ShadowSense Troubleshooting Guide

AN-HW-003

DOCUMENT REVISION HISTORY

Revision	Date	Author	Comments
1.8	Jun\11\2020	Rafay Rashid	Added Section 2.1 Calibrating touch screen using geometry parameters
1.7	Feb\03\2020	Rafay Rashid	Section 8, 9 & 10 were completely rewritten.
1.6	Aug\14\2019	Adam Devecseri	Updated for Dashboard 3.0
1.5	Sep\14\2018	Rafay Rashid	Added a new section Setup two ShadowSense monitors connected to a PC
1.4	Nov\14\2016	Marina Mira	Added footer Updated section 5.0 Added section 7.0
1.3	Sept\11\2015	John	Formatting changes
1.2	Aug\25\2015	Rafay Rashid	Screenshots changed to Baanto Dashboard Lite edition Baanto Tech Support section added
1.1	July\29\2015	Jason	Added VID & PID numbers Added section to support dual monitor screen
1.0	July\20\2015	Rafay Rashid	Created the document

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DESCRIPTION

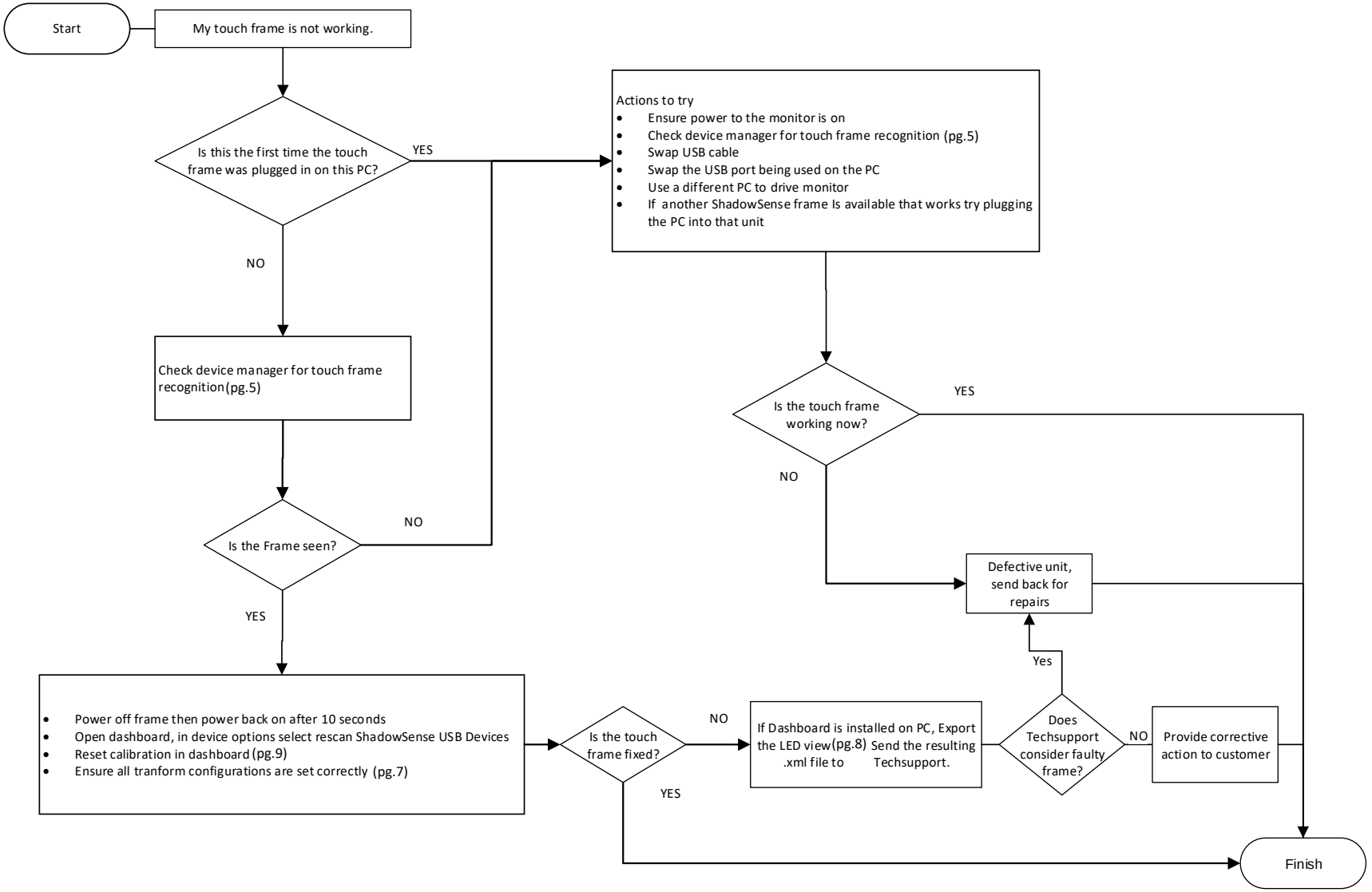
This document lists the common issues experienced by users of ShadowSense™ touch frames and it lists step-by-step procedures for fault finding and debugging the touch frame.

The document is divided up based on the most common problems users will experience and contact tech support about.

1.0 Touch Does Not Work

If the touch frame is not working, refer to the flow chart on the next page for step-by-step instructions on how to resolve issues or determine if the unit needs to be repaired.

Do not use this flow chart if the end user has been upgrading or downgrading firmware. The end user should not be upgrading or downgrading firmware without the help of an experienced support person. The touch screen is tested prior to shipping and should work right out of the box without the use of Dashboard.



1.1 Device Manager Touch Frame Recognition

One of the first things that should be done when troubleshooting a touch frame is to check if the ShadowSense frame is being recognized in Windows® ***Device Manager***. The ***Device Manager*** can be found by searching ***Device Manager*** in the Windows search bar or under *Control Panel*. Open it and you should get a window that looks like the image in Figure 1.

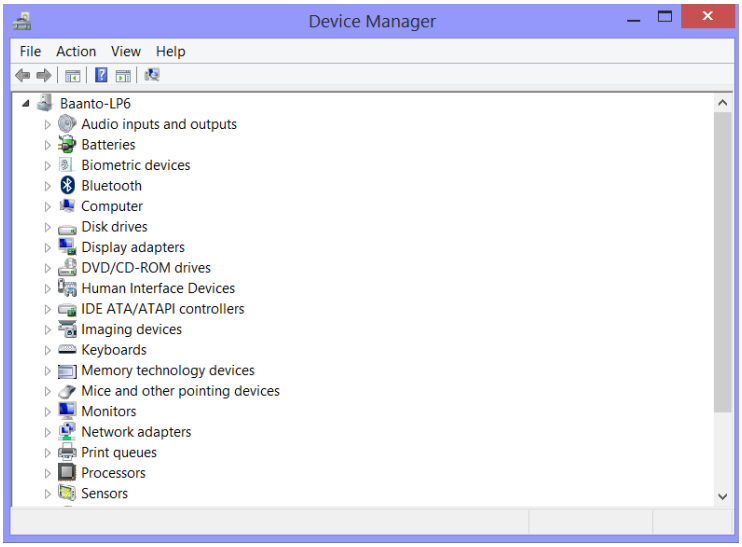


Figure 1: Device Manager Window

Once the ***Device Manager*** has been launched the user must check under ***Human Interface Devices (HID)*** as well as ***Mice and other pointing devices*** to see if there are any entries. Figure 2 shows the device manager when a ShadowSense touch frame is connected to a PC and Figure 3 shows the same PC without a ShadowSense touch frame. As can be seen there are five different human interface devices in addition to one HID compliant mouse under mice and other pointing devices.

As per the USB specification, all ShadowSense touch screens can be identified via the Vendor ID (VID) and Product ID (PID). The following table describes the values for the products.

VID	0x2453
PID	0x0100

Based on the version of Windows being used (7, 8 or 10) not all of the entries will be same as shown in the figures. The important point is to note that some combination of entries are shown when the touch screen is connected to the PC and the same entries disappear if the frame is disconnected.

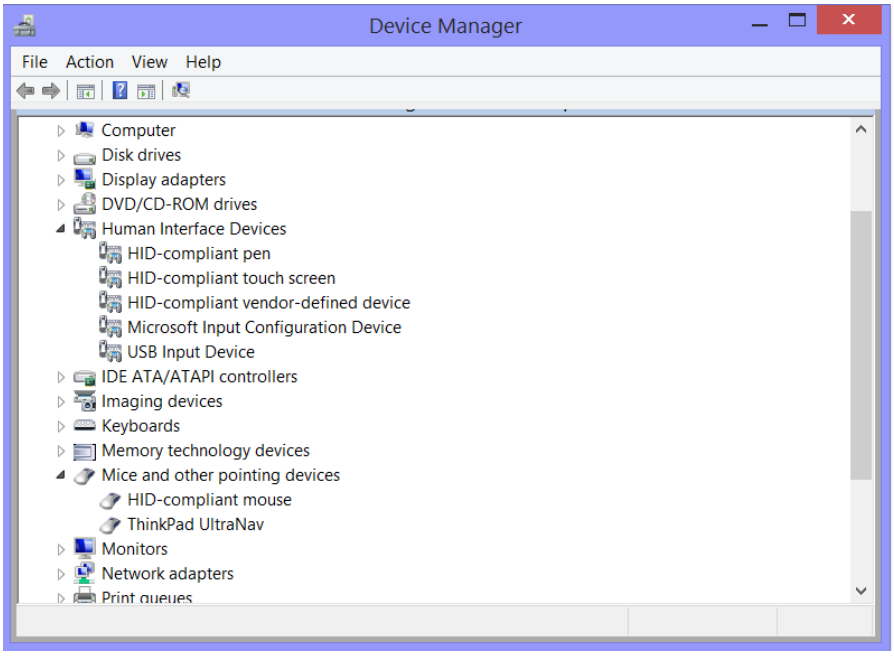


Figure 2: Device Manager Window with ShadowSense frame connected

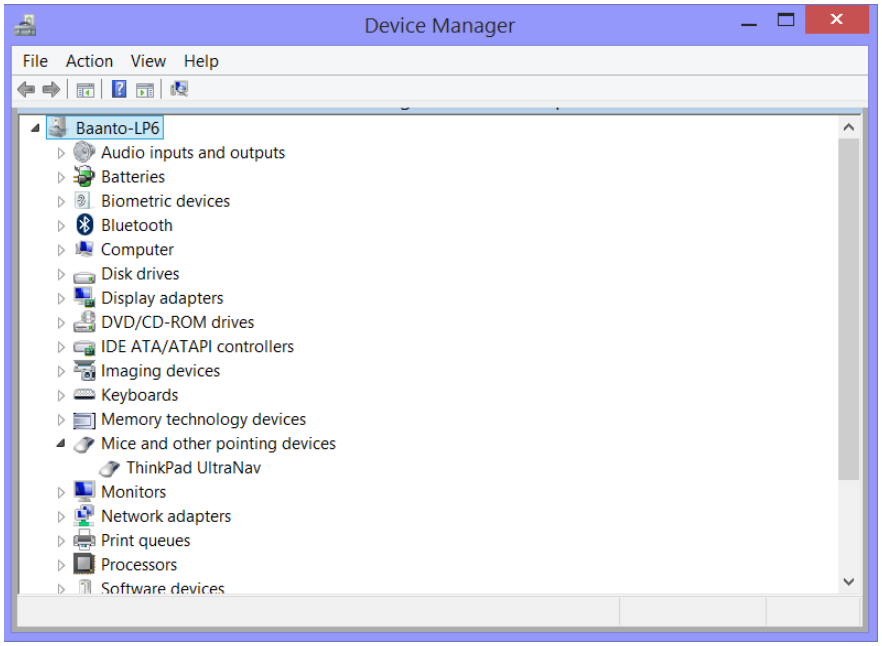


Figure 3: Device Manager Window with no ShadowSense frame connected

1.2 Resetting Configuration Parameters

In order to reset the configuration parameters for the ShadowSense touch frame the Dashboard application must be launched. Once Dashboard is open, the user must go into the Configuration view where the following screen shown in Figure 4 will show up. Click the reset button in the bottom right of the window. This resets most of the parameters back to the default for the ShadowSense frame.

