




Dell | Interactive Projector S560T Touch Setup Guide



About Notes

-  **NOTE:** A NOTE indicates important information that helps you make better use of your projector.
-  **CAUTION:** A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.
-  **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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June 2016

Set Up Touch on Your Projector

Usage Notice

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

-  **WARNING: Do not disassemble Touch Unit.**
-  **WARNING: Do not use, store, or leave the Touch Unit 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: 0.2 inch (5 m)). To extend USB cable length over 5m, a certified active extension USB cable is required.**
-  **WARNING: Do not allow liquids or foreign materials enter the Touch Unit.**

Precautions

The Infrared (IR) camera on the projector receives infrared signal from the Touch Unit which is attached to the whiteboard.

To operate normally:

- The IR camera should face the projected image area on the wall.
- Remove any obstacle in between IR camera and Touch Unit.
- Do not place other infrared communication devices, such as IR microphone; lighting equipments; or residential heating equipments etc, nearby.
- Use only the interactive cable from the accessory kit, with the L side connector plugged into the Touch Unit.

Maintenance: Gently clean the optical port with a dust blower.

How it works

- The Touch Unit covers the entire whiteboard with a thin invisible IR light.
- When a finger or stylus breaks into the light curtain, the IR light reflects on to the IR camera.
- The camera module tracks multiple touch points and reports the positions to a computer via USB.
- To optimize the touch function, the screen non-flatness should be less than 0.2 inch (5 mm).

Specifications

I. Touch Unit (S560T Only)	
Laser Safety	Class 1
Touch Unit to Screen Distance	0.79 inch ~3.94 inch (20 mm~100 mm) @81"~100" 1080p
LED Indicator	Blue/Red
I/O Port	Interactive Jack x1
Touch sensor adjustment	2-knob adjustment and with visible light
ID Size(W*L*H)	5.91 (W) x 1.97 (L) x 1.57 (H) inch (150.0 (W) x 50.0 (L) x 40.0 (H) mm)
Weight	< 330 g
Power Consumption	12V/0.3A
Operation Temperature	0 °C~+40 °C (without cooling fan)
Storage Temperature	-20 °C~+60 °C
II. General Specifications	
Screen Non-flatness	<0.2 inch (5 mm)

Display mode	Supports ceiling mode only
Calibration	<ol style="list-style-type: none"> 1. Manual Calibration : 9 points manual calibration , 1080p model: +/- 6 pixels (screen non-flatness <0.2 inch (5mm)) 2. Auto calibration : 1080p model: +/- 8 pixels (screen non-flatness <0.2 inch (5mm)) 3. Supports one-key calibration
Aspect ratio correction	Auto- calibration to different display resolutions and aspect ratios
Multi-touch	Windows 7/8/10: 10 touch points
	Mac : Single-point touch
	ChromeBook: 10 touch points
Multi-touch Min. Distance	≥1.57 inch (40mm)
Trouble Shooting Viewer	Utility support real-time image for trouble shooting.
Working Projection Image Size	81"~100" @1080P(co-operate with S560T projector)

III. OS requirement		
System Requirements	Processor Type	Intel Core™ i3 (or above) or same level of AMD Core.
	RAM	2 GB or More

Operating System	Number of touch points supported	Installation of S560x Interactive Utility ^{*1}	
		For first-time setup ^{*2}	For subsequent use
Windows 7/8/10	10 touch points	Supported ^{*3}	Not required
Mac OS X (10.7-10.11)	1 touch point ^{*4}	Supported	Required, please install the setup utility on all Mac OS computers, to use them with the S560T
Chromebook	10 touch points	Not supported, please use a Windows OS or Mac OS computer to complete first-time setup for the S560T	Not required

*1 : Get S560x Interactive Utility from provided CD or download it from Dell Support

*2 : S560T requires first-time alignment and calibration, ensure you complete setup process before use

*3 : .NET Framework 4.0 installation is required

*4 : Mac OS support 1 touch point only

Step 1: Environment Check

A Make sure the projector is installed under the following conditions:

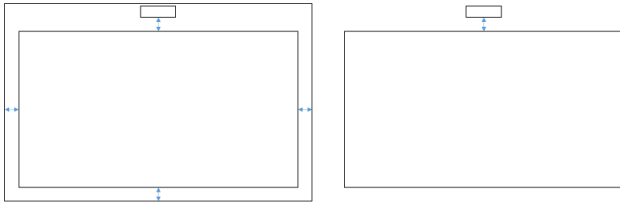
- The wall should be strong enough to avoid projection image flickering.
- Do not install the projector or screen in a location subject to direct sunlight. If the projector or the screen is subjected to direct sunlight, the interactive function may not operate correctly.
- The surface shall be suitable for the Touch Unit to be secured with screws.
- The projection image on screen must be sharp and visible with no light reflections or hot spots.
- The screen surface should be flat, non-flatness less than 0.2 inch (5mm). The surface can either be a flat wall or a whiteboard. For details on how to check surface flatness see page 10.

