Class B, Part 15 Subpart C)

CE (EN55024, EN55022 CLASS B, EN61000-3-2, EN61000-3-3)

C-tick

RoHS

J-MOS

### 5-3 Coordinate

#### Coordinate Specifications

Technology	Electro-magnetic resonance technology
Active Area	103.76 X 78.32 mm
Maximum Coordinate	(X)10376 (Y)7832
Resolution	0.01mm(2540ppi)
Coordinate Accuracy	±0.5mm (tilted ±50°from vertical)
Accuracy Assurance Height	0mm(Height from the protective plate)
Reading Height	5mm or more(Height from the protective plate)
Tilt range *1)	±50 degrees (from vertical)
Pen pressure	512 level
Maximum Report Rate *2)	200 points/sec

\*1) The pen held in the center of the active area.

\*2) The report rate may be lower depending on the application or the operating system of the computer.

### 5-4 Interface Specifications

#### (1) USB

Communication Method	USB Revision1.1 Full-Speed
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#### USB B Type connector

Pin	Signal Assignment
1	VBUS
2	D-
3	D+
4	GND

#### (2) RS-232C Interface

Communication Method	Max 115.2kbps
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#### D-Sub 9Pin connector

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1		4		7	
2	TxD	5	GND	8	CTS
3	RxD	6		9	

### 5-5 Status LED

Status(blue)	The pen was found, and the penpoint was pushed.
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### 5-6 LCD

Type	Monochrome a-Si TFT
Pixels	640 × 480 dot
Pixel Pitch	0.159 × 0.159 mm
Display Size	101.76 × 76.32 mm
Viewing Angle	120 degree (H/V)
Contrast Ratio (White/Black)	12 typ



## 5-7 Environmental Conditions

Ambient Temperature	Operation	+5C ~ +35C
	Storage	-10C ~ +60C
Relative Humidity	Operation	20 ~80%(noncondensing)
	Storage	20 ~90%(noncondensing)

## 6. Accessories and optional serial kit

### 6-1 Accessory List (STU-500B)

	Parts number	QTY
USB cable(1.5m)	STJ-A257	1 pcs
Manual	UM-0393	1 pcs
Pen	UP-610-74A-1	1 pcs
Pen tether	PKB-A022	1 pcs

### 6-2 Optional Serial kit (FUZ-A147-01/-02/-03)

This option is for serial connection. Serial kit contain AC adaptor, AC cable and RS-232C cable(1.5 m).

Note) This optional serial kit is not included in STU-500B and provided separately.

