D-Point 2

User's Maual

Contents

Ver.:2

General Caution

The Interactive utilized precisely designed optical unit. Do not to hide the mirror camera. The Interactive function operates by infrared 850nm communication. Note the following important points when using this function.

Do：

★ Make sure there is no strong light or sunlight shining on the Interactive camera receiver or the projection screen.

★ Install the projector so that the Interactive camera receiver is not too close to fluorescent lights.

★ The Interactive camera may be interrupted by electromagnetic interference from nearby equipment (such as electric motors or transformers).

★ Clean the front surface of the Interactive regularly so that dust on the front surface does not influence input ray.

★ Clean the front surface, use only fabric and exclusive cleaning liquid for glass.

Do not：

★ Put paint or any stickers on the cover of the Interactive camera receiver.

★ Use an infrared remote control or infrared microphone in the same room because the IR Pen may malfunction.

★ Use it with wet hands, or in locations where it may get wet. The IR Pen is not waterproof.

★ Hold the pen tip of the IR Pen, and make sure this section does not get damaged. Otherwise, the IR Pen may not work.

★ Press IR Pen strongly when writing. Just touch smoothly like when you draw on whiteboard with a marker pen.

★ Drop the IR Pen. IR Pen tip is designed precisely.

★ Operating Keystone, performance for the Interactive function may decline.

★ Set lamp mode to "Eco" may cause "Auto Calibration" abnormal operation of the D-Point 2.

1 Accessories of D-Point 2

D-Point 2 is a built in Interactive Whiteboard on the Projector. To use the D-Point 2 correctly, please find necessary accessories and follow the instructions in this manual.

In the projector box, you will find the following accessories.
Note : Pens Box included "c", "d" and "e" inside.

a	b	c	d	e
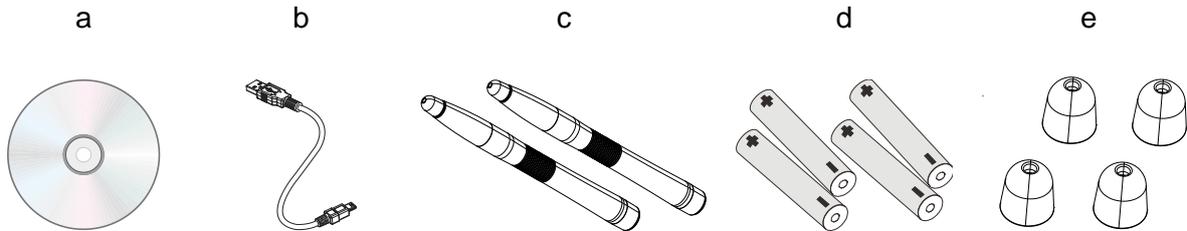
a. Installation CD : CD contains D-Point 2, i-Draw and User's manual.
b. USB Cable : Type A to mini USB cable for connect the Projector to PC.
c. IR Pen : IR Pen is a pen type wireless mouse. Before using the pen, insert batteries correctly.
d. Battery : AAA size battery.
e. Extra Pen Tip : 4 extra pen tips included

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Caution:
When inserting battery into the IR Pen, make sure the battery polarity is correct.
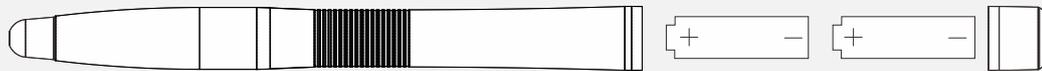
1. Only use AAA batteries (Alkaline batteries are recommended).

2. Dispose of used batteries according to local ordinance regulations.

3. Remove the batteries when not using the D-Point 2 for prolonged periods.

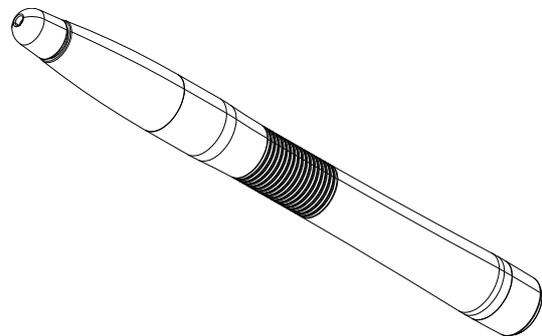## 1.1 Installing CHANGEABLE TIPS

Clenched and forced to pull out the tip.
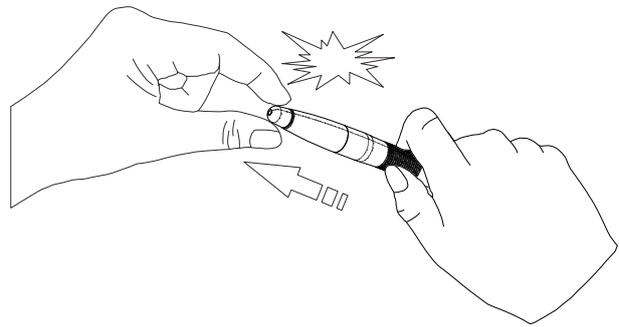
Installing a new Pen Tip until you feel it click with Pen.
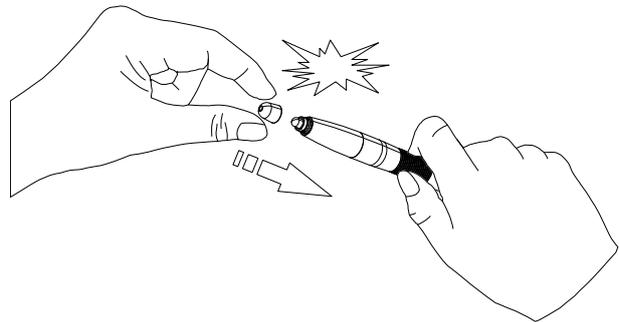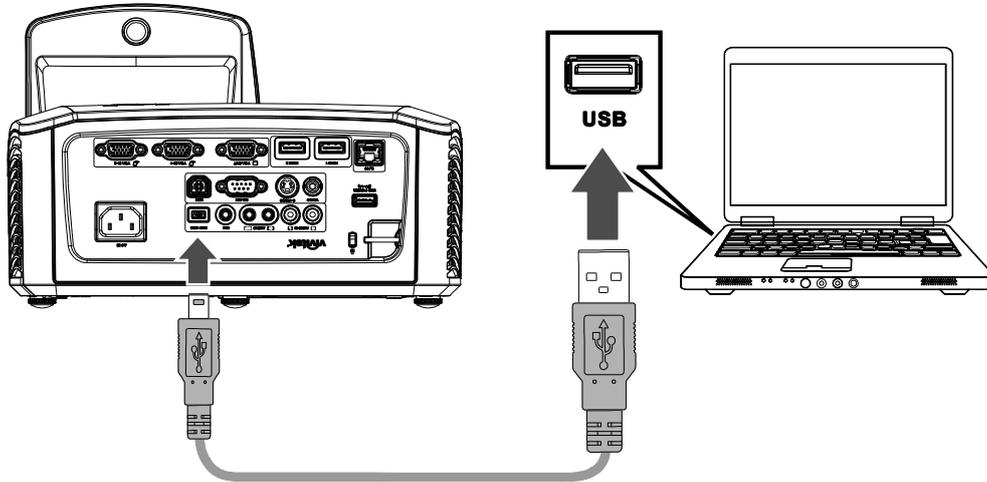
Complete the replacement tip.

2   Connecting Projector to PC

Connect the Projector to a PC via the supplied USB cable. Plug mini USB to Projector MINI USB connector and other end to PC.

Note：
1. In the accessories, a 5m USB cable is provided. If more than 5 meter USB cable length is required, then use repeater cable to extend the USB cable length.
2. Do not connect the projector with the PC when D-Point 2 driver install.

3   Pen Action

IR Pen provides four actions, Click, Double Click, Right Button Click and Drag.

Click   : Touch an icon or a menu on the screen.
Double Click   : Touch an icon or a menu on the screen twice.
Right Button Click : Touch an icon or menu 1.5 seconds or more.
Drag   : Touch and drag an object on the screen

4   Driver Installation

System Requirements
 Operating system
 - Windows XP, Vista, Windows 7, Windows 8

Hardware
 PC requirements

	REQUIREMENT
CPU	higher than Pentium
RAM	higher than 512MB
Hard Disk	higher than 100MB
USB	USB 2.0
CD-ROM	higher than 8x
Display	Resolutions no lower than XGA (1024x768) and no higher than WUXGA (1920x1200), Display color in16-bit color or greater.