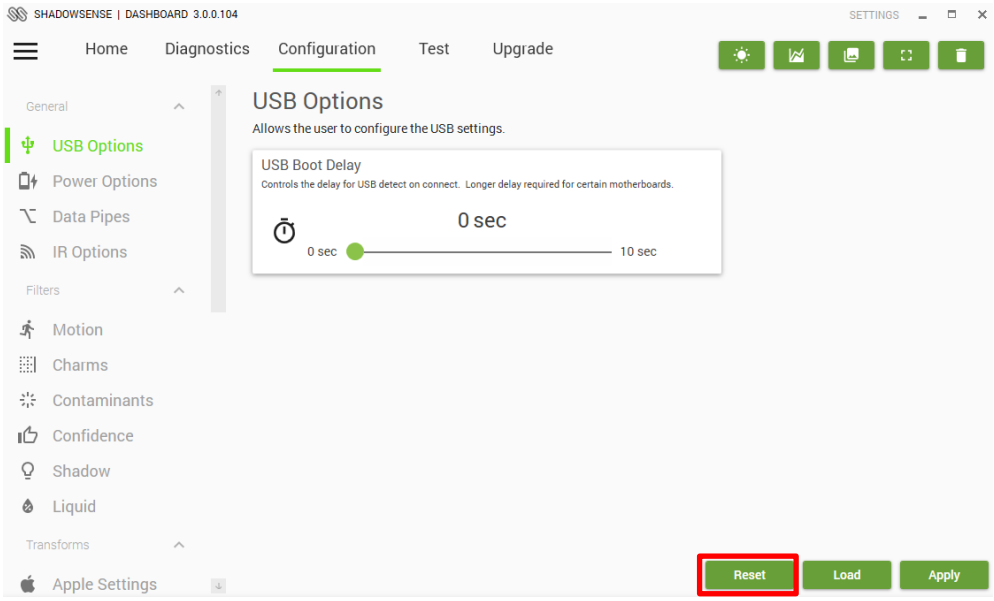
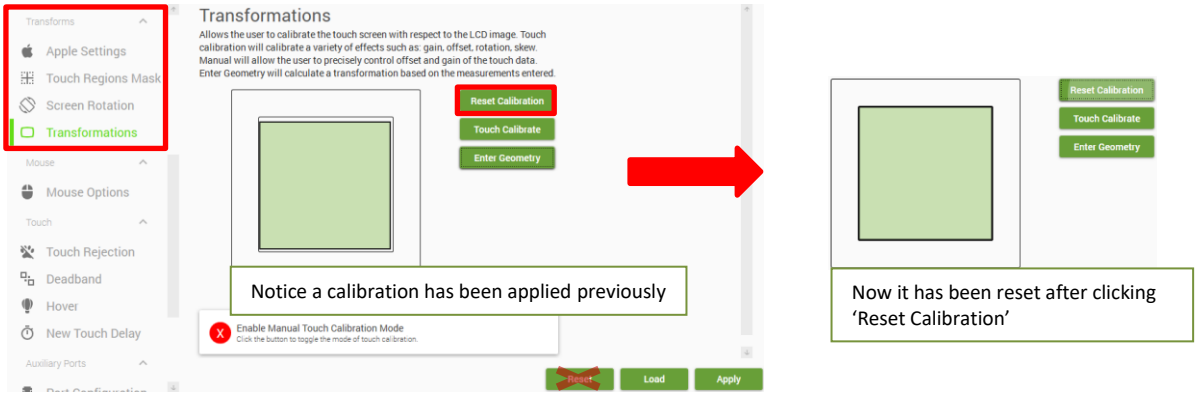


Figure 4: Dashboard Configuration tab

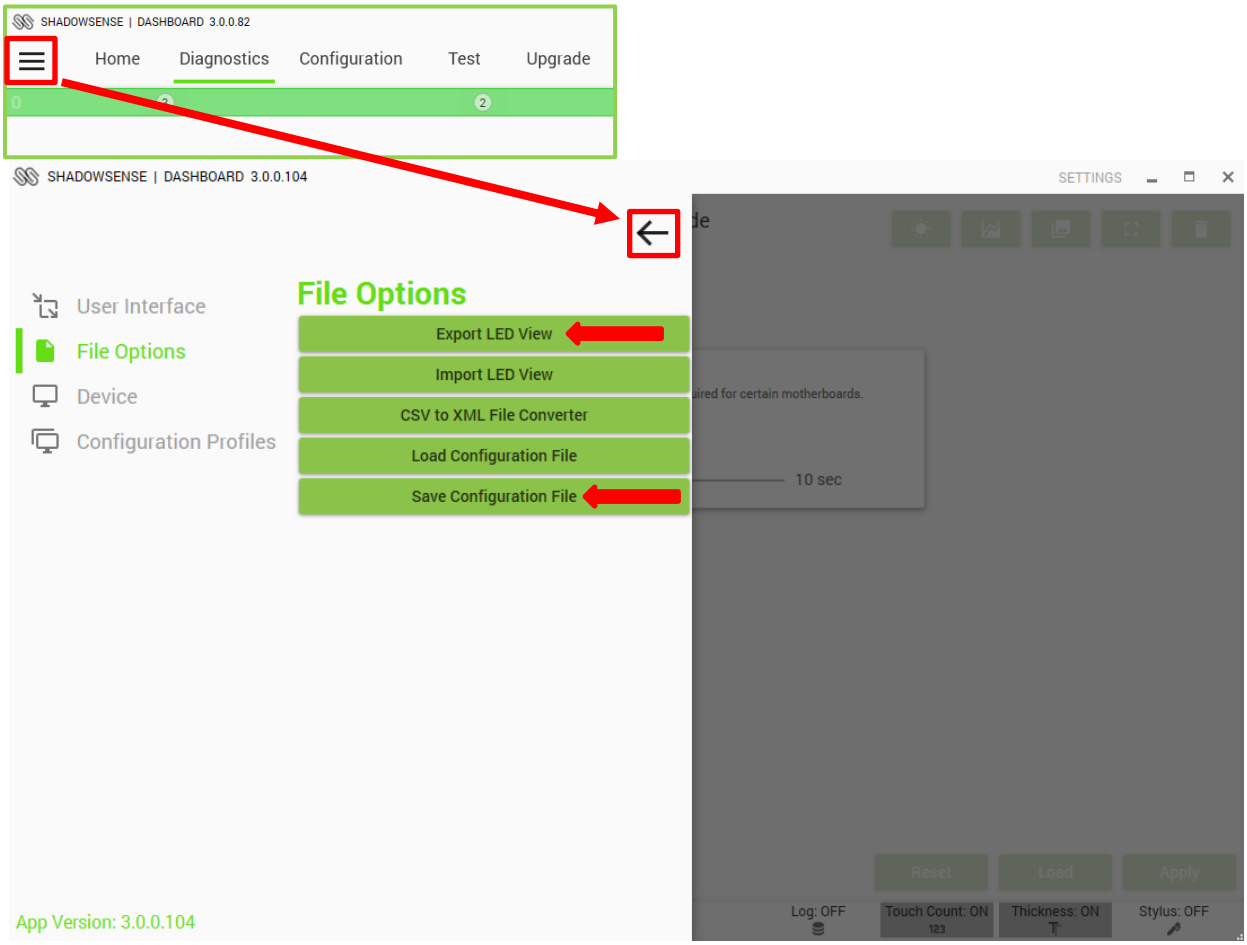
The parameters under *Transforms* **do not reset** when the Reset button is clicked, these parameters are *Apple Settings, Touch Regions Mask, Screen Rotation,* and *Transformations* which contains the screen calibration settings. Apple Settings should be off unless using ShadowSense products on OSX. By default, Touch Regions Mask should have all zones deactivated, Screen Rotation should be Landscape, and any calibrations in the Transformations section should be reset as illustrated below:



Remember to hit the Apply button on the bottom right corner of dashboard when done.

1.3 Exporting LED View and Configuration file

In order to export the ***LED View*** for diagnostics, Dashboard must first be launched. The next step is to open the main menu in the top left corner of the window. Click the 3-line icon button this will open the main menu which will slide out from the left side. Next the user must select ***File Options*** then ***Export LED View***. This will generate an .xml file, save the file to the PC



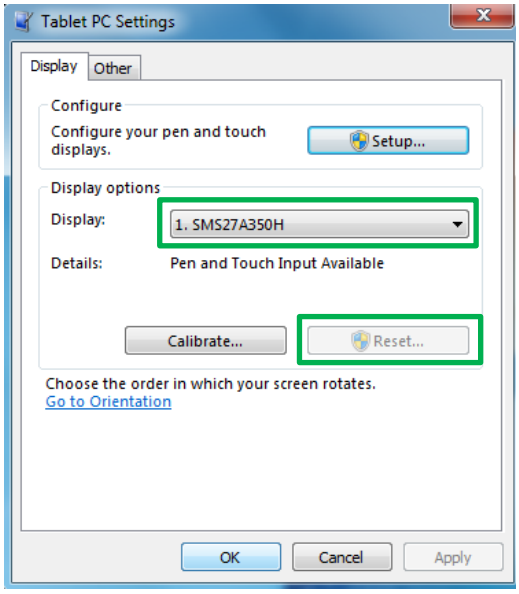
Next click on the ***Save Configuration File*** button, this will generate another .xml file, save this file to the PC.