- Keep at least 2 inch (50 mm) clearance boundary of the projection image to avoid reflection interference.
- Other IR devices are not allowed because they will interfere the touch function. For example, IR microphone.
- Use standard USB cable with a maximum length of 16.4 ft (5 m). If the USB cable is longer than 16.4 ft (5 m), a USB Hub or a certificated active extension USB cable is required.
- The projected image is a rectangular shape.

If the projection surface meets the criteria above, the Touch Unit can then be installed in one of the following ways

- 1 Mount the Touch Unit on a whiteboard.

2 Mount the Touch Unit on a wall surface.



NOTE: The Touch Unit must be mounted on the same surface as the projected image.

B S560T Whiteboard size guidance

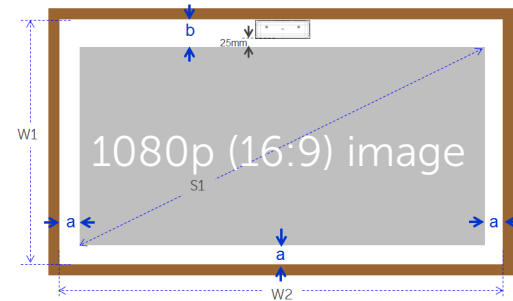
When mounting the Touch Unit on a whiteboard please follow the guidelines below:

Spaces of a & b are reserved to cater for touch unit.

- Dimension a = 50 mm
- Dimension b = 77 mm

S1	W1	W2
81.0 [2057]	≥ 44.7 [1136]	≥ 74.5 [1893]
85.0 [2159]	≥ 46.7 [1186]	≥ 78.0 [1982]
89.1 [2263]	≥ 48.7 [1237]	≥ 81.6 [2073]
90.0 [2286]	≥ 49.1 [1248]	≥ 82.4 [2092]
95.0 [2413]	≥ 51.6 [1310]	≥ 86.7 [2203]
100.0 [2540]	≥ 54.0 [1372]	≥ 91.1 [2314]

* inch [mm]



C Measuring projection surface flatness

- Criteria: overall whiteboard flatness <0.2 inch (5 mm), flatness requirement is <0.12 inch (3 mm) at Touch Unit mounting area.
- Equipment: leveling instrument 3.94~4.92 Ft (1.2~1.5 m) and thickness gauge.



D-1) Split projection area into 16 segments equally as below chart. Place leveling instrument on whiteboard.

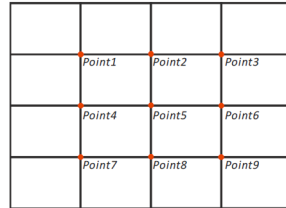
D-2) Insert 0.2 inch (5mm) thickness gauge at point 1~9 positions in the following order:

Horizontal:

-Measure point 1, 2 & 3.

-Measure point 4, 5 & 6.

-Measure point 7, 8 & 9.



Vertical:

-Measure point 1, 4 & 7.

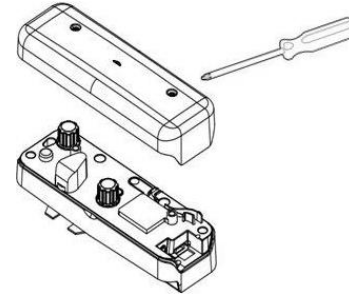
-Measure point 2, 5 & 8.

-Measure point 3, 6 & 9.

D-3) If 0.2 inch (5 mm) thickness gauge cannot be inserted, it means whiteboard flatness is less than 0.2 inch (5 mm) and capable for finger touch.

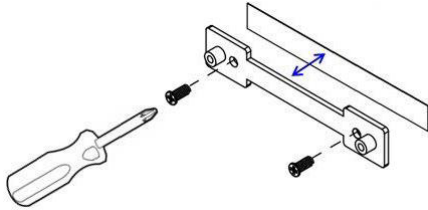
Step 2: Installing the Touch Unit

- 1 Open top cover by Phillips screwdriver (model: number 1).



- 2 Mount base plate to whiteboard or wall. Keep distance to image area:
 - 2.17~5.31 inch (55~135 mm) from bottom of the base plate

- 0.79~3.94 inch (20~100 mm) from bottom of the Touch Unit



2-1. Clean the surface.