Insert the D-Point 2 CD into your CD/DVD-ROM driver. The Installation assistant will run automatically. Follow the instructions in the installation assistant. If the assistant does not run automatically, double click the " setup.exe" under CD/DVD-ROM directory and the Installation assistant will run.
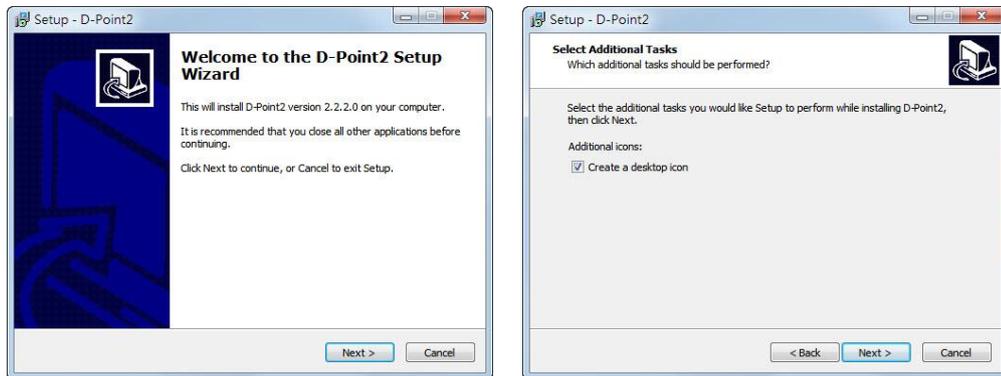
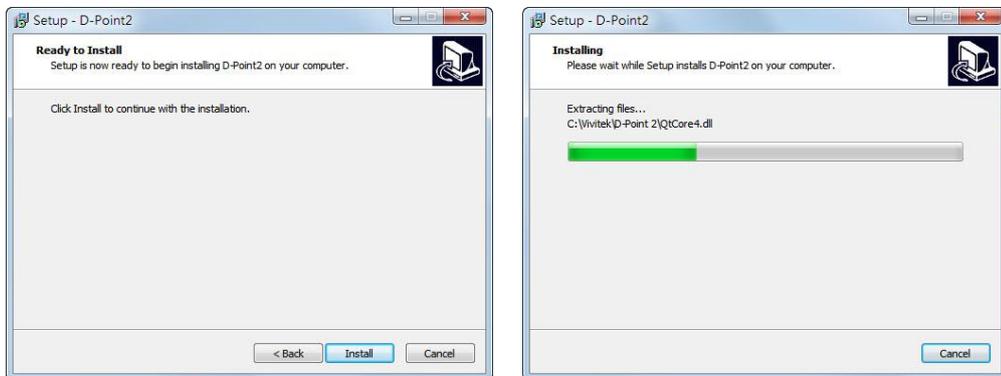## 4.1   Click Install D-Point 2 in the installation assistant.
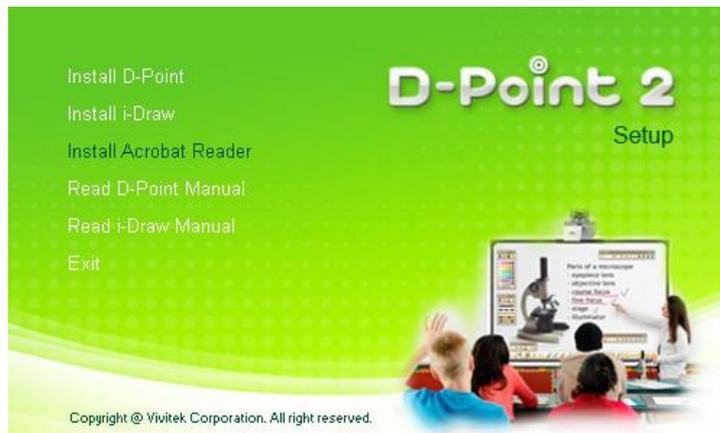
4.2   Select a language and click "OK".

4.3 **The installation dialog box will appear. Click next. During installation, it is recommended to close other applications.**

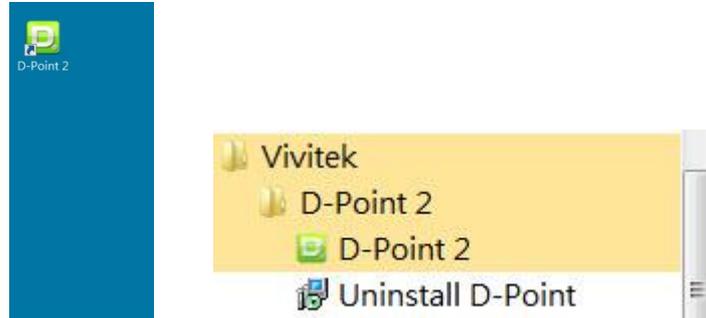**4.4** **Click Install, installation begins.**

4.5 **Installation ends, then dialog box will indicate finish. Click "Finish".**

When Installation is finished,

- D-Point 2 icon will be created on the desktop.
- Installation folder will be created on C: directory.

Upon starting D-Point 2, the configuration window will appear on the desktop to assist in setting up the D-Point 2 configuration

5 Configuration Setting

5.1 D-Point 2 Configuration

To use the D-Point 2, the proper setting of the D-Point 2 configuration is needed. The Configuration setting window will help you set-up the D-Point 2 correctly.
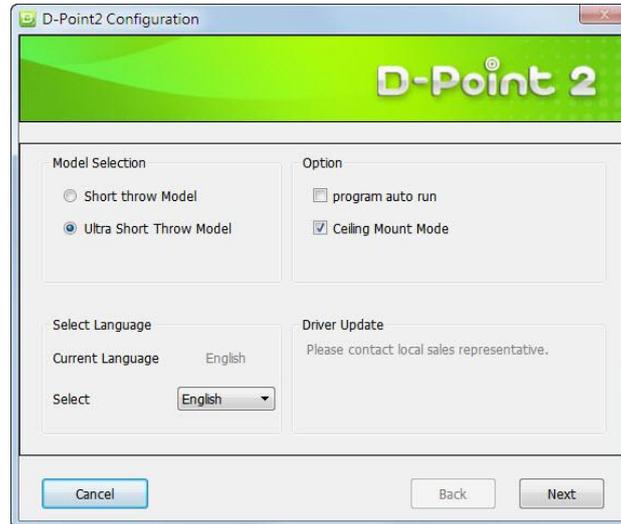
Model Selection: Select "Ultra Short Throw Model". If the incorrect model is selected, accuracy will drop.

Select Language : D-Point 2 language is selected automatically and is the same as the Operating System Language. If you want to change language to another language, click [Select   English ▼] and then language list will be exposed.

Option :
Program Auto Run：Mark if you want to run D-Point 2 when the PC starts.
Ceiling Mount Mode：Mark if you mount the Projector on the ceiling. When Projector is placed on the table top, do not mark this item.

Driver Update : Please contact local sales representative.

5.2 D-Point 2 Alignment : Alignment View

D-Point 2 Alignment : Interactive Projector Model does not need alignment process. When necessary only use "Alignment View" function.
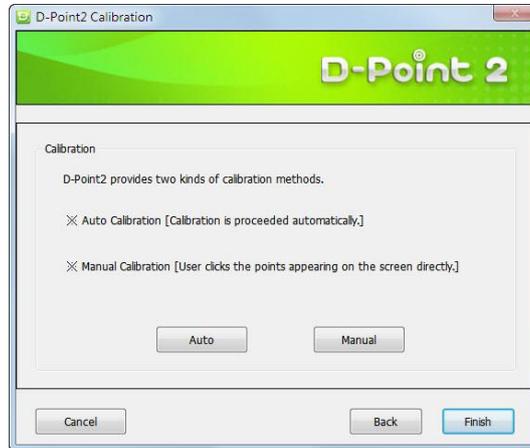

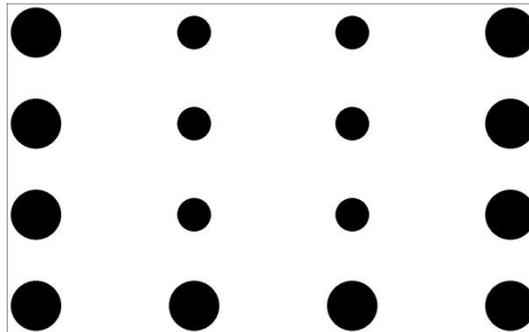Alignment View : Upon clicking "Alignment View".