Please provide techsupport with both the LED Data and Configuration file via email if you require support.

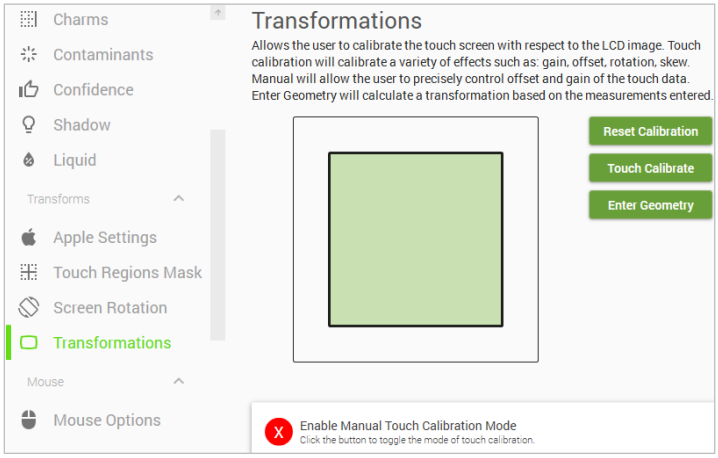
2.0 Calibration

Regardless of the OS the touch screen is used with, it is important to do the calibration on a Windows PC as that is the only OS that supports the Dashboard application.

1) Before doing any calibration, connect the touch frame to a Windows PC and open up ***Tablet PC Settings*** located inside the ***Control Panel***.
2) Notice the ***Tablet PC Settings*** icon will not show up in the control panel if the touch frame is not powered up or USB is disconnected. If you are using a laptop with a touch screen this icon will always appear since the PC is always connected to a touch screen.
3) From the ***Display*** drop down menu select the touch monitor. Ensure the ***Reset*** button is greyed out. If the ***Reset*** button is not disabled, click the ***Reset*** Button and then click ***Apply***. This will reset the Microsoft touch calibration on the PC for the corresponding touch monitor.

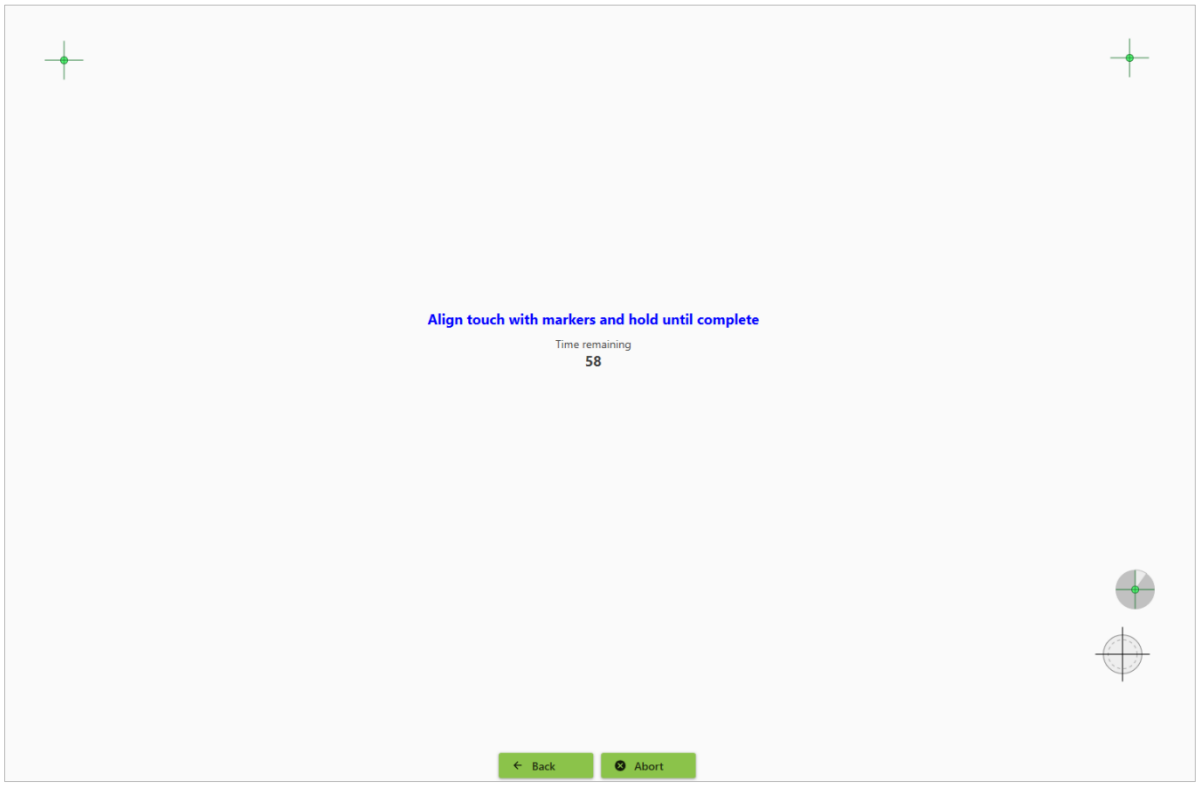


4) Open Dashboard. Go to ***Transforms*** > ***Transformations*** from the Configuration view.



5) Click on Calibrate. If prompted for confirmation, click OK.
6) Touch and hold your finger on the center of the cross hair shown below. Hold finger on glass for 5 sec.

7) After 5 sec the circle will disappear and you will see a green dot. Move to the next circle. Do this for the four circles.
8) If for any reason you make a mistake click the back button using the mouse and redo the specific touch point.



Note: It is normal for the green dots to not be aligned up with the cross hair shown on the circle, Dashboard will measure this offset and use it to calibrate the screen.

9) Enter the full screen view by pressing the ESC Key on the keyboard or select the full screen view icon  from the top right side of Dashboard.

Refer to the Application Note **AN-FW-008 Calibration Process** for detail instructions on how to calibrate the screen with the new GUI.

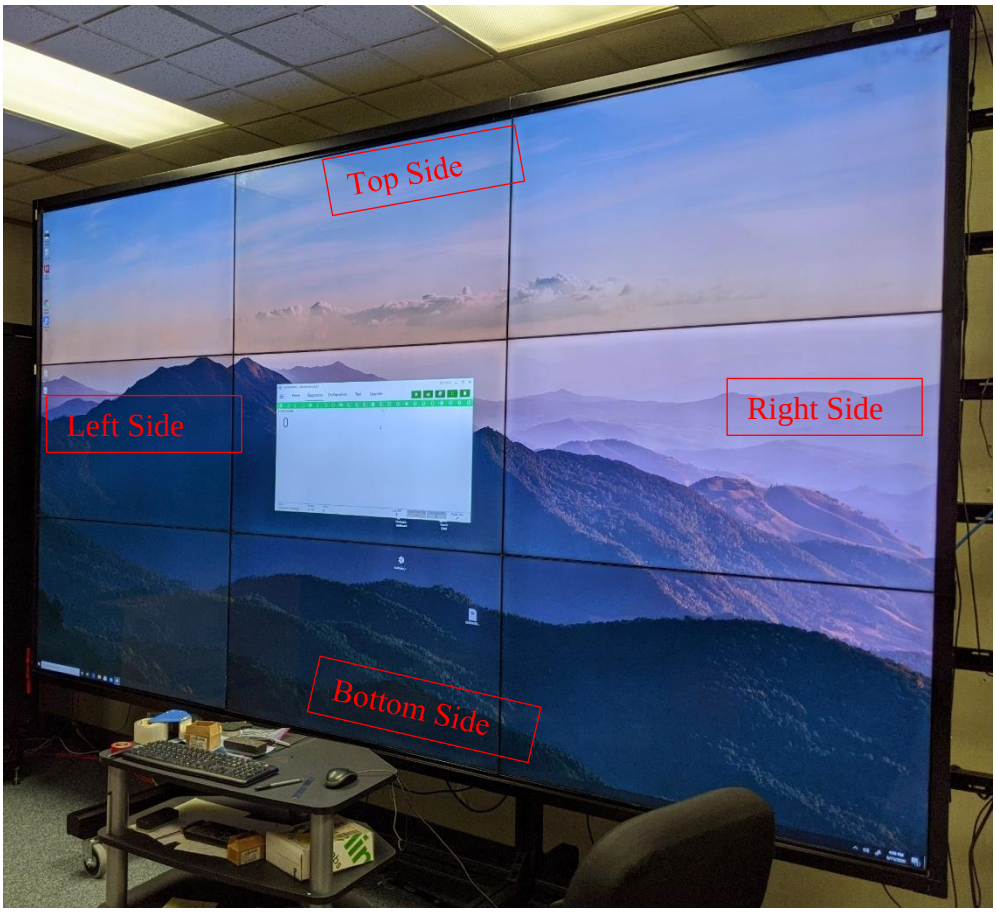
2.1 Calibration Using Geometry Parameter

Section 2.0 is the preferred method for Calibrating a single monitor using Dashboard. But often times in a Modular System Install the PC driving the Video Wall is physically located in a separate room that is not accessible. The user also cannot drive the Video Wall displays using a Laptop as the Laptop does not have the multiple Video outputs that a desktop PC with the Graphics card can support.

So, in this situation one can calibrate the Modular Touch System or any ShadowSense touch screen using the Geometry Method. This method relies on measuring the width of the black boarder from the inside of the modular bar to the start of the active pixel on the Video wall Monitors.

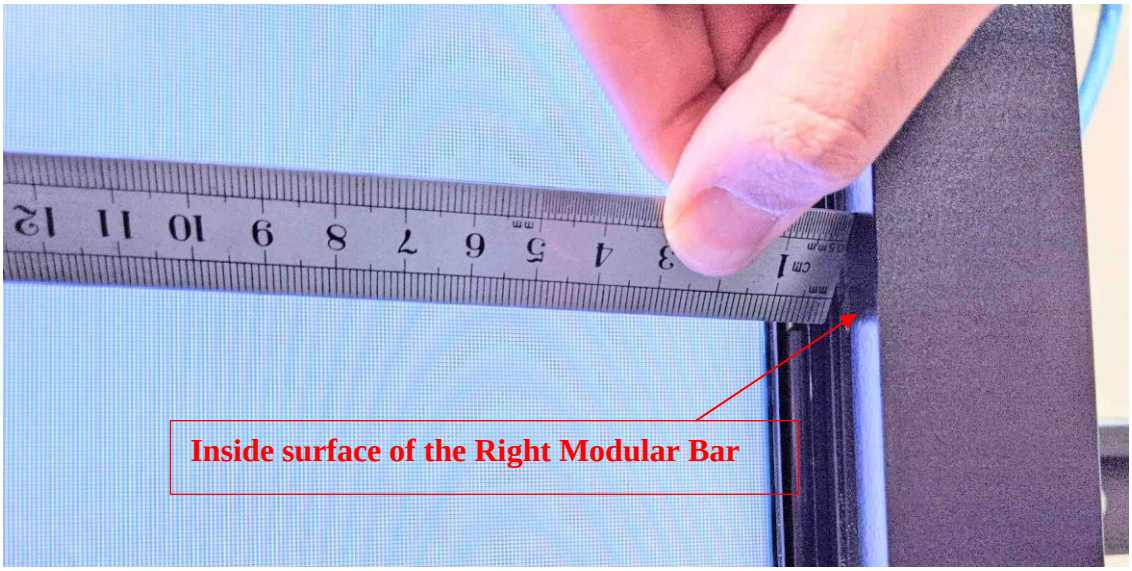
Note: The Geometry method is not as accurate then compared to the method described in Section 2.0 because it does not compensate for skew and other rotational anomalies but on a large video wall the results are quite good.

