

PCT Interactive Roll User Guide

2017/05/25

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PRECAUTION

- Assembly or disassembly of Roll type PCT product should be only performed by professional installers.
- Roll type PCT Product is an indoor use only product, long-term exposure of the sunlight or in humid environment might damage the Roll type PCT.
- Roll type PCT Product should be installed away from fire source.
- Roll type PCT is not water repellent. Installation of PCT should be away from water leaking source.
- Roll type PCT installation should be 30cm away from the power switch and 50cm away from transformer box to prevent interference.
- Ensure that any cables extending across the floor to your Roll type PCT Product are properly bundled and marked to avoid a trip hazard.
- Do not stand (or allow children to stand) on a chair to touch the surface of your Roll type PCT Product.
- Do not climb (or allow children to climb) on Roll type PCT Product. Climbing on the interactive roll type PCT could result in personal injury or product damage.

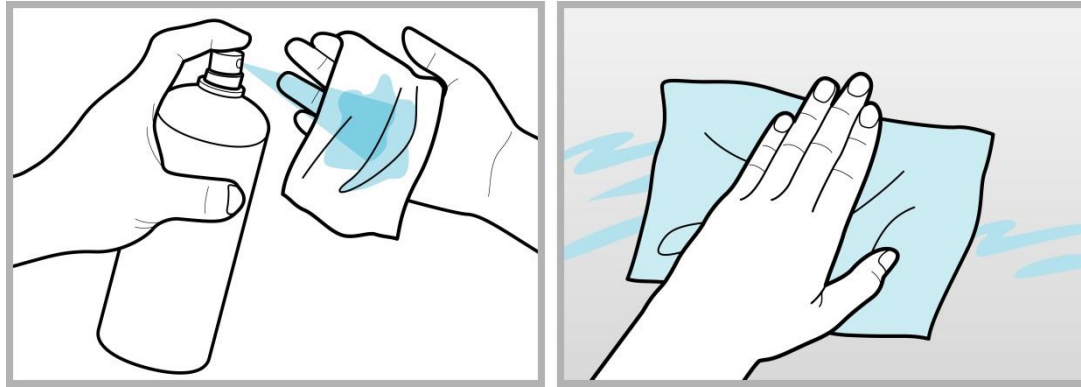


- You must connect the USB cable that came with your Roll type PCT Product to a computer. For extending USB cable length over 5m, a certified active extension USB cable is required. In addition, the USB source computer must be compliant with CSA/UL/EN 60950 and bear the CE mark and CSA and/or UL Mark(s) for CAS/UL 60950. This is for operating safety and to avoid damage to the Roll type PCT Product.

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Maintenance: If necessary, gently clean the Roll type PCT Product with a microfiber cloth and Clean water. Dampen a microfiber cloth with a clean water then wipe the screen gently until ink is wiped clean, then use another clean and dry microfiber cloth to wipe whole surface again.

If using the whiteboard cleaner for cleaning, users need to take a clean and dry microfiber cloth to wipe whole surface until the solvent is removed.



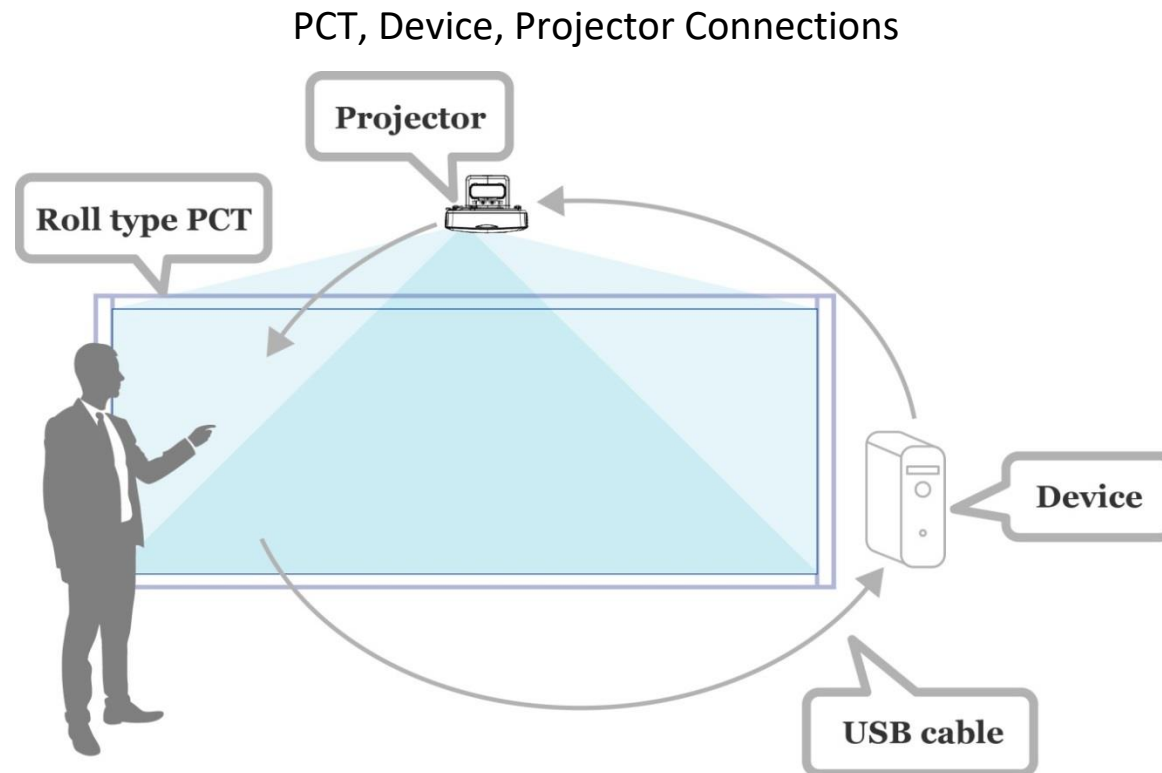
Roll type PCT Product is not a water-proof product, splashing water should be forbidden.

1. PRODUCT INTRODUCTION

PCT interactive whiteboard is a series multi-touch giant electric whiteboard to be associated with computer, projector and software providing education and corporate a total collaboration solutions.

The image will be projected to PCT via projector, also, the touch function will be enabling through USB cable which is connected to the device (computer, tablet, etc.), therefore, this simply makes projector, device, PCT a touch system. Meanwhile, PCT is able to be considered as an input device (like touch pad) as well as a huge monitor for your devices

PCT is a light-interference free touch product if compares with IR matrix or Optical touch products, and it also supports up to 30 points touch, in short, the touch function works just like I-Pad-high accuracy and sensitivity.



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1-1 Specifications

➤ 101" ROLL TYPE PCT

Size	101" (16:9), 2248 x 1295 mm
Touch Sensor Size	94" (16:9), 2096 x 1174 mm
Touch Tech	Projected Capacitive Touch
Touch Points	30 points
Report Rate	>100Hz
Latency	≤ 100 ms
Accuracy	± 2mm typical
Touch Height	< 0.5 mm
Passive Stylus Nib Size	> 8 mm
Calibration	4 / 9 points Calibration
Power Consumption	< 2.5 W
Dry Erase Surface	Optional
Weight	< 15kg
Operation Temp.	0°C ~ +40°C
Storage Temp.	-20°C ~ +60°C
Humidity	20–90%

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➤ 138" ROLL TYPE PCT

Size	138" (16:6), 3282 x 1295 mm
Touch Sensor Size	132" (16:6), 3130 x 1174 mm
Touch Tech	Projected Capacitive Touch
Touch Points	30 points
Report Rate	>100Hz
Latency	≤ 100 ms
Accuracy	± 2mm typical
Touch Height	< 0.5 mm
Passive Stylus Nib Size	> 8 mm
Calibration	9 / 36 points Calibration
Power Consumption	< 2.5 W
Dry Erase Surface	Optional
Weight	< 20kg
Operation Temp.	0°C ~ +40°C
Storage Temp.	-20°C ~ +60°C
Humidity	20–90%

1-2 COMPUTER REQUIREMENT

CPU: Intel Core™ i3 or above

Memory: 4GB+

1-3 Operation System Requirement

	Windows	MAC OS X	Chromebook	Android
OS Version	Win7; Win8; Win10	10.9; 10.10; 10.11	51.0.2704.103(64-bit)	(Kernel version 4.0+)
Touch Points	30 points	Single (Limited by MAC OS X)	16 points (Limited by Chrome OS)	10 points (Limited by Android OS)
Driver Required	Not Required	Required	Not Required	Not Required
Calibration Tool	Support	Non-Support (Please use Windows Calibration Tool.)	Non-Support (Please use Windows Calibration Tool.)	Non-Support (Please use Windows Calibration Tool.)

1-4 Environment Requirement

Wall Selection	<ol style="list-style-type: none"> 1. Firm and stable flat wall. Magnetic Surface or any metallic surface which can be attached by magnet is highly suggested. 2. Space 138": 3.5m width, 2.5m height (at least) 101": 2.5m width, 2.5m height (at least) 3. Wall Surface: Please refer to below section
Operation Temp.	0°C ~ +40°C
Storage Temp.	-20°C ~ +60°C
Humidity	20%~80%
Water Resistance	<ol style="list-style-type: none"> 1. In-Door Use Only. 2. Keep PCT surface dry all the time.
ESD	EN61000-4-2, No damage up to 4kV for direct (contact) discharge
EMI	EN55022/CISPR 22, Class B & EN55032/CISPR 32, Class B

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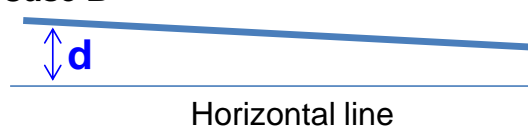
1. Roll type PCT installation should be 30cm away from the water leaking source such as an opened window, a faucet, and should be 30cm away power switch and 50cm away from transformer box to prevent interference.
2. Wall surface requirement
 - 2.1 Non-flatness: Suggest non-flatness (d) is less than 10mm for better user experience.

The distance between the highest position and lowest position of the wall should be less than 10mm.

Case A



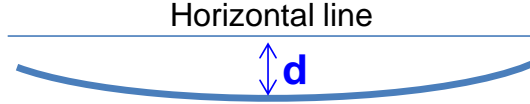
Case B



Case C



Case D



2.2 Wall surface condition:

There should not be protruding with height over 0.5mm or concave with depth over 0.5mm on the wall surface.

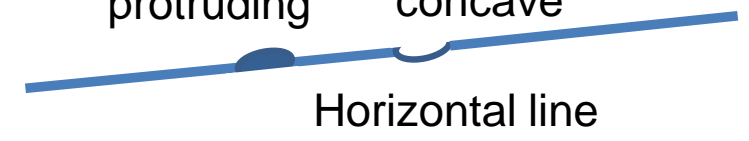


protruding



concave

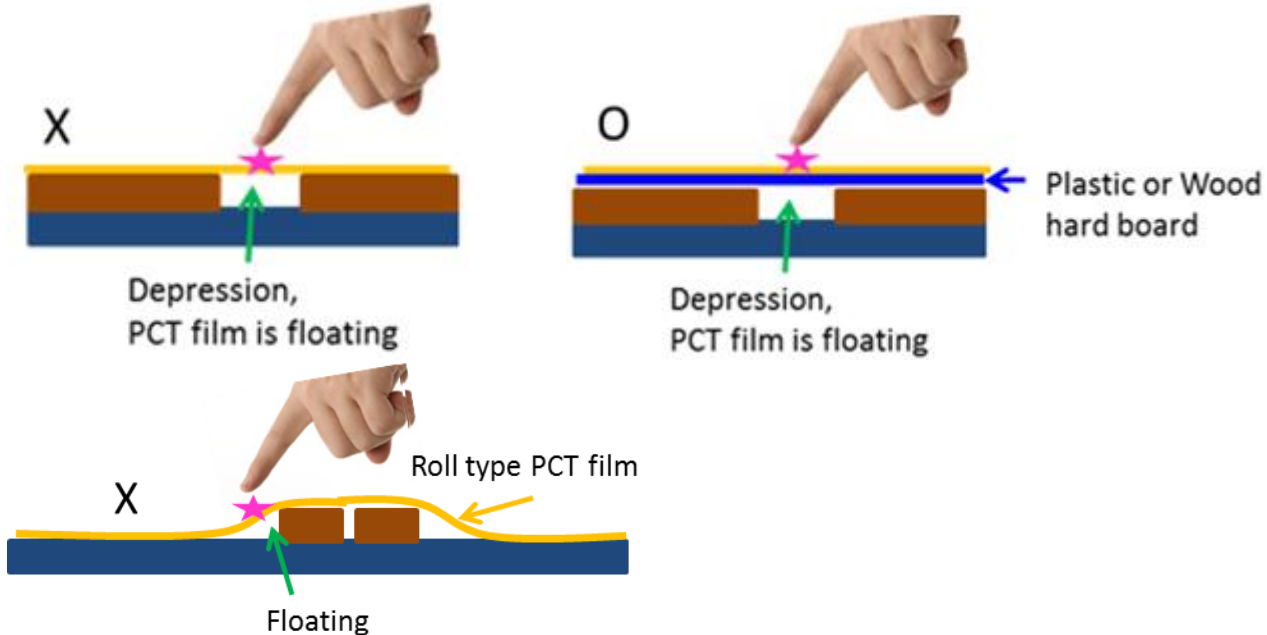
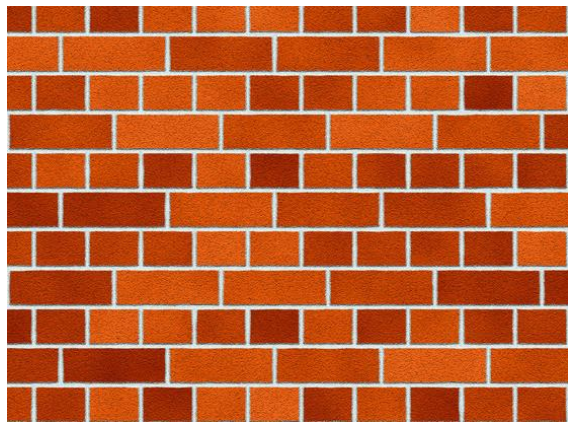
Wall surface



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PCT should not be installed on a brick wall directly as the gap between bricks because floating PCT will impact capacitor field, which might result in error touch event.

When installing on a brick wall is necessary, it is suggested to attach a non-metal hard board with 2-3mm thickness to the brick wall first, then install the roll type PCT.



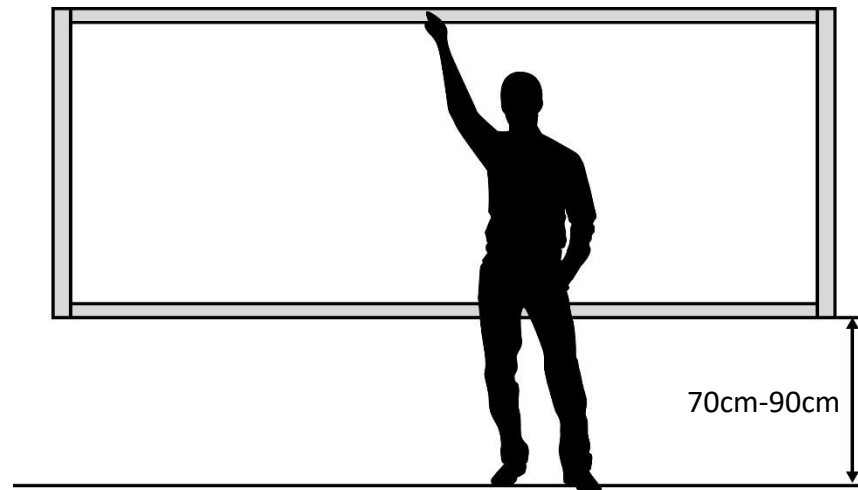
2. PROJECTOR AND PCT INSTALLATION ASSESMENT

Please kindly be aware of the height between ROLL bottom and ground before installing, too high or too low will cause inconvenience for users while using, the suggested height is as following,

For children: the height between ground and ROLL bottom is suggested to be 40 ~ 60cm.

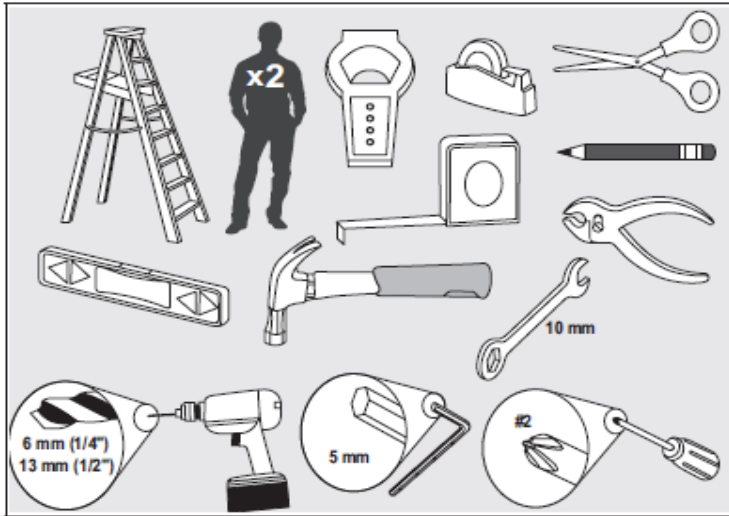


For adult: the height between ground and ROLL bottom is suggested to be 70 ~ 90cm.