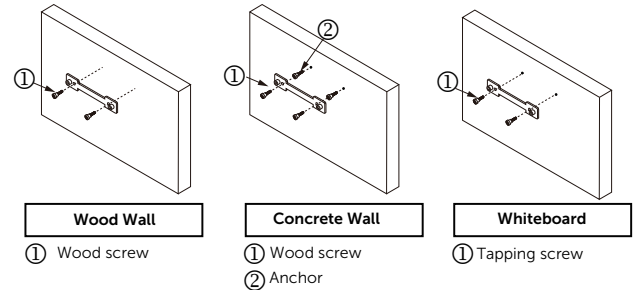
2-2. Apply the double-sided tape (enclosed in accessory box) onto base plate, and then paste onto the whiteboard or wall.

2-3. Use the black screws to fix the base plate onto whiteboard or wall:

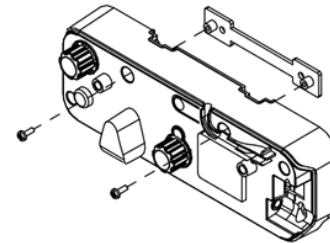
- Drill tip: $\varnothing O=0.09$ inch (2.3 mm)
- Screw type: M3x6L
- Screw head: $\varnothing O<0.22$ inch (5.5 mm), thickness <0.1 inch (2.5 mm)

2-4. The two black screws included are tapping screws, suitable for aluminum honeycomb board which is the typical whiteboard material.

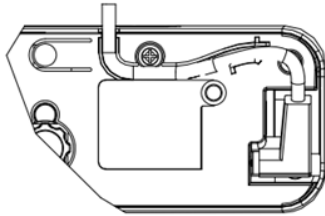
NOTE: For other surfaces such as wood or concrete wall, use suitable screw types.



3 Fix the Touch Unit with wall plate using the white screws.



- 4 Connect the power cord to the Touch Unit.



 **NOTE:** The L-side connector should be connected to the Touch Unit.

Step 3: Install Utility Software

A System requirements

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

System requirement	Processor Type	Intel Core™ i3 (or above) or same level of AMD Core.
	RAM	2 GB or higher

Operating System	Number of touch points supported	Installation of S560x Interactive Utility ^{*1}	
		For first-time setup ^{*2}	For subsequent use
Windows 7/8/10	10 touch points	Supported ^{*3}	Not required
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*1 : Get S560x Interactive Utility from provided CD or download it from Dell Support

*2 : S560T requires first-time alignment and calibration, ensure you complete setup process before use

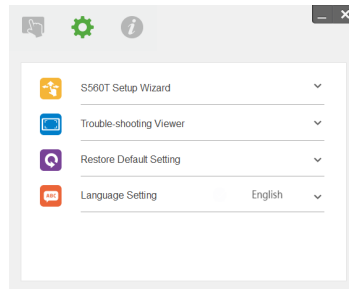
*3 : .NET Framework 4.0 installation is required

*4 : Mac OS support 1 touch point only

B Install software utility from CD. Utility icon statuses are as below:

	Finger/Stylus
	Active Pen
	Disconnected

C Please launch Utility:

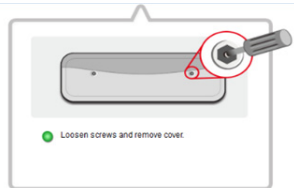
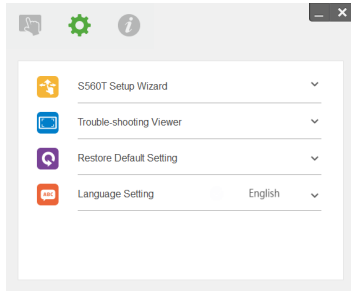


D Environment settings:

For better accuracy, you should set to "Projector Only" display mode before calibration.

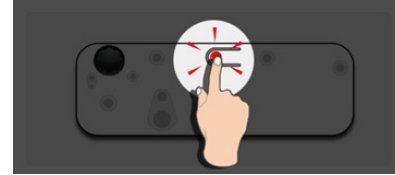
Step 4: Setup Wizard

Please follow S560T Setup Wizard to complete Touch Unit installation procedure.



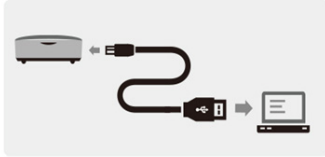
Step 5: Adjust Touch Sensor

- 1 Press button to switch the Touch Unit to alignment mode: red light will be blinking at the indicator.