FUZ-A147-01	Europe (except UK)
FUZ-A147-02	US
FUZ-A147-03	Japan

#### Contents of serial kit

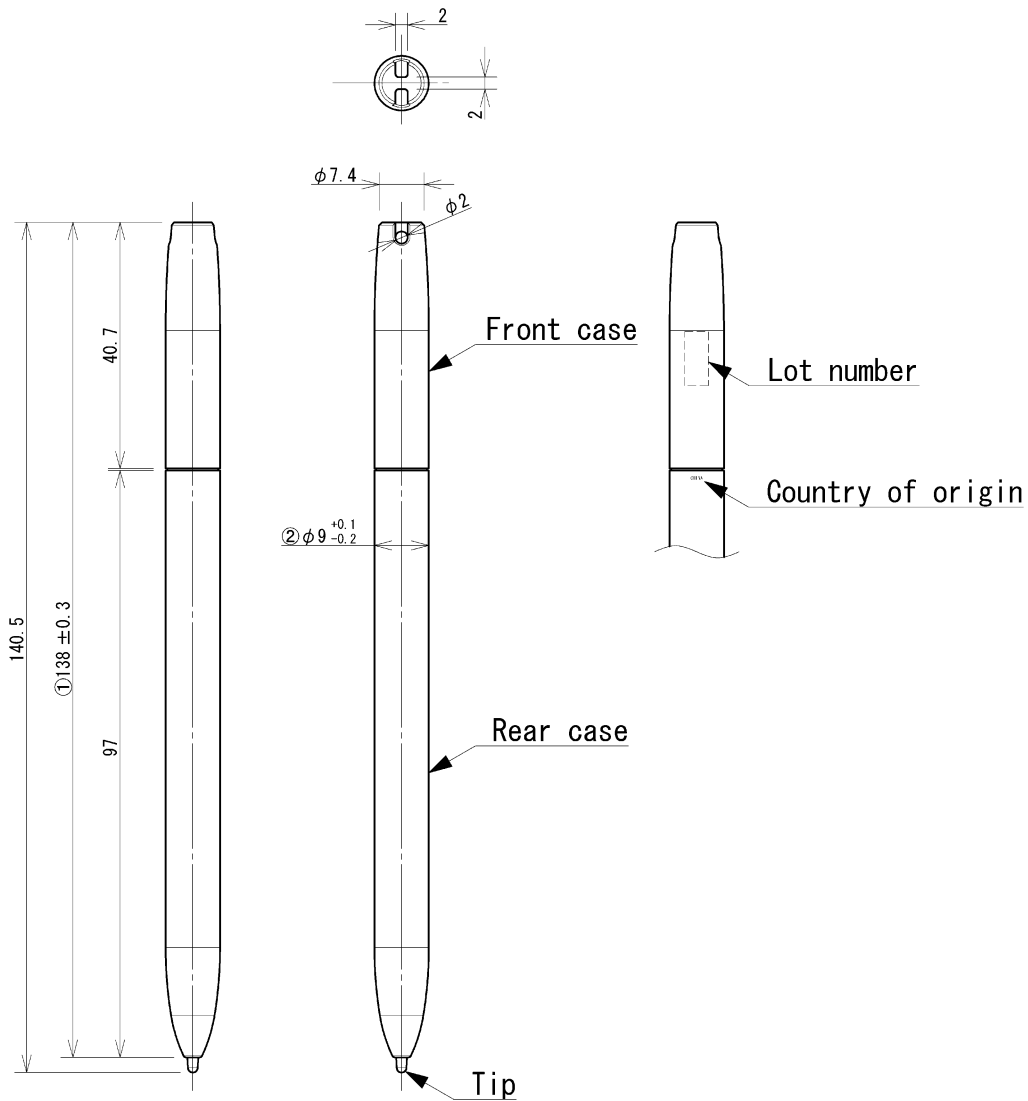
	Parts number	QTY
AC adaptor	UI312-0520	1 pcs
AC cable	FUZ-A147-01	KC-013-KC-007
	FUZ-A147-02	KC-013-KC-007A
	FUZ-A147-03	KC-013-KC-007B
Serial cable(1.5m)	CZ0143A27E1M5	1 pcs

Power supply voltage of AC adaptor	100 ~ 240V 50/60Hz
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### 6-3 Pen Specification

NAME	MODEL NUMBER	REMARK
Main body	UP-610-74A-1	Electronic pen

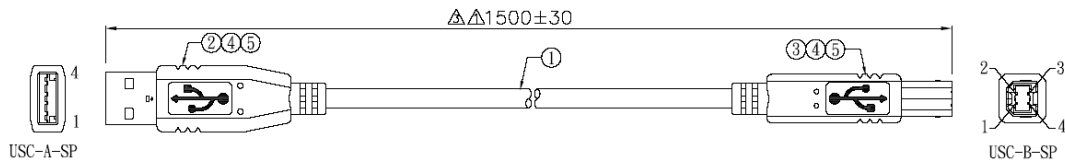
Physical dimensions	Φ9×140.5 mm
Weight	11 g
Color	Dark gray



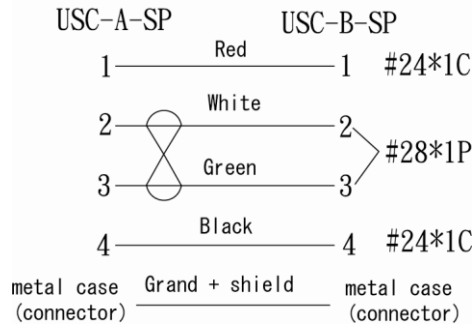
Rear case	Material	ABS
	Color	Dark gray
Front case	Material	ABS
	Color	Dark gray
Tip	Material	POM
	Color	White

### 6-3 USB cable(STJ-A257)

NAME	MODEL NUMBER	Length	color	TYPE
USB Cable	STJ-A257	1.5m	Black	USB standard



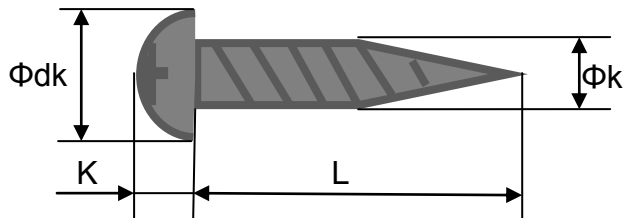
#### List of connecting wires



## 7. Fixing STU-500B

STU-500B can be fixed on the table etc. Please refer for fixing STU-500B.

The following; wood screw is recommended for fixing.