1) Ensure all the Monitors are working and turned on during the measurement.

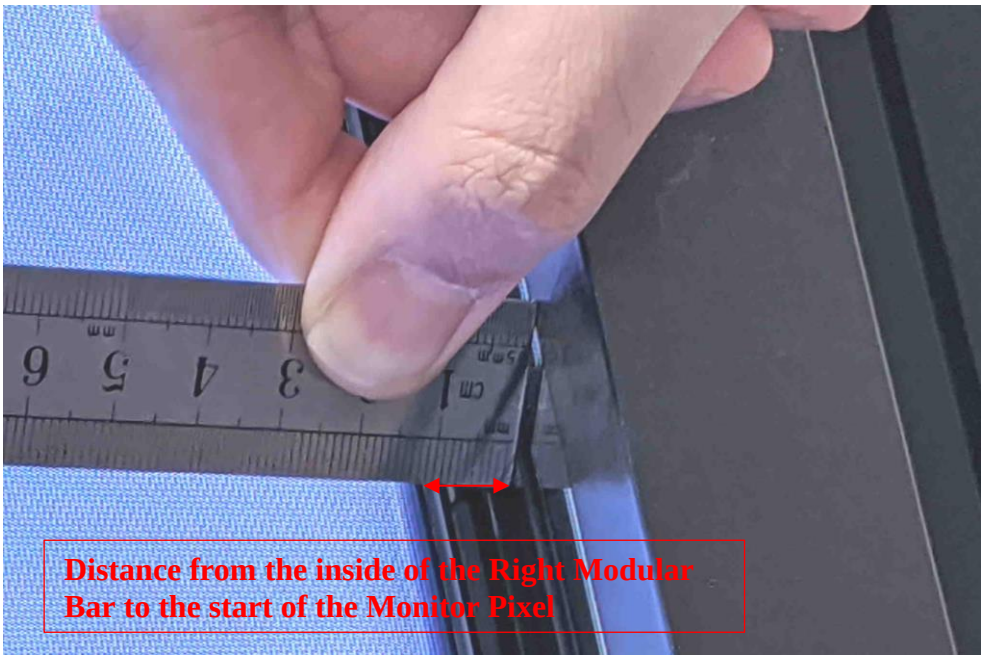


2) Disconnect the USB Cable from the Modular system.
3) Take a 15 cm ruler (6 Inch ruler) as this will be used to measure the thickness of the black border around the perimeter of the video wall.

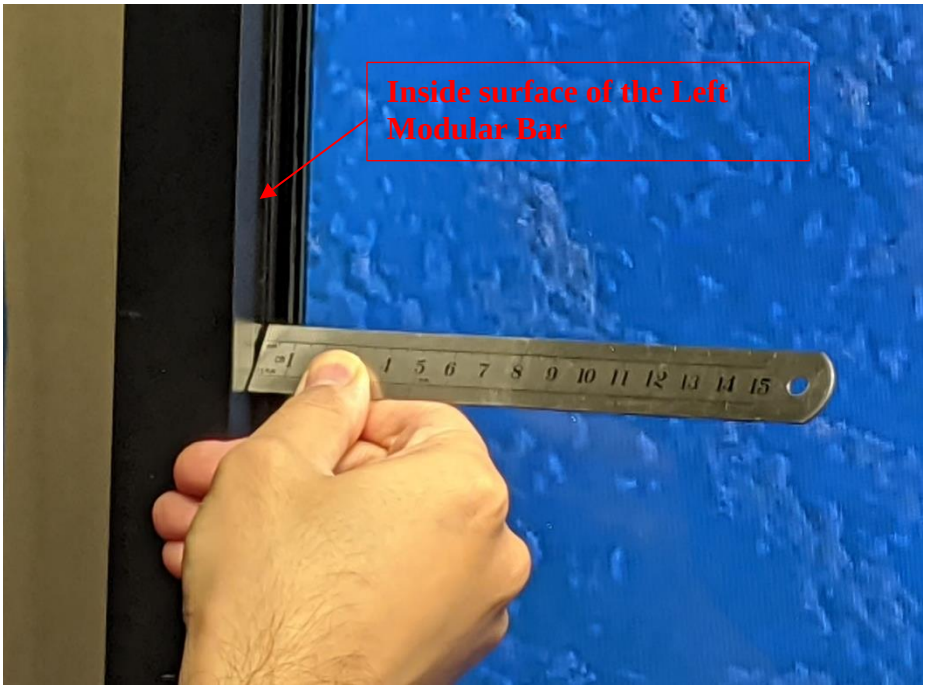
4) On the Right Side measure the distance between the inside of the Right Modular Bar to the start of the active Pixel on the Video Wall. Record the measurement in mm



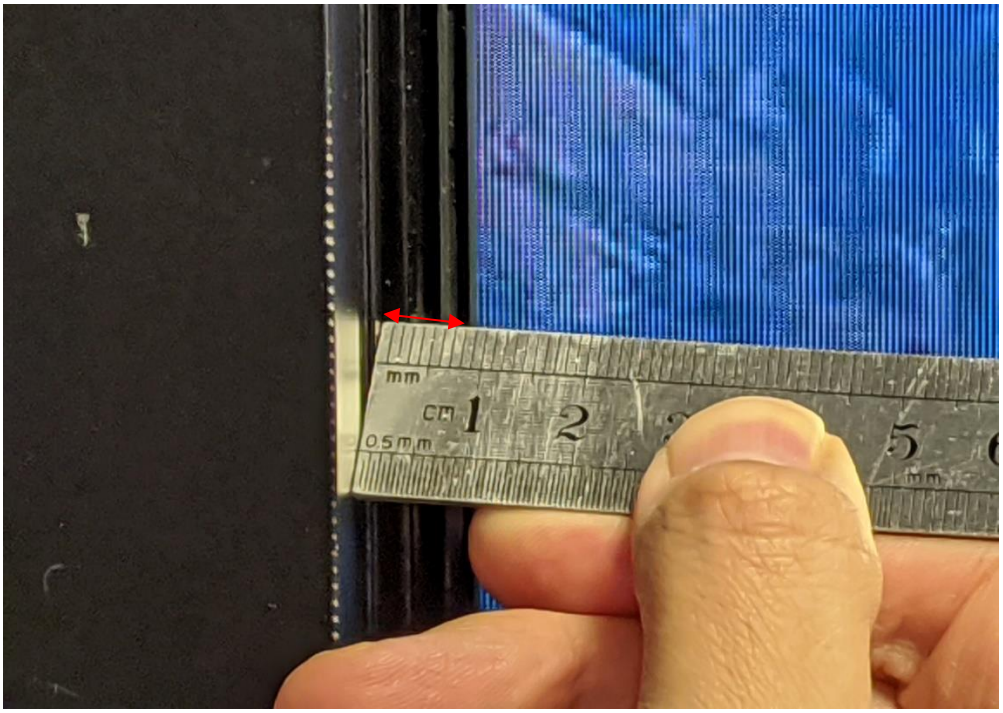
Zoom in Version is shown below



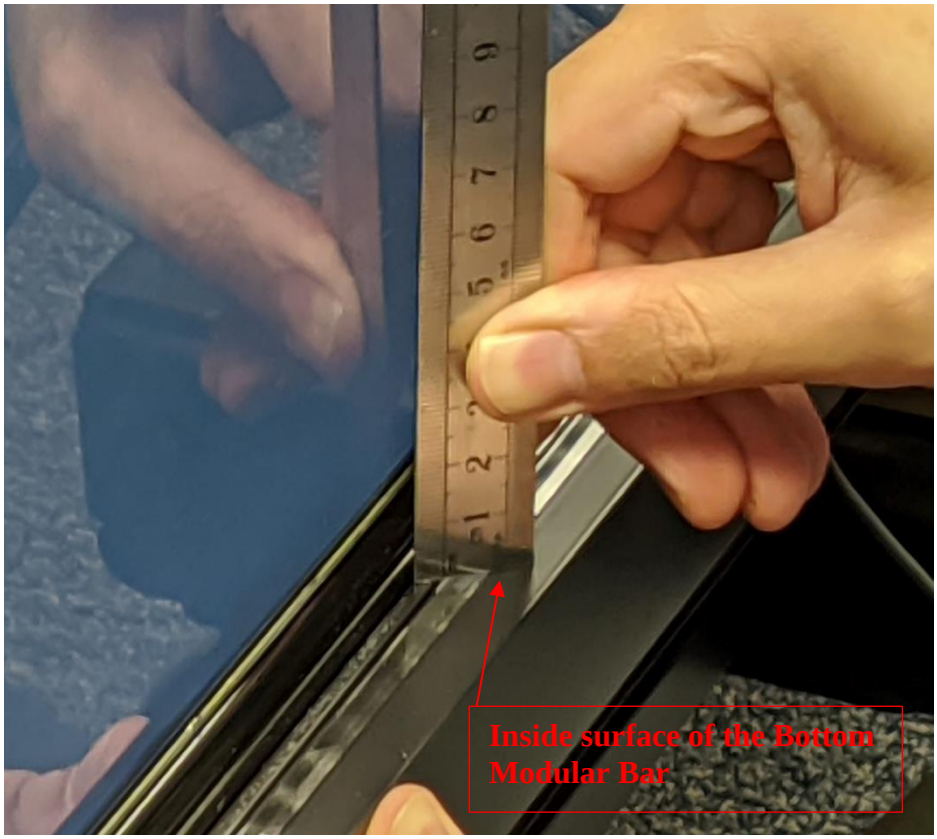
5) On the Left Side measure the distance between the inside of the Left Modular Bar to the start of the active Pixel on the Video Wall.



