i3PROJECTOR 3303Wi & Wi-PLUS

User Manual

TECHNOLOGIES

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Usage Notice

Please follow all warnings, precautions and maintenance as recommended in this user's manual.

- Warning - Do not disassemble Light Curtain Touch module.
- Warning - Do not use, store, or leave Light Curtain Touch module near fire, or in places with a high temperature, e.g., in direct sunlight, or in sun-heated cars.
- Warning - Use standard USB cable(maximum length: 5m). To extend USB cable length over 5m, a certified active extension USB cable is required.
- Warning - Do not allow liquid or foreign material enter Light Curtain Touch module.

Precautions

IR camera on projector receives infrared signal from Light Curtain Touch module which is attached to the whiteboard.

To operate normally:

- IR camera should face the projection image area on the wall.
- Remove any obstacle in between IR camera and Light Curtain Touch module.
- Do not place other infrared communication devices, lighting equipments, or residential heating equipments etc, nearby.
- Only use the interactive cable from accessory kit, L side connector should plug into Light Curtain Touch module.

Maintenance: Gently clean the optical port with dust blower.

How it works

- Light Curtain Touch covers the entire whiteboard with a thin invisible IR light.
- When finger or stylus breaks into the Light Curtain Touch, IR light reflects to IR camera.
- Camera module tracks multiple touch points and reports positions to a PC or laptop via USB.
- To optimize touch function, whiteboard non-flatness should be less than 5mm.

Step 1: Environment Check

Before setting up and installing the projector and Light Curtain Touch module, ensure that the interactive cable work for the installation location of the mount in advance.

Note:
Make sure the projector is installed under the following conditions:
- The projected image is a rectangular shape without any distortion.
- The projector is tilted at an angle no more than +/-3 degrees vertically and horizontal in relation to the screen.
- When using the interactive function, install the projected image within reach.
- Do no install the projector or screen in a location subject to direct sunlight. If the projector or the screen is subject to direct sunlight, the interactive function may not operate correctly.

A. Light Curtain Touch installation Information

Before installing the Light Curtain Touch module, the projection surface must meet the following conditions/criteria:
1. The screen surface is a flat, smooth unwrapped surface with no unevenness of more than 5mm. The surface can either be a flat wall or a whiteboard. For details on how to check surface flatness see page 8.
2. The surface must allow for the Light Curtain Touch module to be fixed with screws.

If the projection surface meets the criteria above the projector and Light Curtain Touch module can then be installed in one of the following ways
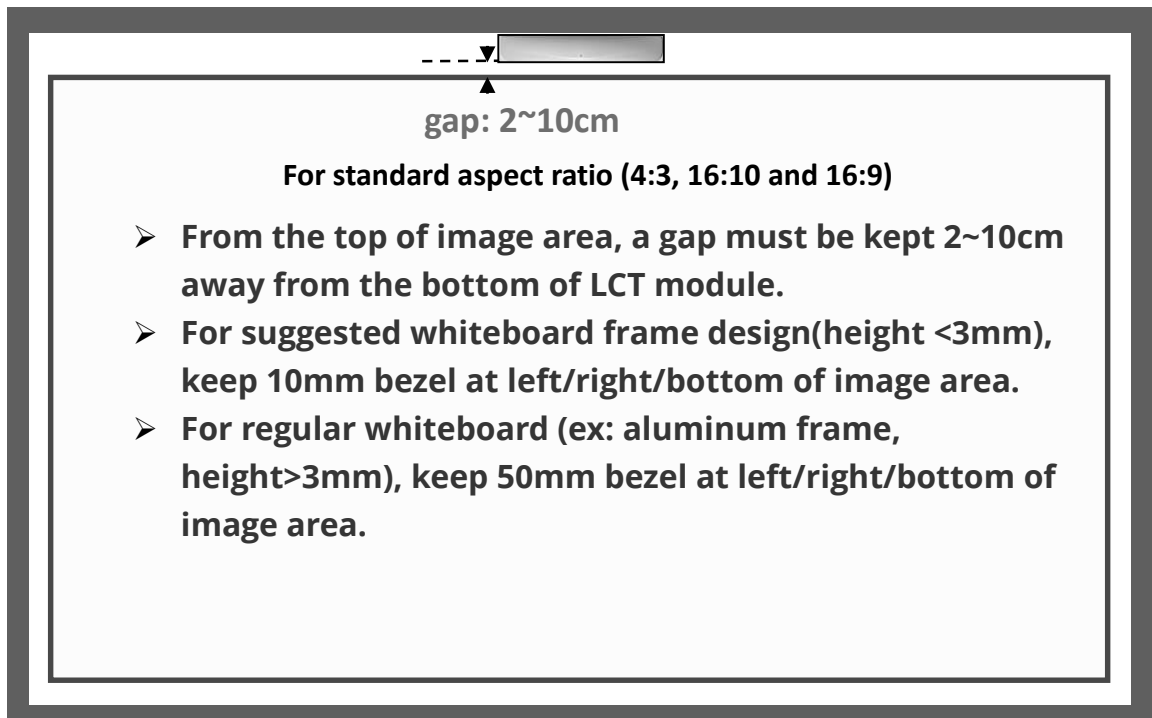1. Mount the projector to the wall and the Light Curtain Touch module to the whiteboard.
2. Mount the projector and Light Curtain Touch module to the wall.
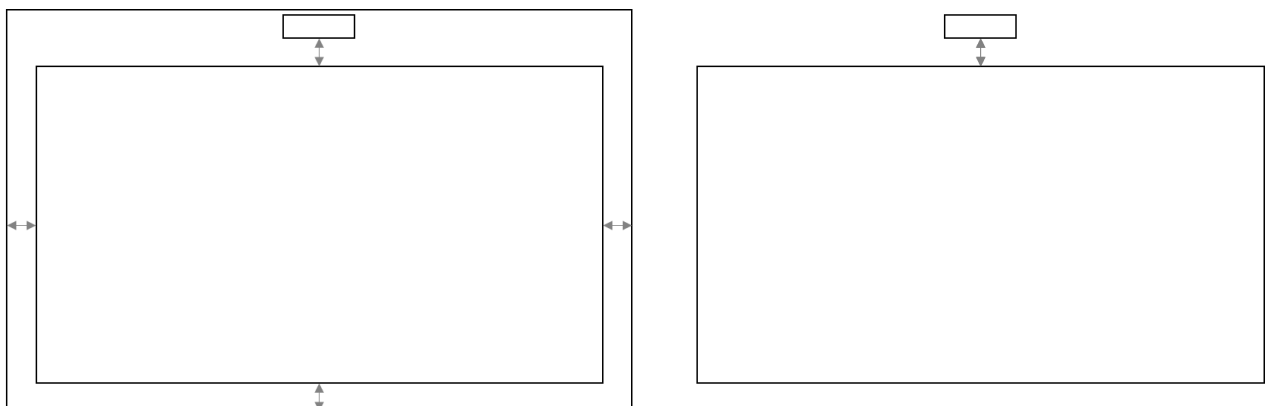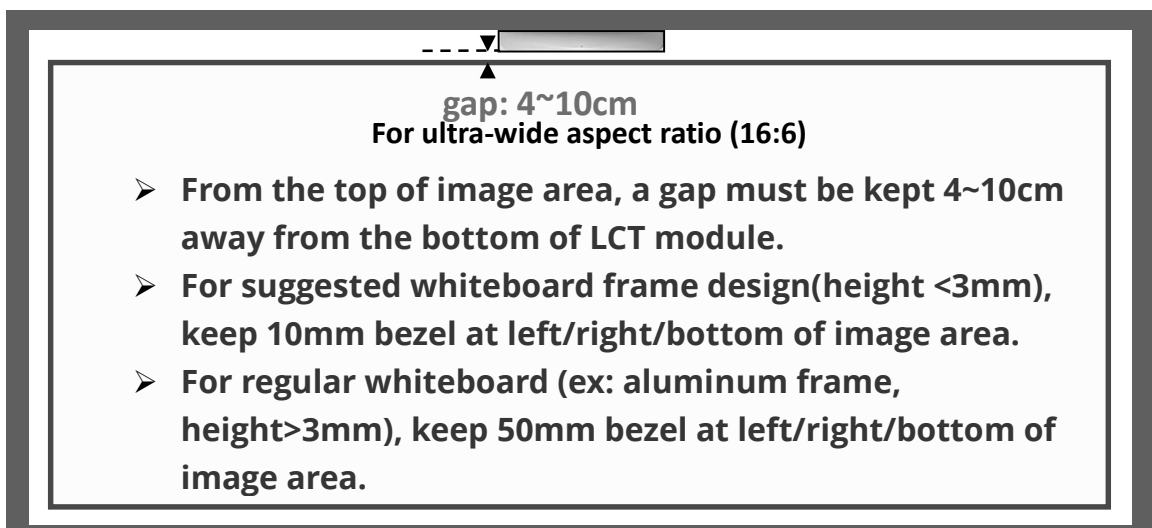
B. Whiteboard guideline