5.3 D-Point 2 Calibration

D-Point 2 provides two kinds of calibration methods, Auto Calibration and Manual Calibration.
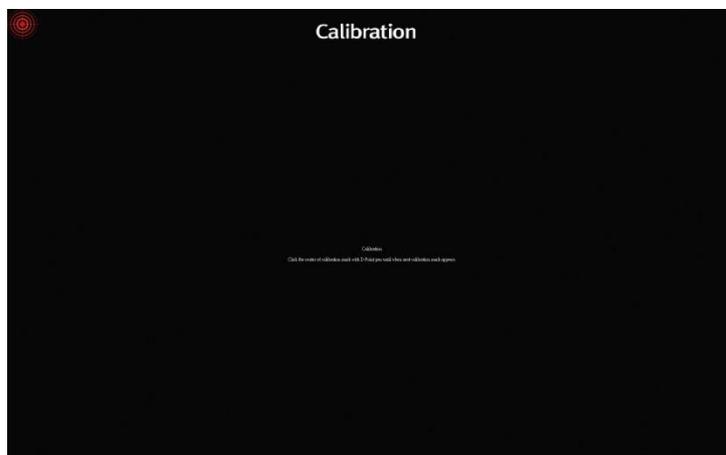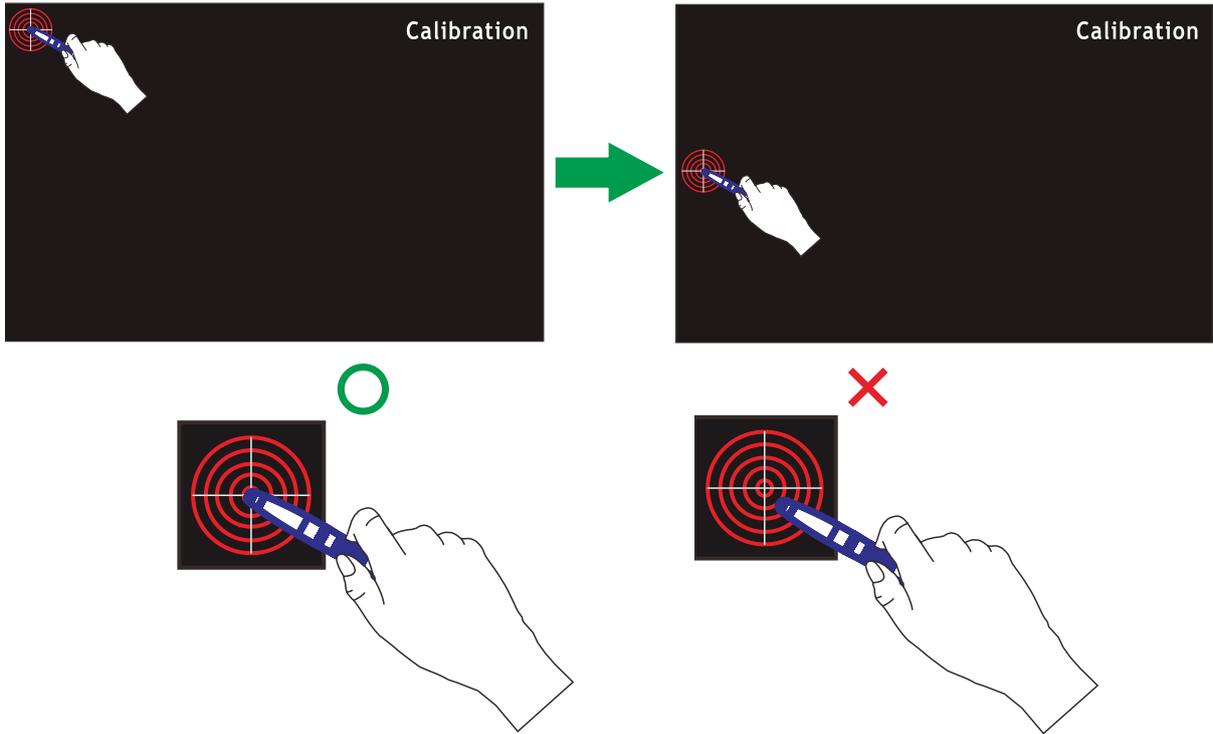

Auto Calibration : click [Auto], the calibration process will run automatically.

Manual Calibration :
Click [Manual], and the calibration window will be projected to the screen.
Touch the IR Pen on the calibration cursor 🔴 quickly, the next cursor location will appear. The user will touch 16 points thus completing the calibration process.

Make sure your touch center of the cursor marked; otherwise, it may not be positioned correctly.

Depending on circumstances, Auto Calibration may fail or accuracy may not be adequate. In this case, please calibrate manually.

6 D-Point 2 Pull-up Menu

After you run the D-Point 2 by double clicking D-Point 2 icon on the desktop, D-Point 2 icon will be shown in the system tray.

Right button click D-Point 2 icon in windows menu bar, then pull up menu appears.
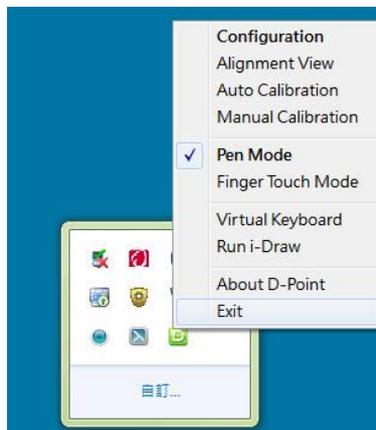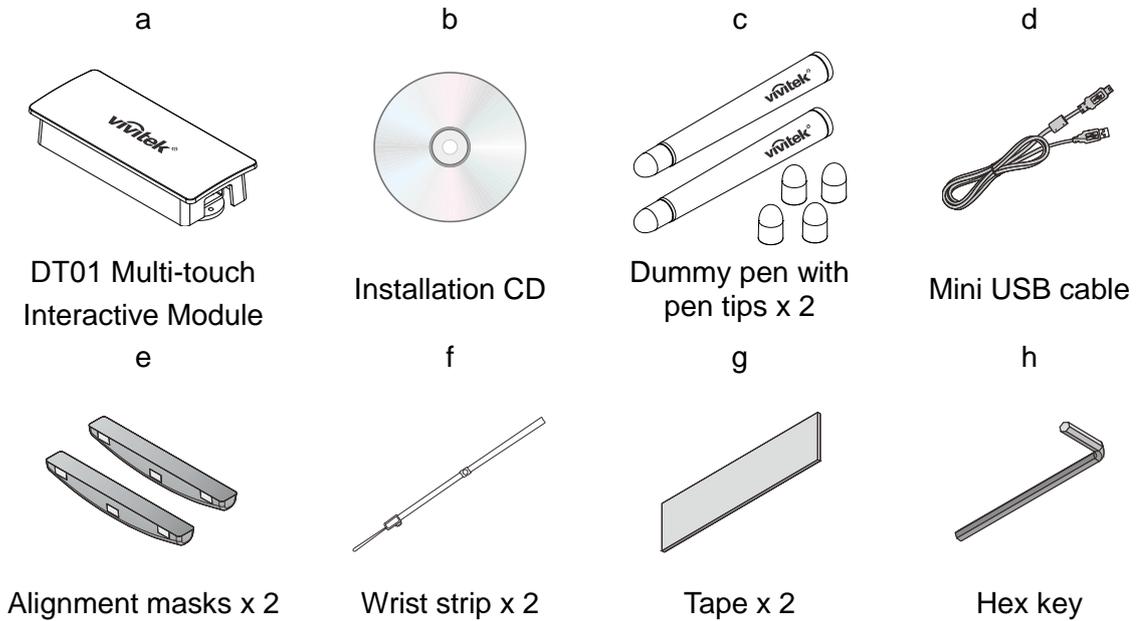