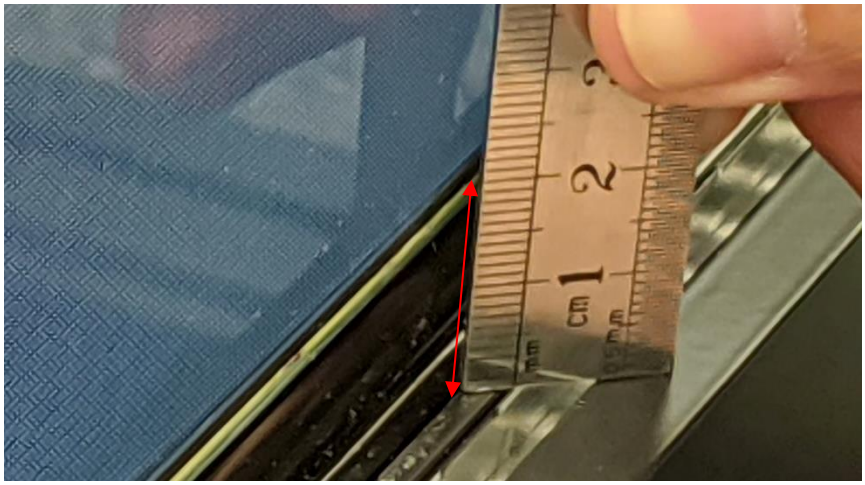
Zoomed in Version. Notice it is about 8 mm



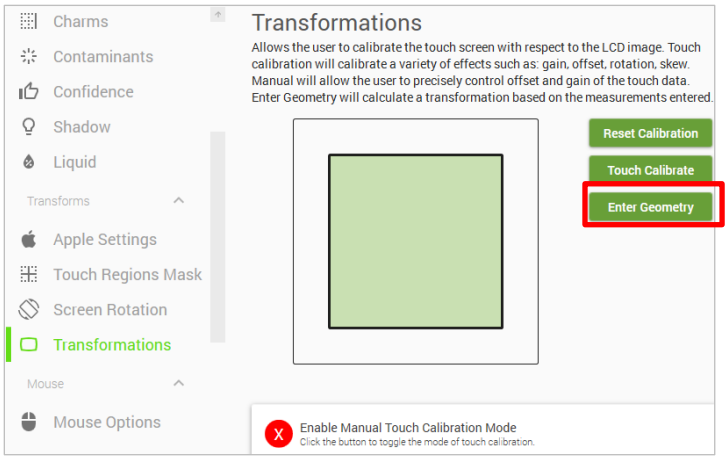
6) On the Bottom Side measure the distance between the inside of the Bottom Modular Bar to the start of the active Pixel on the Video Wall.



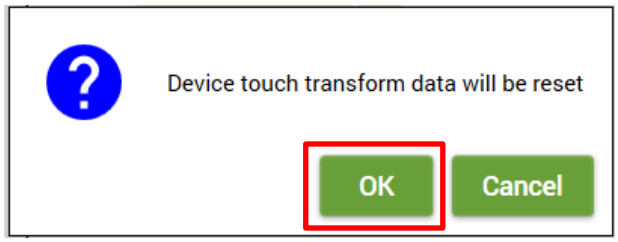
Zoomed in version. Notice this distance is 20 mm or 2 cm.



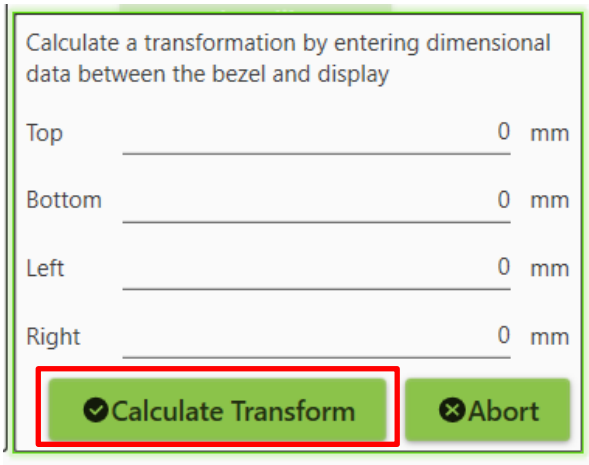
7) On the Top Side measure the distance between the inside of the Top Modular Bar to the start of the active Pixel on the Video Wall.
8) Connect the USB from the Modular to the Laptop and run Dashboard on the Laptop.
9) Select **Configuration** then Select **Transformations.** Hit the **Enter Geometry** Button.



10) Click **OK** to clear the existing touch transform



11) Enter the measured distances in mm in the Dialog box and click the **Calculate Transform** button

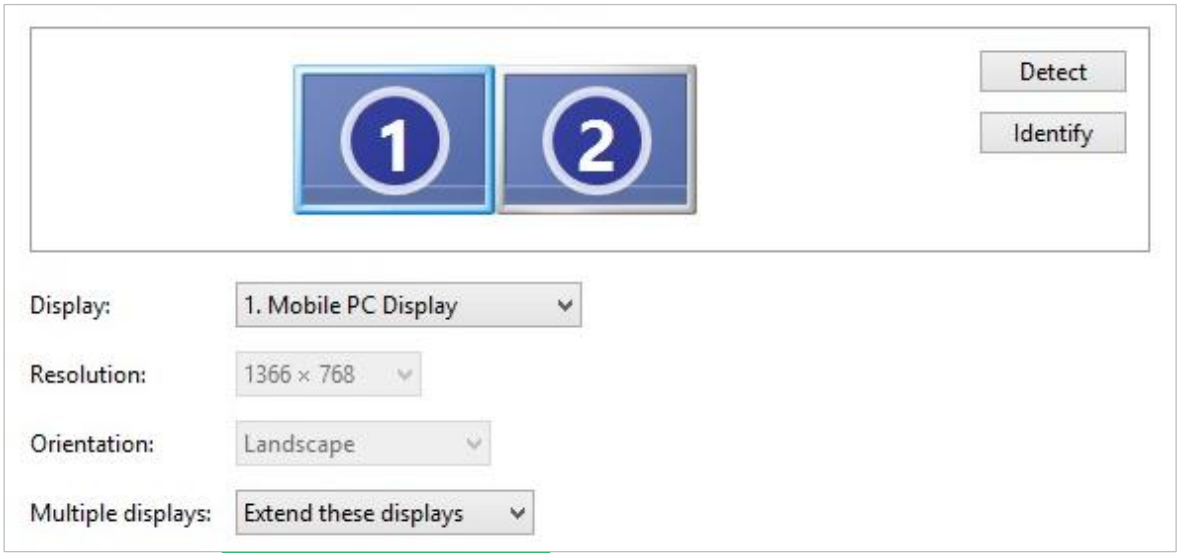


3.0 Dual Monitor Setup with a Single PC

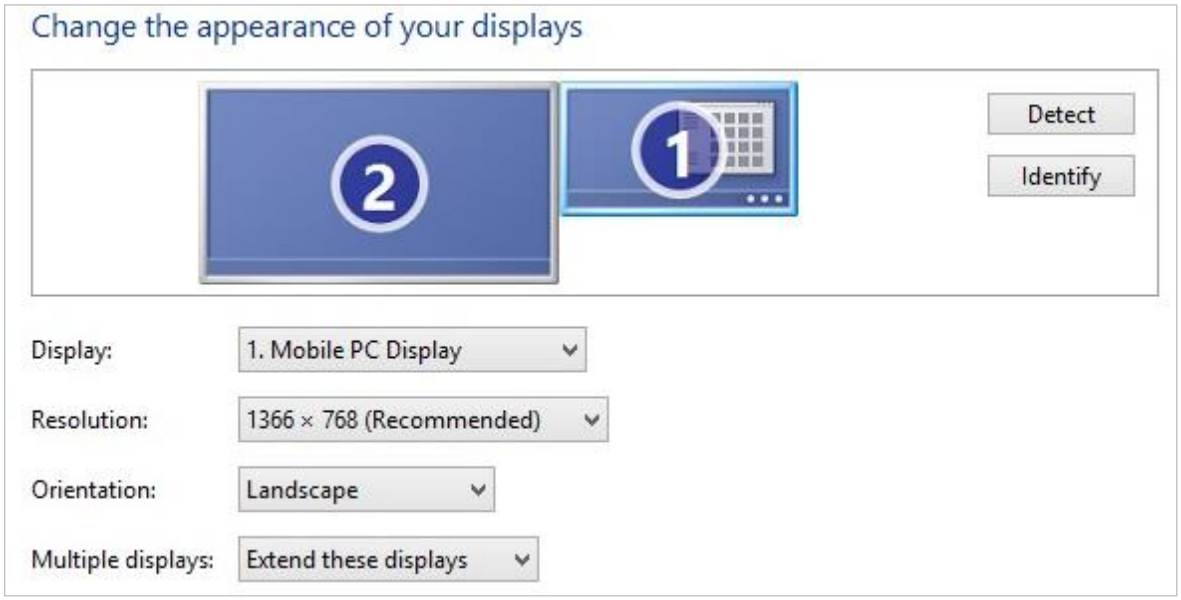
In Windows® 7, 8 and 10, it is easy to add a second monitor to the same PC. This section will show how the user can add a secondary touch monitor to the same PC.

1) Connect the second touch monitor to the PC via a VGA, DVI or HDMI port. Connect the USB cable corresponding to the touch monitor to the PC. Right click on the desktop and select ***screen resolution***.

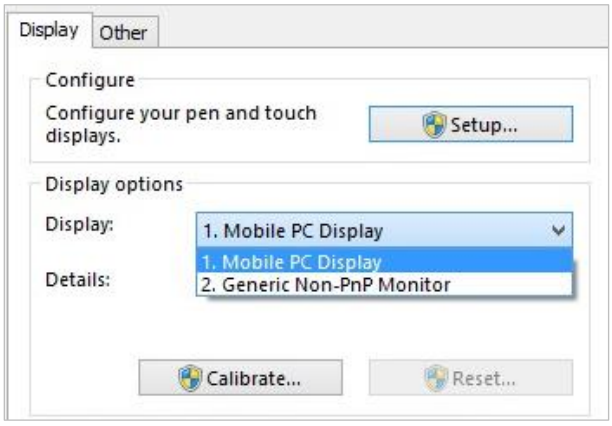
2) Notice the second screen will be shown as number 2 on the PC. For ***Multiple displays*** select ***Extend these displays*** from the drop down menu.



Hit the ***Apply*** button and click ***OK***. This will extend the desktop on the secondary monitor. You may want to open up ***screen resolution*** again to verify the change. In our setup the primary monitor is a laptop screen (Number 1) while the secondary monitor (Number 2) is a 65" touch monitor. Here you can independently adjust the resolution of the secondary monitor. Click ***OK*** when done.