When installing the Light Curtain Touch module on a whiteboard please follow the guidelines below:

B-1. For standard aspect ratio (4:3, 16:10 and 16:9)

gap: 2~10cm

For standard aspect ratio (4:3, 16:10 and 16:9)

➢ **From the top of image area, a gap must be kept 2~10cm away from the bottom of LCT module.**
➢ **For suggested whiteboard frame design(height <3mm), keep 10mm bezel at left/right/bottom of image area.**
➢ **For regular whiteboard (ex: aluminum frame, height>3mm), keep 50mm bezel at left/right/bottom of image area.**

B-2. For ultra-wide aspect ratio (16:6)

gap: 4~10cm

For ultra-wide aspect ratio (16:6)

➢ **From the top of image area, a gap must be kept 4~10cm away from the bottom of LCT module.**
➢ **For suggested whiteboard frame design(height <3mm), keep 10mm bezel at left/right/bottom of image area.**
➢ **For regular whiteboard (ex: aluminum frame, height>3mm), keep 50mm bezel at left/right/bottom of image area.**

If the whiteboard frame thickness is greater than 3mm the reflected light interference from the whiteboard frame may be detected by IR camera. This can compromise the touch function. To reduce the risk of this happening it is recommend that a 50mm boarder is kept around the projected image instead of 10mm as shown in diagram on the previous page.

If the whiteboard frame thickness is less than 3mm, ensure the reflected light interference is not observed while doing Step 6 Laser Beam Alignment.
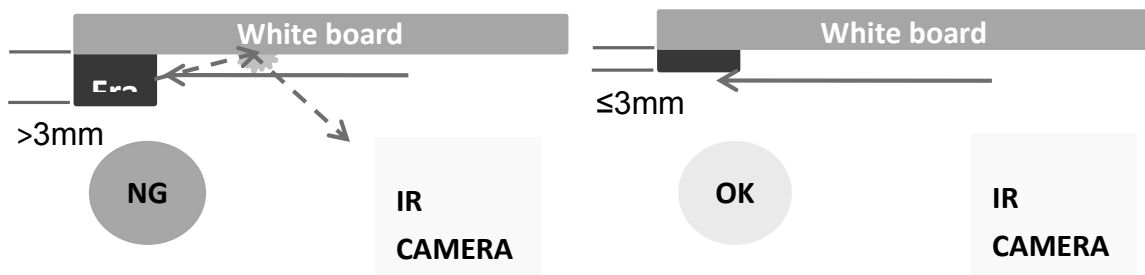
C. Measuring projection surface flatness

✓ Criteria: overall whiteboard flatness <5mm, flatness requirement is <3mm at Light Curtain Touch module mounting area.

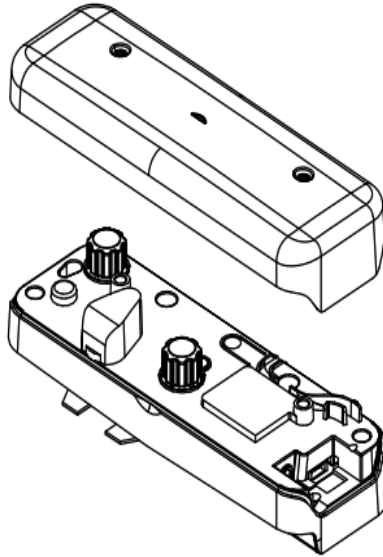✓ Equipment: leveling instrument (1.2~1.5m) and thickness gauge.

Split projection area into 16 segments equally as below chart. Place leveling instrument on whiteboard.

	Point1	Point2	Point3
	Point4	Point5	Point6
	Point7	Point8	Point9

Step 2: Installing the Light Curtain Touch module

1. **Open top cover by screwdriver.**

2. **Mount base plate to whiteboard or wall**

✓ Keep away distance to image area for ultra-wide aspect ratio (16:6):
   - 7.5 ~ 13.5cm from bottom of base plate
   - 4 ~ 10cm from bottom of Light Curtain Touch module

✓ Keep away distance to image area for standard aspect ratio (4:3, 16:10 and 16:9):
   - 5.5 ~ 13.5cm from bottom of base plate
   - 2 ~ 10cm from bottom of Light Curtain Touch module

2-1. For short-term demonstration:
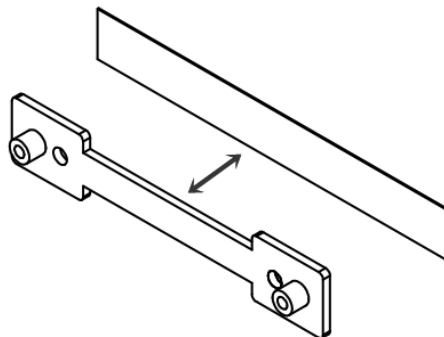
2-1-1. Clean surface with isopropyl rubbing alcohol, wipe gently, let dry.

2-1-2. Adhere double-sided tape (enclosed in accessory box) onto base plate, then paste onto the whiteboard or wall.

Caution: Do not use with wallpaper. May not adhere well to vinyl surfaces or
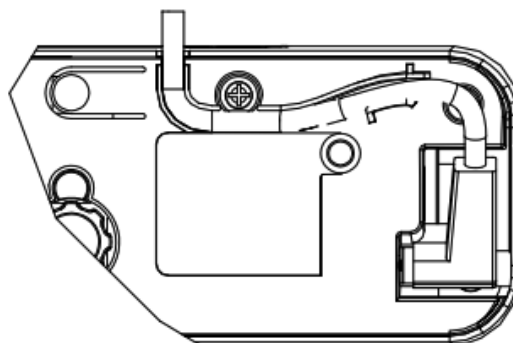
textured surfaces.