Label	Description
Configuration	Only when you want to change mounting position of Projector, to change language, click this menu and follow the step "5. Configuration".
Alignment View	Same as " Alignment View" function of Configuration.
Auto Calibration	If the accuracy is not enough during when you use D-Point 2, do "Auto Calibration" again.
Manual Calibration	If the accuracy is not acceptable or Auto Calibration fails, select "Manual Calibration".
Pen Mode	Mark when used with IR pens.
Finger Touch Mode	Mark when used with DT01 module (optional).
Virtual Keyboard	If keyboard input is needed, click on the "Virtual Keyboard" then the keyboard will appear on the screen.
Run i- Draw	When you want to run "i- Draw", then click.
About D-Point 2	This menu provides D-Point 2 version information. Click this menu, and then version information window will be appeared.
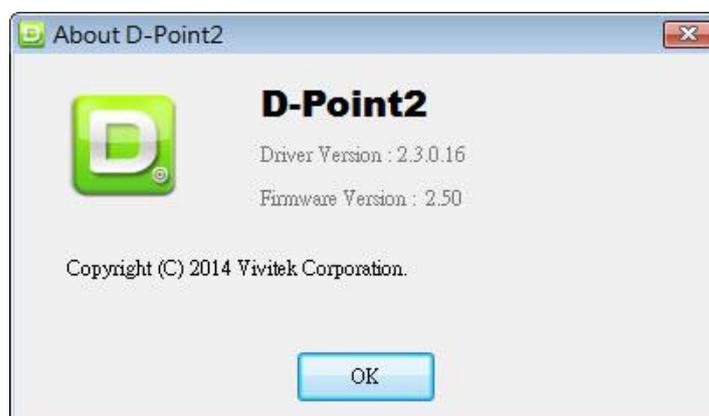
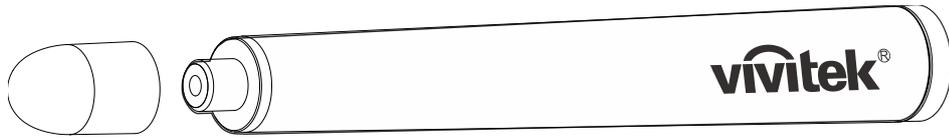# 7 DT01 Multi-touch Interactive Module (Optional)

7.1 Accessories of DT01

DT01 Multi-touch Interactive Module is a touch transmitter for the Vivitek interactive projector. To use the touch module, please find the standard accessories below and follow this manual.

a	b	c	d
DT01 Multi-touch Interactive Module	Installation CD	Dummy pen with pen tips x 2	Mini USB cable

e	f	g	h
Alignment masks x 2	Wrist strip x 2	Tape x 2	Hex key

- a. DT01 Multi-touch Interactive Module
- b. Installation CD: CD contains DT01 driver, i-Draw software and user manual.
- c. Dummy pen with pen tips: 2 extra pen tips for dummy pen.
- d. Mini USB Cable: Connect to supply power to the touch module.
- e. Alignment masks: For laser curtain alignment.
- f. Wrist strip x 2
- g. Tape x 2
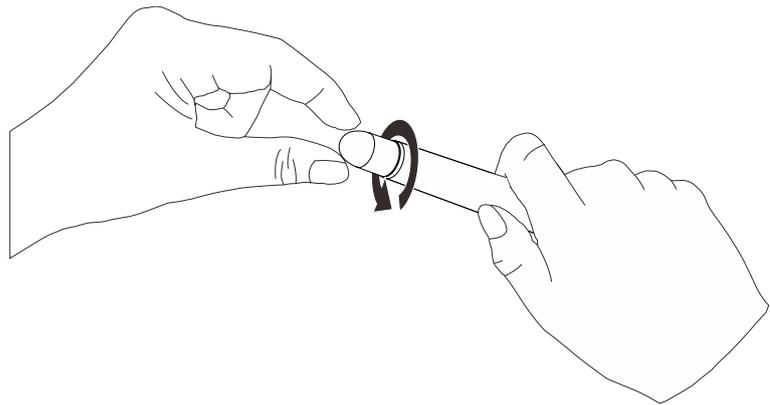- h. Hex key: For laser curtain adjustment
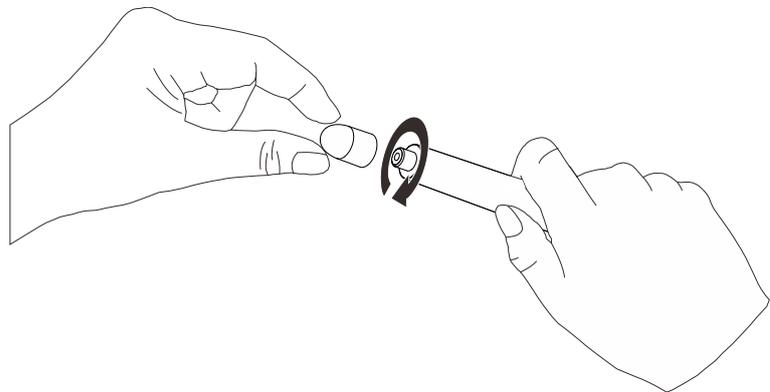
7.1.1 Installing CHANGEABLE TIPS

Note:
For better touch performance, keep the pen tip clean
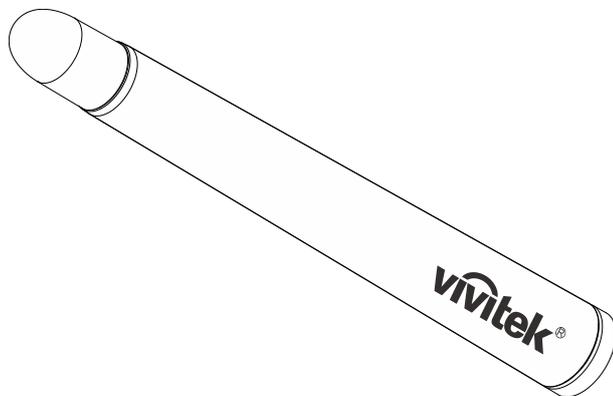
Counterclockwise
direction to unlock pen
tip.

Installing a new Pen Tip
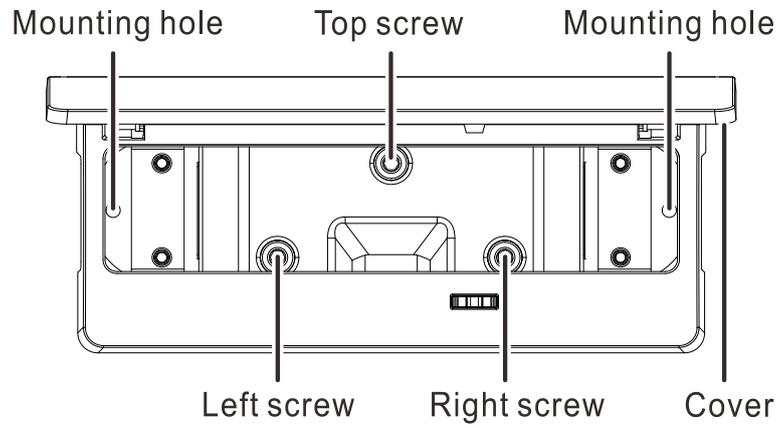with Clockwise direction
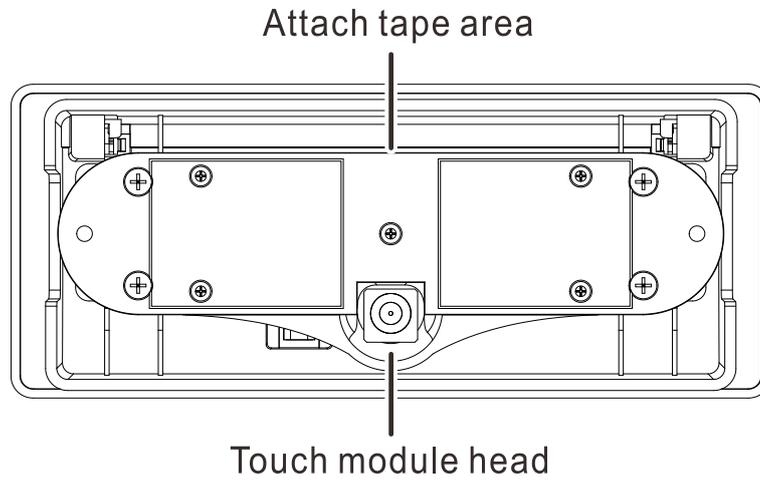to lock pen tip.

Complete the
replacement tip.