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Please check your own projector's installation guide if you did not get your projector and Roll PCT as a complete system. If you do, please check the instructions as following,



Tools

- Wrench
- Hexagonal
- Screwdriver
- Phillips Screwdriver
- Electric drill
- Hammer
- Carpenter's Level or Laser leveler
- Ruler
- Ladder

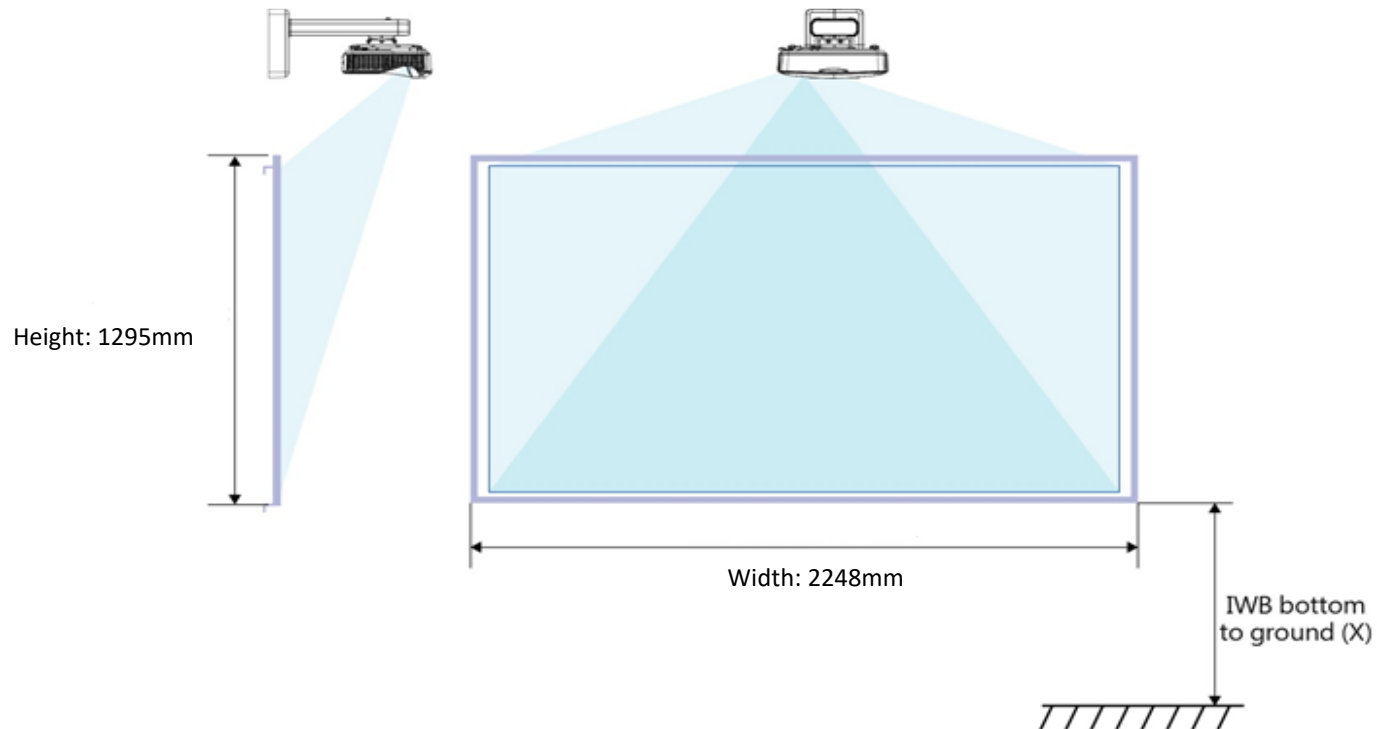
3. SUGGESTED PROJECTOR AND WALL MOUNT INSTALLATION

3-1 101" ROLL TYPE PCT + Suggested Projector

Step 1. Define Projector Wall Mount Position

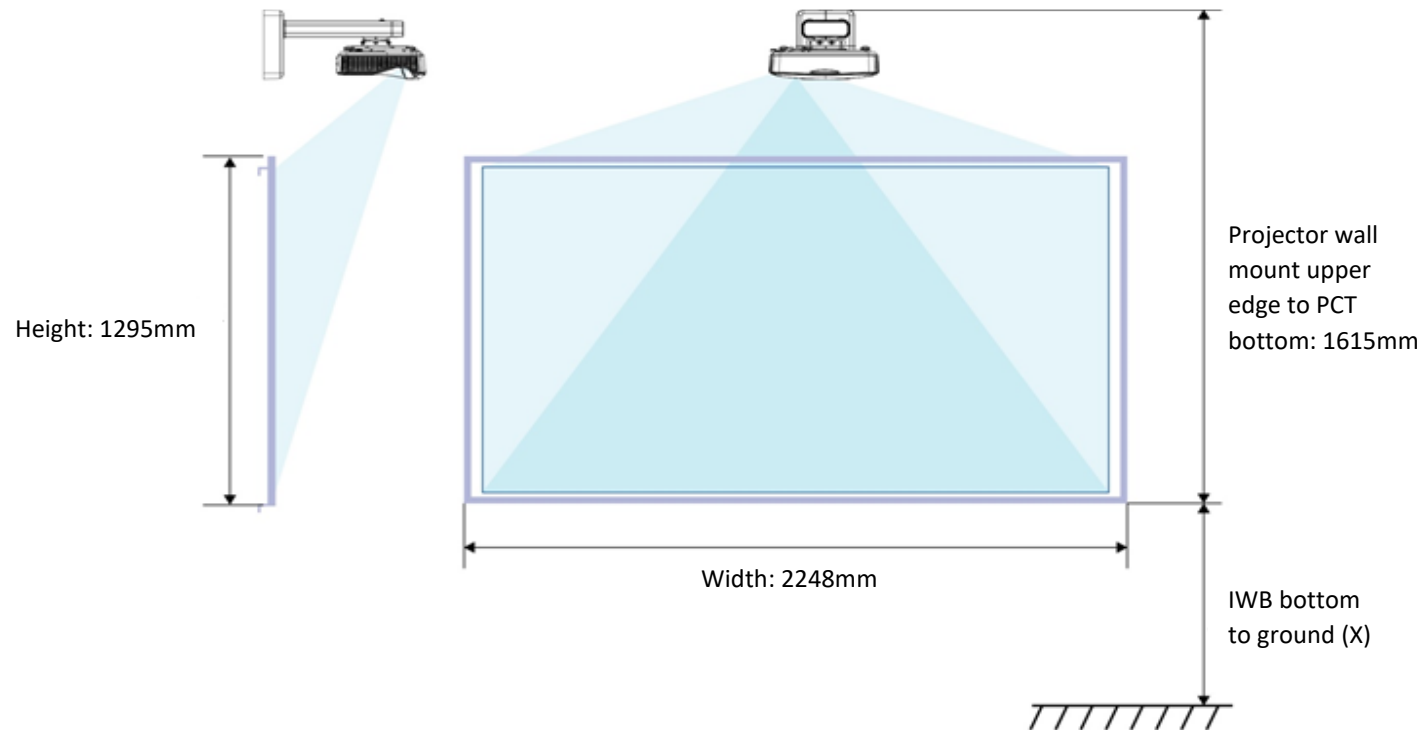
1. Define Projector Wall Mount vertical Position.

1-a. Distance (X) is the distance from Interactive White Board bottom edge to the ground. If the Interactive White Board is mainly for children, distance X will be 40cm to 60cm. If the Interactive White Board is for adult, distance X will be 70cm to 90cm.



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1-b. The distance between the top edge of the wall mount to the ground is $X + 1615\text{mm}$. That is the height of wall mount)

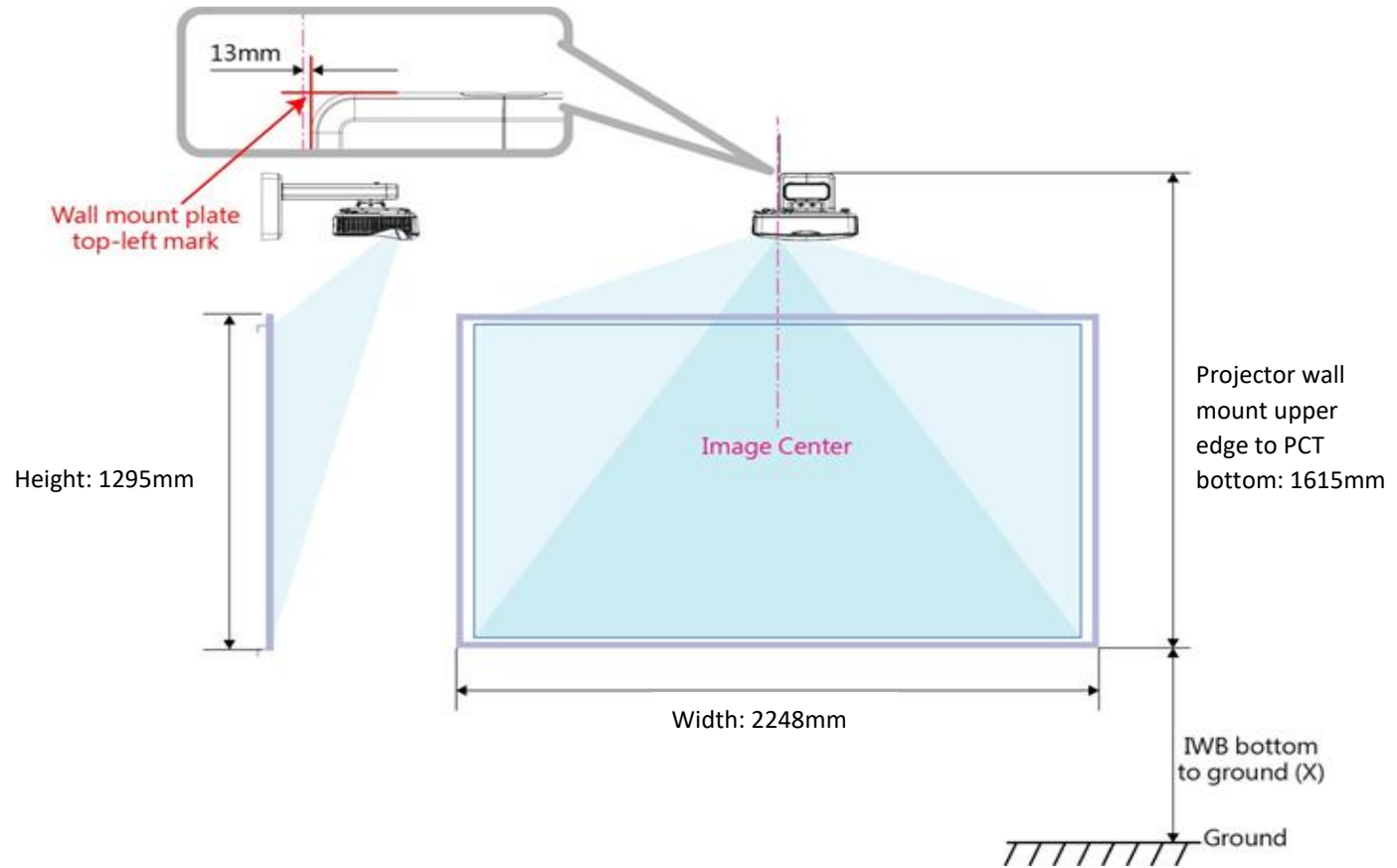


2. Define Projector Wall Mount horizontal Position.

According to the environment and determine the expected Image Center position, then right edge of the wall mount should be 13mm away from the expected image center line. (That is the horizontal position of wall mount)

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3. Therefore, the projector wall mount position can be defined based upon 2 & 3 above.

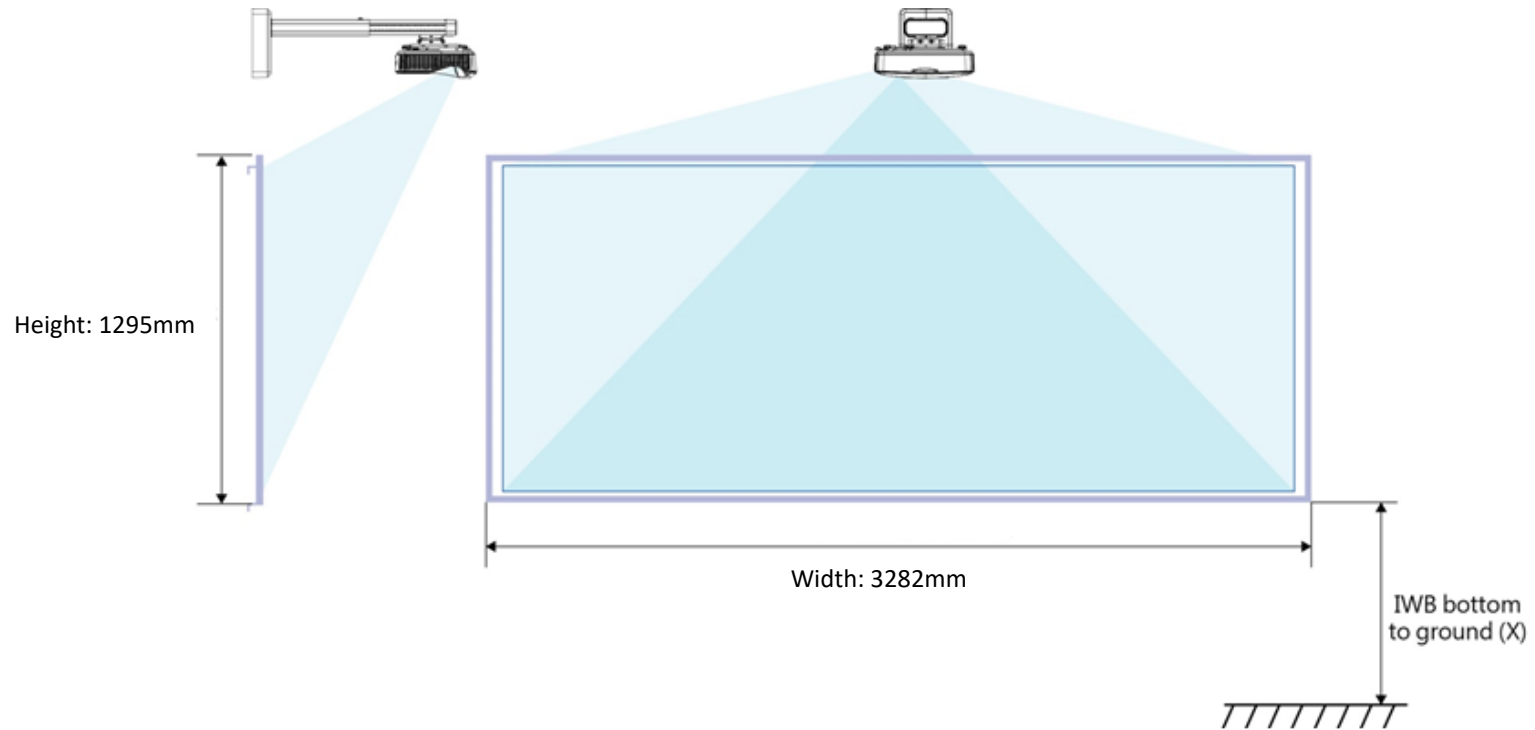


3-2 138" ROLL TYPE PCT + Suggested Projector

Step 1. Define Projector Wall Mount Position

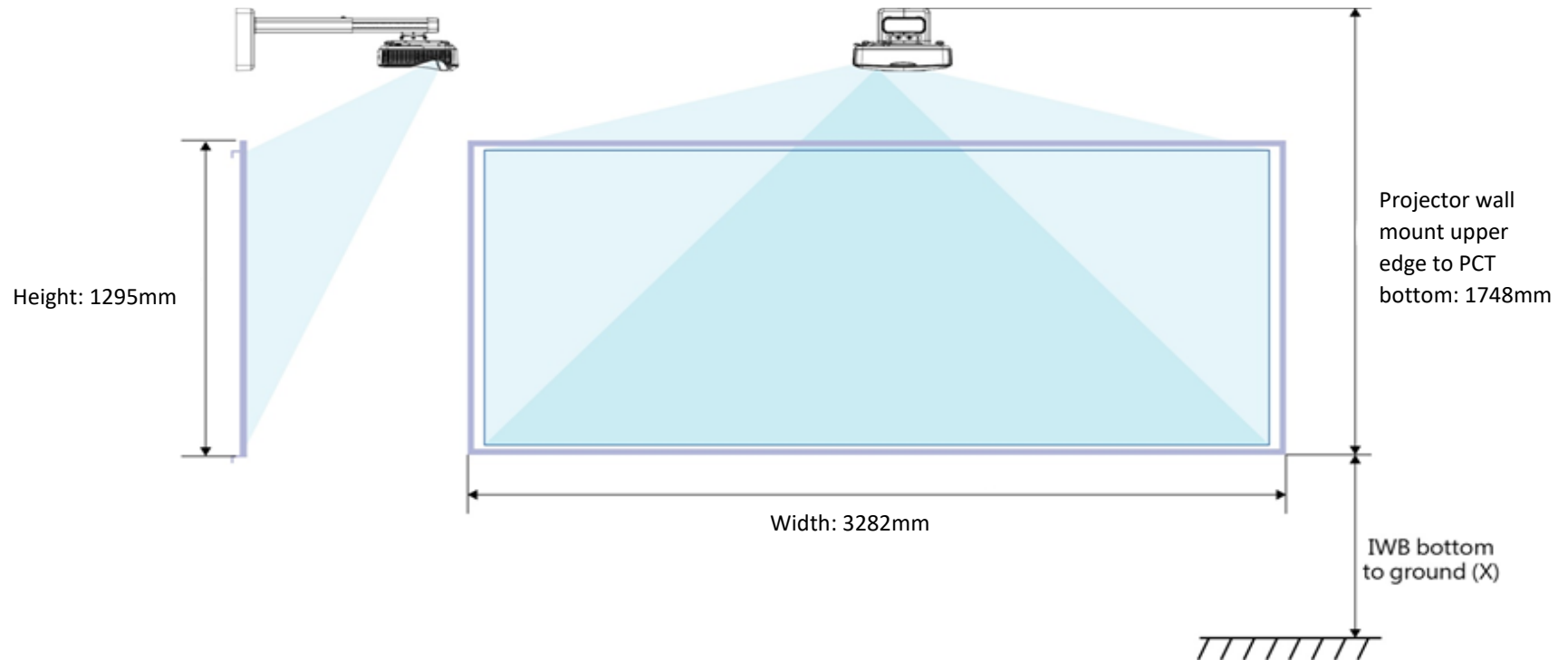
1. Define Projector Wall Mount vertical Position.

1-a. The distance (X) between Interactive White Board bottom and ground will be based upon main users (children or adult).