2-b. For long-term use:
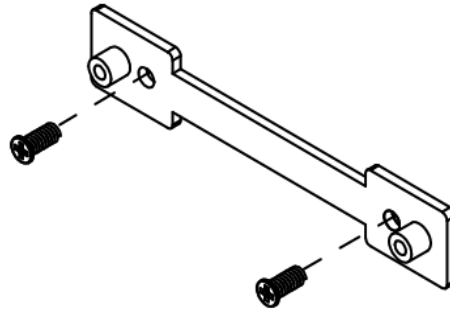
Use screws to fix base plate onto whiteboard:

- Drill tip: ΦO=2.3mm

- Screw type: M3x6L

- Screw head: ΦO<5.5mm, thickness <2.5mm

3. Fix curtain module with wall plate by screws
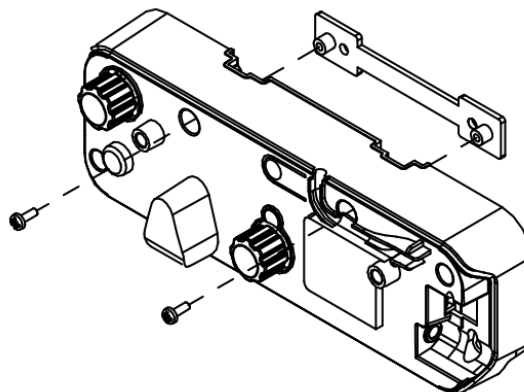
4. Plug power cord to Light Curtain Touch module

Note: L side connector must plug into Light Curtain Touch module.

Step 3: Install Utility Software

A. System requirements

To ensure normal operation of the touch function, follow below requirement to check your system condition.

System requirement	
Operating system	Microsoft Windows XP (SP3)/Windows 7 (32bit/64bit)/Windows 8/ Windows 8.1 (. NET Framework 4.0 must be installed) Mac OS X(10.7~10.10)
CPU	Intel® Core™ i3 or above
Memory	2GB or more

B. Install software utility from CDROM. Utility icon indicator as below:

	Finger/Stylus
	Active Pen
	Disconnected

Step 4: Initial Setup

For first time setup, follow Installation Guide to complete installation procedure ( ).
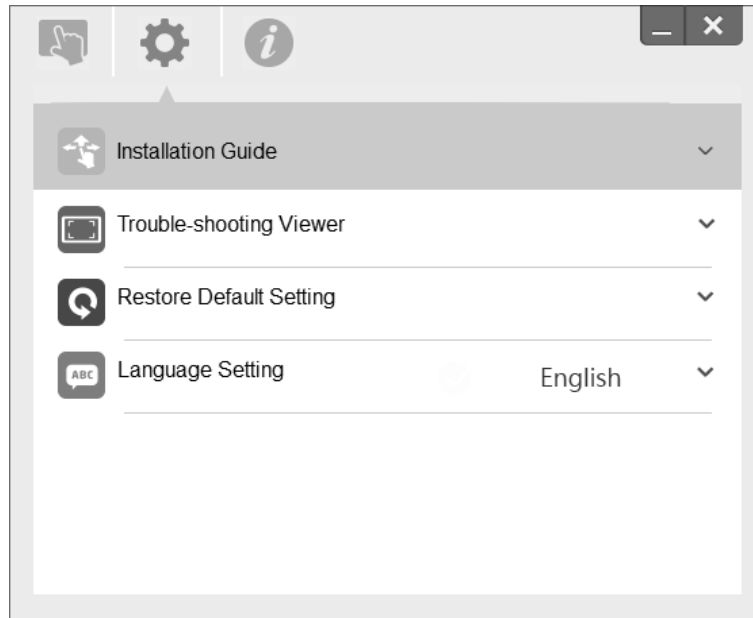
Step 5: Operation Mode

Windows 7 and Windows 8 operating system support multi-point touch control. Users can select default Touch Mode( ) for **multi-point touch.** Switch to Pen Mode( ) while using light pen(IR pen).
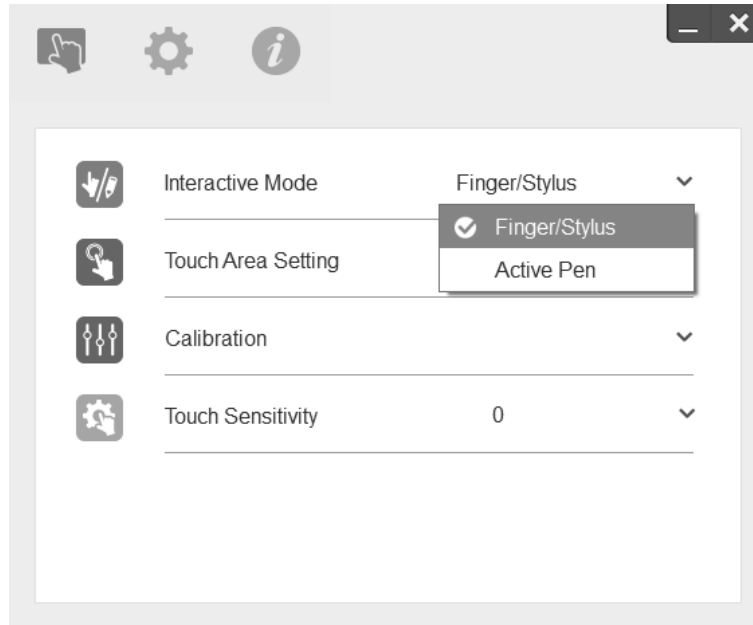
For Windows XP and Mac OS X, only **single-point touch** is available.

Step 6: Laser Beam Alignment

1. Press the button to switch to visible light mode (The Red LED will blink continuously)
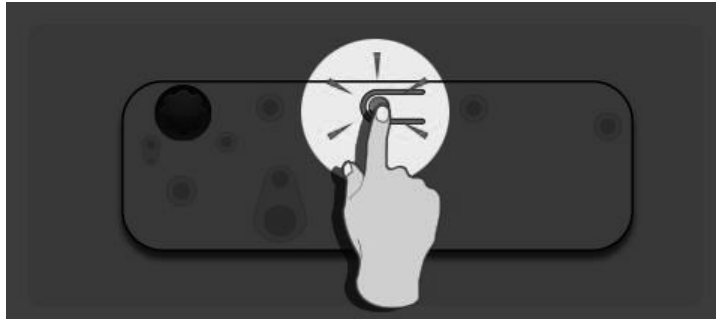
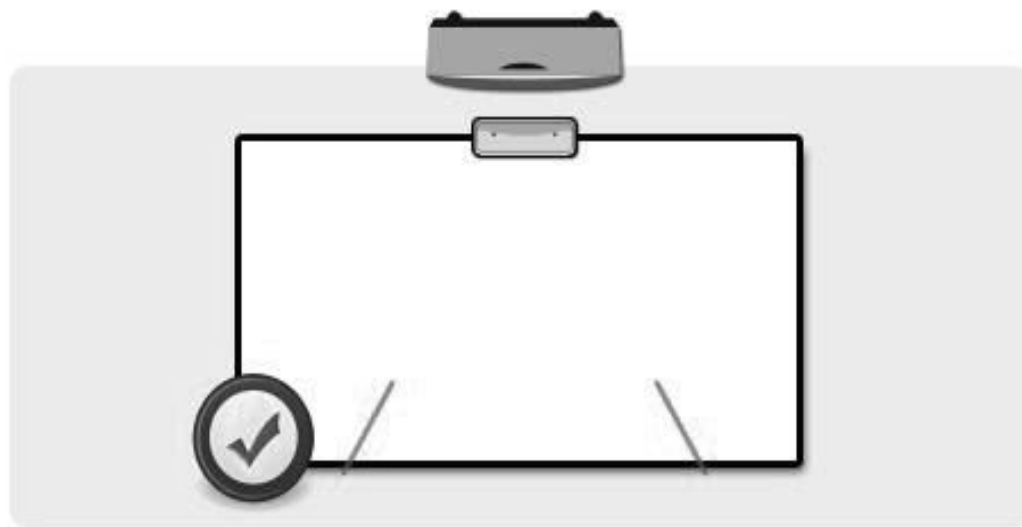| LED indicator			
Mode	**Blue LED**	**Red LED**	**Description**
IR Laser mode	Solid	--	IR laser ON
Visible light mode	Solid	Blinking	Visible light ON (IR Laser OFF, touch disabled)
Error	--	Solid	Error of LD module occurred.