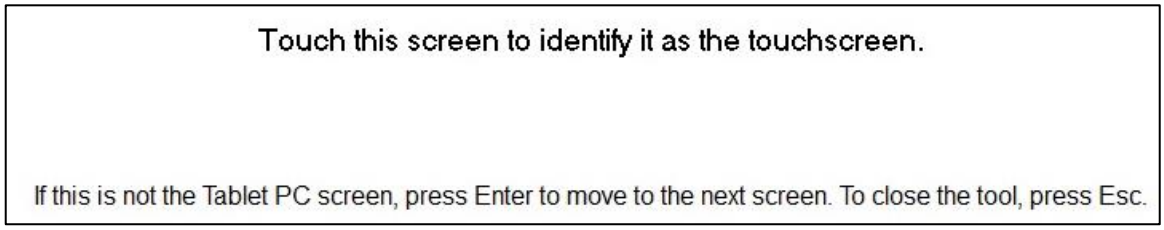


3) Next we assign the touch to the respective monitors. Open the ***Tablet PC Settings*** from the control panel.
4) Notice the secondary monitor will show up as number 2 in the ***Display*** drop down box. Select the second display and ensure the ***Reset*** button is greyed out. This will ensure that on the secondary monitor Microsoft calibration is off.



5) Assign touch to the right monitor by selecting the Setup button under configure.

6) The message shown below will appear on the primary monitor. Press enter to display the message on the secondary monitor then double touch the second display to identify it as a touch screen.

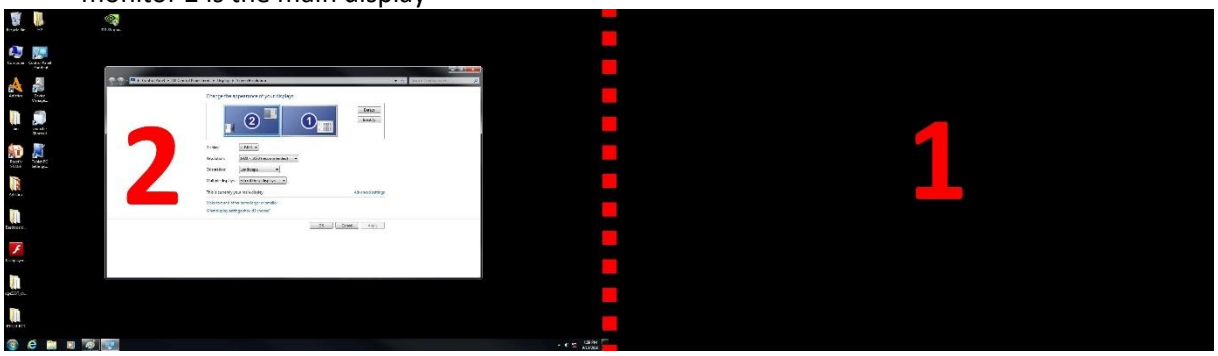


7) Click the ***OK*** button. The second monitor is now setup as a touch monitor.

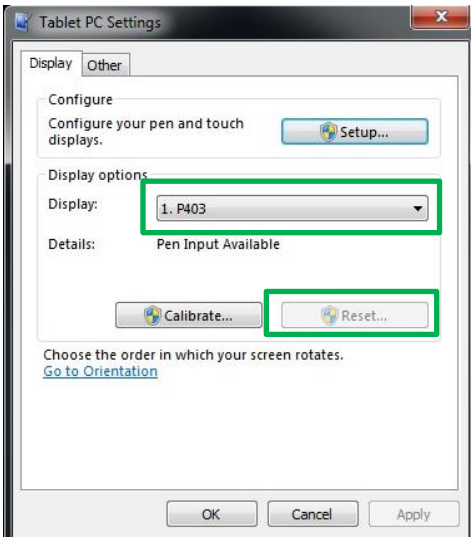
4.0 Setup two ShadowSense monitors connected to a Single PC

Section 3.0 describes how to setup up and assign touch to the secondary monitor which is a ShadowSense touch device. This section will describe how to setup two ShadowSense touch monitors each with its own USB cable connected to a single PC. The PC will have two USB and video cables connected to a single PC. This method can be extended for more than two touch monitors as long as the video card can identify each monitor.

1) Connect the two monitor video and usb cables to a single Windows machine.
2) Follow steps 1 to 2 in section 3.0 to ensure graphics card can identify each monitor.
3) As an example, screen shot below shows you two monitors 1 and 2. In the example below monitor 2 is the main display

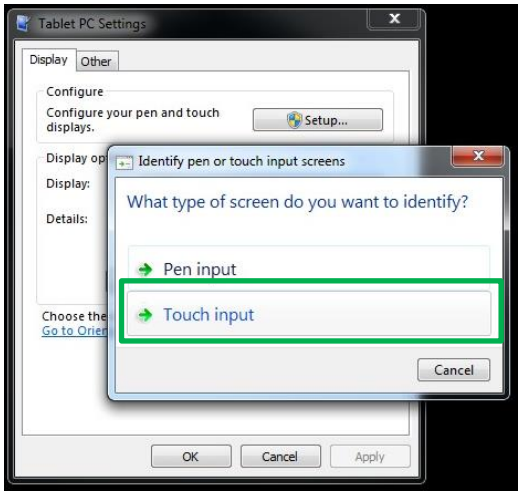


Open up ***Tablet PC Settings*** from the control panel, Verify both of the monitors show up under Display, click and select each one and ensure the Reset Button is greyed out for both monitors. This step will ensure Microsoft calibration is turned off for each touch monitor

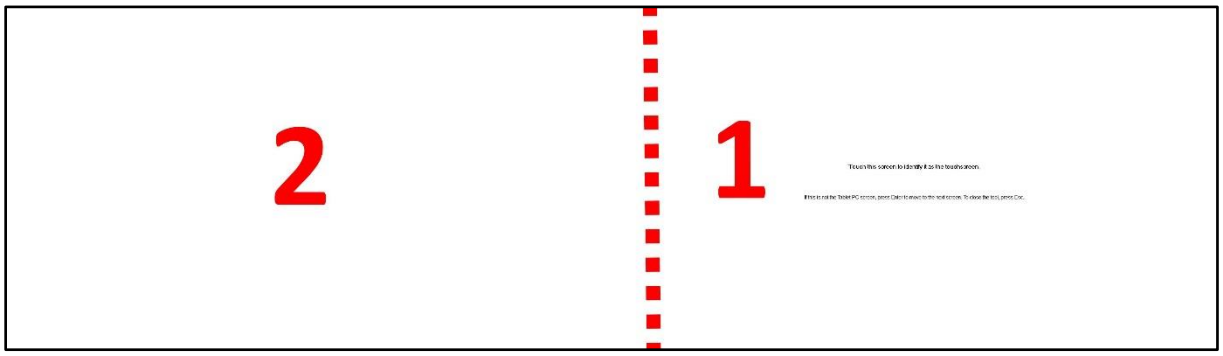


4) Next click on the Setup button, under Configure

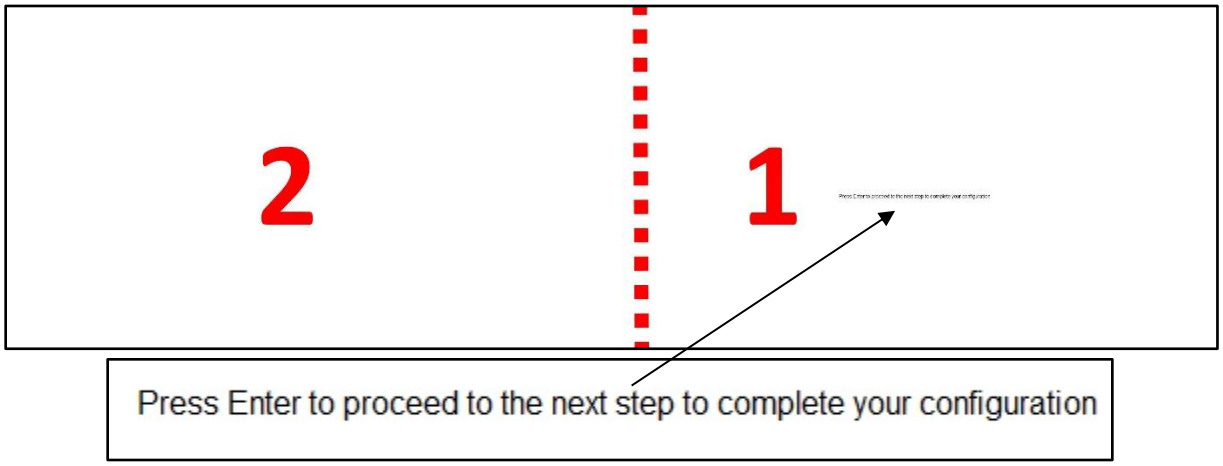
5) It will ask for **Pen input** or **Touch input.** Select Touch input



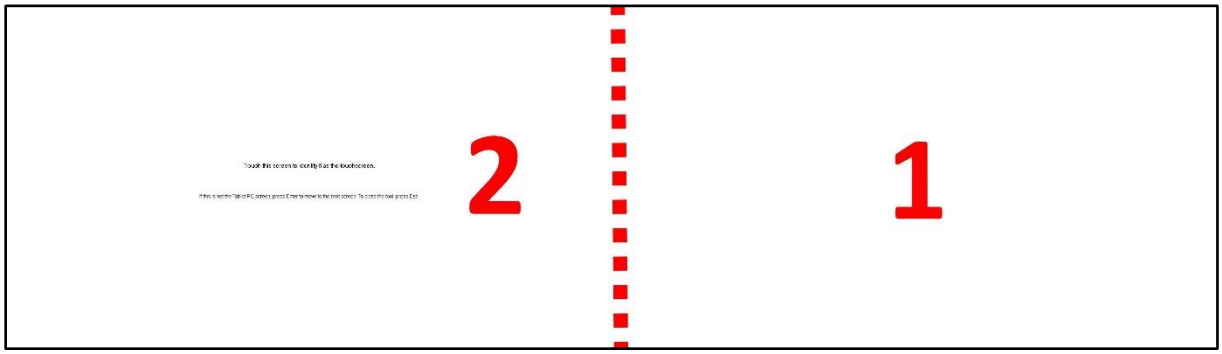
6) Monitor 1 will display the message **Touch this screen to identify it as the touchscreen**. Double tap monitor 1 because it is a touch screen.