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1-b. $X + 1748$ mm will be the distance between projector wall mount and ground. (That is the height of wall mount)

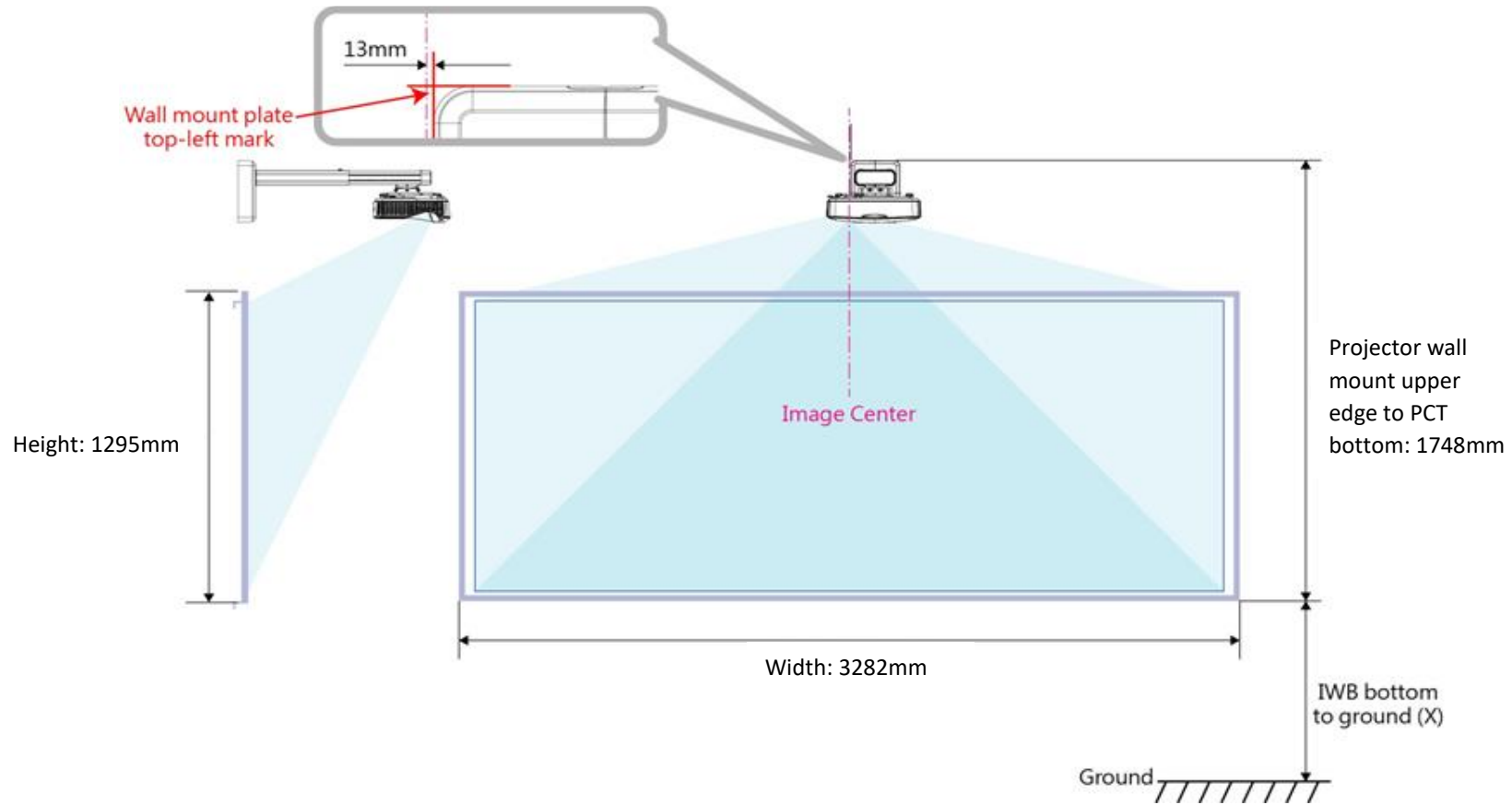


2. Define Projector Wall Mount horizontal Position.

According to the environment and determine the expected Image Center position, then right edge of the wall mount should be 13mm away from the expected image center line. (That is the horizontal position of wall mount)

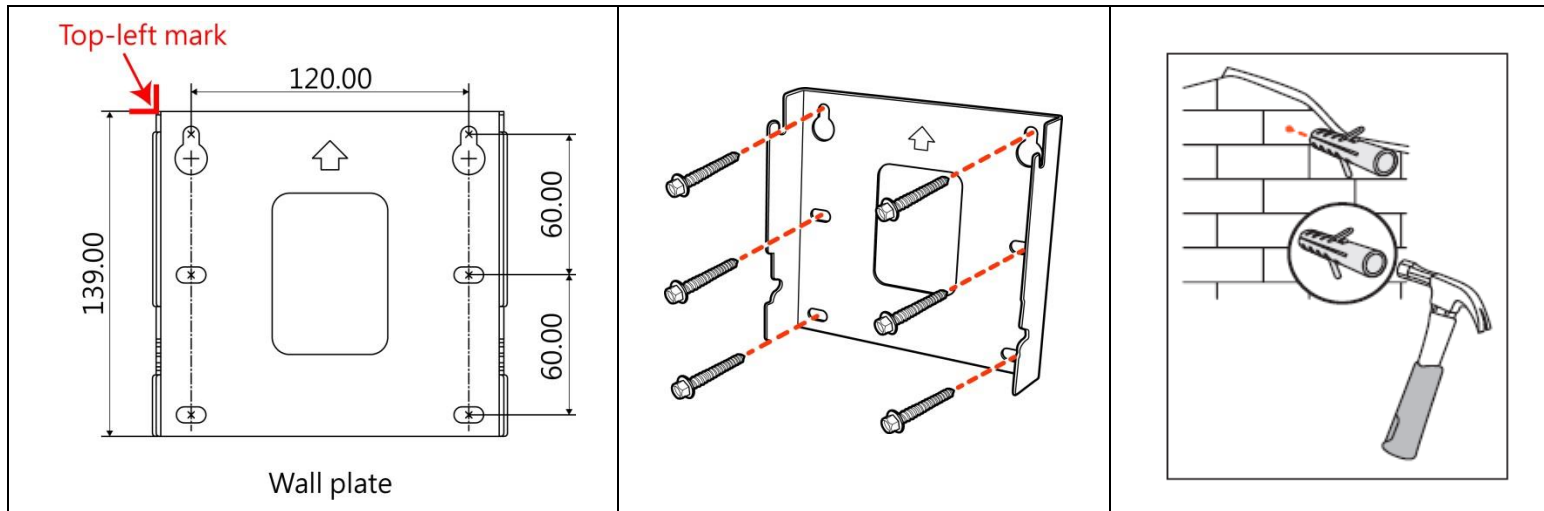
Roll Type PCT User Manual

3. Therefore, the projector wall mount position can be defined based upon 2 & 3 above.



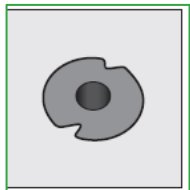
3-3 Wall Plate Installation

- ✓ Wall plate is aligned with the wall mount top-left mark, then mark drill holes position.
- ✓ Drill holes at the 'marked position' with an electric drill and drilling bit.
- ✓ Level wall plate using attached bubble level.
- ✓ Keep level wall plate before fastener screws.



NOTE:

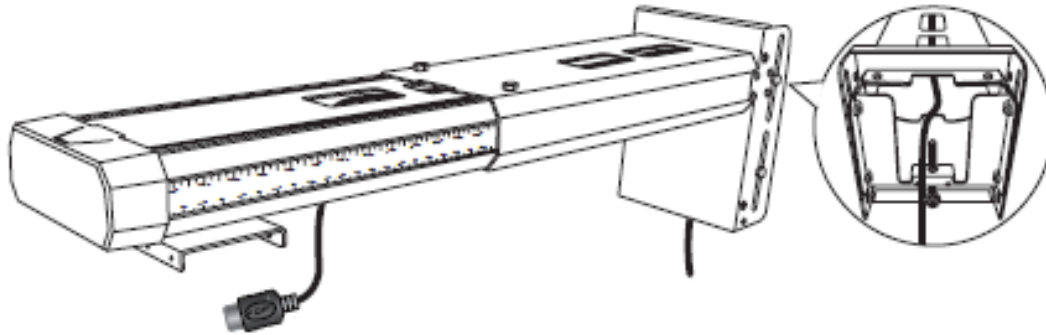
Uses bit according wall material.



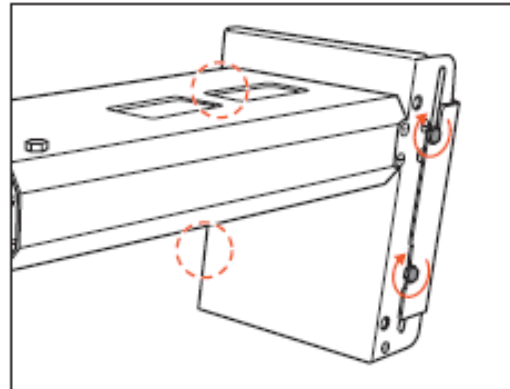
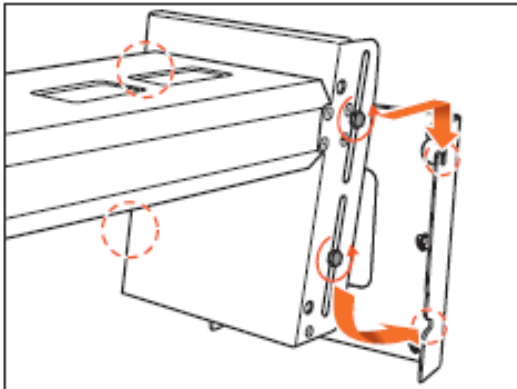
3-4 Cable Management

1. Insert all cables (HDMI/VGA/Power cord) inside the arm.
2. Direct all cables toward designated position (wall or devices).

Ex: VGA cable /HDMI cable/Power cord

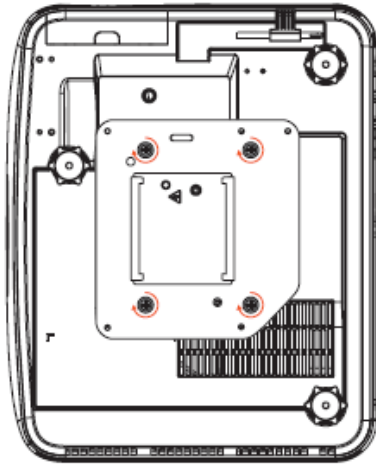


3. Install arm on wall mount plate.

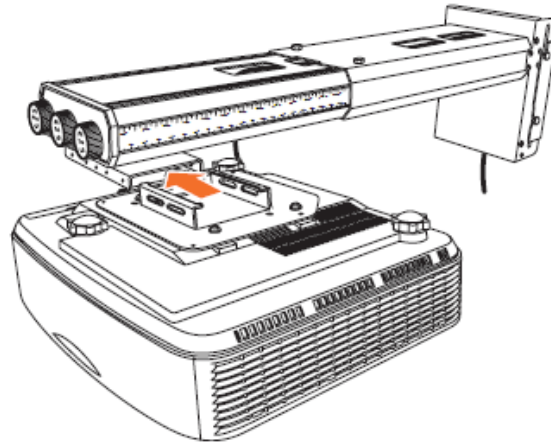


3-5 Installation Projector On Arm

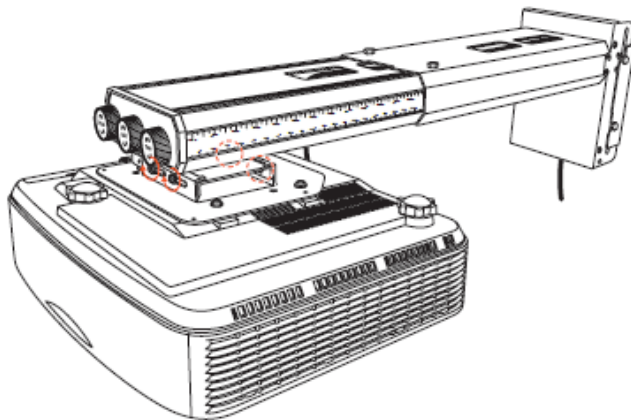
Step 1



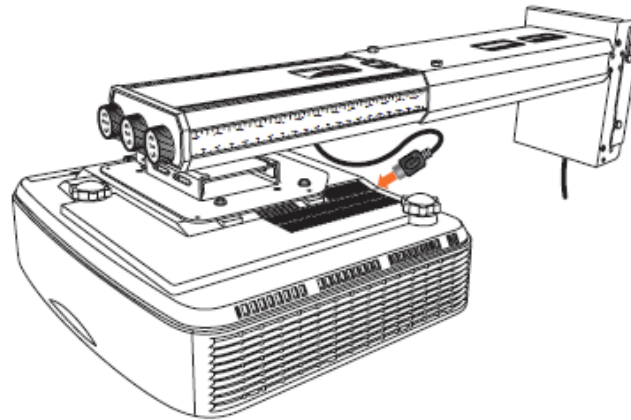
Step 2



Step 3

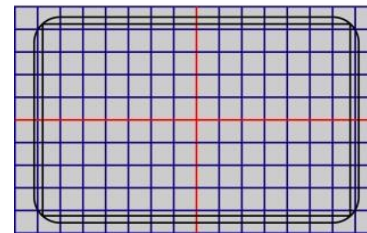
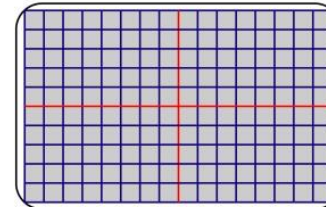
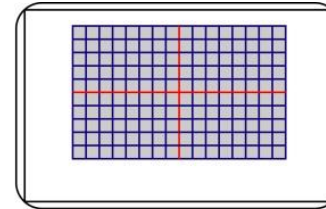
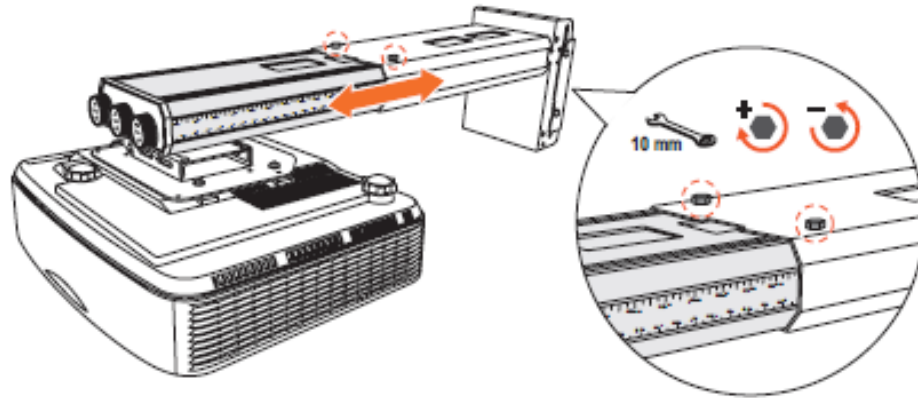


Step 4



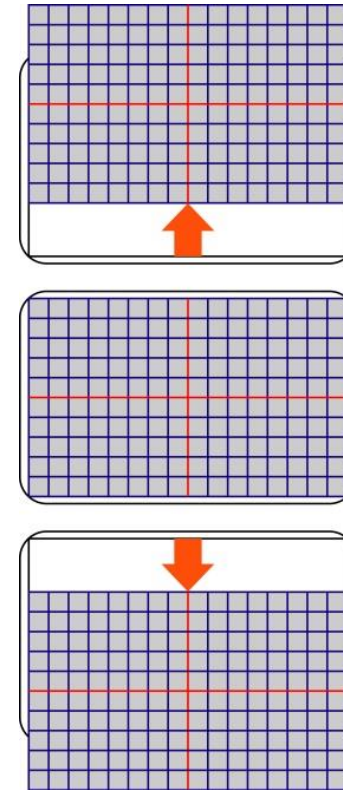
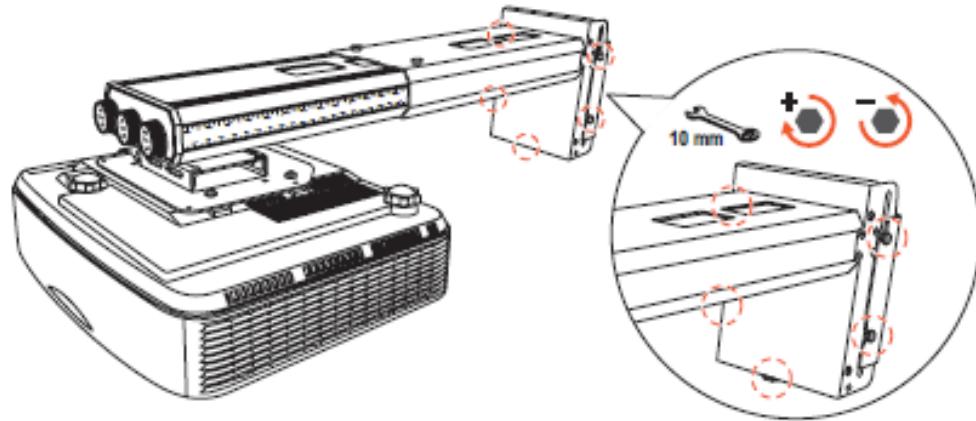
3-6 Projection Image Adjustment

1. To avoid image shift, synchronizing check projection position/size...period of fastener screws.
 - ✓ Extend arm for Projection size adjustment (92" for 101" PCT, 132" for 138" PCT)



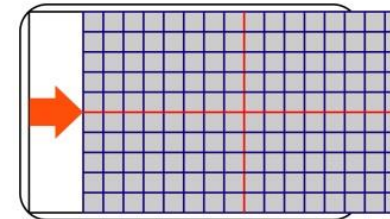
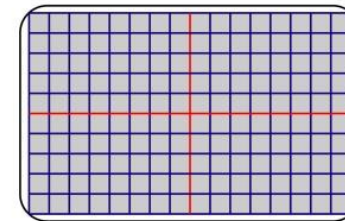
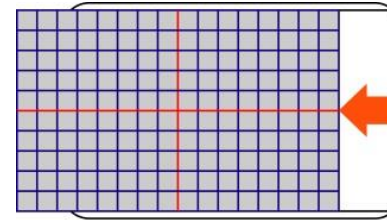
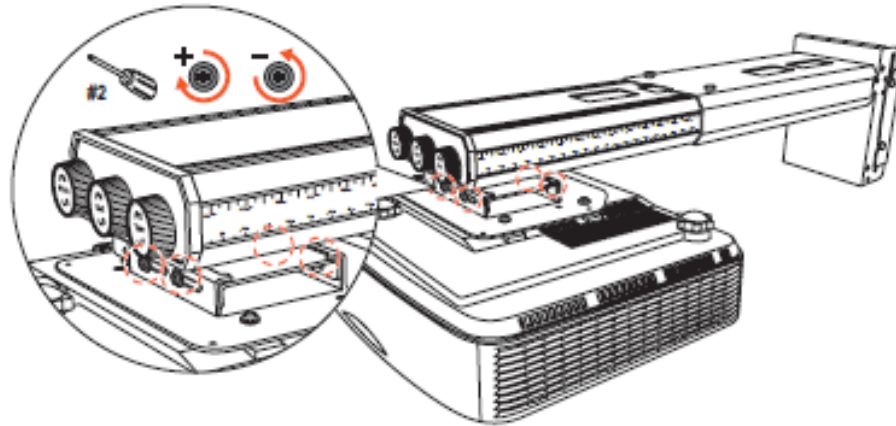
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- ✓ Adjust projector height