2. Connect PC and Projector via USB cable
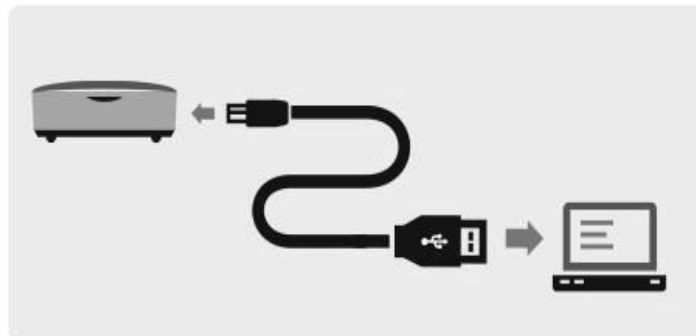
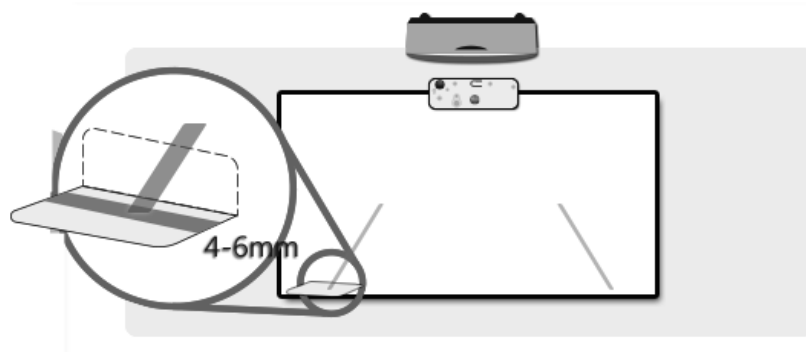3. Rotate the black and grey knobs clockwisely until they stop

4. Rotate the grey knob counter-clockwisely, until both beams are symmetrically at the same level.
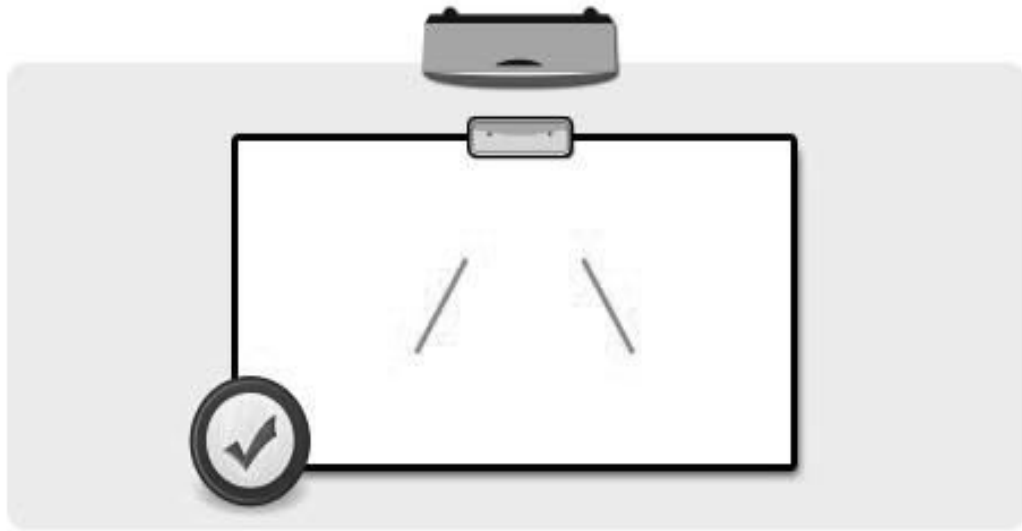
5. Rotate black knob counter-clockwise, move beams downwards until they hit whiteboard frame.

6. Check the beam height with alignment sticker. The beams should be located within grey zone.
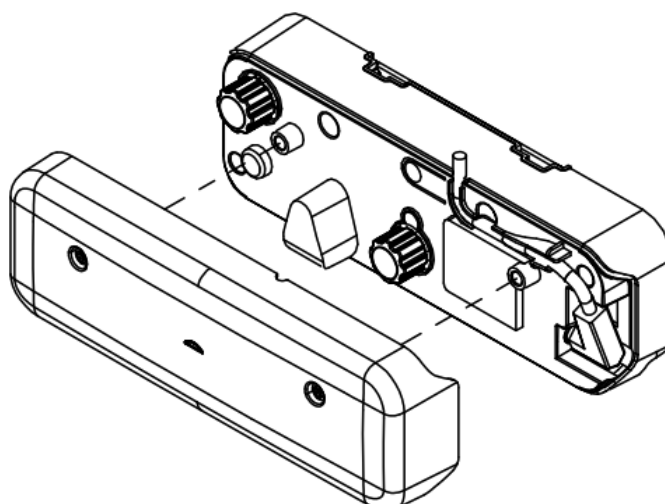
4-6mm

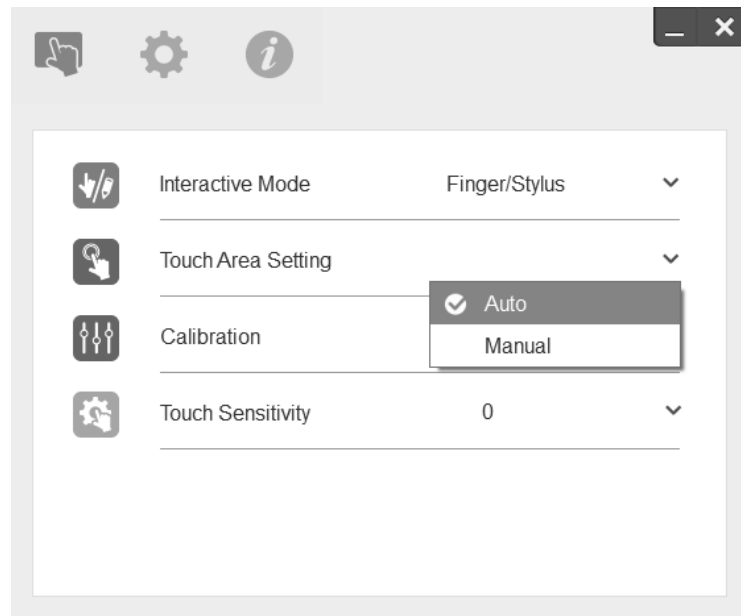7. Press the button again to switch back to IR mode (The Blue LED will stay solid)

LED indicator			
Mode	**Blue LED**	**Red LED**	**Description**
IR Laser mode	Solid	--	IR laser ON
Visible light mode	Solid	Blinking	Visible light ON (IR Laser OFF, touch disabled)
Error	--	Always ON	Error of LD module occurred.