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

- 2 Set computer to project in "Projector Only" mode. Connect USB cable from projector to computer.

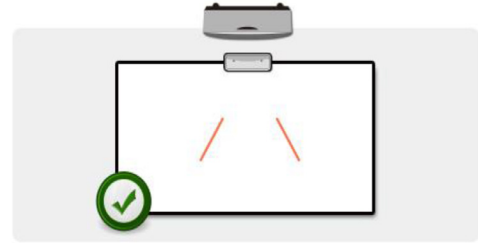


NOTE: Make sure the Touch Unit has already been switched to alignment mode (Step 1) before connecting the USB cable from projector to computer to avoid interference or unwanted touch triggers during first-time setup, prior proper calibration.

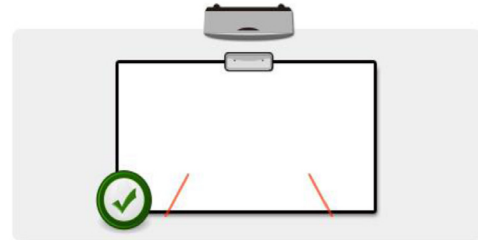
- 3 Turn both adjustment knobs clockwise completely.



- 4 Turn gray knob counterclockwise, until both beams are symmetrical at the same level.



- 5 Turn black knob counterclockwise, until both beams reach bottom edge of whiteboard.



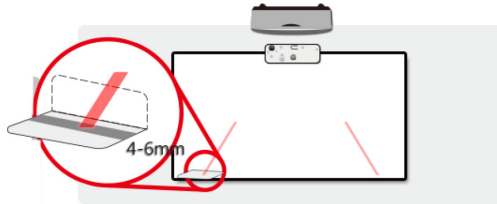
- 6 Use the alignment stickers provided, check that each beam is on the sticker's gray zone, which is at 4mm to 6mm away from whiteboard surface.

If not, turn the black and grey knobs to adjust each beams. (Step 4 & 5)

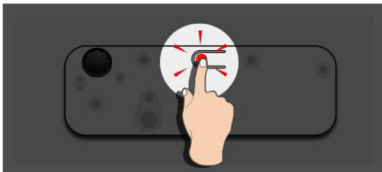
Black knob : to move visible light on the light stickers

Grey knob : to adjust visible light symmetrically at the same level.

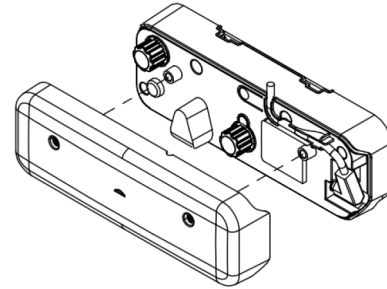
The visible light should be located within grey zone.



- 7** Press button to exit alignment mode, red blinking light will go off, leaving the indicator light blue.

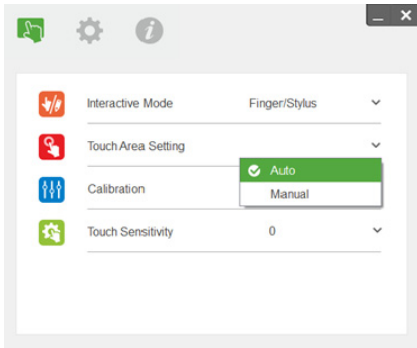


- 8** Replace the top cover.



Step 6: Touch Area Setting

A Select Auto Touch Area Setting:

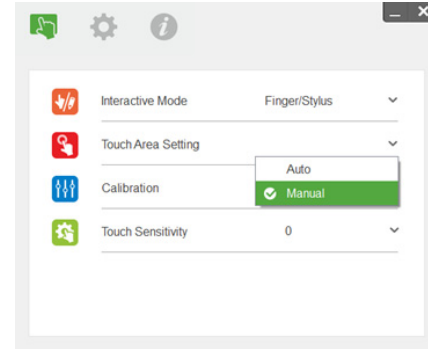


NOTE:

- Quit all software applications
- 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

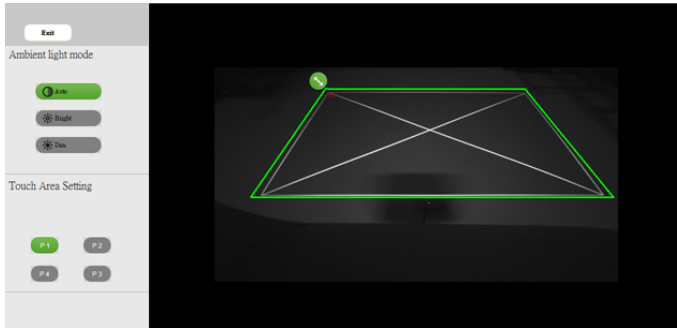
If fail message pops up, switch to Manual Touch Area Setting.