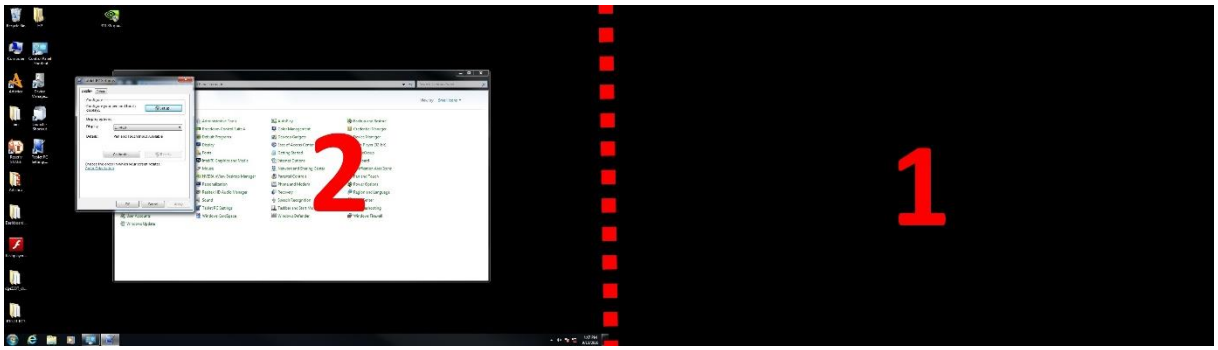
7) Once the touch is detected on monitor 1 the message on monitor 1 will change to **Press Enter to proceed to the next step to complete your configuration** as shown below



8) Press the Enter key and now a message will appear on monitor 2 as shown below. **Touch this screen to identify it as the touchscreen** double tap monitor 2 and it will be detected as a touch monitor.



9) After touch is detected on monitor 2 the white screen will close and desktop will appear.



10) Click the OK button to close the tablet PC settings. Now if the user touches monitor 1 touch will show up on monitor 1 rather than being mapped to the main display which is monitor 2.

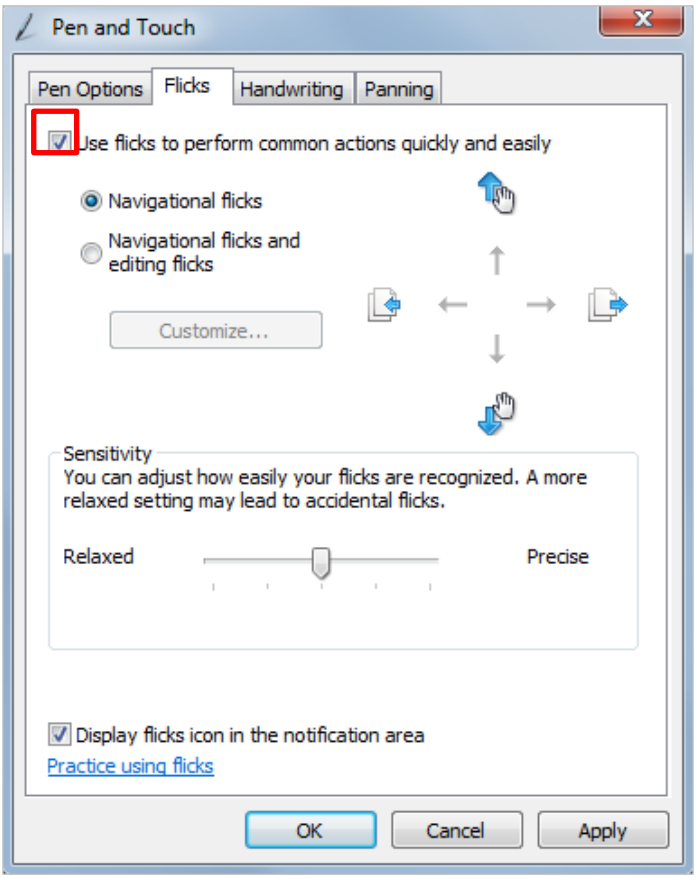
Notes:
With this kind of setup you cannot touch both monitor 1 and 2 simultaneously.

The example above was done on a Windows 7 machine but the procedure is the same for Windows 8 and 10 machines.

5.0 Turning off Flicks

Windows® 7 and 8 and 10 offer gestures called flicks with tablet touch screens. These allow the user to quickly navigate and perform shortcuts on smaller touch screens. On larger touch screens these gestures are more of a nuisance and not really desired. This section will talk about how to disable flicks.

1) Open up ***Pen and Touch*** settings located inside the Control Panel.
2) Select the ***Flicks*** tab.

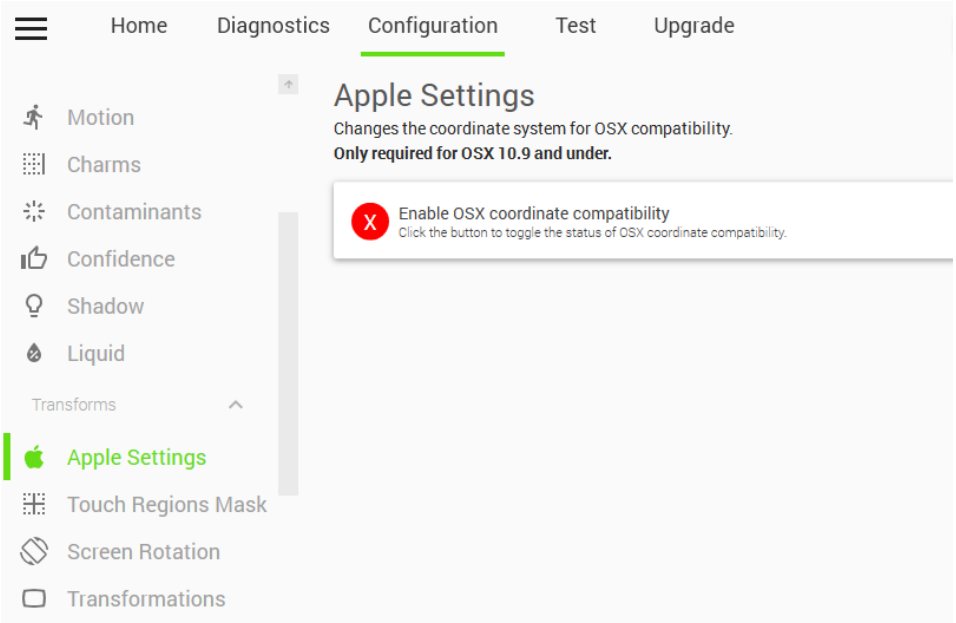


3) Un-check the box '***Use flicks to perform common actions***'
4) Click the ***Apply*** button and then the ***OK*** button.

6.0 Configuring for Use with a Mac

On Mac OS systems above version 10.9, ShadowSense products are plug-and-play and no extra configurations are needed.

If the ShadowSense frame is used on a Mac OS system with a version of 10.9 or earlier however, there can be an offset between the touch location and where the mouse cursor is reported. This offset is due to a difference in the co-ordinate system between Mac and Windows PCs. To fix this, enable ***Apple Settings*** under ***Transforms***.



If apply settings is turned ON, then remember to hit the Apply button on the bottom right corner of dashboard.

7.0 Unable to Run Dashboard

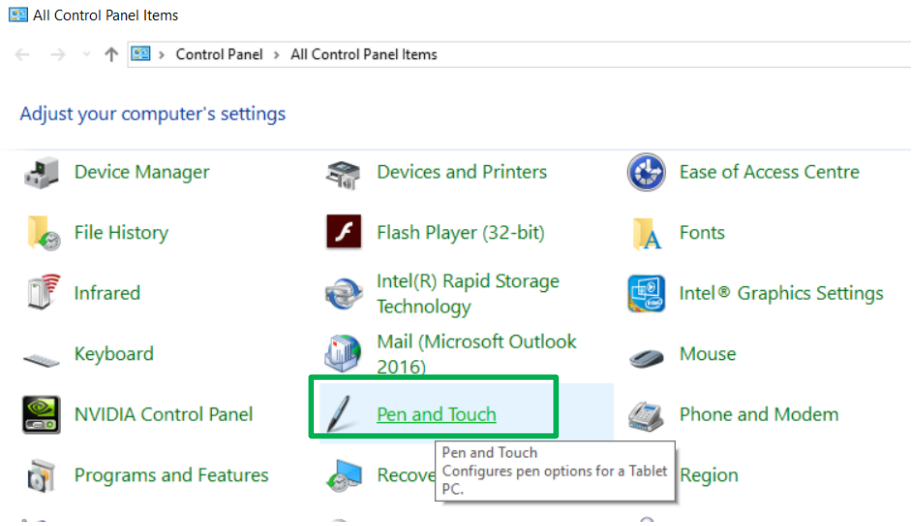
Dashboard requires .NET Framework 4.6.2 in order to run. If you are unable to run the Dashboard after installing it you must ensure the framework is installed on your PC. Windows 8.1 and Windows 10 by default have .NET Framework installed. On Windows 7 you can download and install .NET Framework 4.6.2 from the link below
https://www.microsoft.com/en-us/download/details.aspx?id=53344

8.0 How to Enable/Disable Press and Hold for Right Clicking

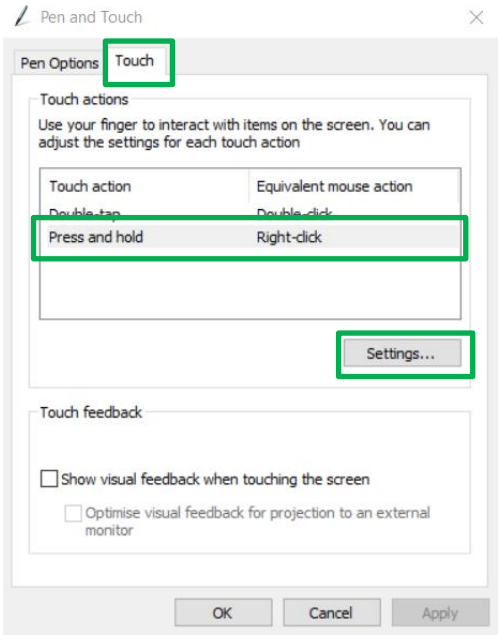
In certain applications the user would like to disable right click action in Windows, because the end application does not support right clicks. In Windows® 7 and 8 and 10 when the user presses and hold the finger at a stationary point, after a few secs the right click animation shows up (Square) and upon releasing the finger from the glass the right click is activated.

To Enable/Disable this action follow the instructions below

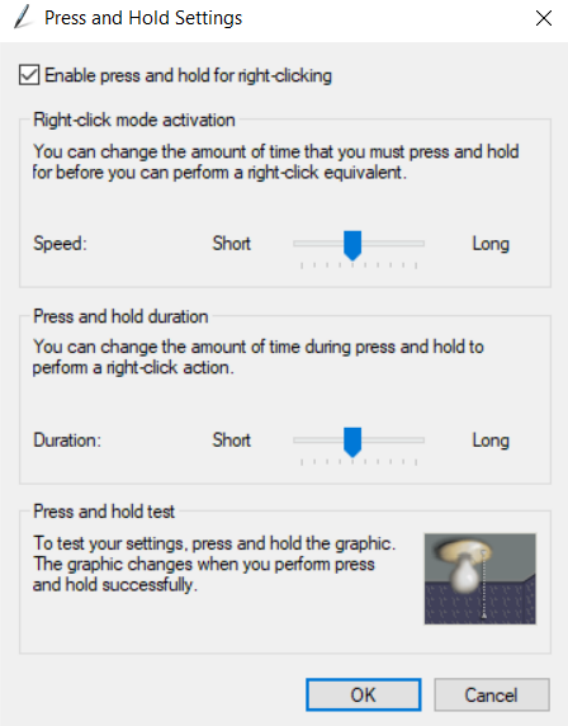
1) Open ***Pen and Touch*** settings located inside the Control Panel.