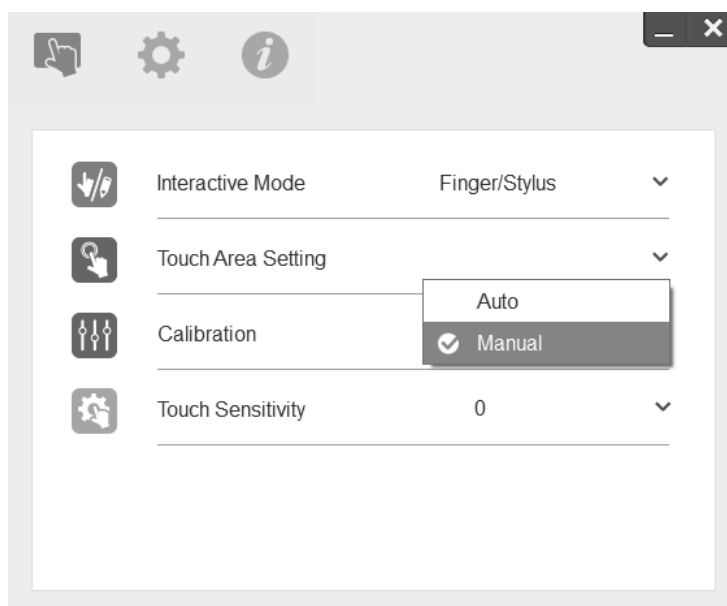8. Put top cover back

Step 7: Touch Area Setting

A. Select Auto Touch Area Setting:

Note:

- Quit all software application
- Reduce ambient light
- Do not obstruct or shake lens during Touch Area Setting
- Check if projection image is clear. If not, adjust focus to sharpen the image

If fail message pops up, switch to Manual Touch Area Setting.

B. Select Manual Touch Area Setting:

B-1. After the camera captures the projection image, a Touch Area window will pop up. If the captured image is not clear enough, please re-select "Ambient light mode selection" from "Auto" to "Bright" or "Dim" according to actual ambient light condition.

Remark: Captured image shows the actual camera view, which is reversed from projection image. For example: P1 is lower right corner, P2 is lower left corner and so on.
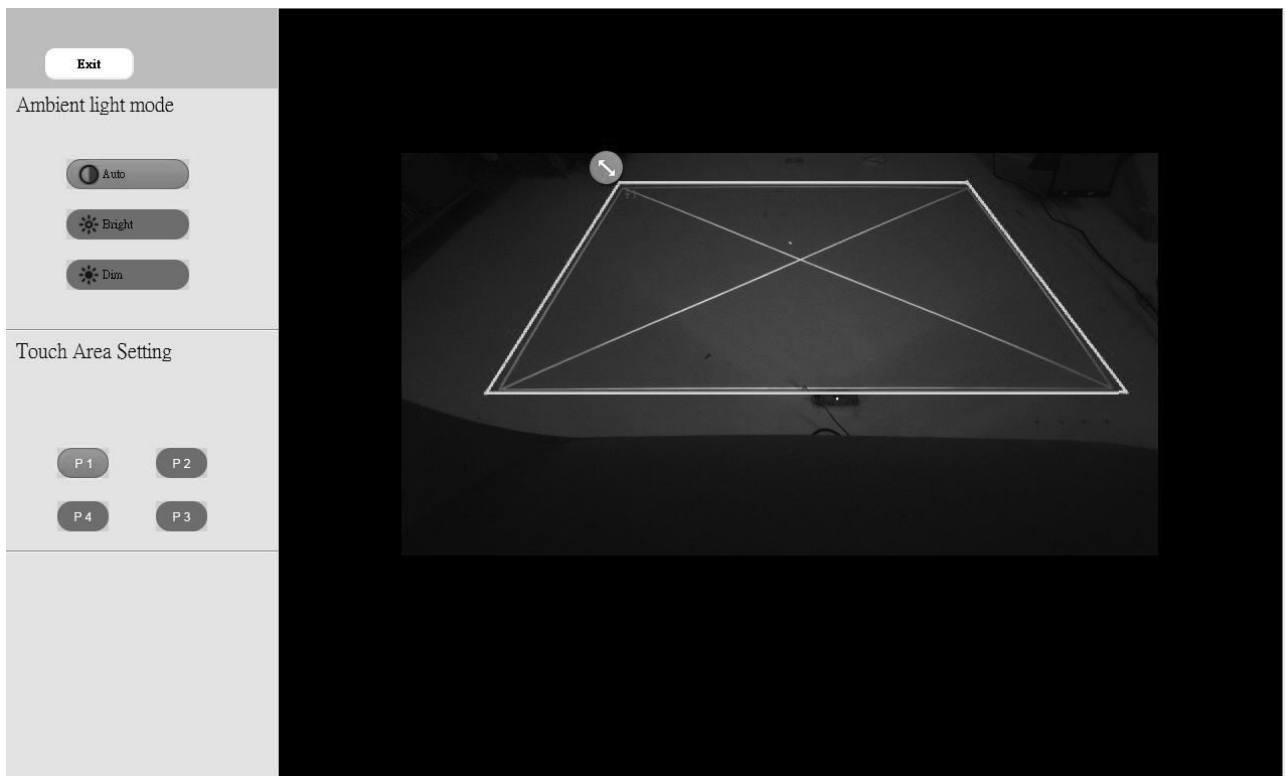
B-2. Touch Area Boundary Fine-tuning

Step 1: Click on P1, use mouse to drag P1 to upper left corner. Align adjustable green zone with projected white frame.
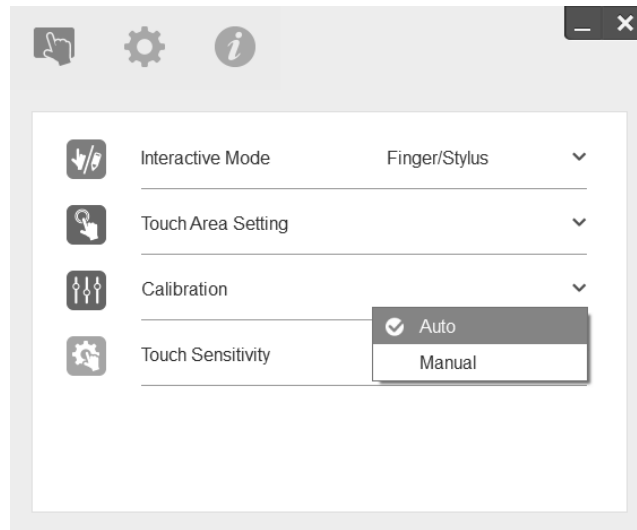
Step 2: Adjust P2 to P4 accordingly; adjustable green zone should completely overlaps the projected white frame.

Step 3: Finally, check again if the green frame completely overlaps the projected white frame. If not, fine-adjust again.

B-3. When the Touch Area is correctly located click to exit.

Step 8: Calibration

A. Select Auto Calibration

If the fail message pops up, follow below steps to trouble-shoot and do Auto Calibration again.

- Close all software application
- Reduce ambient light
- Do not obstruct or shake lens during calibration
- Check if projection image is clear. If not, adjust focus to sharpen the image

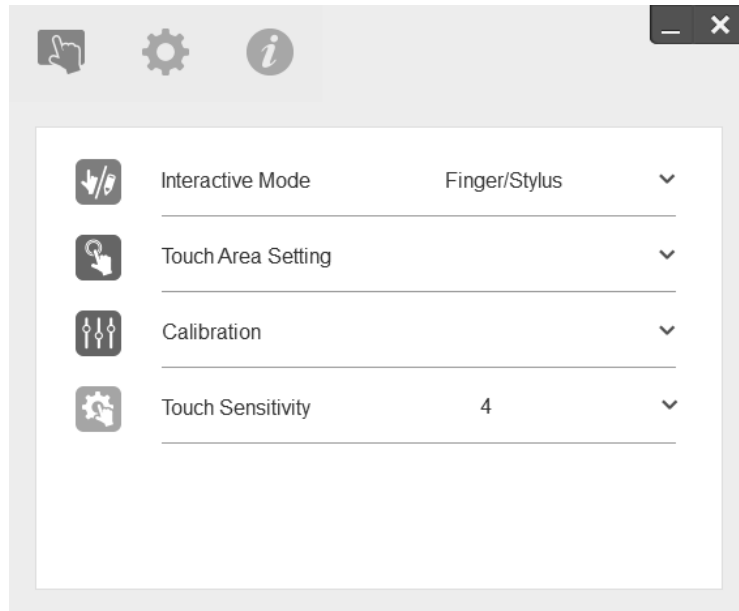If the Auto Calibration fail message still pops up on screen, switch to Manual Calibration.