$\Phi dk$ : 4 ~ 5.8mm

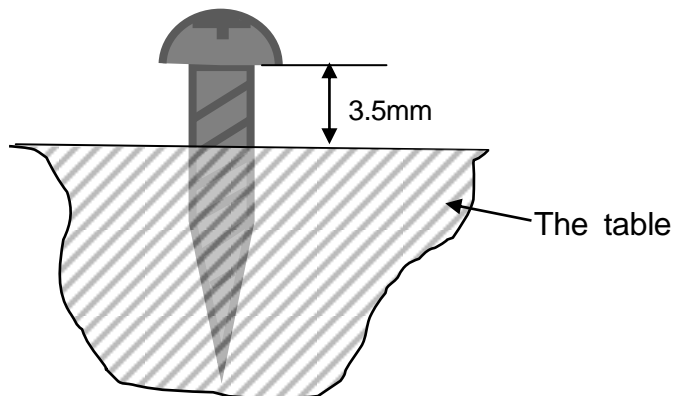
K: Less than 2mm

L: 10mm is recommended (more than 10mm)

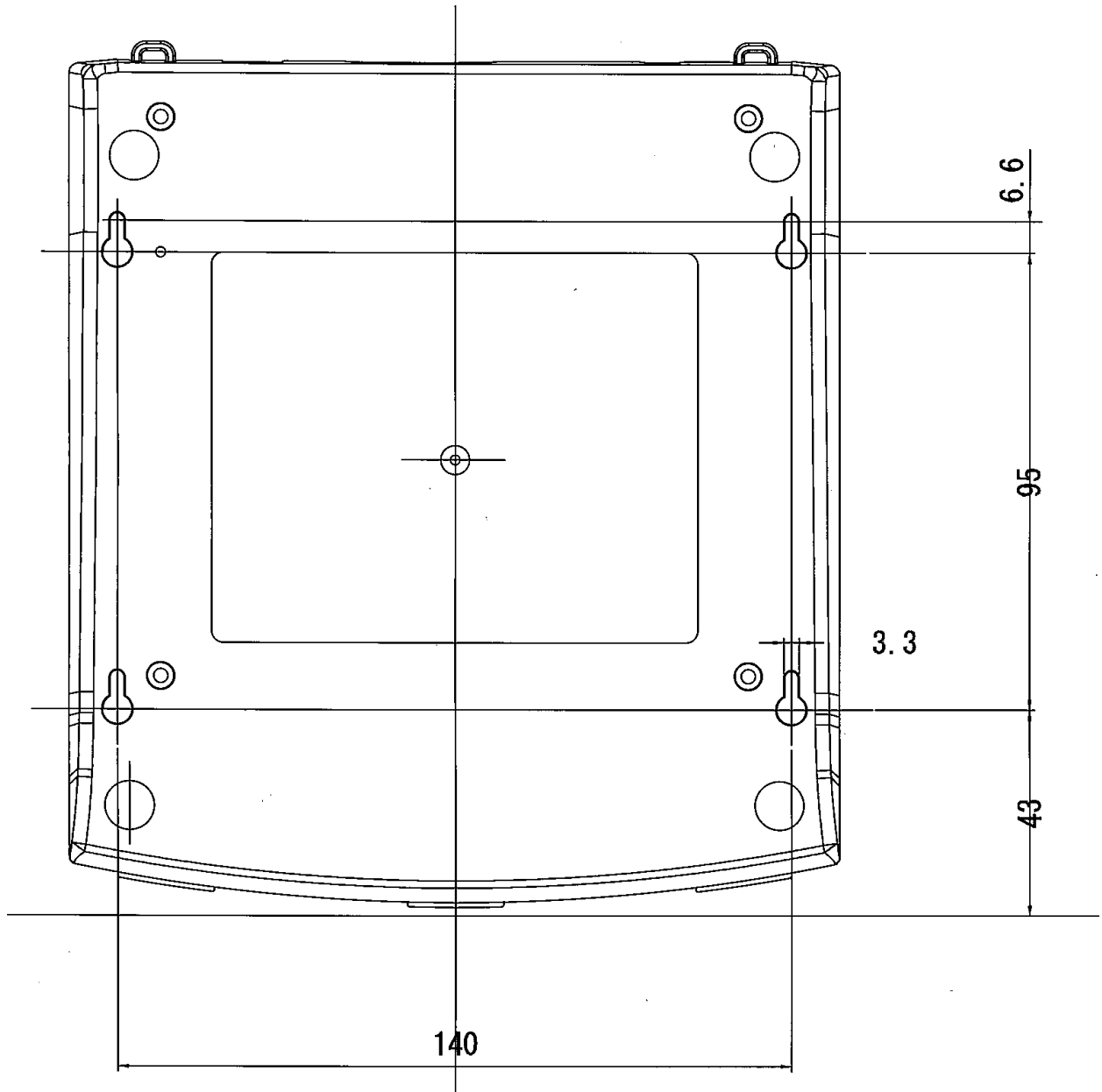
$\Phi d$ : 2 ~ 3mm

a) Screw wood screws to the table etc. by following dimensions.