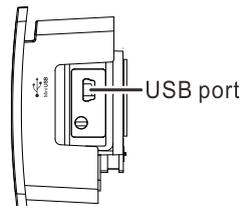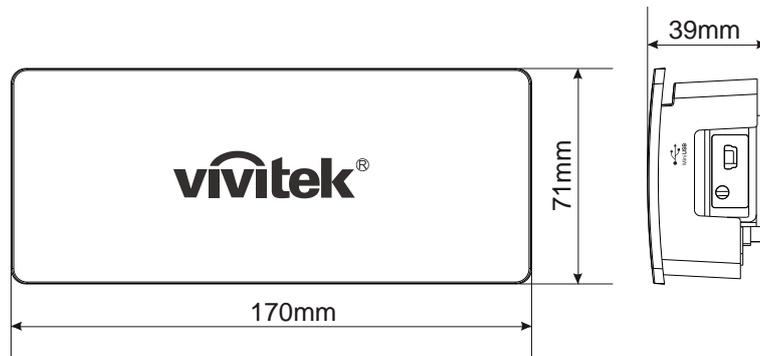### 7.1.2 About DT01 Multi-touch Interactive Module

Front View

Mounting hole   Top screw   Mounting hole

Left screw   Right screw   Cover

Rear Vieaw

Attach tape area

Touch module head

Right View

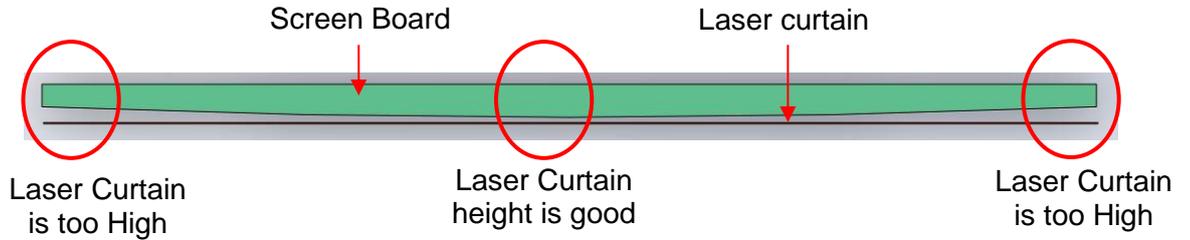USB port

Dimensions

39mm

71mm

170mm

7.2   Screen Board Requirement

7.2.1 Shape of Screen board vs Laser curtain
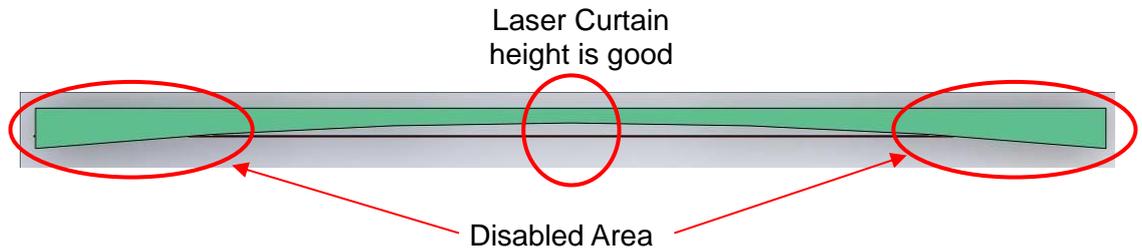
Convex screen board :

Center area, laser curtain height is proper but the edge area laser curtain height becomes too high.
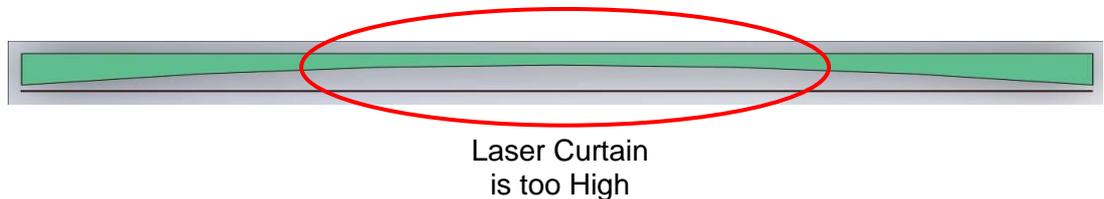

[Horizontal sectional view seen from top of Screen board]

Concave screen board :

If laser curtain height is adjusted in the center, then edge area laser curtain does not effect.

If laser curtain height is adjusted in edge area, then center area laser curtain height become too high.
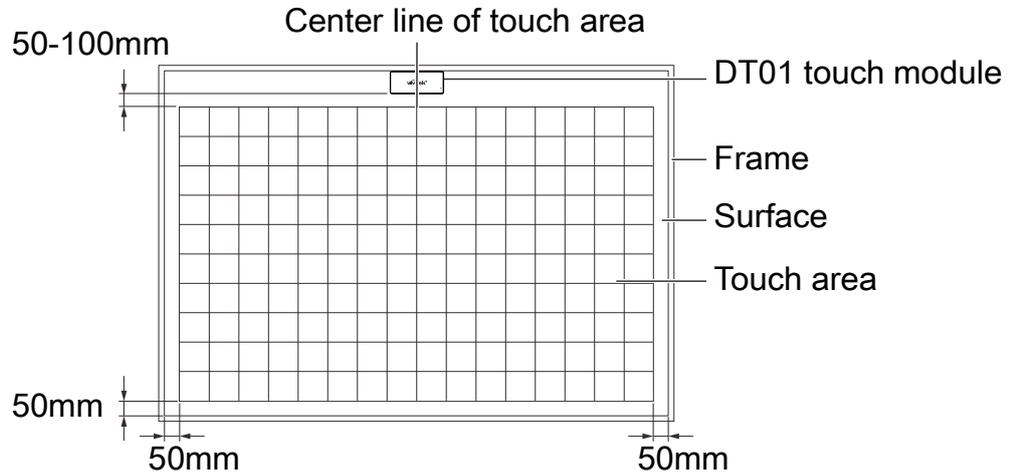

7.2.2 Screen board curvature requirement
Curvature of screen board should be less than 2mm.

7.3 DT01 System Configuration

7.3.1 Beamed Screen Position

Gap between sides/bottom of beamed screen and frame edge should be larger than 50mm.

| #	Item	Specification
1	Horizontal Position	Center Line of beamed screen.
2	Vertical Position	Ceiling Mounting: Top of the screen with Gap. Table Mounting: Bottom of the screen with Gap.
3	Gap	Min: 50mm, max: 100mm, normal: 70mm
4	Orientation	Head of laser module should be face to touch screen.
5	Touch Area	Min: 65", max: 100" (without external lighting interference)

7.3.2 Mounting Method of DT01 Multi-touch Interactive Module

2 kinds of method :

Install the adhesive tape on the rear side of the DT01 Multi-touch Interactive Module.
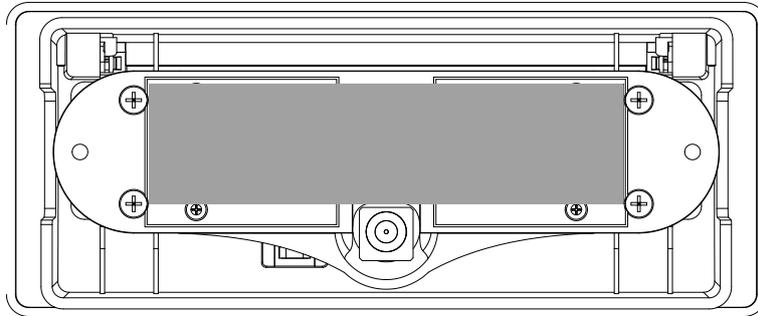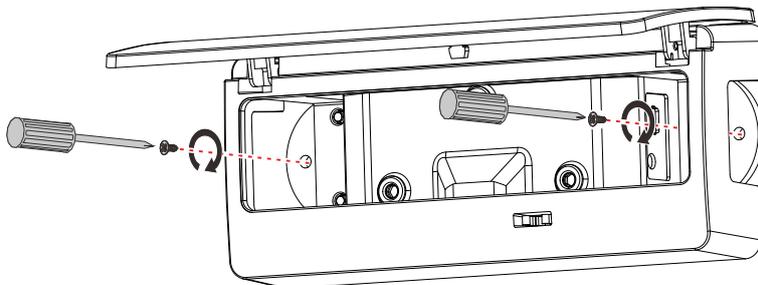