B. Select Manual Calibration:
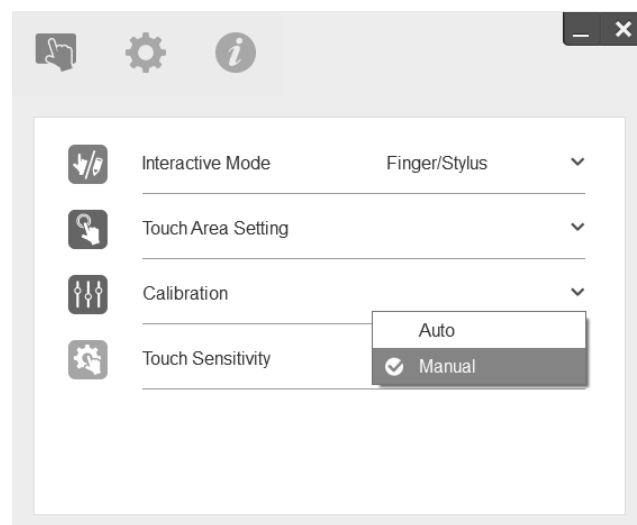
Note: Manual Calibration is suggested for better accuracy.

Step 9: Touch Sensitivity

When touch function is unresponsive or writing is intermittent. You can adjust the sensitivity by adjusting Touch Sensitivity level:


- Default: 4

- Max.: 10 (most sensitive)

- Min.: 0 (least sensitive)

Note: Touch Sensitivity is not adjustable under Pen Mode.

Step 10: Trouble-shooting Viewer

Sometimes infrared red light (IR light) from ambient light sources may interfere with touch performance. The troubleshooting viewer shows real time images for debugging purposes. Any light interference is marked in green. If green obstacles appear within image area, remove to secure proper interactivity.

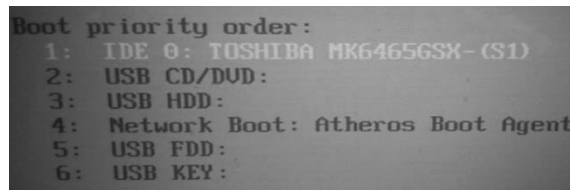**Note**: Interactive function is disabled under trouble-shooting viewer, click to exit.
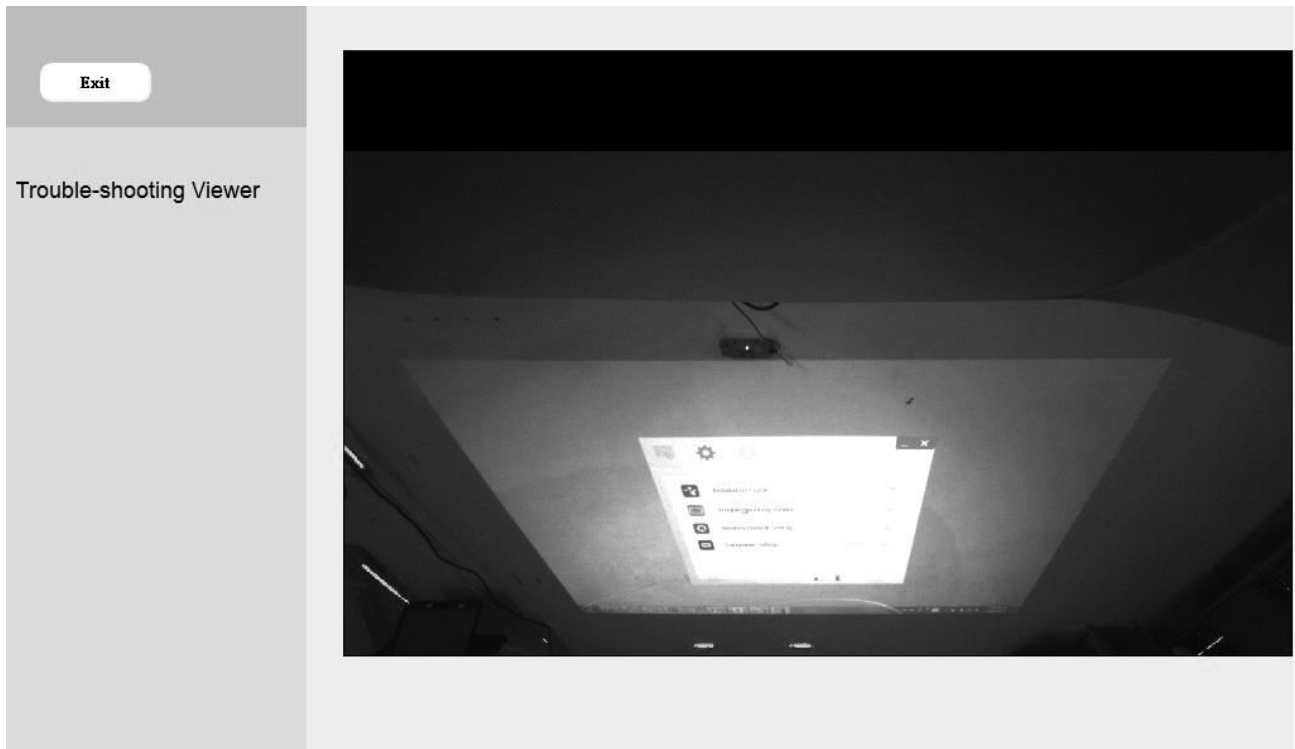
Trouble-shooting

Q1 Why cannot the PC boot when the USB cable which connects PC and projector is already plugged in?

A:

1. Unplug USB cable from PC; or
2. Go to BIOS setup page of PC and modify the "Boot priority order." Choose Hard disk as top priority, save the change and reboot PC.

Q2 What to do when Windows system cannot identify the USB device?

A:

1. Unplug/re-plug in the USB cable and check again.
2. Switch to another USB port and check again.
3. Restart your computer and check again.
4. Go to Power Options in Control Panel, check USB selective suspend settings status in USB settings under Advance Settings. Switch to "Disabled".
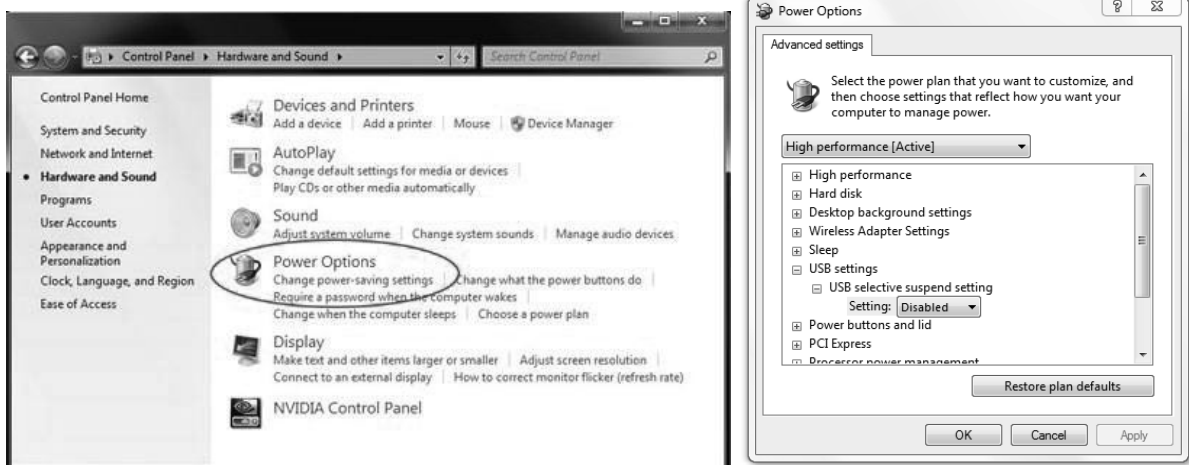
5. Go to official website of the laptop/PC manufacturer, and update USB driver to latest version.
6. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.
7. The USB port of your computer maybe not working. Please contact your IT staff.