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.

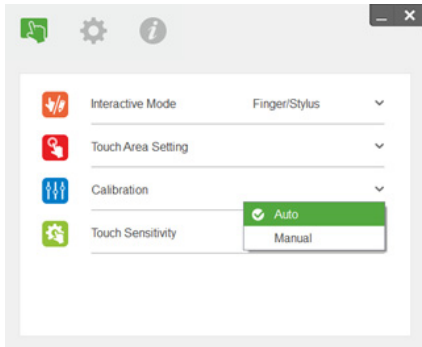
Step 2: Adjust P2 to P4 accordingly; adjustable green zone should completely overlaps the projected white frame.

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 then click exit button.

Step 7: Calibration

A Auto Calibration:

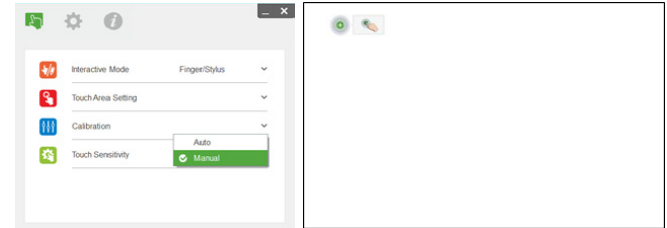


NOTE: If the fail message pops up, follow below steps to trouble-shoot and do Auto Calibration again.

- 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:

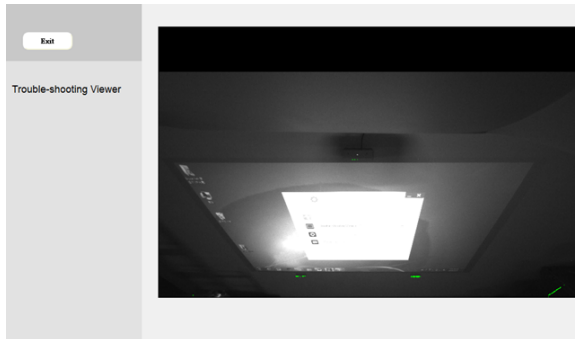


NOTE: Manual Calibration is suggested for better accuracy.

Step 8: Trouble-shooting Viewer

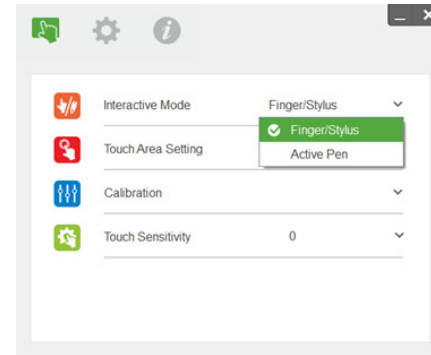
Sometimes infrared red light (IR light) from ambient light sources may interfere with touch performance. The troubleshooting viewer shows real time image for debugging purposes. Any light interference is marked in green. If green obstacles appear within image area, please remove to secure proper interactivity.

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



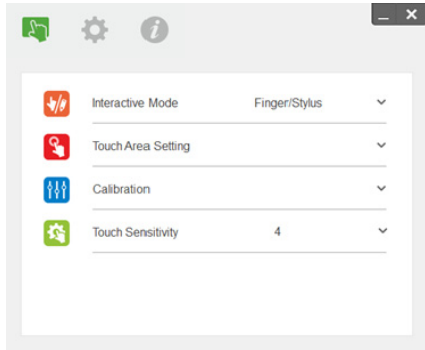
Step 9: Operation Mode

Users can switch to Pen Mode () while using the IR pen.




Step 10: Touch Sensitivity

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



- Default: 4
- Max.: 10 (most sensitive)
- Min.: 0 (least sensitive)

 **NOTE:** Touch Sensitivity is not adjustable under Pen Mode.

Troubleshooting

Q1 What to do when Touch function is not accurate?