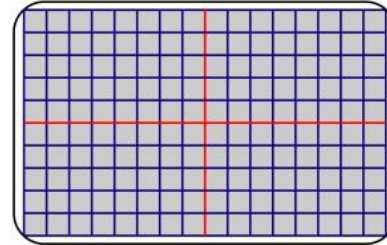
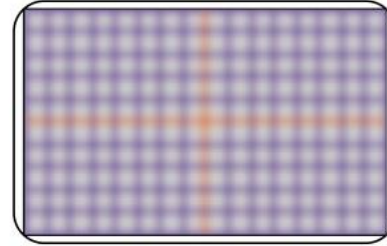
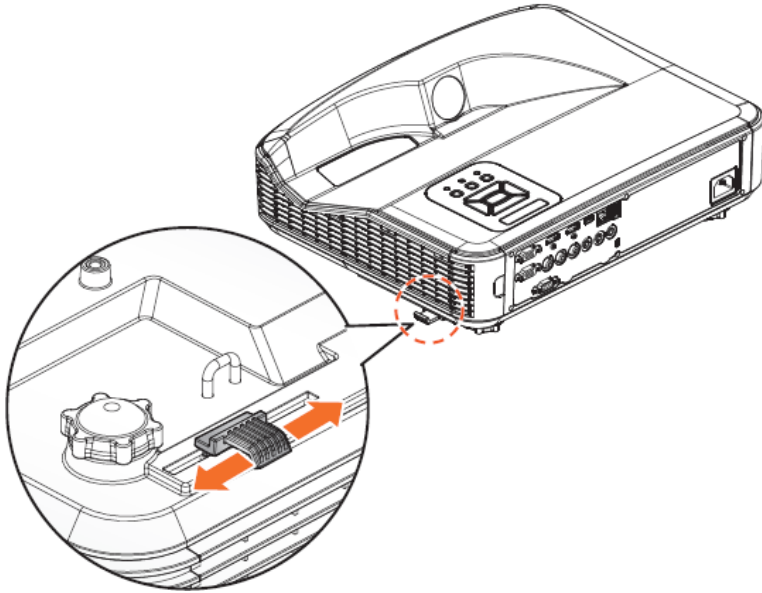
Roll Type PCT User Manual

- ✓ Adjust projector left & right position



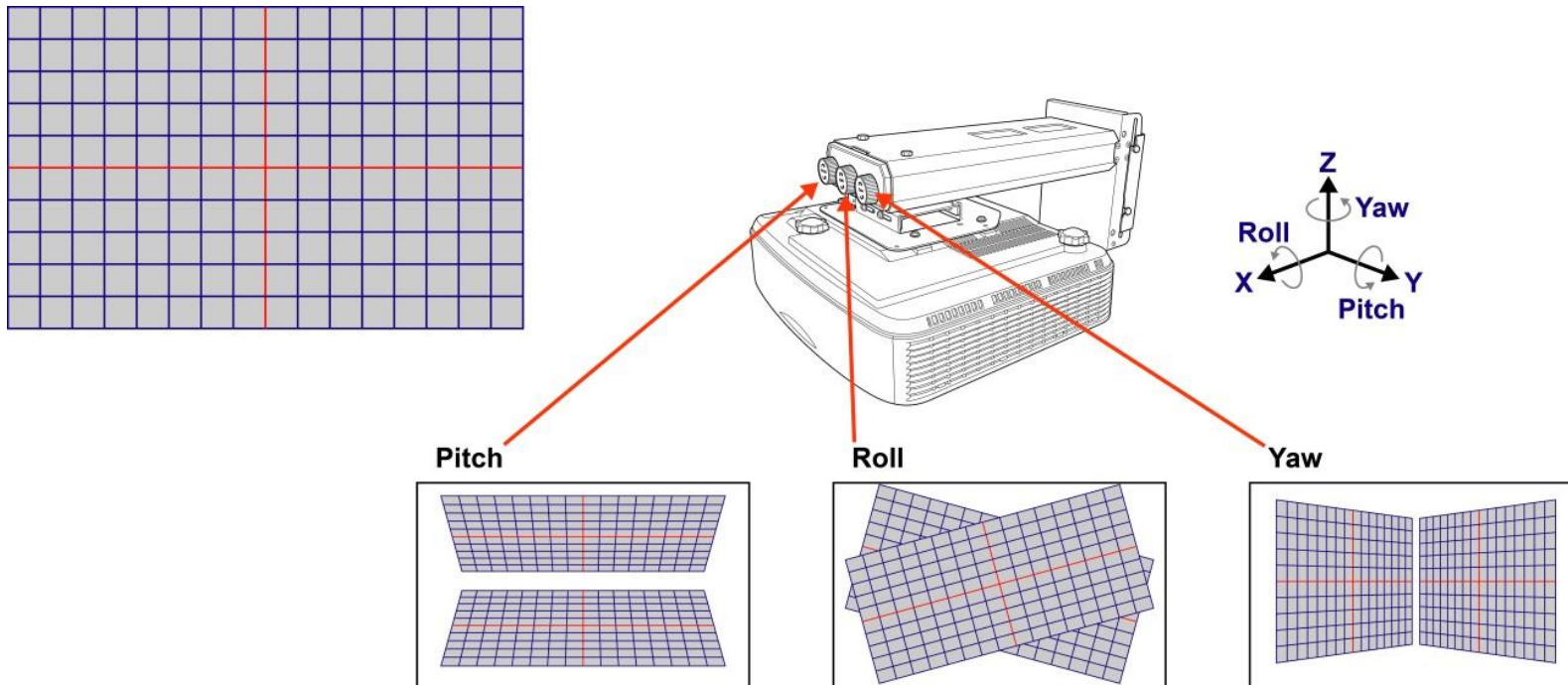
Roll Type PCT User Manual

- ✓ Adjust focus



Roll Type PCT User Manual

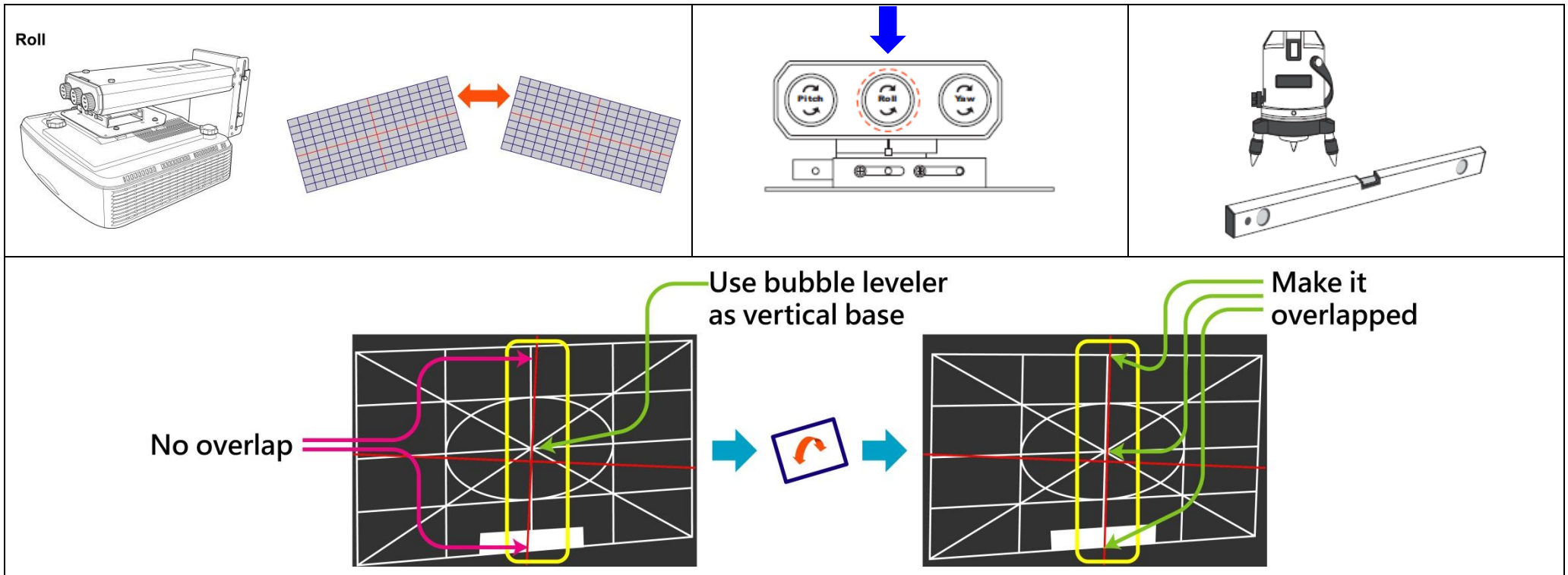
2. Suggest projecting an alignment pattern to make image alignment easier.
3. Adjust the knobs of pitch, roll and yaw adjustment to make the image to be rectangle.



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✓ Step 1. Roll image adjustment

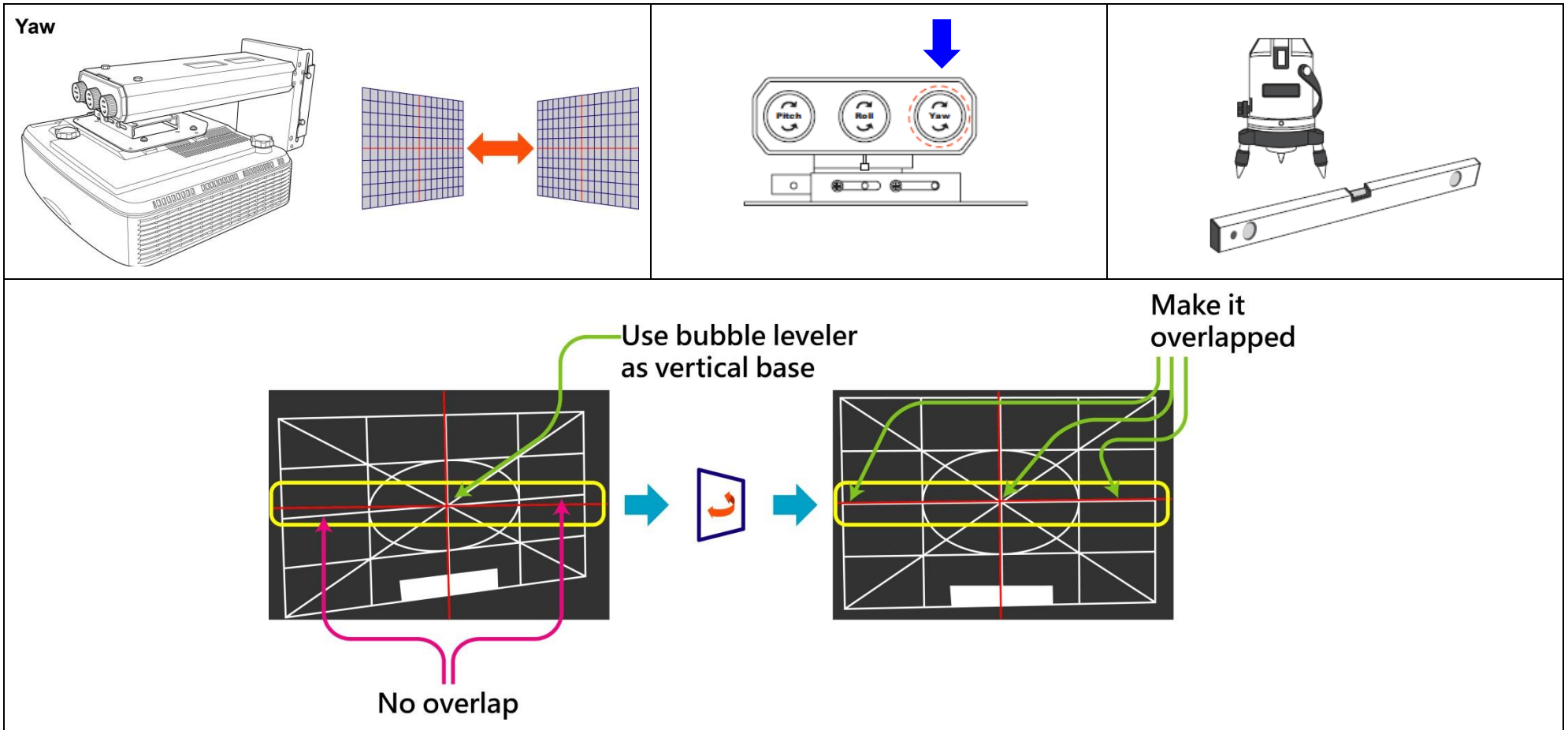
- 1) Project full screen test pattern
- 2) Align leveler with vertical line at center of test pattern.
- 3) Adjust Roll knob, until leveler and vertical line of test pattern center are overlapped.



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✓ Step 2. Yaw image adjustment

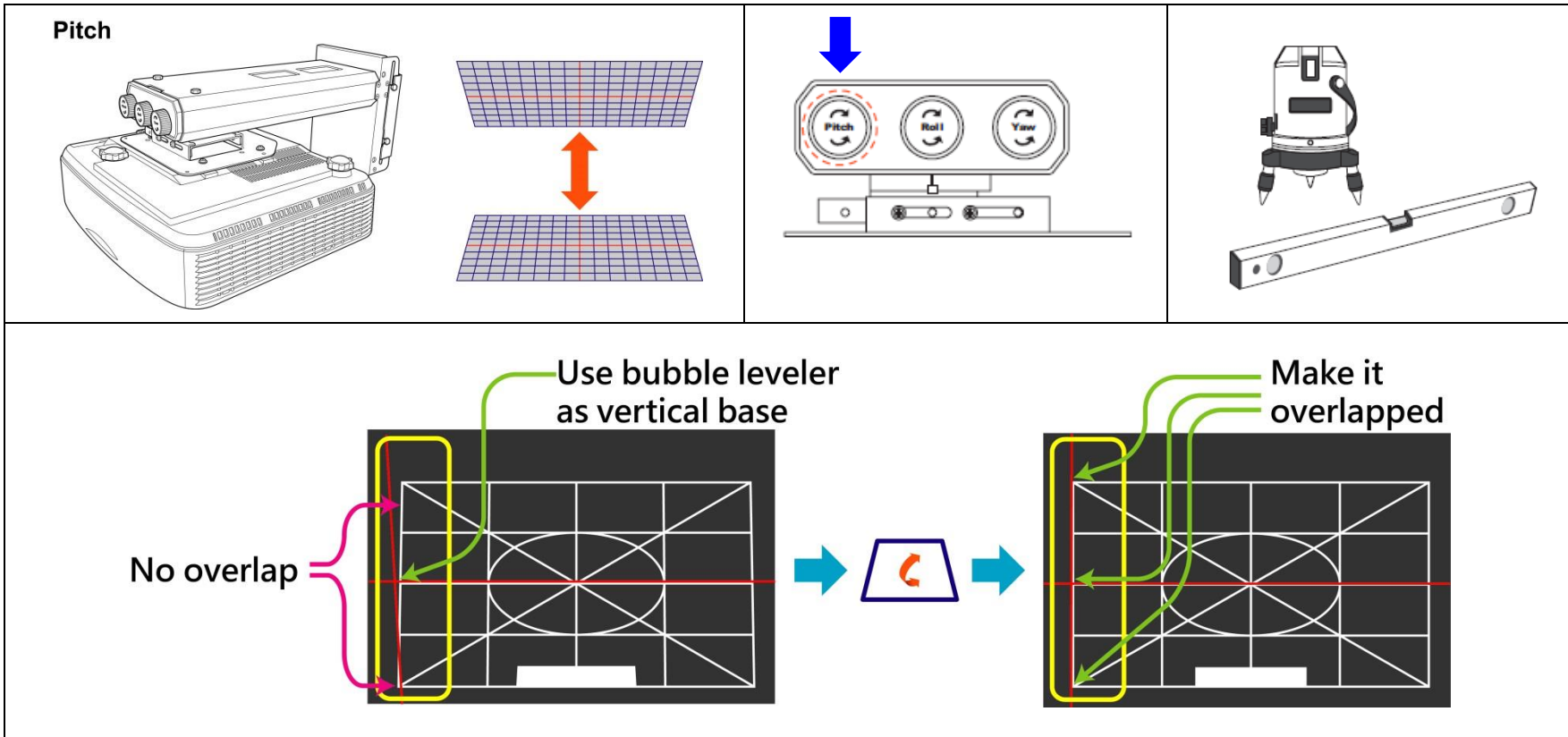
- 1) Align leveler with horizontal line at center of test pattern.
- 2) Adjust Yaw knob, until leveler and horizontal line of test pattern center are overlapped.



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✓ Step 3. Pitch image adjustment

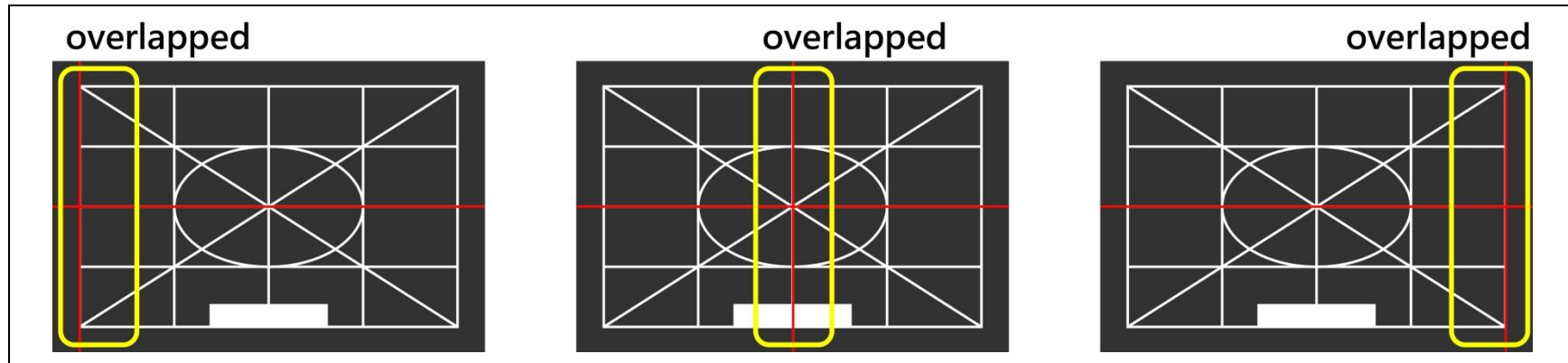
- 1) Align leveler with vertical line of test pattern at left side of WB.
- 2) Adjust Pitch knob, until leveler and vertical line of test pattern left side are overlapped.