Following the instructions above to position the DT01 on the screen.
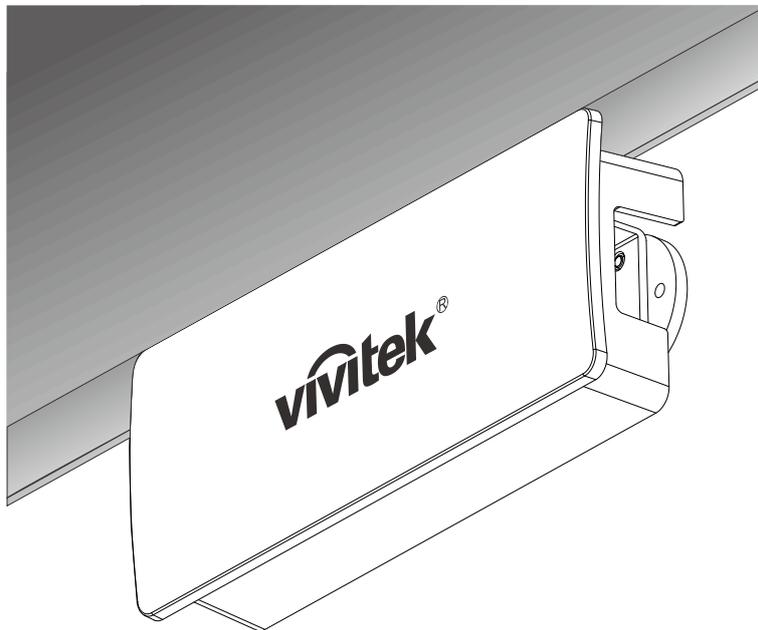
Note:
(thickness: 1mm) is recommended.

Turn over the front cover.

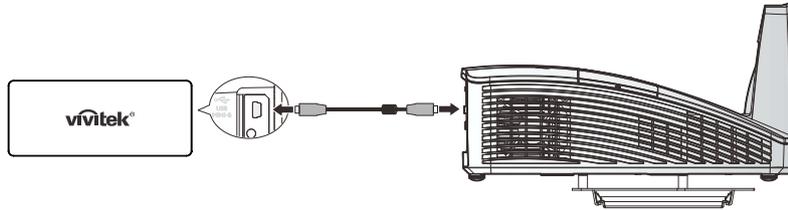Secure the DT01 to the wall with screws.

7.3.3 Connecting DT01

Connecting DT01

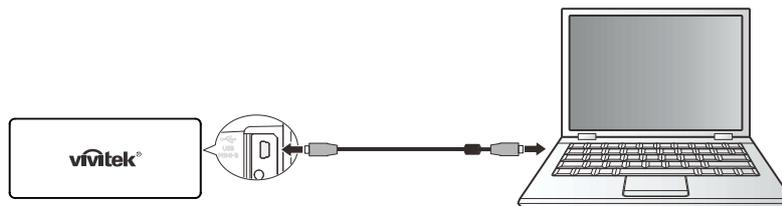Use the USB cable to connect the DT01 for power supply. There are three ways to connect the DT01.

Connect DT01 to Projector (Recommended)

Note:
USB type-A power is available for selected projector model.
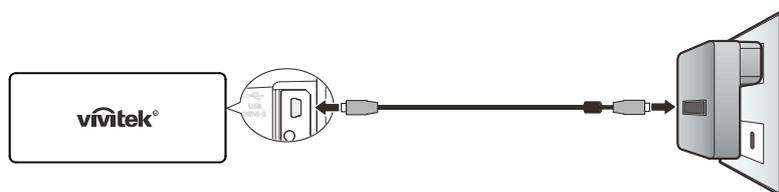
Connect DT01 to Computer

⚠️ *Caution:*
USB power may be unstable under the following conditions:

● *disconnecting AC power*

● *all USB ports are populated*
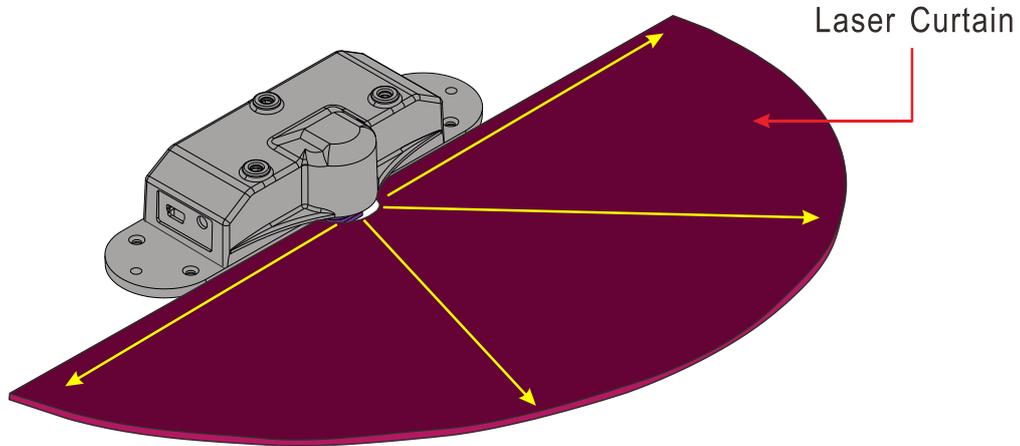
Connect DT01 to 5V USB Adapter

⚠️ *Caution:*
It is important to disconnect the adapter when the touch function is not used. A continuous transmit will decrease the life time of the touch module.
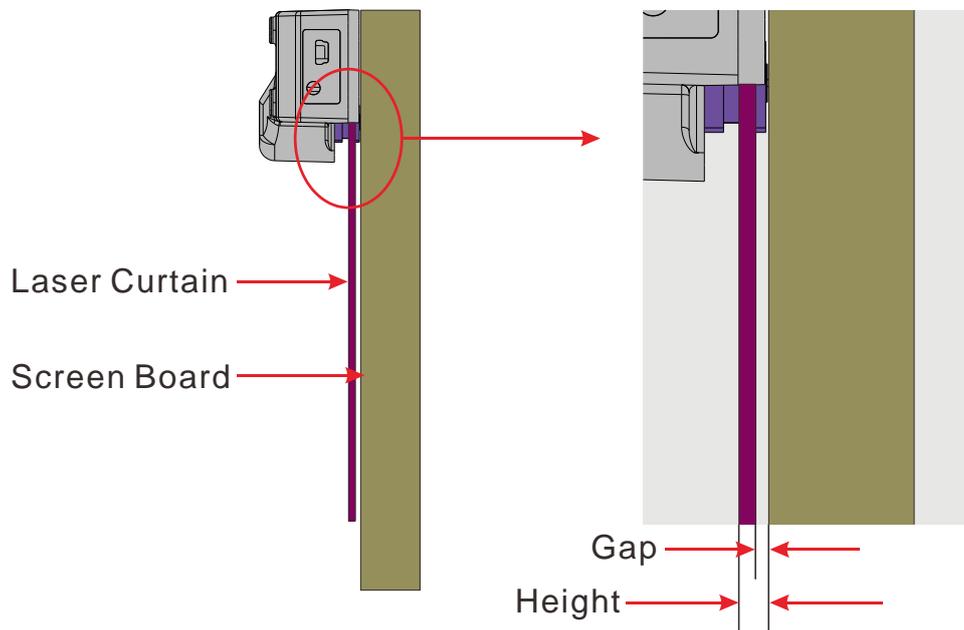
7.4 Laser curtain characteristics

7.4.1 Fan angle of laser curtain
Laser curtain covers 180 degree and form a laser curtain.
Laser curtain is perfect plane with 2mm thickness.