Q3 Why utility icon (⊘) is red, not green (⊘ / ⊘)?

A: Red icon (⊘) indicates a failed connection. This may be caused by following:

1. Check if interactive function is enabled via OSD selection

2.   Unplug/re-plug in the USB cable and check again.

3. Switch to another USB port and check again.

4. Restart your computer and check again.

5. Go to Power Options in Control Panel; check USB selective suspend settings status in USB settings under Advance Settings. Switch to "Disabled".
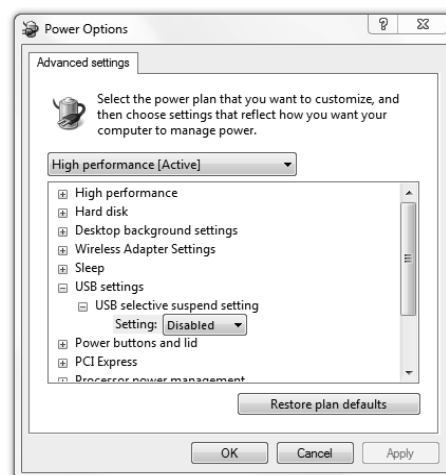

6. Go to official website of the laptop/PC manufacturer, and update USB driver to latest version.

7. Go to official website of the laptop/PC manufacturer, and update BIOS driver to latest version.

8. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.

9. The USB port of your computer maybe not working. Please contact your IT staff.

Q4 What to do when there is only single touch point?

A:

1. Re-plug USB cable from PC.
2. Go to "Control Panel" and make sure "Tablet PC Components" is selected.
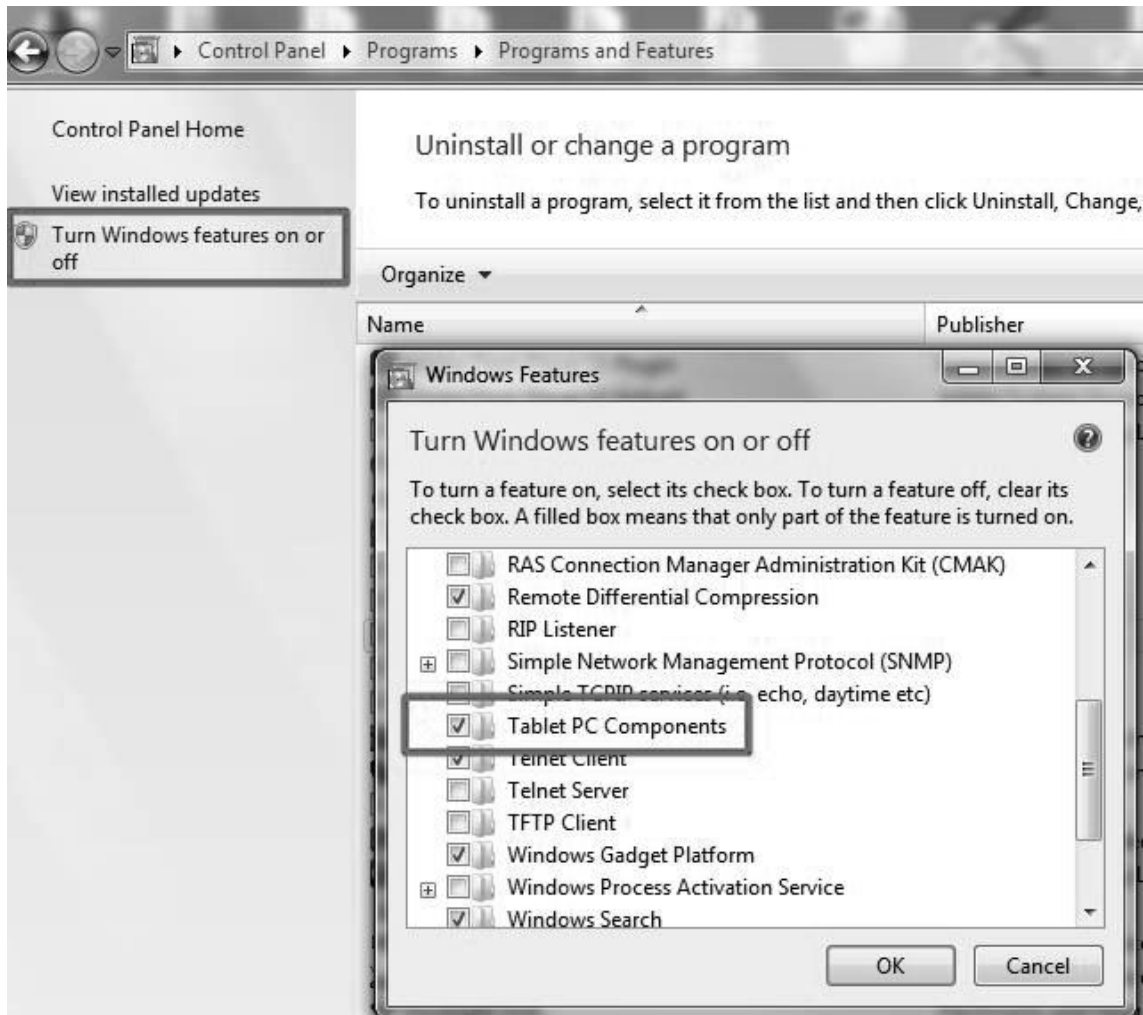
Q5 When should Calibration and Touch Area Setting be done?

A: Please perform Calibration and Touch Area setting during first installation. If projector or whiteboard is moved, Touch Area Setting and Calibration should be performed again.

- When Laptop/PC resolution is changed, calibrate again.
- For better accuracy, please do Manual Calibration.
- If an overlarge offset is observed, please perform Manual Calibration and see Step 8 Calibration for troubleshooting.

Q6 What to do when Auto Calibration and Auto Touch Area Setting both failed?

A:

1. Check "Ceiling Mount" OSD setting first. The interactive function supports

Ceiling Mode only
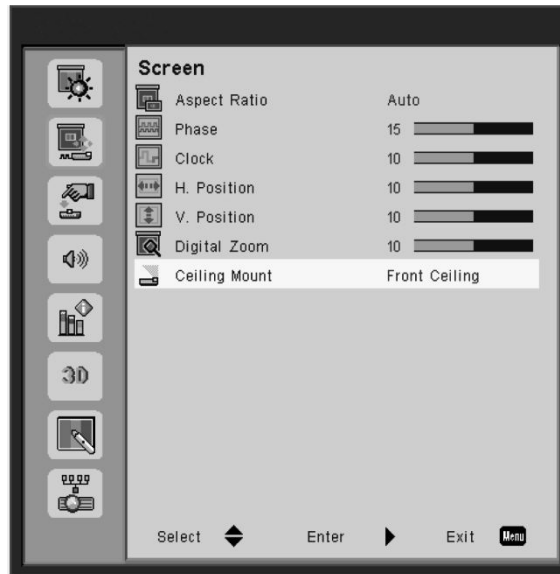
When projector OSD message is shown, this may result failure to Auto Calibration and Auto Touch Area Setting. Please wait until OSD message is gone before performing Auto Calibration and Auto Touch Area Setting.