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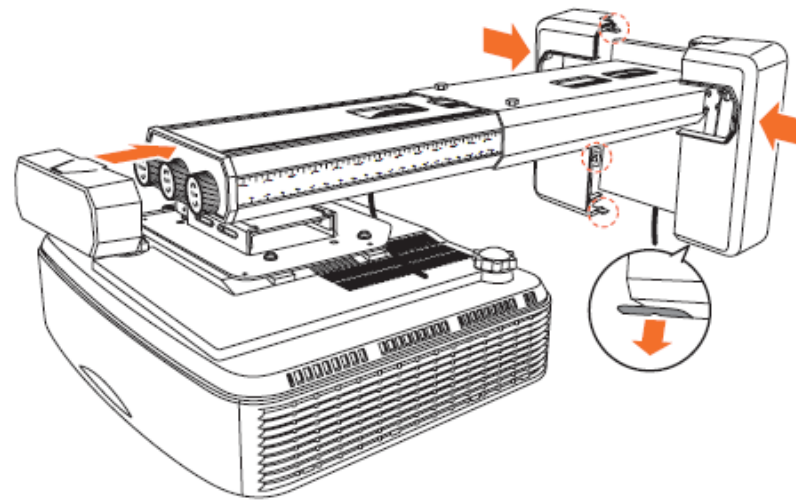
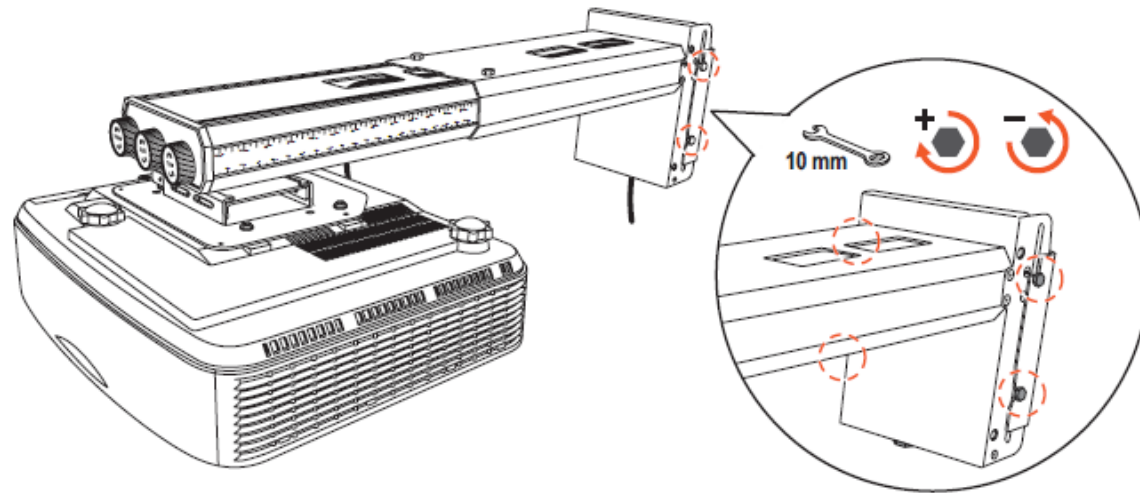
✓ Step 4. Check result

Double check with leveler, making sure overlapped with vertical lines of test pattern at left/central/right.



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- ✓ Step 5: Lock screws and assembly wall mount covers.

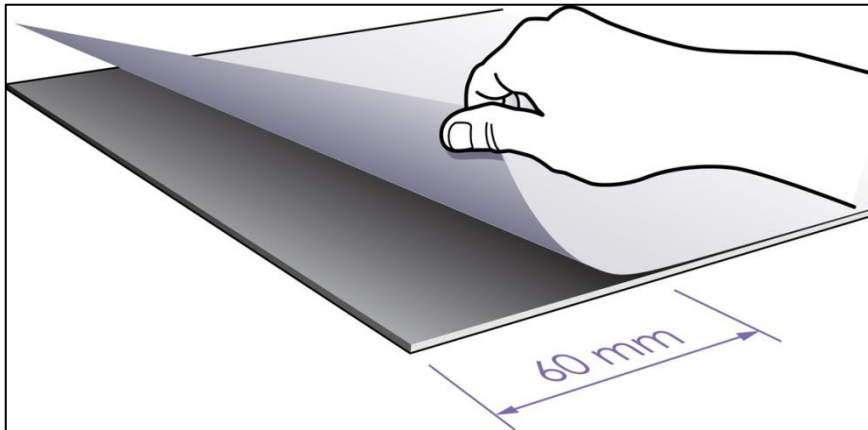


ORGIONAL PROJECTOR AND WALL MOUNT INSTALLATION

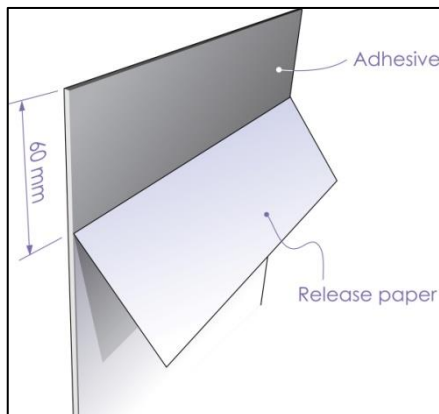
Please make sure your projector is able to project 94" (16:9) or 132" (16:6) image before PCT installation. Then adjust the projection size to 94" or 132".

4. ROLL TYPE PCT INSTALLATION

- ✓ Step 1. Please refer to the section 1-4 (Environment Requirements) then make sure the wall size and surface if suitable for installation roll type PCT.
- ✓ Step 2. Attach steel papers (If this area could not be magnetized by magnet, please follow steps as below to paste steel papers on wall).
 - 2-1 Peel off the release paper from steel papers around 60mm.

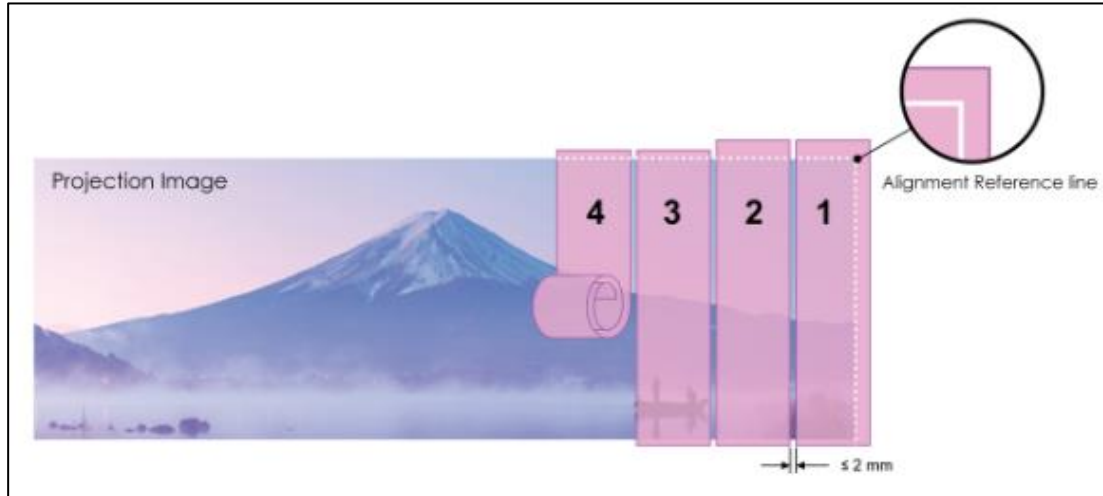


2-2 After peeled off release paper around 60mm, folded up it as following figure.

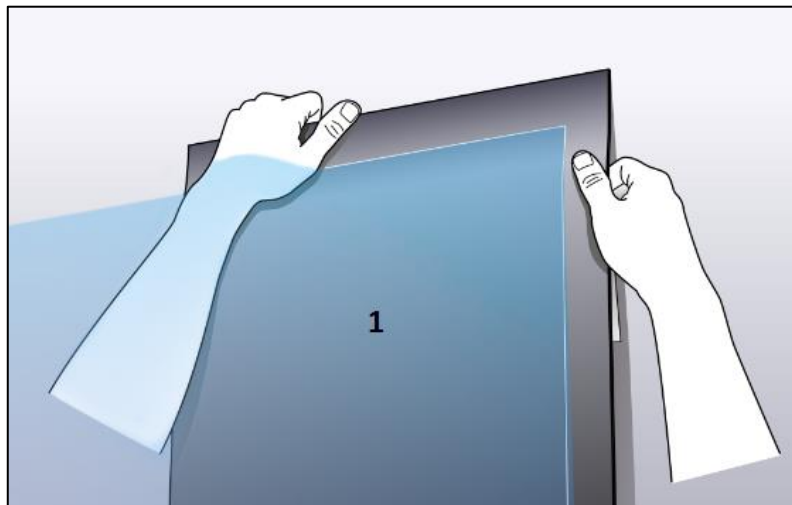


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2-3 There is a right angle line on number 1 of steel paper. When pasting no.1 steel paper, please align the right angle line with right top of projection image. To remove the release paper of double side tape on the back of steel paper then align the position line and paste it on wall.

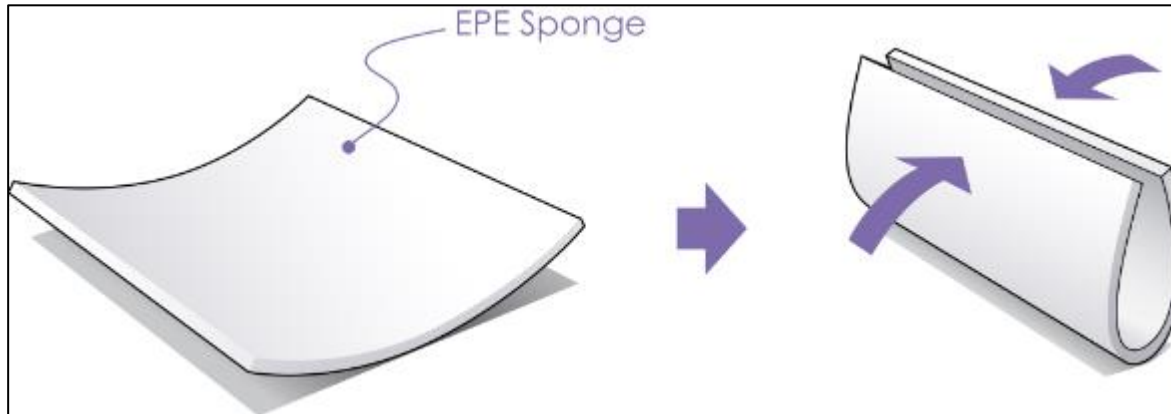


2-4 Steel papers have serial numbers and positioning line. Please paste steel papers by serial numbers.

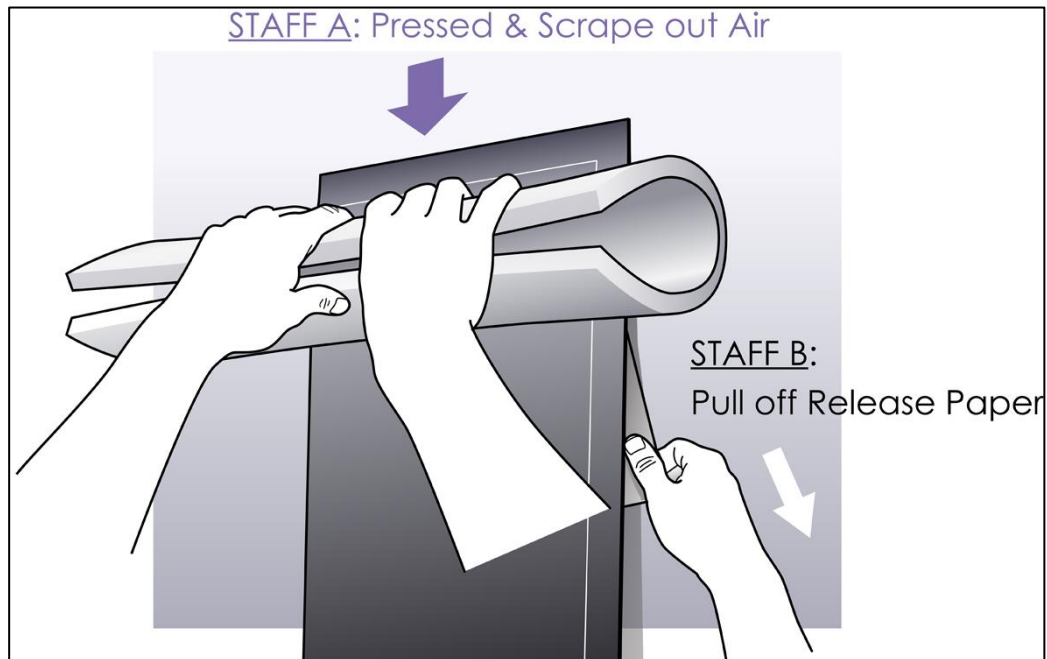


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2-5 There is an EPE sponge in carton box. Please fold up EPE sponge as following figure.

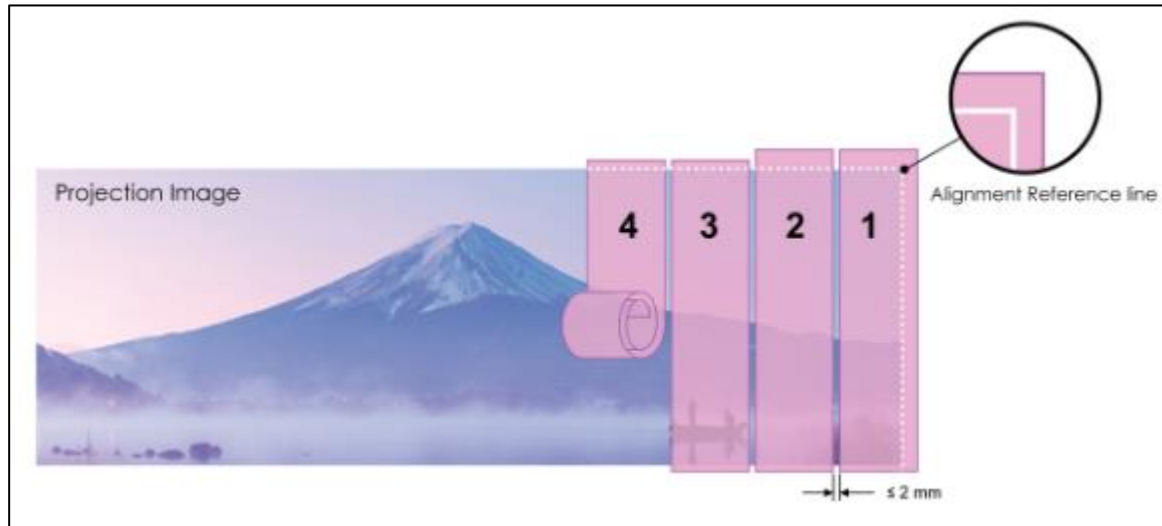


2-6 Using folded EPE sponge to press and scrape out air (by staff A) and pull off release paper (by staff B) in the same time.



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2-7 Please align the horizontal line of steel paper 2 with top projection image, and remove the release paper of double side tape on the back of steel paper, then paste the steel paper from top to bottom, then right to left side. (The gap of each steel paper is better to less than 2 mm). Following step 2-1 to 2-6.



2-8 The steel paper of No.1 & 2 are longer 1cm than others. Please paste other steel papers by serial numbers on steel paper as step 2-7.

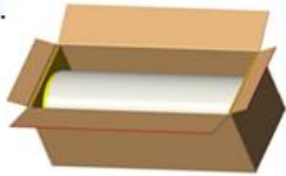
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✓ Step 3. Paste the PCT.

3-1 Please take out PCT from 'Carton Box'.

3-2 Unroll the PCT from the 'Paper tube'.

a.



b.



c.



Hold 'wood holder' and pull PCT from
Carton Box

d.



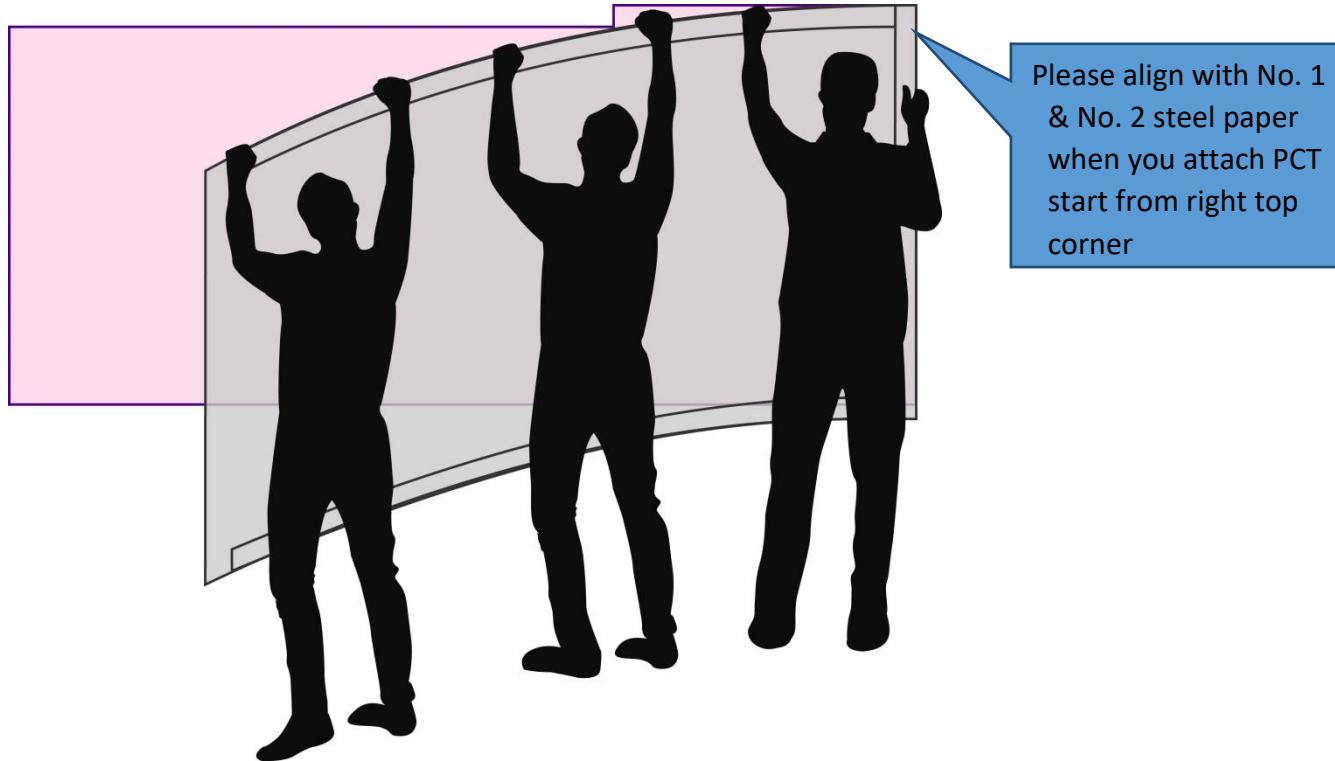
3-3 Suggest 3 manpower to take the PCT towards to the steel paper / magnetized wall.