Laser Curtain

7.4.2 Laser curtain position on the screen board
Laser curtain shall not be contact with screen and it's height should be low enough.
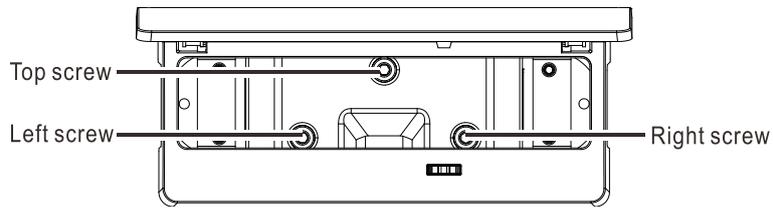
Laser Curtain
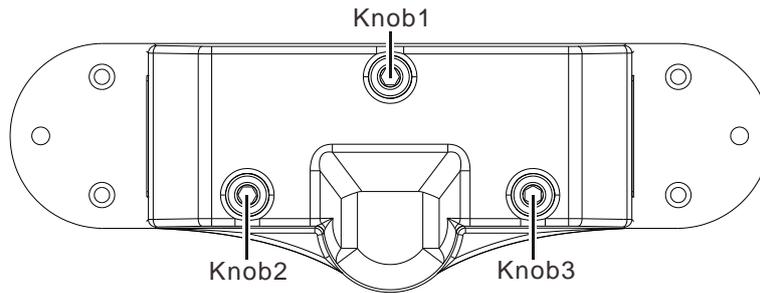
Screen Board

Gap

Height

⚠ **Caution:**
Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

7.4.3 Laser Curtain Alignment Principle

Rolling/Pitch/Level control of Laser Curtain

Top screw

Left screw

Right screw

Knob 1 : Pitching control / Knob2, Knob3 : Rolling control
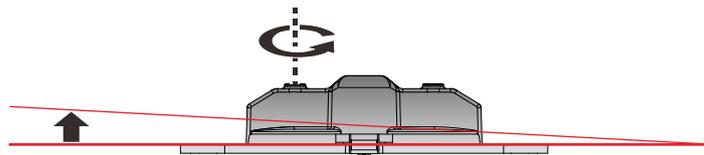
Knob1

Knob2

Knob3

Pitching control

Rotate knob 1 in **clock wise**, then laser curtain **goes up** like figure below. And if rotate knob 1 in anti-clock wise, then laser curtain goes down
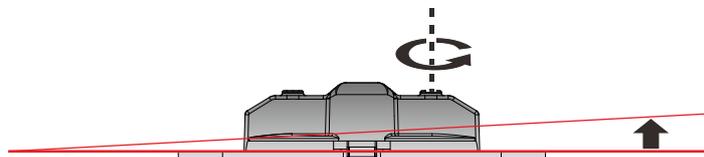
Rolling control

Rotating knob 2 in **anti-clock wise**, then left side of laser curtain **goes up**.

Rotating knob 3 in **anti-clock wise**, then right side of laser curtain **goes up**.

Level control

Rotating knob 2 and Knob 3 in **anti-clock wise**, then level of laser curtain **goes up**.
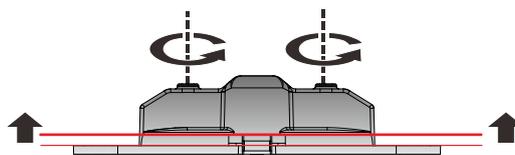
7.5 Laser curtain alignment

7.5.1 Alignment view of laser curtain
Enter "Alignment View" function under "Pen mode". (*)
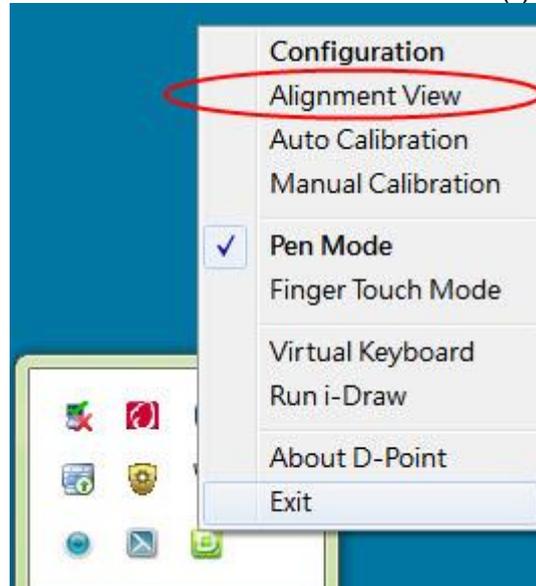
Or

*: Before setting DT01 Multi-touch Interactive Module, please finish "Pen mode" auto or manual calibration.

Alignment view

Connect the USB cable for DT01
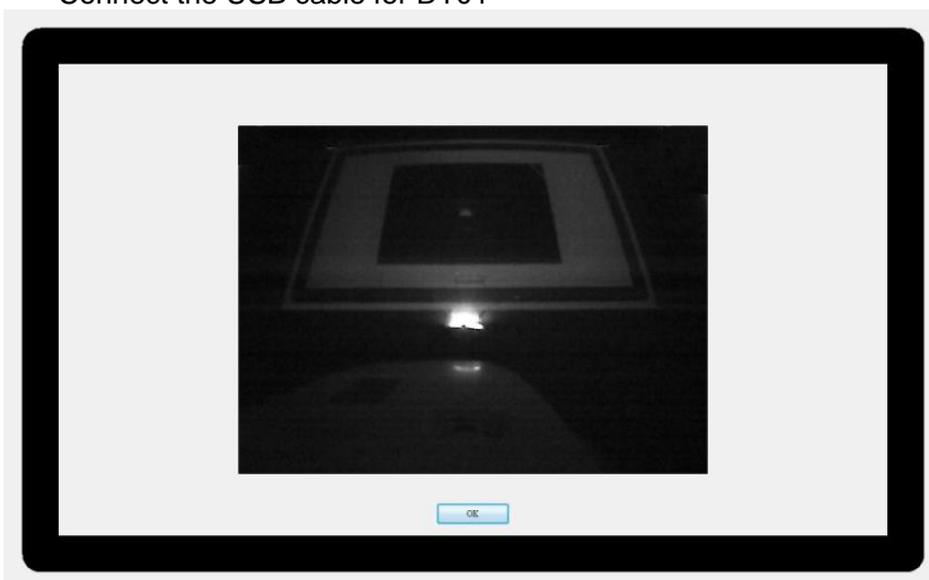
7.5.2 Using Alignment Mask

Shape of Alignment Mark
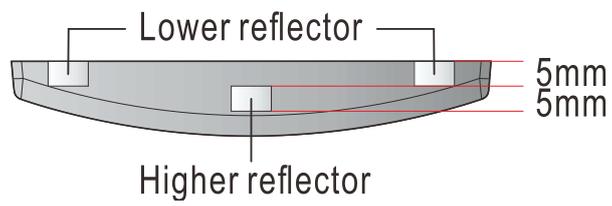
Mounting Position of Alignment Mark :