Note) Screwing will be easier by pre hole for screwing.



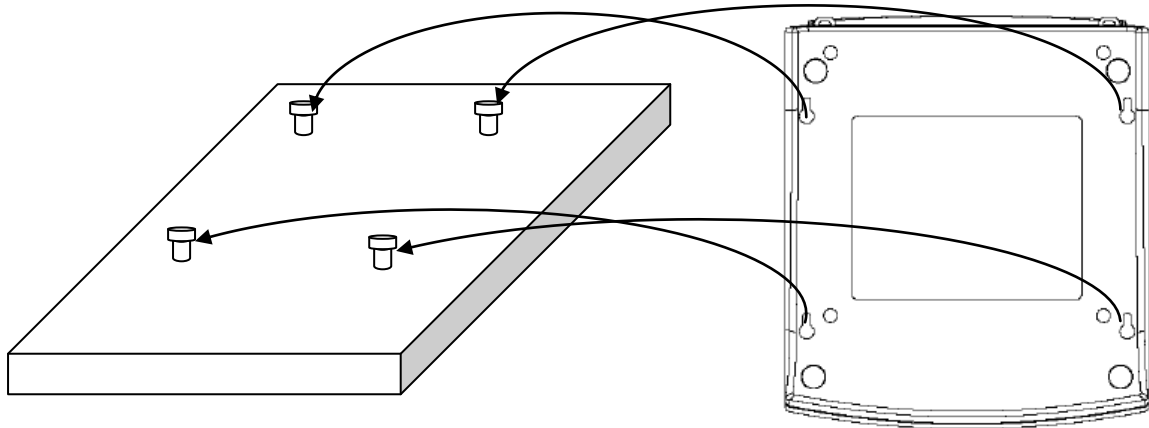
Dimension of screwing (Top view)



b) Put STU-500B on the table and screws are match with fixation hole of STU-500B

Please make sure that STU-500B isn't lifted up or stressed. It may cause of damage of inside or case.

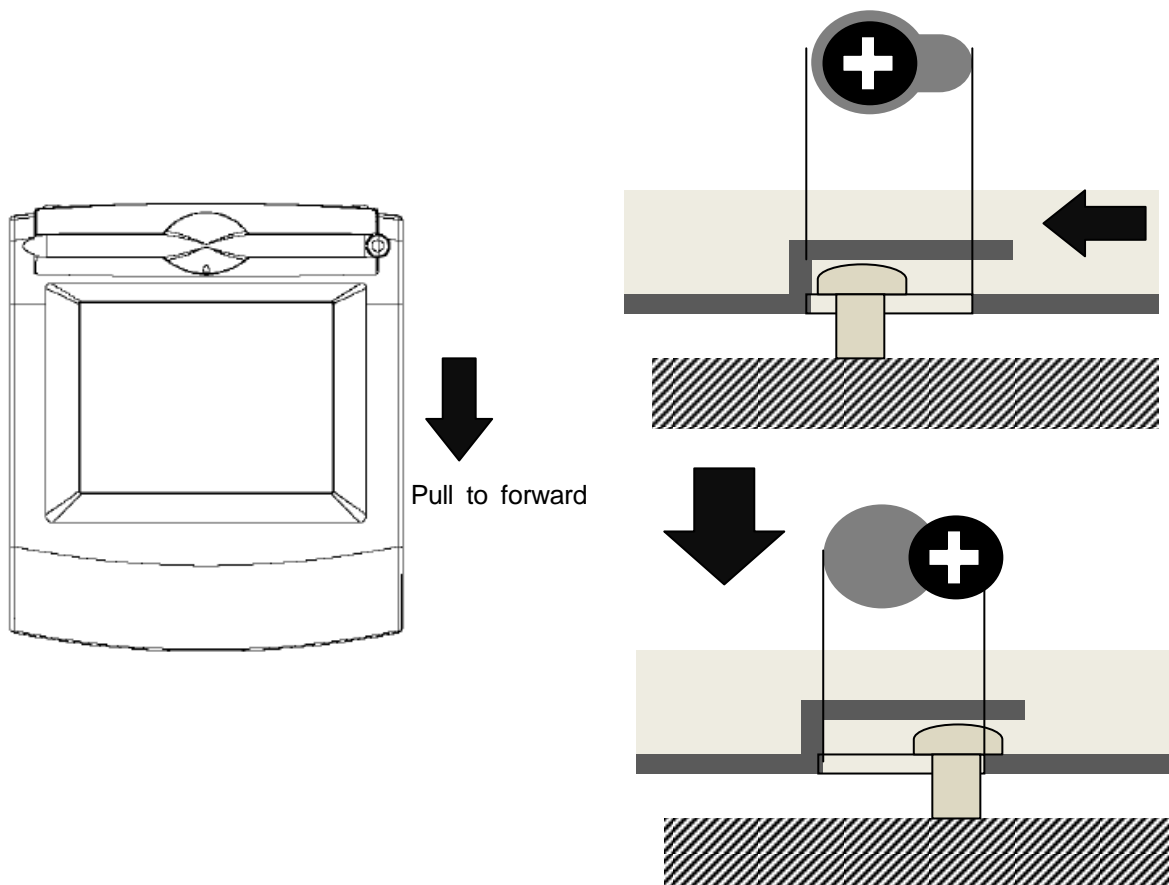
Note) If STU-500B is stressed or tight, don't force to fix. Please adjust height of screws again.