Remark: 101": suggest 2 manpower

138": suggest 3 manpower

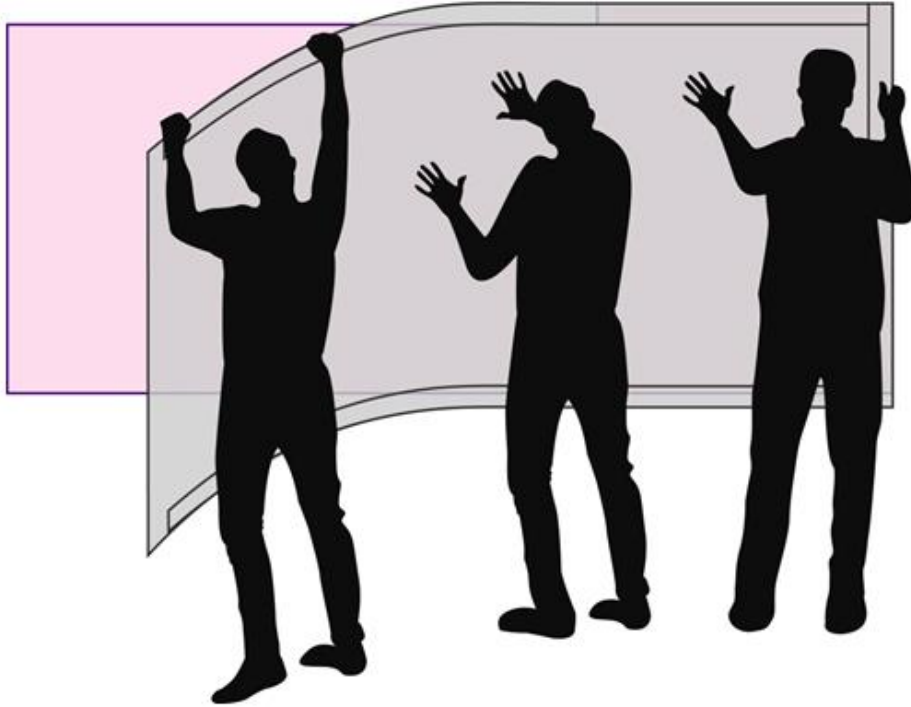
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3-4 Please align and paste the PCT right top outline to outline of no.1 & no.2 steel paper.



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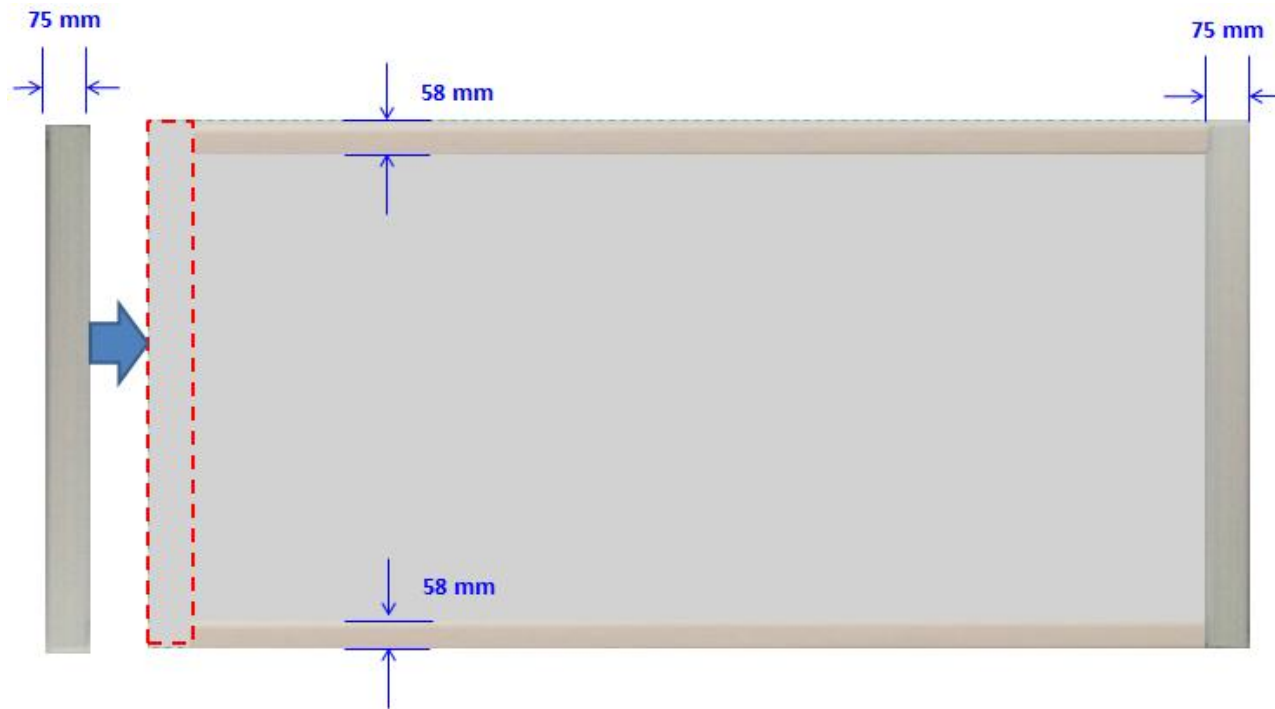
3-5 Paste the PCT from right to left side completely.



- ✓ Step 4. Make sure to keep surface smooth during paste process, which means no dents/wrinkles/ridges.

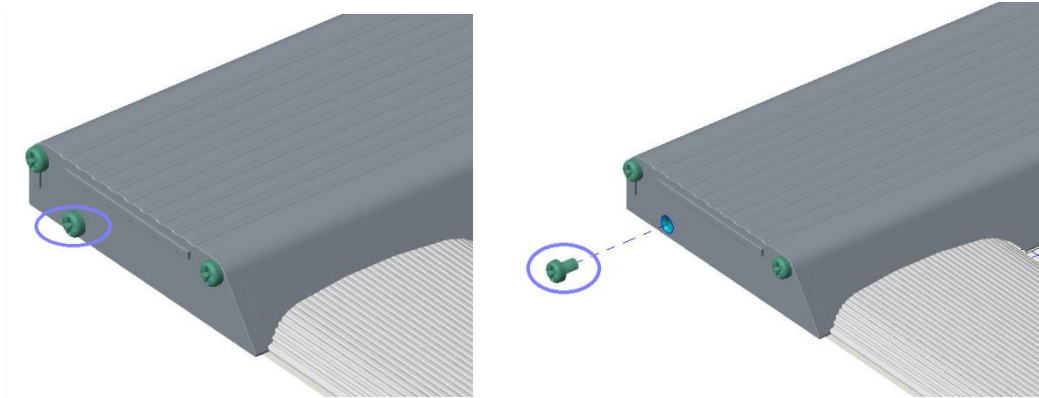
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- ✓ Step 5. Please paste the left frame as below red area position.

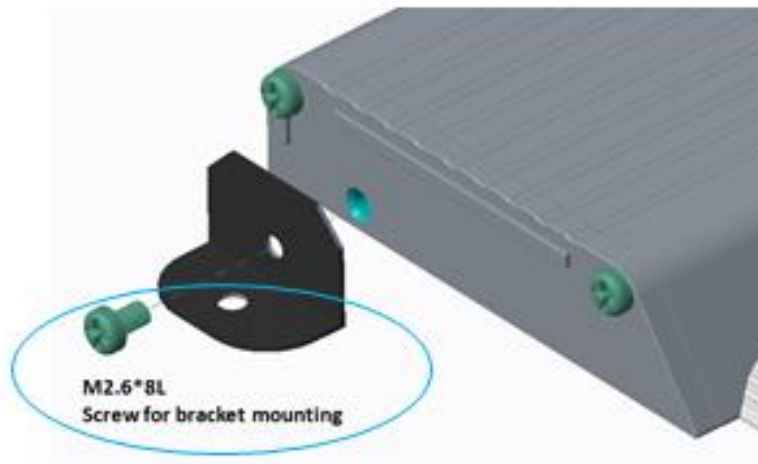


- ✓ Step 6: May projection image is not suitable with PCT, please adjust the projection image as chapter 3-4 Projection Image Adjustment.
- ✓ Step 7: Install bracket to fix left/right metal frame.
 - 7-1 Unscrew the screw from frame

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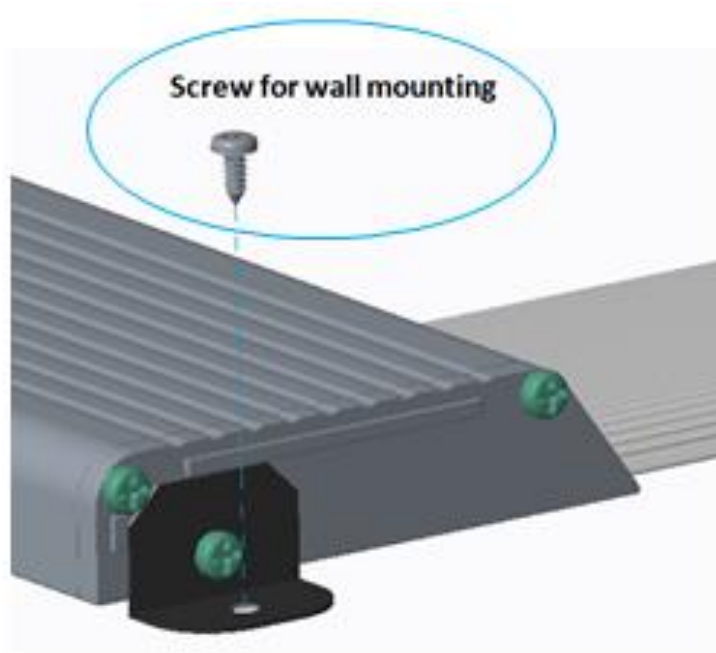


7-2 Install the bracket mounting screw (M2.6*8L) to frame.

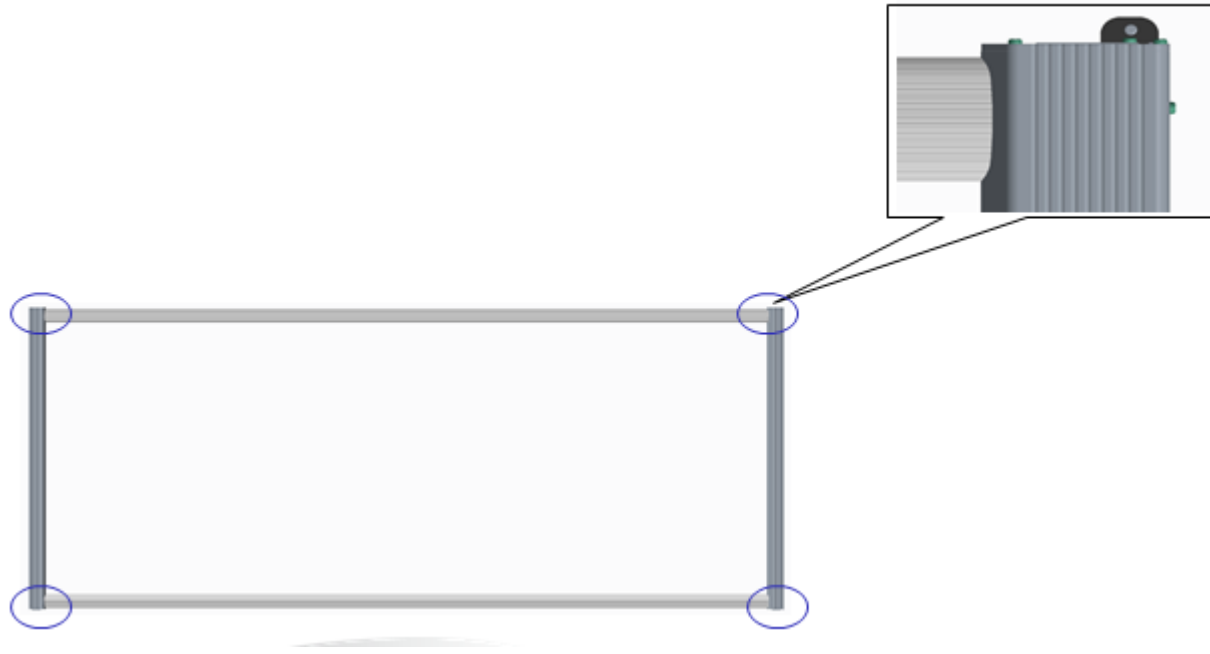


7-3 Fix the bracket on wall with screw.

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7-4 Follow 7-1 to 7-3 step then install the rest of brackets for other corner.



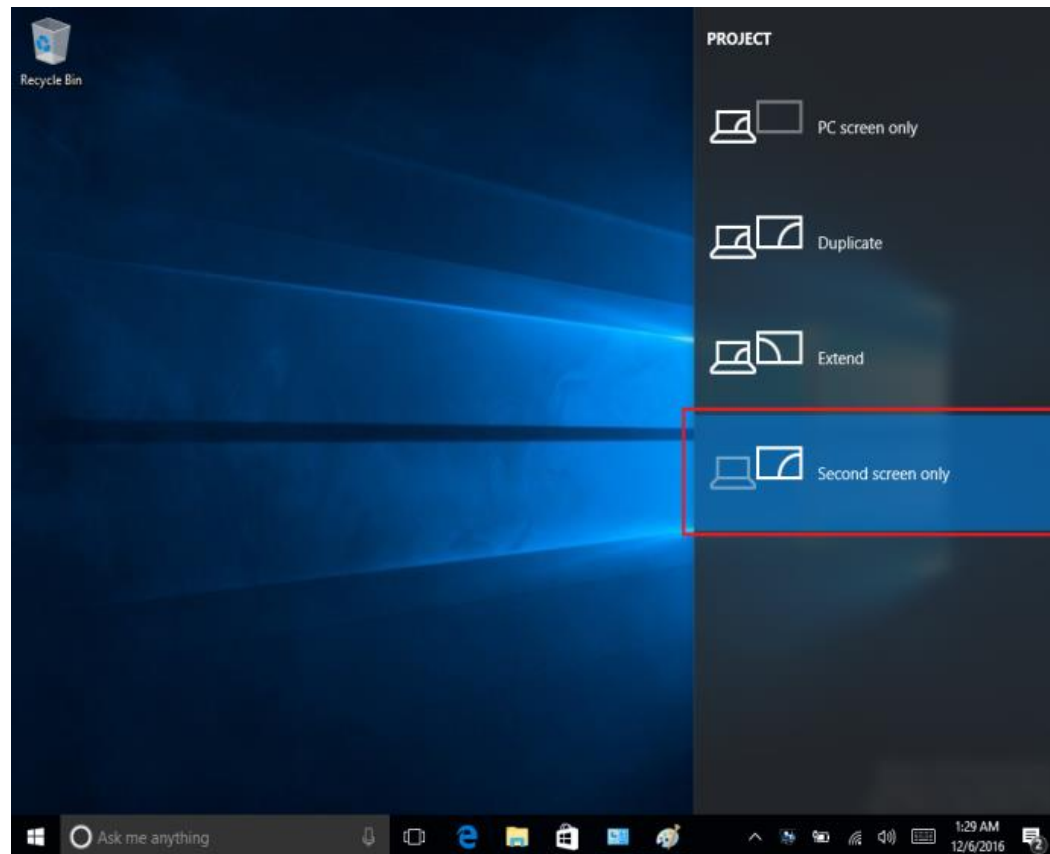
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5. CALIBRATION

The calibration tool provides 4 / 9 / 36 points calibration functions. Please use 9 points to plane projection PCT and 36 points to curve projection PCT for the best accuracy.

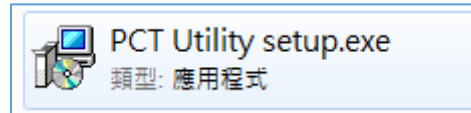
Please use PCT Utility to calibrate. **Do not use Windows built-in features to calibrate and it may cause poor mouse accuracy.**

- ✓ Step 1. Connect the USB cable of the PCT board to a Windows OS Notebook or PC.
- ✓ Step 2. Please switch the display setting to “Second screen only” mode while calibrating. Do not set to “Duplicate mode”.

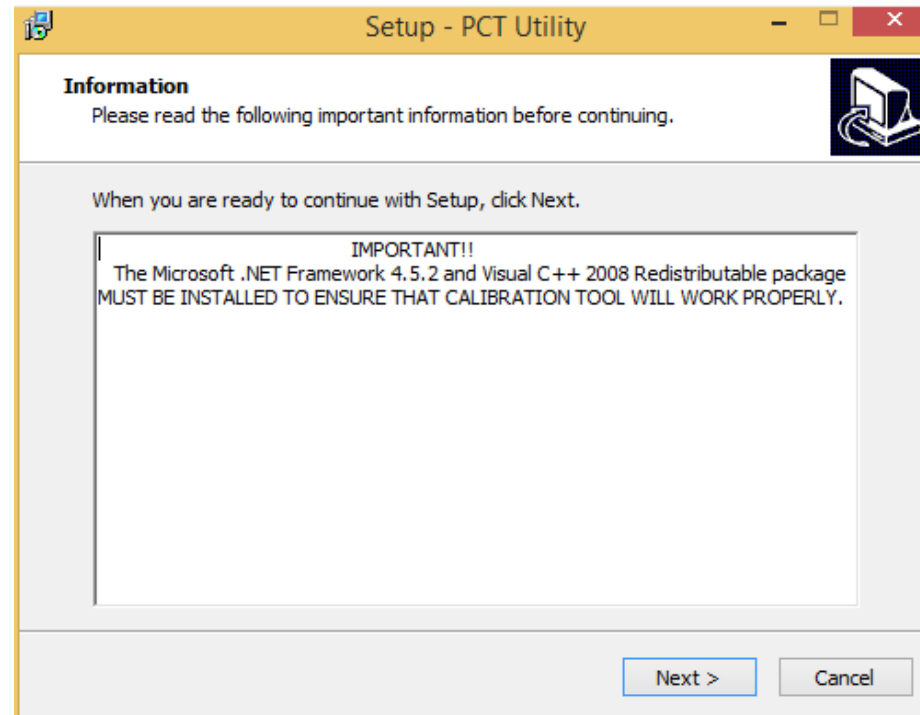


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- ✓ Step 3. To install PCT Utility, double click “PCT Utility setup.exe”.