7.5.3 Laser curtain alignment process

First rotate slowly #1 knob then you can see the reflection line like below picture
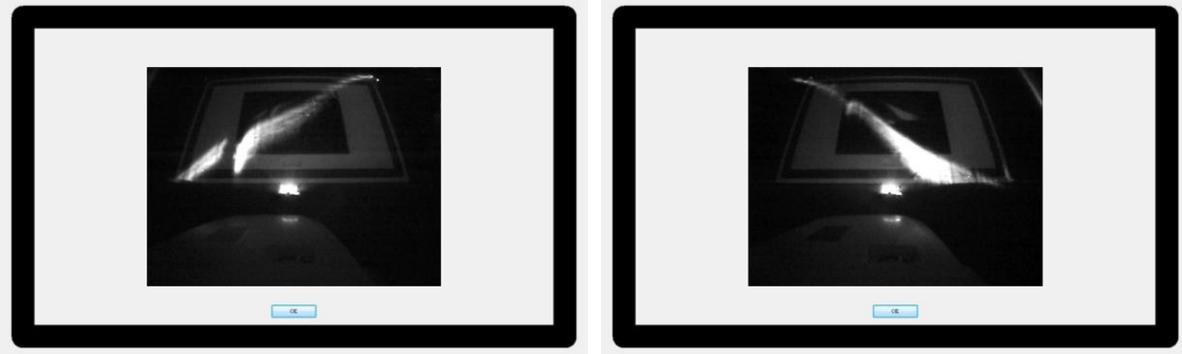
Then,rotating #2/#3 knob accordingly to make reflection line horizontal and near the laser module.
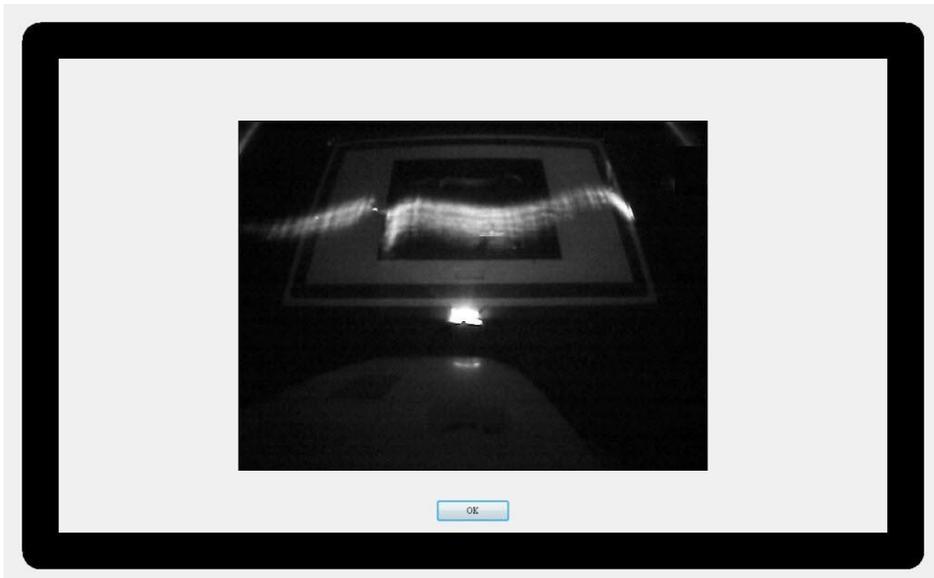
Rotating #1 knob slowly and until see one white reflector point of alignment mark
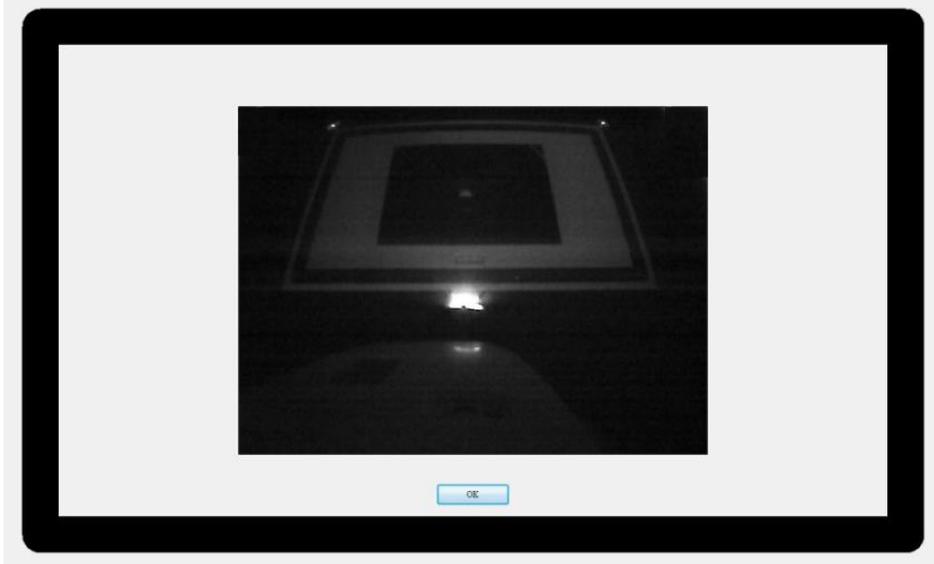
Finally rotating #1 knob anti-clockwise and stop once seeing two white reflector points of alignment mark
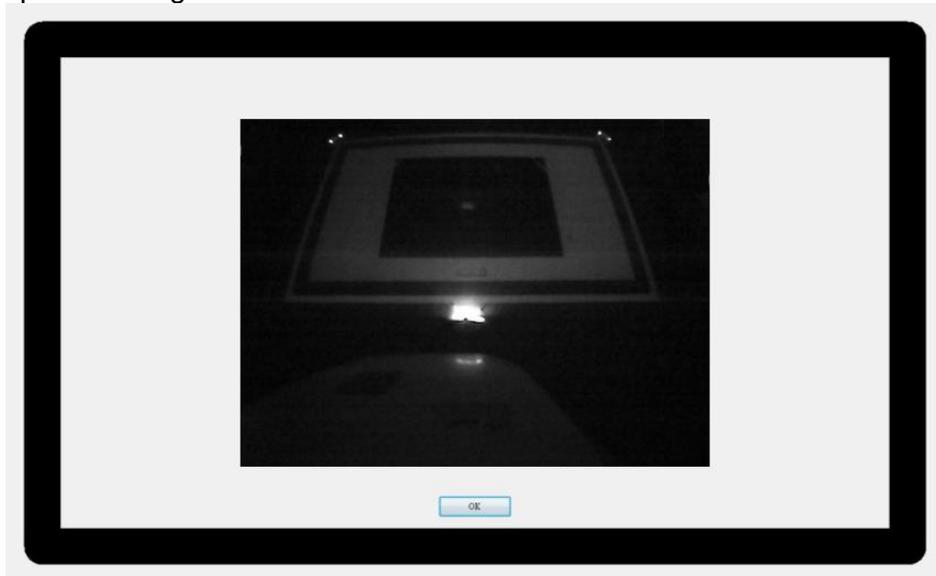
Switching " Finger Touch mode" from PC / NB device and start to use finger touch function.
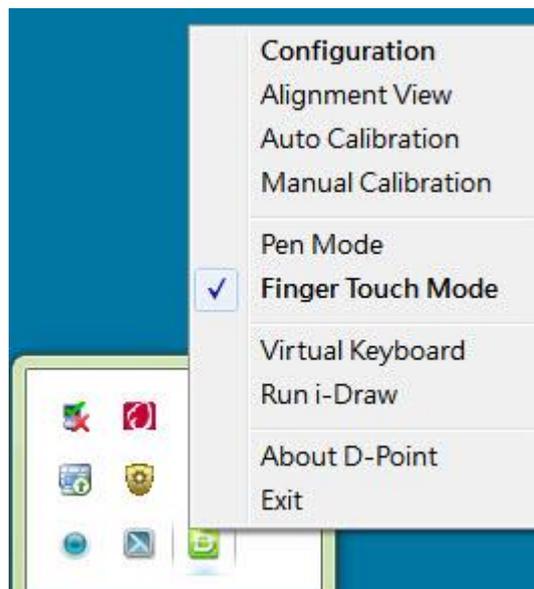
8 Specifications

Touch module	
Model Name	DT01
Operating Voltage	4.7~5.2V
Power Consumption	Max 180mA
USB Type (Power)	Mini USB B type
Power Source	Power via USB connector or 5V adaptor
Wavelength	850nm ± 10nm
Fan Angle	Max : 180° (1 laser beam)
Rolling Control Range	Max 4°
Pitch Control Range	Max 3.5°
Safety	Class 1
Dimension	170mm x 71mm x 39mm
Weight	172g (with cover)

| General function	
Camera Type	CMOS Sensor , 640*480 array
Multi Pen Supported	Up to 4 touch points (Pen/Finger)
Response Time	0.016 sec
Refresh Rate	60 Frames/sec
Calibration	Auto / Manual16 points
Dual screen Calibration	Yes
USB Cable Distance	Max 15meter (5meter USB cable + repeater)

9 Trouble shooting

9.1 Cannot operate as a mouse and draw by connecting to a computer

- Is Configuration set correctly?

  Make the following settings to link with the computer's functions.

  - Set projector type – Short throw or ultra short throw from the configuration menu.
  - Set projector mounting type –Normal or Ceiling mount from the configuration menu.

- The projector is not correctly connected to the computer.

  - Check the USB cable connections. You may be able to resolve the problem by re-connected the USB cable.

- If you are using a notebook computer when the battery power is running low, the USB port may stop working and you might not be able to use USB devices.

  - Connect the computer to AC power source.

9.2 The message and error occurred in the Interactive function.

- An error has occurred in the Interactive Function.

  - Contact your dealer.

9.3 The IR Pen does not work

- Be sure nothing obstructs the path between IR Pen and the projector.

  - Remove the obstacle. Also, do not block the signal path when standing in front of the projection screen.

- The signal is interfering with other things such as a light source that is emitting infrared rays.

  - Do not use an infrared remote control or infrared microphone in the same room because the IR Pen may malfunction. Switch off the interfering device.

- The battery is low.

  - Replace the battery.

- The environment is too bright.

  - Do not allow strong light to shine on the projected screen or the projector's Interactive Function receiver.

- Has pen calibration been performed correctly?

  - Make sure you perform pen calibration when using the IR Pen for the first time so that the projector recognizes the position of the pen correctly. Also, calibrate the pen again if you notice any discrepancy in positioning.

9.4 The cursor does not move to the next position

- Information from the projection screen is not correctly received due to other things, such as a light source that is emitting infrared rays.

  - Move the device away from the projector, or move the projector away from the device.

- Information from the projection screen may not be received correctly if the projector is too close to the screen.

  - Check the position of the projector.

9.5 The cursor moves automatically.

- The IR Pen is disabled due to unstable conditions environment, such as a light source that is emitting infrared rays.

  - Move the projector or turn off the interfering device.