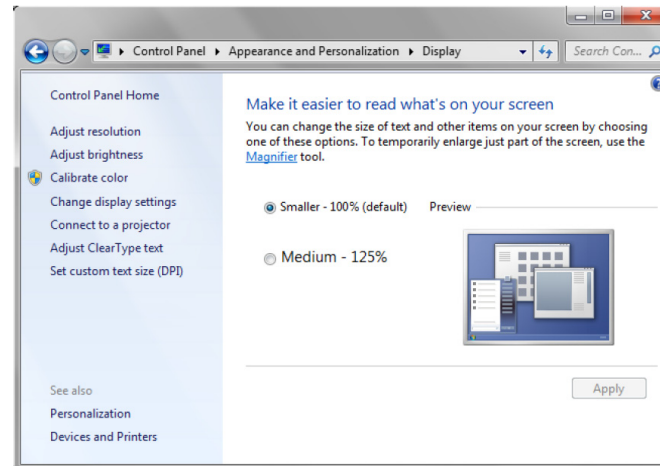
A:

For better accuracy, you should set to "Projector Only" display mode before calibration.

A-1:

Touch accuracy may be impacted if Windows default display setting has been changed.

A-1-1 : Go to the setting page: Start menu > Control Panel > Appearance and Personalization



A-1-2 : Select "Smaller - 100%(Default) " and click "Apply".

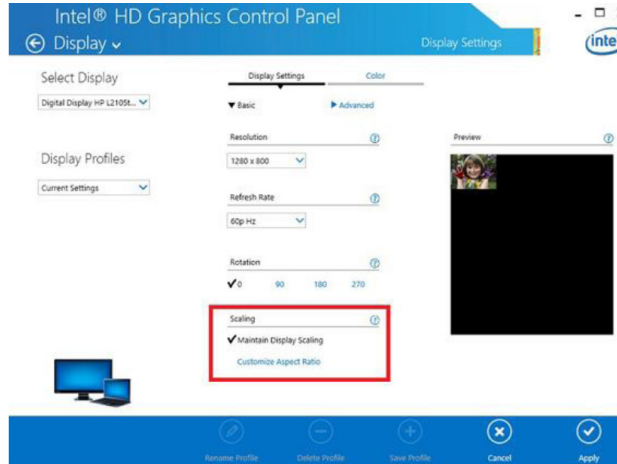
A-2:

If you adjust the computer's resolution or connect a different computer.

Failure symptom : In the center of the board the cursor and pen are aligned. As you move left or right the pen and cursor begin to separate. This issue maybe from graphics card driver setting.

For Intel graphics cards, do the following:

- 1 Confirm the graphic card output resolution is same as projector information.
- 2 The "Scaling" Setting of Intel HD Graphics control panel should be "Maintain Display Scaling". Without this option enabled, it outputs to LCD monitor native aspect ratio. The projection image is scaled, resulting in inaccurate projection.



Q2 What to do when touch function is not accurate or not working when using a different display mode (duplicate/ extension)?

A-1:

Duplicate mode: It will be accurate if the laptop and the projector are in the same resolution. Set the "Scaling" Setting to "Maintain Display Scaling" followed by Q1 A-2, and use calibration function again.

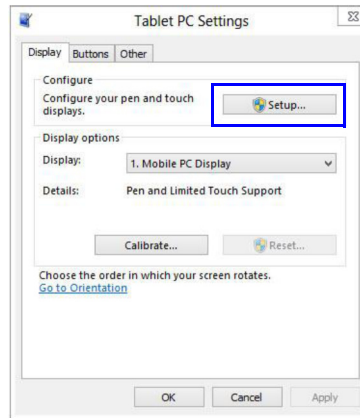
Extended mode: Set to "Only projector" mode and use the calibration function. Then follow Q3

Q3-1 Why does touch function not work in extension mode (Laptop: primary, projector: extension)?**Q3-2 How to enable touch function from one computer to multiple projectors?**

A: The answer of these 2 questions are the same:

- 1 The functions of interactive utility only support on primary screen. Using the "Tablet PC settings" to let the touch function worked on extended screen:

Go to "Control panel" -> "Tablet PC settings" -> "Setup" and follow the touch screen settings.



Q4 What to do when projection area corner is insensitive or intermittent lines are observed?

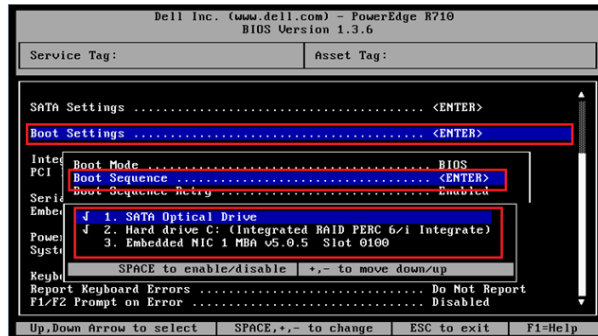
A:

- 1 Adjust the level of Touch Sensitivity to enhance sensitivity. See Step 10 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 a dust blower.