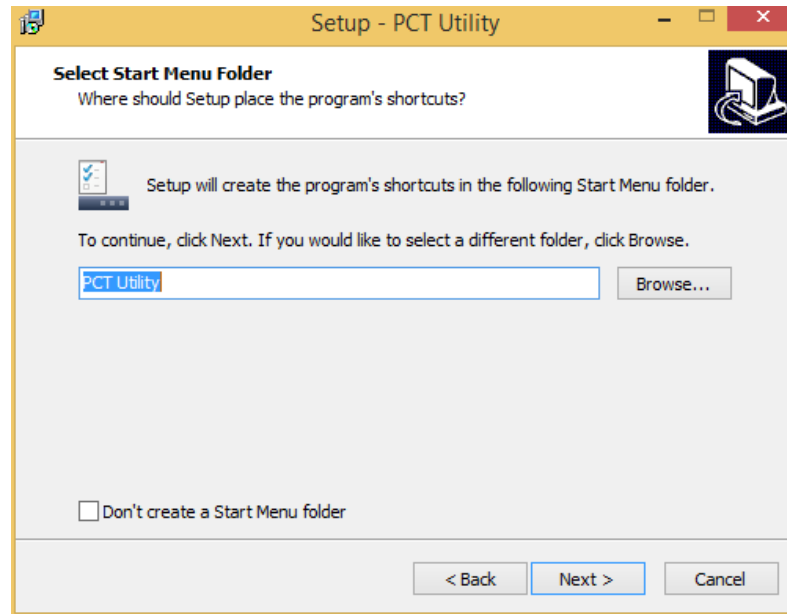
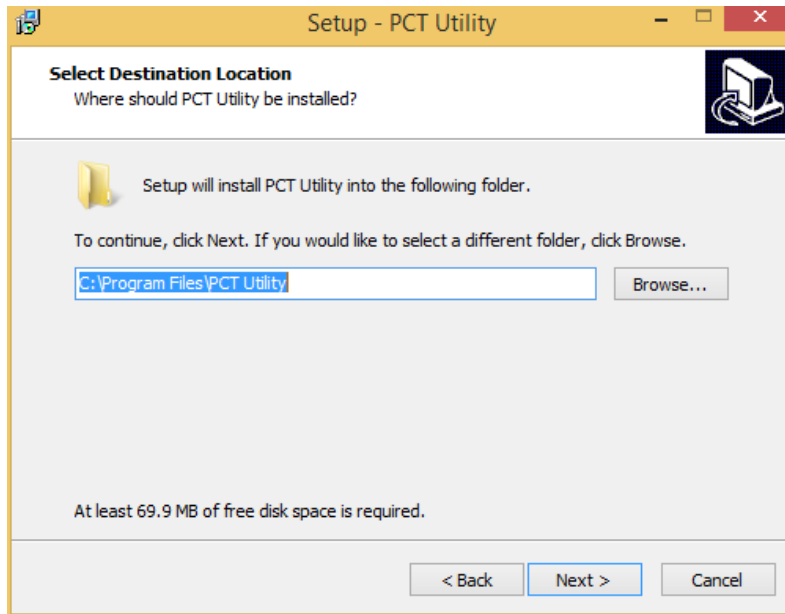


- Step3.1. The Microsoft .NET Framework 4.5.2 and Visual C++ 2008 Redistributable package MUST BE INSTALLED TO ENSURE THAT CALIBRATION TOOL WILL WORK PROPERLY. Please select 'Next'.



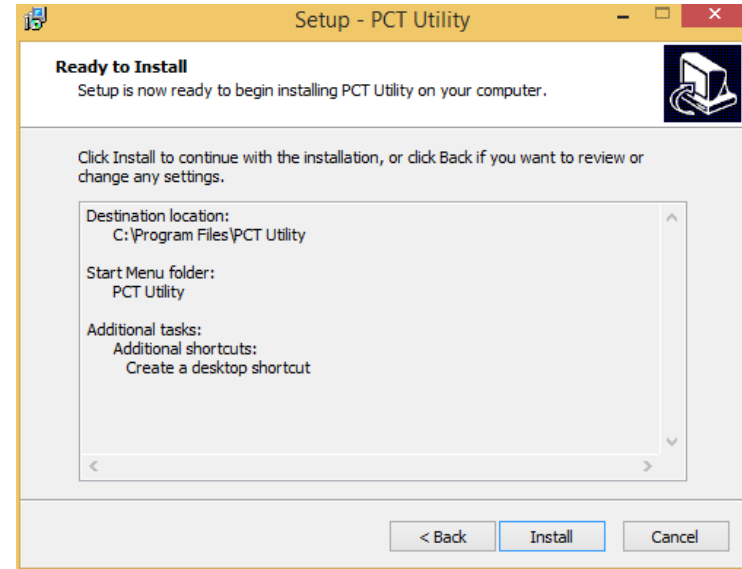
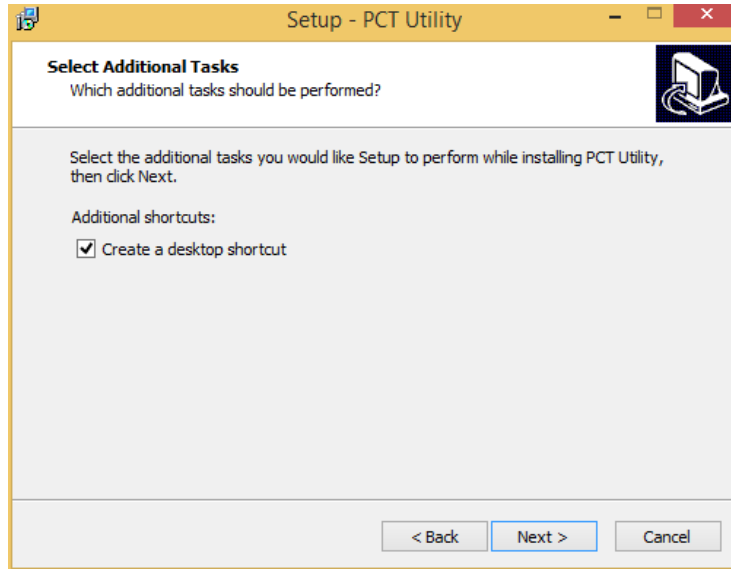
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- Step 3.2. Select install path. Select Start Menu Folder.

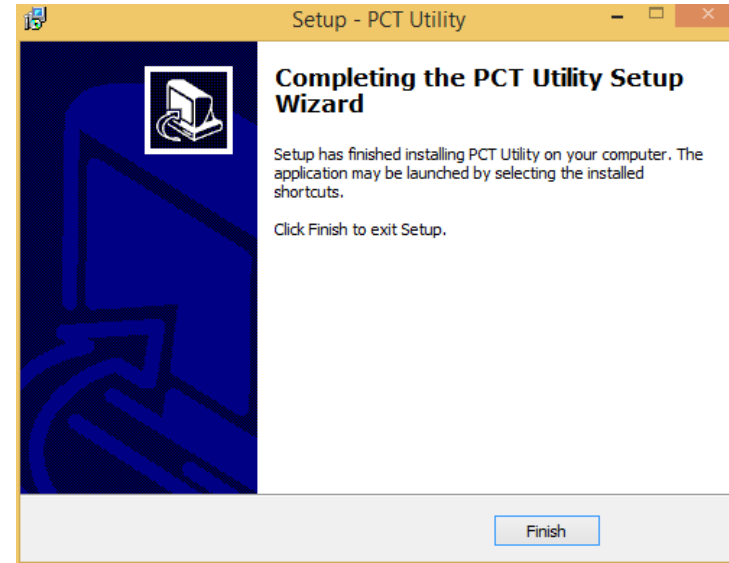
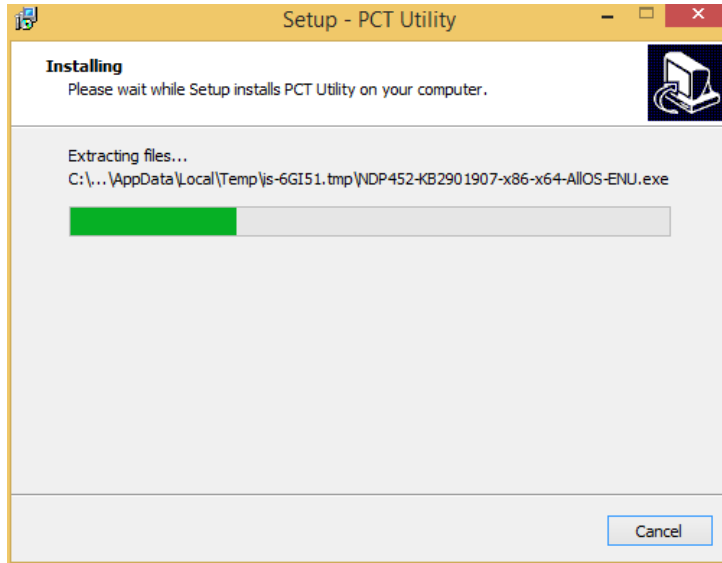


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- Step 3.3. Create a desktop shortcut.



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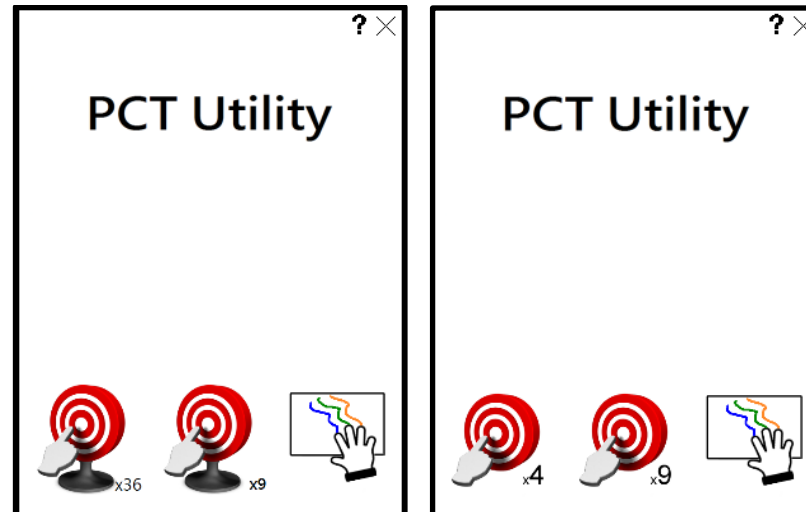


✓ Step 4. After installation, launch PCTUtility.exe

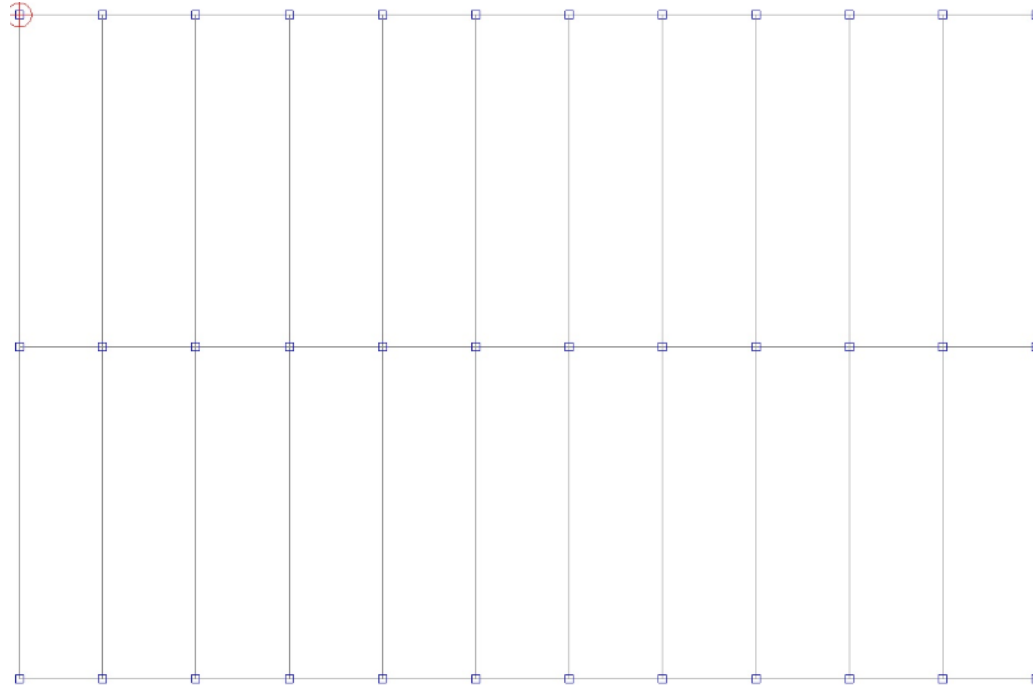


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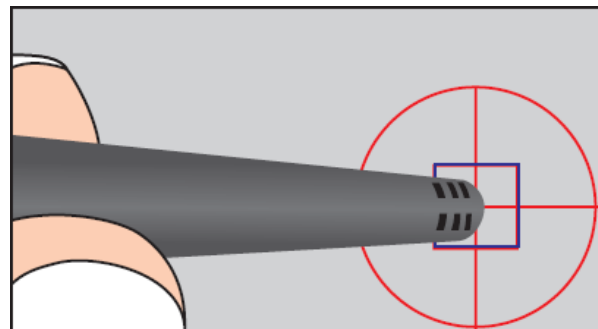
- ✓ Step 5. Please use 9 points selection for better accuracy. Curved surface (example: chalk board) application suggest for 36 points calibration. Touch the calibration points following instructions step by step. PCT Utility will recognize which PCT type then provide the accordingly calibration points.



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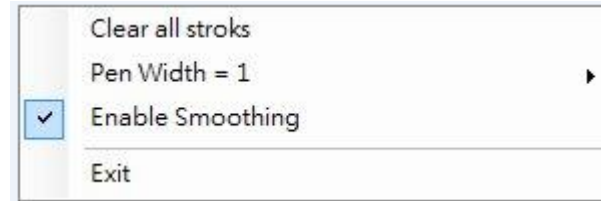
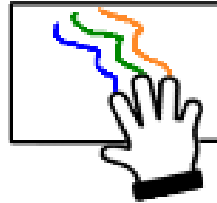


36 points calibration



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- ✓ Step 6. Use the drawing function to test accuracy after calibration is done. To exit drawing mode, please press surface of PCT continually then select Exit. (Optional)



- ✓ Step 7. Please calibrate again if you are not satisfied with accuracy (this might happen if you did not touch the exact position while calibrating.)

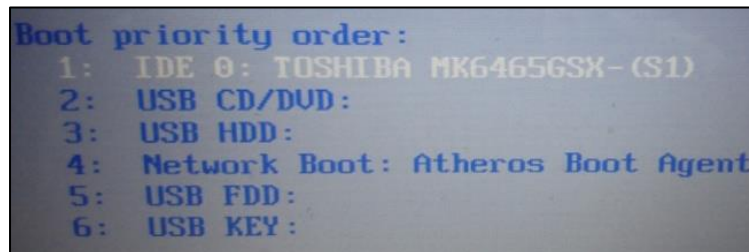
6. TROUBLE SHOOTING

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

How to resolve this situation?

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.



```
Boot priority order:  
1: IDE 0: TOSHIBA MK6465GSX-(S1)  
2: USB CD/DVD:  
3: USB HDD:  
4: Network Boot: Atheros Boot Agent  
5: USB FDD:  
6: USB KEY:
```

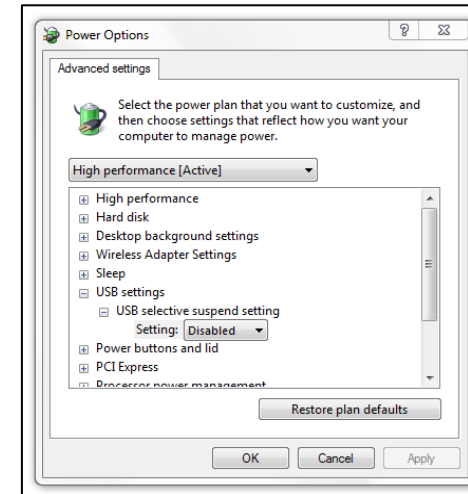
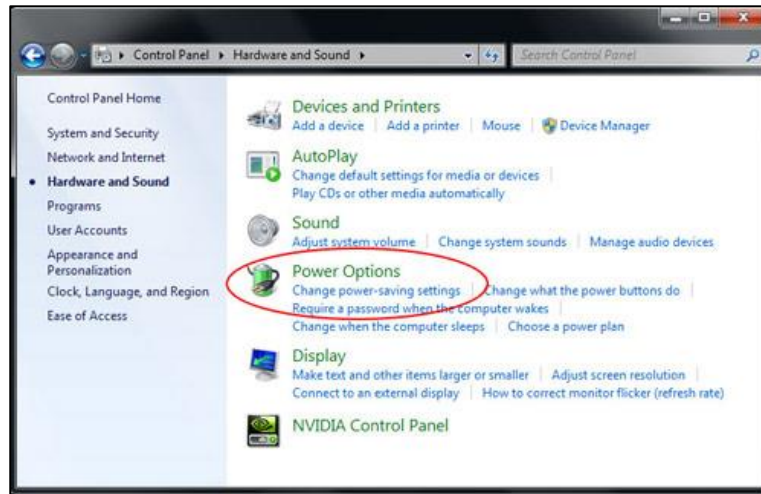
Q2 What to do when Windows system cannot identify the USB device?

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.

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



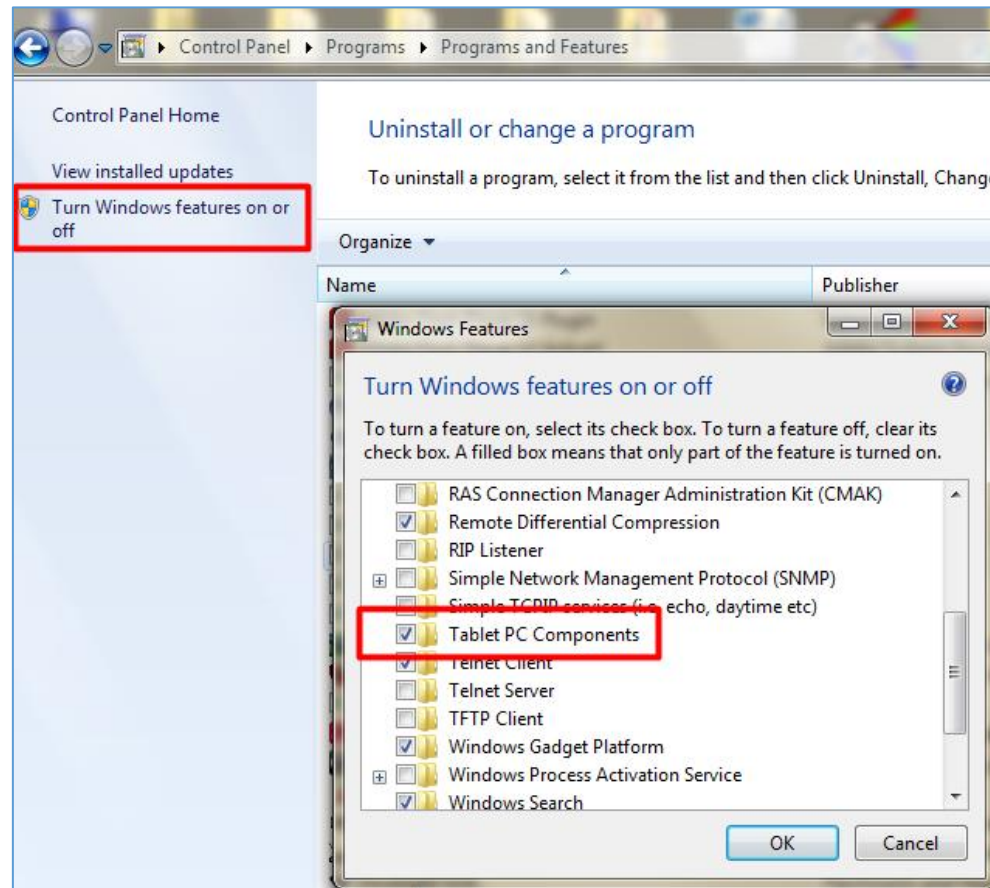
5. Go to official website of the laptop/PC manufacturer, and update USB driver to latest version.
6. Use the accessory default USB cable and check again. If an USB extension is needed, please contact your distributor.
7. Go to official website of the laptop/PC manufacturer, and update the BIOS driver to the latest version.
8. The USB port of your computer maybe not working. Please contact your IT staff.