2) Select the ***Touch*** Tab, then highlight ***Press and hold*** action and click the ***Settings*** button.



3) The Press and Hold Settings Dialog box will show up as shown below.



Here you can **Enable/Disable** the press and hold action for touch input. There are other parameters you can adjust if you need to.

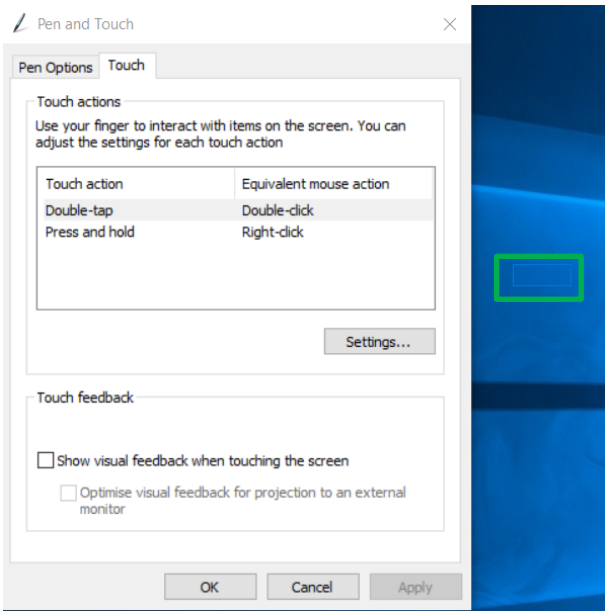
9.0 Touch Visual Feedback

In Windows® 10, the touch point on the screen can be shown in 3 different ways. This section will describe how to change the touch visual and show examples of what each one looks like.

1) Open ***Pen and Touch*** settings located inside the Control Panel.
2) Select the ***Touch*** Tab
3) Under ***Touch feedback*** you can have three states. Depending on which checkbox is selected.

9.1 Small Diamond Point

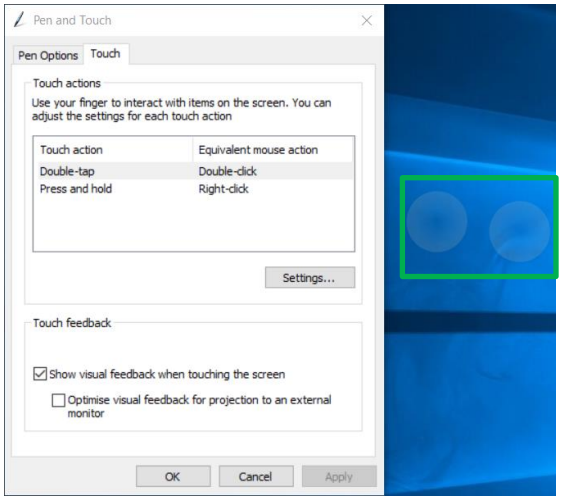
Ensure none of the checkboxes are selected as shown below and hit the ***Apply*** button.



The touch point will show up as a white Diamond shape, this diamond is small and good for checking the calibration of the touch frame. This setting is not recommended for end users as it too small and can be easily missed. The Diamond only tracks the first touch point. Multiple touch points are not shown.

9.2 Translucent Bubble

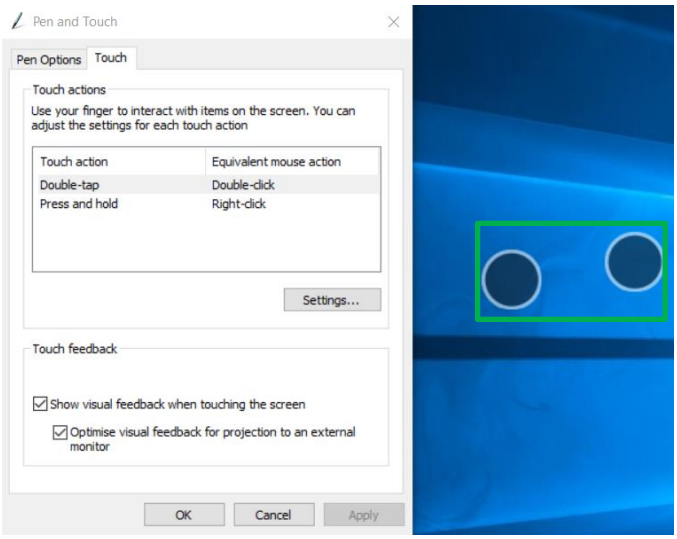
If only the ***Show visual feedback when touching the screen*** box is selected, then traslucent Bubble are shown for each touch point.



This setting is great for showing multiple touch points on the screen. Since the bubble is translucent it can be harder for end customer to track the points. This setting is recommended for smaller monitors.

9.3 Dark Circle with an Outline

If the ***Optimize visual feedback for projection to an external monitor*** check box is also selected, then a dark circle with an outline is shown.

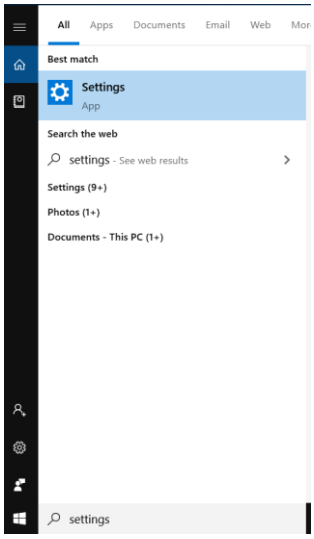


This dark circle is shown for each touch point and is easy for end customer to see when interacting with the touch frame. This setting is highly recommended for larger video wall systems or large monitors.

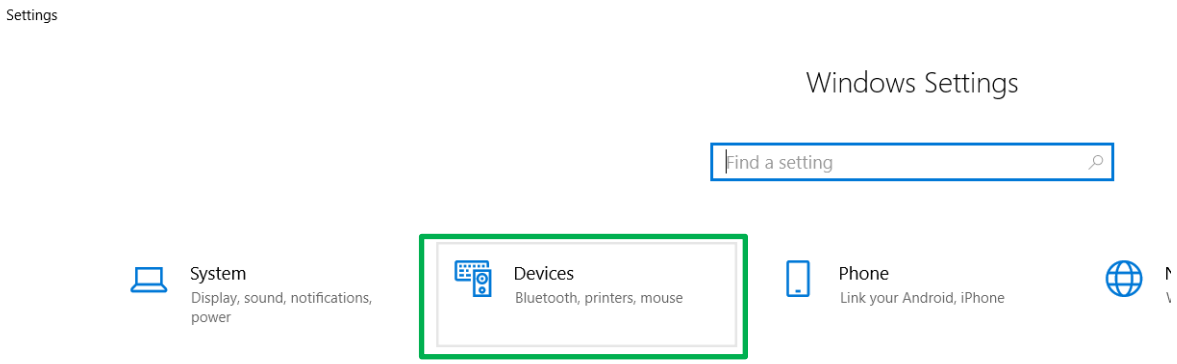
10.0 Pen options in Windows 10

ShadowSense supports Pen input, if the touchscreen is being used with the pen input then Windows® 10 offers some configuration options that should be explored and adjusted to improve pen experience.

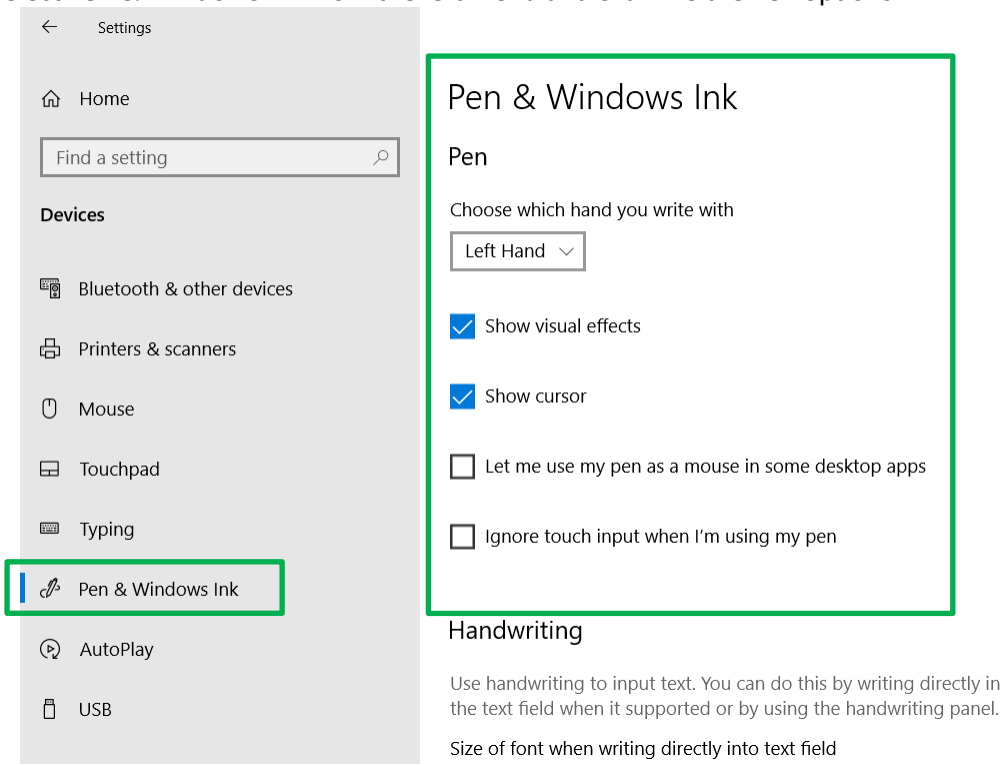
1) Type **Settings** in the search bar and click on the Settings App.



2) Select ***Devices*** from the ***Windows Settings***



3) Select ***Pen & Windows Ink*** from the left menu and examine the Pen options.



Here you can adjust some settings

Show Visual effects: Double clicks using pen are shown as animations
Show Cursor: When pen is on glass and you drag it, windows draws a selected rectangle
Ignore touch input when I'm using my pen: If the pen is detected then any finger touch points on the screen will be rejected. Recommended for use in Palm rejection.

11.0 Baanto Tech Support

If you have bought the item directly from Baanto please contact techsupport@baanto.com for issues not listed in this document. You may also contact your local sales representative for immediate help.

Refer to section 1.3 and provide both the LED Data and Configuration file via email if contacting techsupport about touch related issues.