Q5 Why cannot the computer boot when the USB cable which connects PC and projector is already plugged in?

A:

- 1 Unplug USB cable from computer, and then re-boot computer.
- 2 Go to BIOS setup page of computer and modify the "Boot Sequence" Choose Hard disk as top priority, save the change and reboot computer.

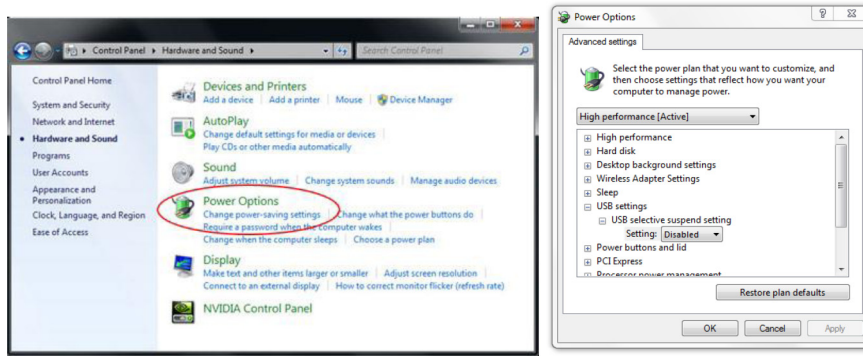


Q6 What to do when Windows system cannot identify the USB device?

A:

- A-1 Unplug/re-plug in the USB cable and check again.
- A-2 Switch to another USB port and check again.
- A-3 Restart your computer and check again.

A-4 Go to Power Options in Control Panel, check USB selective suspend settings status in USB settings under Advance Settings. Switch to "Disabled".



A-5 Go to official website of the laptop/PC manufacturer, and update USB driver to latest version.

A-6 Use the USB cable included with your projector and check again. If an USB extension is needed, a USB Hub or a certificated active extension USB cable is required.

A-7 The USB port of your computer maybe not working. Please contact your IT staff.

Q7 What to do when the mouse is blocked?

A:

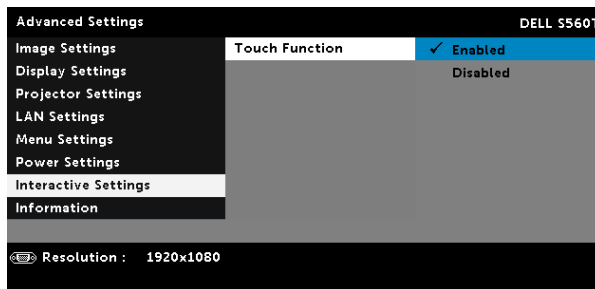
- 1 Open the curtain cover by screwdriver.
- 2 Press the button to switch to visible light mode (See step 5: Adjust Touch Sensor) and the mouse will be unblocked. Then follow step 5: Adjust Touch Sensor as in page 15.

Q8 Why utility icon () is red, not green (/)?

A:

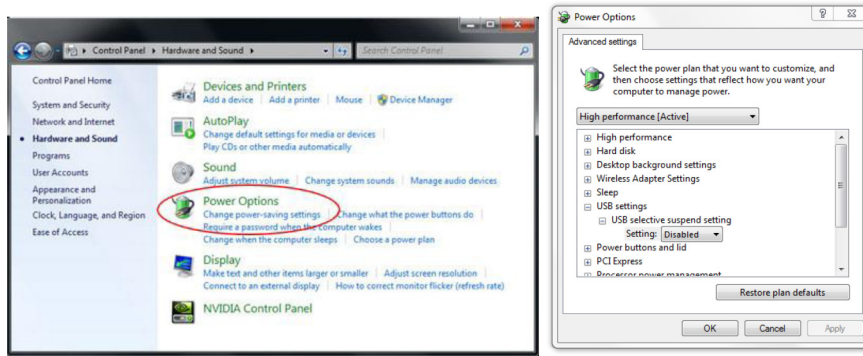
Red icon () indicates a failed connection. This may be caused by following:

- 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 Control Panel > Hardware and Sound > Power Options > Change plan settings > Change advanced power settings > USB settings > USB selective suspend setting. 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.

Q9 When should Touch Area Setting and Calibration be done?