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Q3 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.



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Q4 When does should calibration be done?

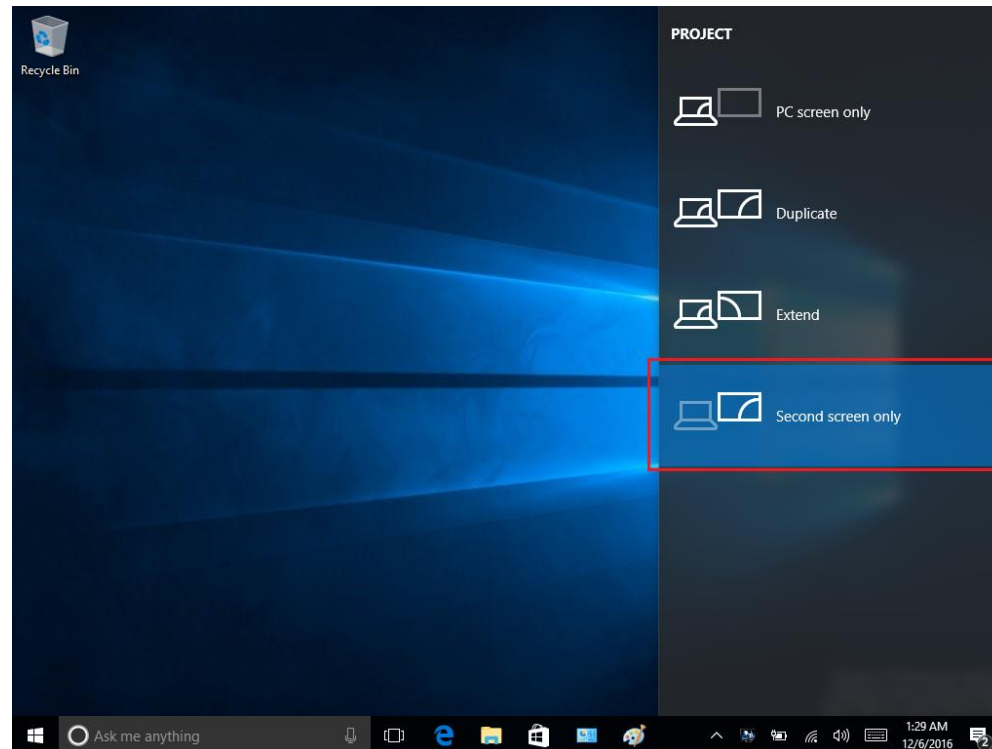
A:

Please perform Calibration during first installation. If projector or whiteboard is moved, Calibration should be performed again. For better accuracy, please do 9 point Calibration.

Q5 What to do if the touch is not accurate ?

A:

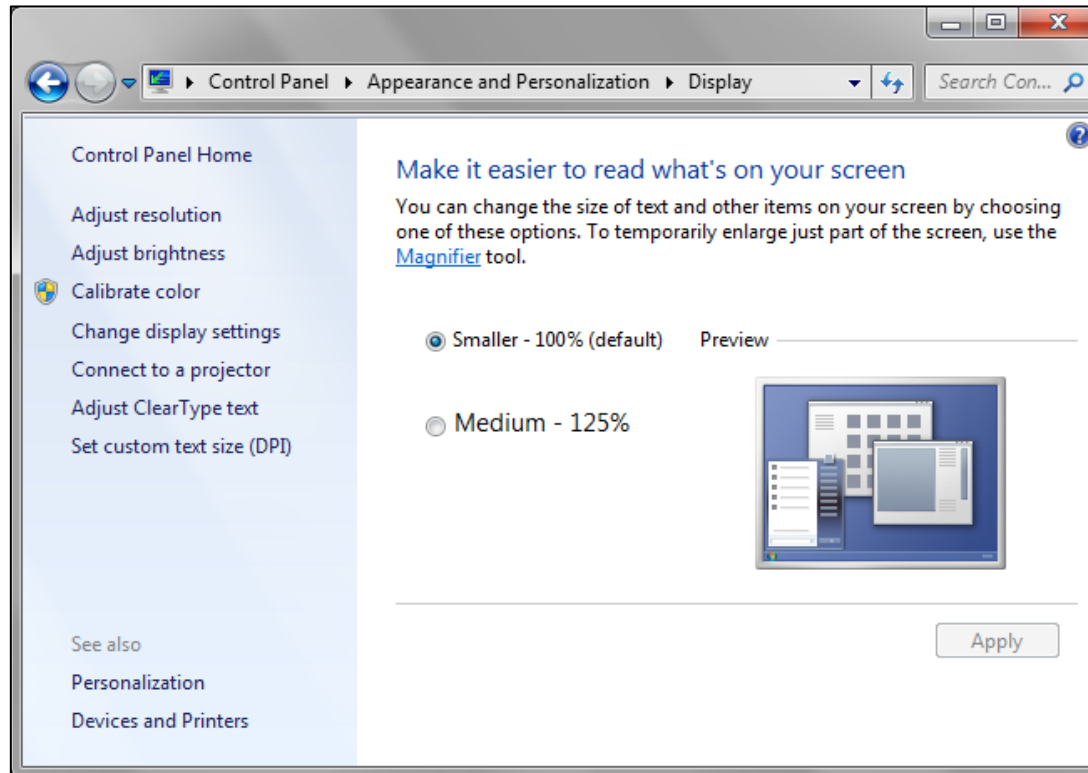
1. Please switch the display setting to “Second screen only” mode while calibrating. Do not set to “Duplicate mode”.



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2. If the default setting of Windows is changed, the touch accuracy might be impact.

Go to setting page<choose Control Panel/Appearance and Personalization>



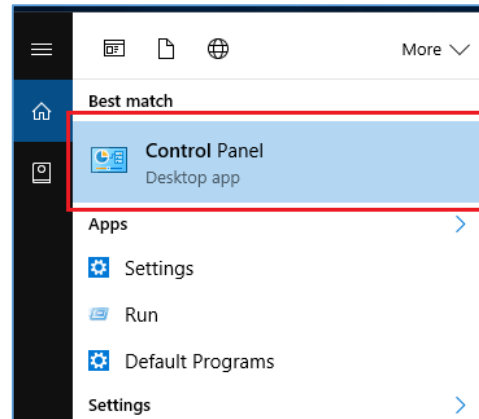
Select “Smaller(s) - 100% (default) ” , then click “Apply”。

3. Please reset the built-in feature settings. Go to setting page and choose < Control Panel/Tablet PC > , click “Reset” button. Using “9-point calibration” in PCT utility to calibrate again.

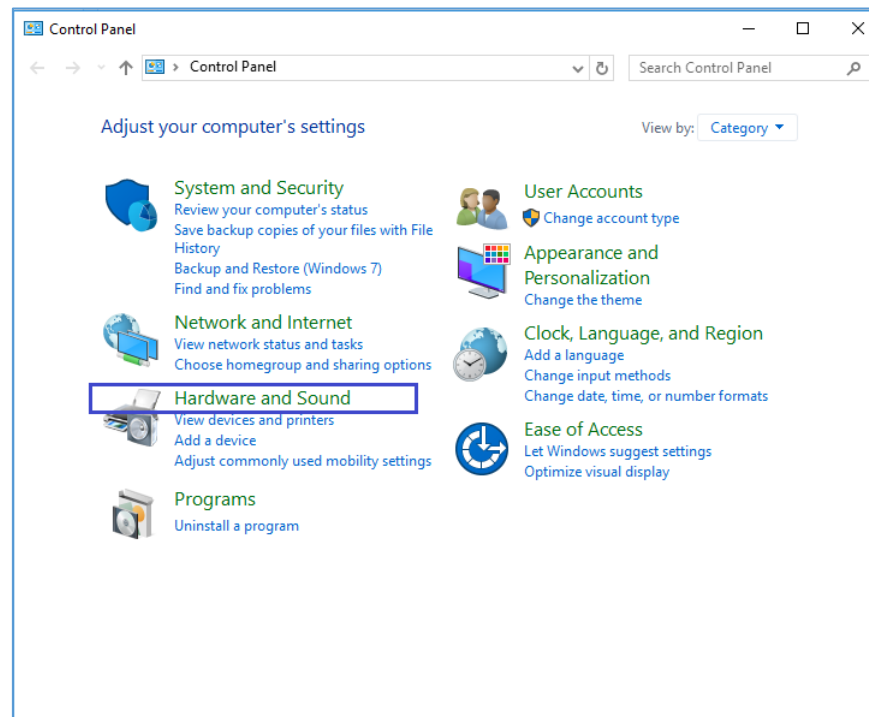
Step 1. Connect the USB cable of the PCT board to a Windows OS Notebook or PC.

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Step 2. Go to “Control Panel”.

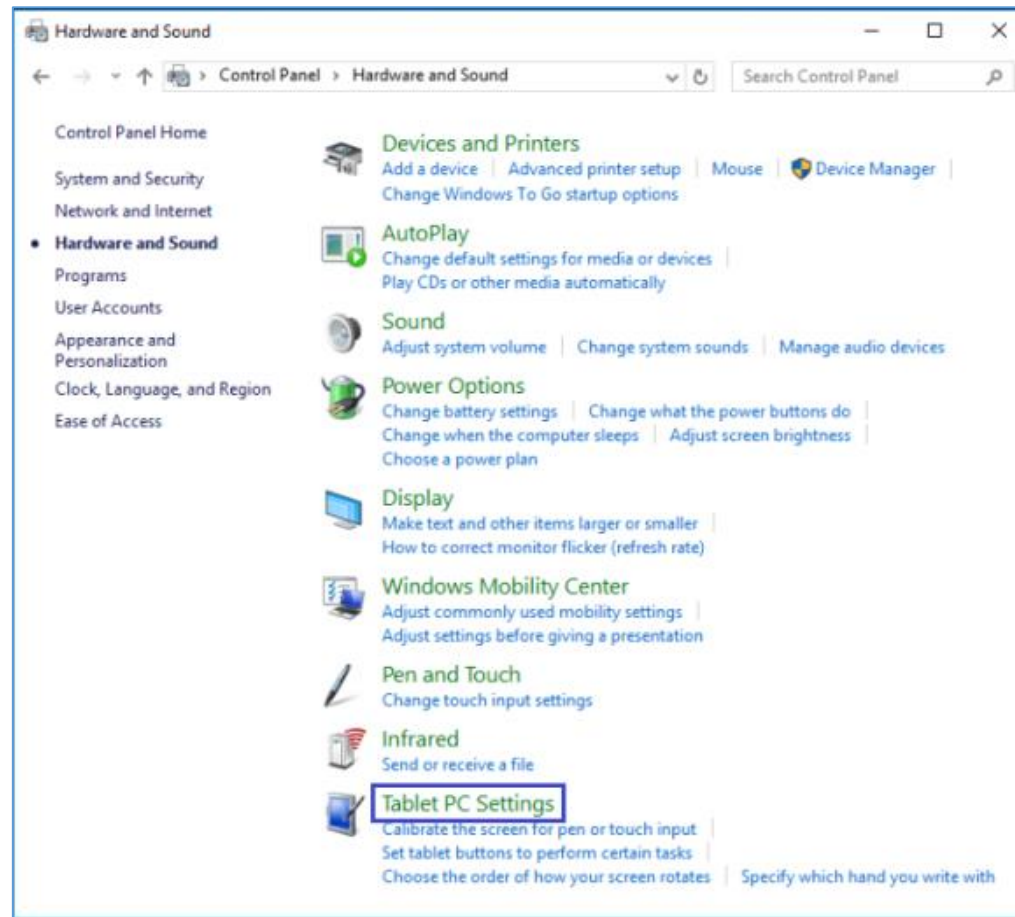


Step 3. Select “Hardware and Sound”.



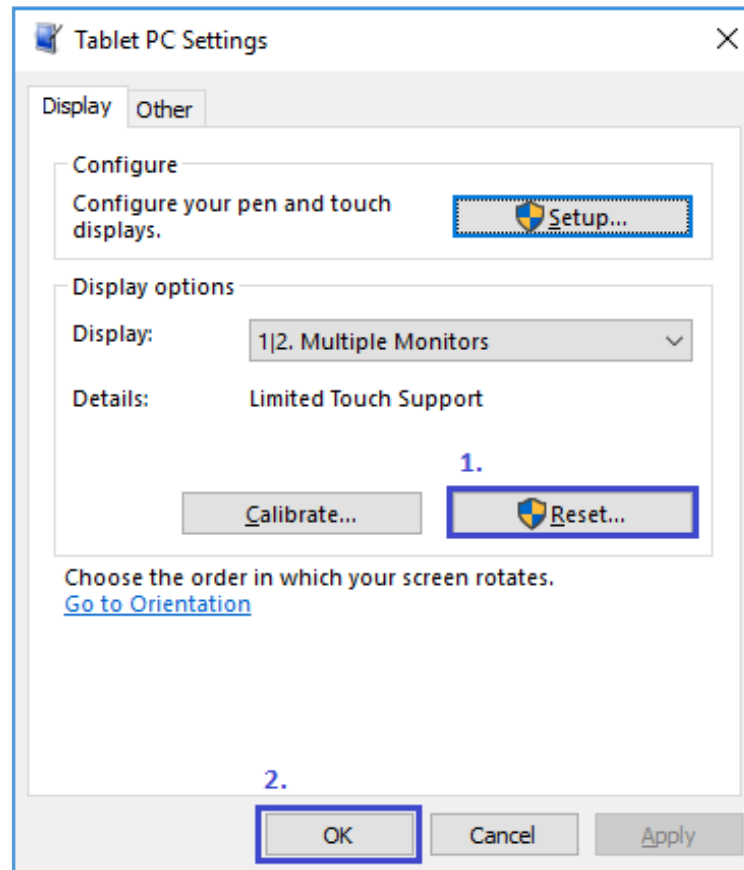
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Step 4. Select "Tablet PC Settings".



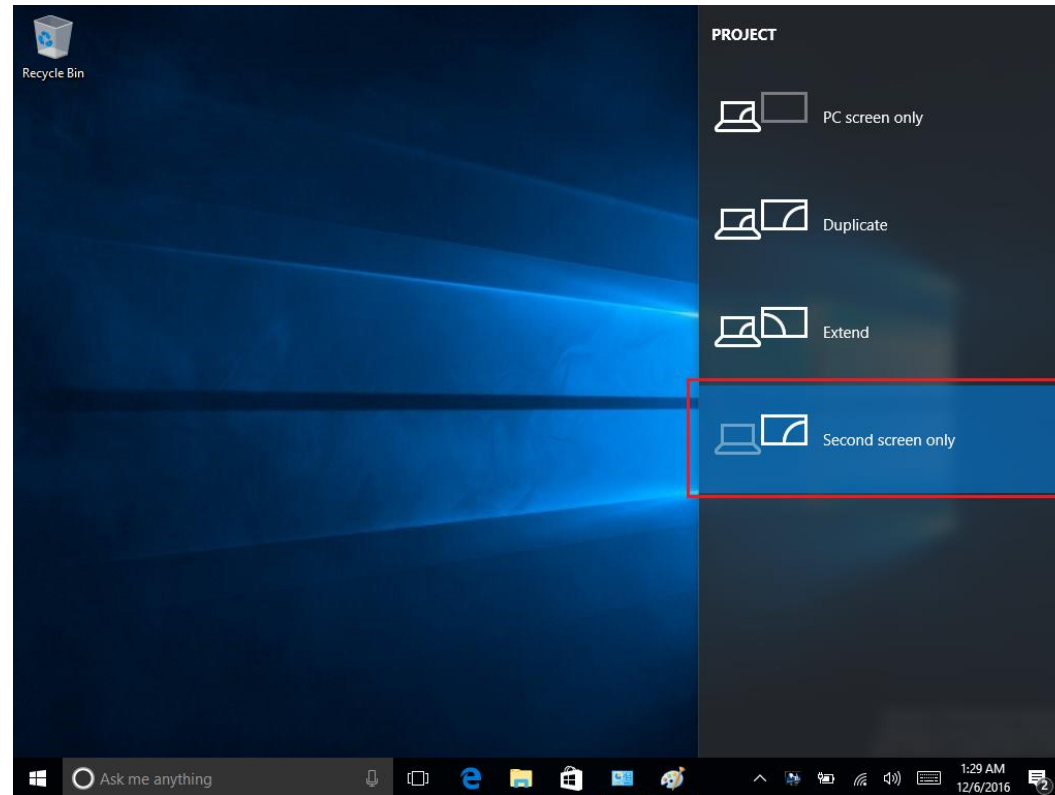
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Step 5. Click “Reset” to reset the calibration value to zero.






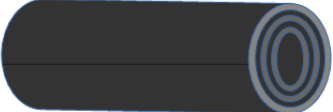

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Step 6. Press “Windows + P” to switch display setting to “Second screen only” mode then use 9-point calibration in PCT utility to calibrate.

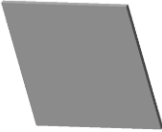
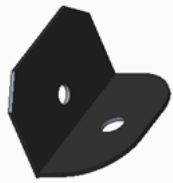



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7. PRODUCT LIST

Item	Description	Quantity
1	Roll Type PCT 	1
2	Left Frame Module 	1
3	5m USB A to USB A cable 	1
4	Steel Papers 	1 (sets)
5	CD for User Manual and Utility Software 	1

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6	EPE Sponge 	1
7	Bracket to fix PCT frame and Wall 	4
8	Wall screw for bracket 	4