Bottom of STU-500

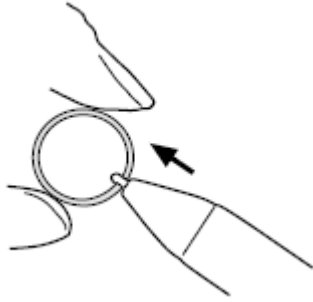
b) Pull STU-500B to forward and fix.

Note) If STU-500B is stressed or tight, don't force to fix. Please adjust height of screws again.



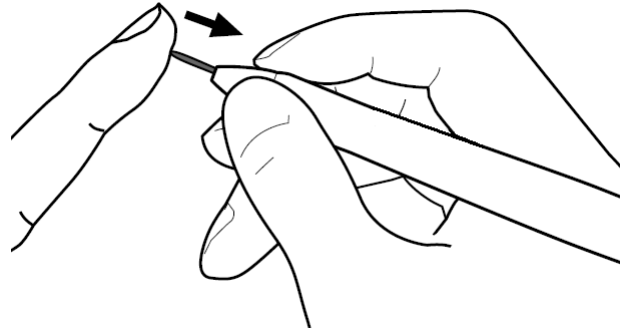
## 8. Replacing the pen tip

The pen tip (nib) can wear with normal use. In the unlikely case that the nib gets too short or develops a sharp edge, you can replace it with spare nibs.



### To remove the old nib:

Clasp it with a pair of tweezers, needle-nosed plier, or similar instrument and pull the old nib straight out of the pen.



### To insert a new nib:

Slide it straight into the barrel of the pen.  
Firmly push the nib until it stops. The new nib will slide into the correct position.

### **WARNING**

**Prevent children from swallowing the pen tip.** The pen tip (nib) may accidentally be pulled out if children are biting on them.

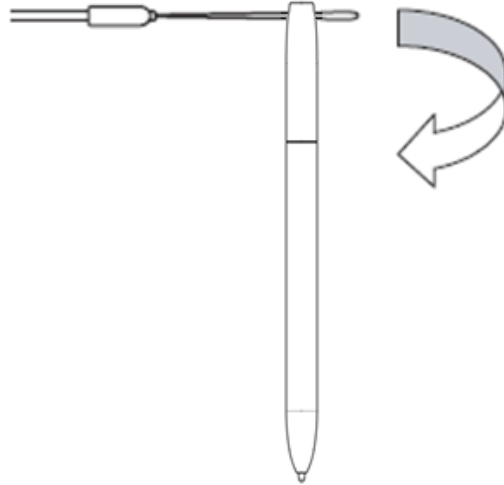
In the unlikely case a nib becomes angular due to wear off, it may damage the coating on the STU-500B display screen. To avoid any damage, nib replacement is recommended in this case.

**Important:** When the pen is not in use, place it in the pen tray, the pen storage compartment, or lay it flat on your desk. To maintain the sensitivity of your pen, do not store the tool in a container where it will rest on its tip.

## 9. How to install pen tether

For avoiding drop or lost the pen, using the pen tether which came with the pen is recommended.

- a) Thread the end of the pen tether through hole of pen top.  
And Thread the other end of the pen tether through a lope of opposite pen tether end.



- b) Thread the end of the pen tether through the pen tether hole on the back side of STU-500B.  
And thread the pen through the end lope of the pen tether.