A:

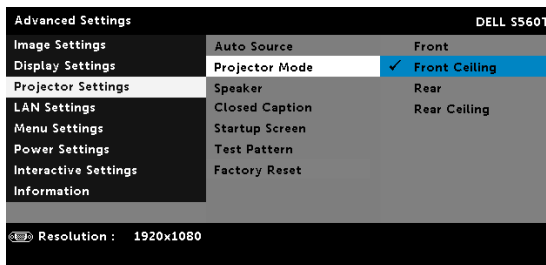
Please perform Touch Area Setting and Calibration during first installation. If projector or whiteboard is moved, Touch Area Setting and Calibration should be performed again.

- For better accuracy, please do Manual Calibration.
- If an overlarge offset is observed, please perform Manual Calibration and see step 7: Calibration as in page 20.

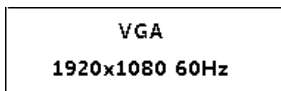
Q10 What to do when Auto Calibration and Auto Touch Area Setting both fail?

A:

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

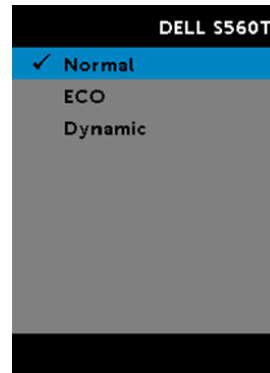


When projector OSD message is shown, Auto Calibration and Auto Touch Area Setting functions won't work. Please wait until OSD message disappears before performing Auto Calibration and Auto Touch Area Setting.

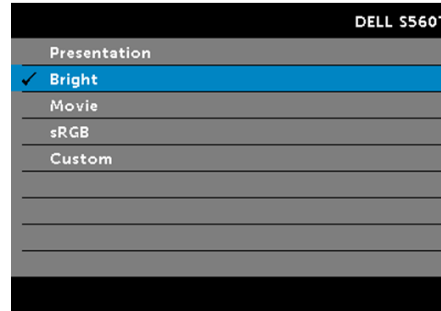


Please follow below trouble-shooting steps to perform Auto Calibration and Auto Touch Area Setting again.

- a Quit all software applications
 - 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 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.



Q11 What to do when the mouse cursor () flashes or jumps on screen, or when Touch function does not work well at certain projected area?

A:

- 1 Please confirm the Touch sensor had been adjusted and Laser Beam is parallel to the screen. Refer to Step 5 Adjust Touch Sensor for detailed procedures.
- 2 Refer to Step 6 Touch Area Setting for detailed procedures, check if Manual Touch Area boundary is located properly.
- 3 Check if there is strong light shown on the screen. If yes, turn off the light.
- 4 Check if there is any foreign object on the screen. If yes, remove the object.

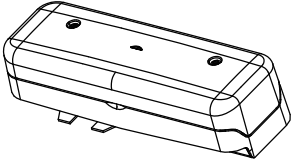
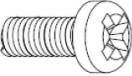
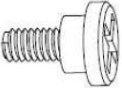
- 5 To keep at least 2 inch (50 mm) clearance boundary of the projected image to avoid reflection interference.

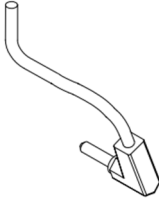

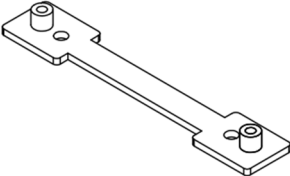
Q12 What to do when there is only a single touch point?

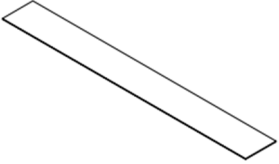
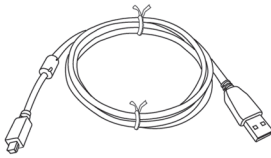
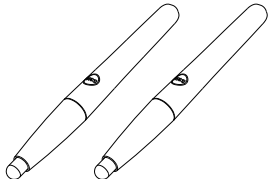
A:


- 1 Mac computers support single touch point only.
- 2 For WINDOWS computer, please refer to below suggestions
 - 2.1 Re-plug USB cable from computer and check again.
 - 2.2 Go to "Control Panel" and make sure "Tablet PC Components" is selected.

Appendix B: Accessory

Item	Description	Quantity
1	Touch Unit 	1
2	White Screw M2.6x6 (to fix TOUCH UNIT) 	2
3	Black Screw M3x6 (to fix base plate) 	2

4	Interactive cable 	1
5	Alignment sticker 	2
6	TOUCH UNIT base plate 	2

7	<p>Double-sided tape (for base plate)</p> 	1
8	<p>16.4 Ft (5 m) USB A to mini USB B cable</p> 	1
9	<p>Passive Pen</p> 	1

10	<p>CD for User Manual and Utility Software</p> 	2
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