Please follow below trouble-shooting steps to perform Auto Calibration and Auto Touch Area Setting again.

   a. Quit all software application
   b. Reduce ambient light
   c. Do not obstruct or shake lens during Calibration
   d. Check if projection image is clear. If not, adjust focus to sharpen the image.
   e. If the "Auto Touch Area Setting failed" or "Auto Calibration failed" message pops up on screen again, please switch to Manual Mode to do Touch Area Setting and Calibration.
2. Please check Projector Lamp Power Mode selection. Lower lamp brightness (ECO mode) may affect both Auto Touch Area Setting and Auto Calibration. Please switch to Normal mode to complete Touch Area Setting and Calibration.

3. Please check Projector Color Mode selection. To ensure accuracy of both Auto Touch Area Setting and Auto Calibration, it is suggested to switch Color mode to Bright Mode.

| Color Mode | Bright | PC | Movie | Game | User |

Q8 What to do when the mouse cursor ( ) flashes or jumps on screen, or when Touch function does not work well at certain projection area?

A:

1. Check if there is strong light shown on the whiteboard. If yes, turn off the light.
2. Check if there is any foreign object on the whiteboard. If yes, remove the object.
3. Refer to Step 6 Laser Beam Alignment for detailed procedures, to see if laser beam is al.
4. Refer to Step 7 Touch Area Setting for detailed procedures, check if Manual Touch Area boundary is located properly.

**Q9 What to do when projection area corner is insensitive or intermittent lines are observed?**

A:

1. Adjust the level of Touch Sensitivity to enhance sensitivity, see Step 9 Touch Sensitivity for trouble-shooting.
2. If Touch function remains insensitive, please check the optical port condition. If dust or particles are observed, gently clean the optical port with dust blower.

Q10 What to do when Touch function is not accurate?

A: Touch accuracy may be impacted when Windows default display setting under Windows has been changed.
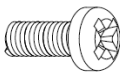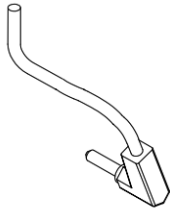
1. Go to the setting page <Start menu/Control Panel/Appearance and Personalization>
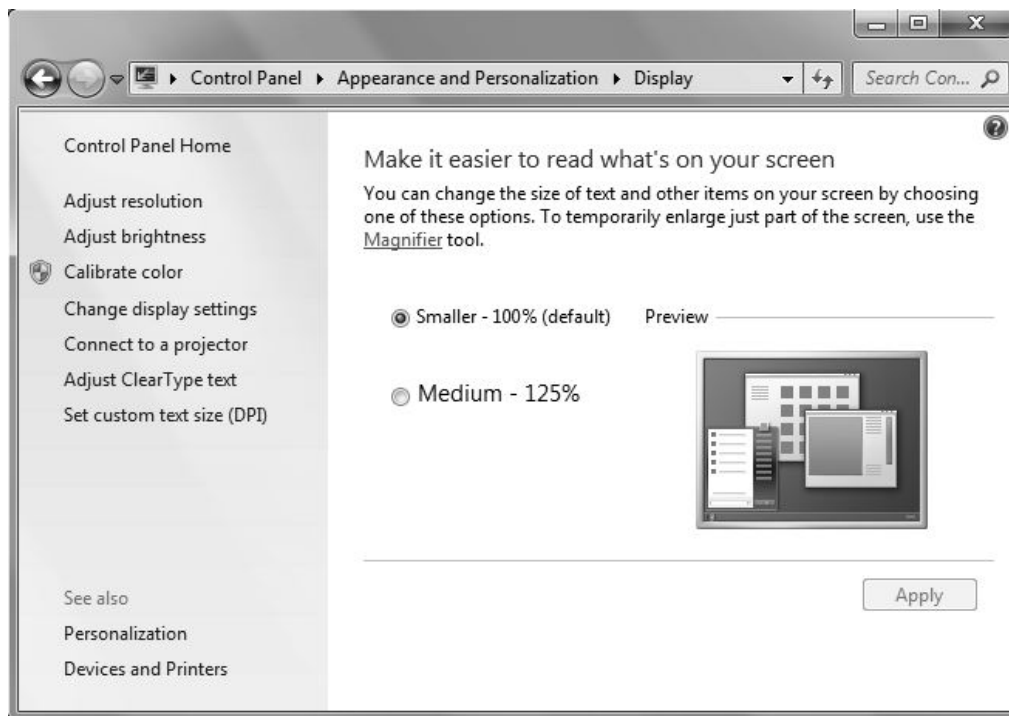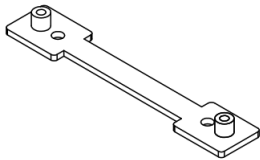
2. Select "Smaller - 100%(Default) " and click "Apply".
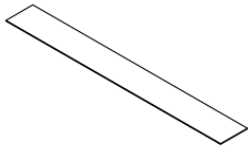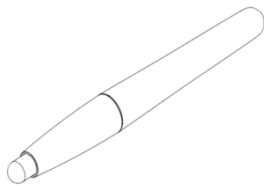
Appendix A: Specification

I. Light Curtain Touch Touch Module	
Laser Safety	Class 1
Curtain to Screen Distance	20mm ~ 100mm @75"~100" XGA/WXGA/1080p 40mm ~ 100mm @ 120"~140" 16:6 ultra-wide
LED Indicator	Blue/Red
I/O Port	Interactive Jack x1
ID Size(W*L*H)	150.0 (W) x 50.0 (L) x 40.0 (H) mm
Weight	<330g
Power Consumption	12V/0.3A
Operation	0℃~+40℃(without cooling fan)
Storage Temperature	-20℃~+60℃
II. General Specifications	
Calibration	Auto Calibration Manual Calibration
Multi-touch	10-touch points (Win 7 and Win8 compliant)
Multi-touch Min.	≥40mm
Hover (Z-depth)	Default hover height is 5.5mm.
Working Projection Image Size	70"~100" @XGA(co-operate with TR0.25 UST projector) 80"~100" @WXGA(co-operate with TR0.25 UST projector) 80"~100" @1080P(co-operate with TR0.25 UST projector) 120"~140" @16:6 ultra-wide (co-operate with TR0.25 UST projector)
Display mode	Support Ceiling mode only
III. Installation Software	

System Requirements	OS Required:	● Microsoft Windows XP (SP3): Mouse mode supported. ● Windows 7/Windows 8: Touch mode-10 touch points supported and Mouse mode supported (Windows: .NET Framework 4.0 installation is required)
	Processor Type	Intel Core^{TM} i3 or above
	RAM	2GB or More

Appendix B: Accessory

Item	Description	Quantity	Image
1	Light Curtain Touch Module	1	
2	Screw M2.6x6 (to fix LCT module)	2	
3	Screw M3x6 (to fix base plate)	2	
4	Interactive cable	1	
5	Alignment sticker	2	
6	LCT module base plate	1	
7	Double-sided tape(for base plate)	1	
8	5m USB A to mini USB B cable	1	
9	Passive Pen	2	
10	CD for User Manual and Utility Software	1	

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