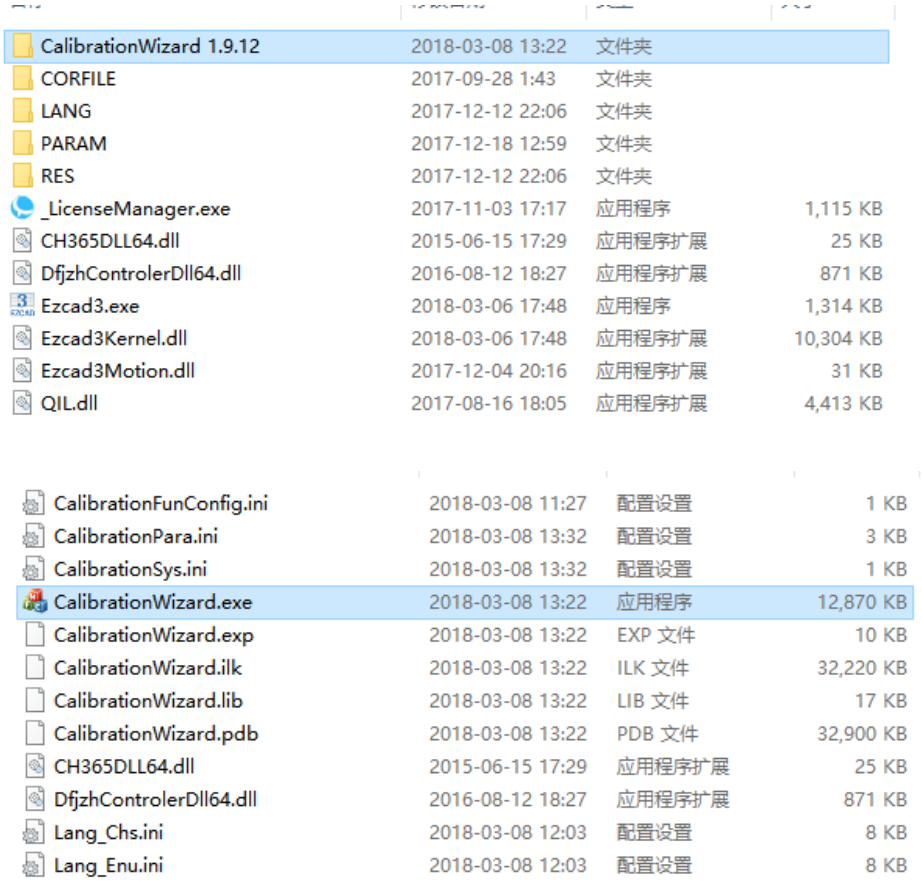
BEIJING JCZ TECHNOLOGY CO LTD

3D calibration

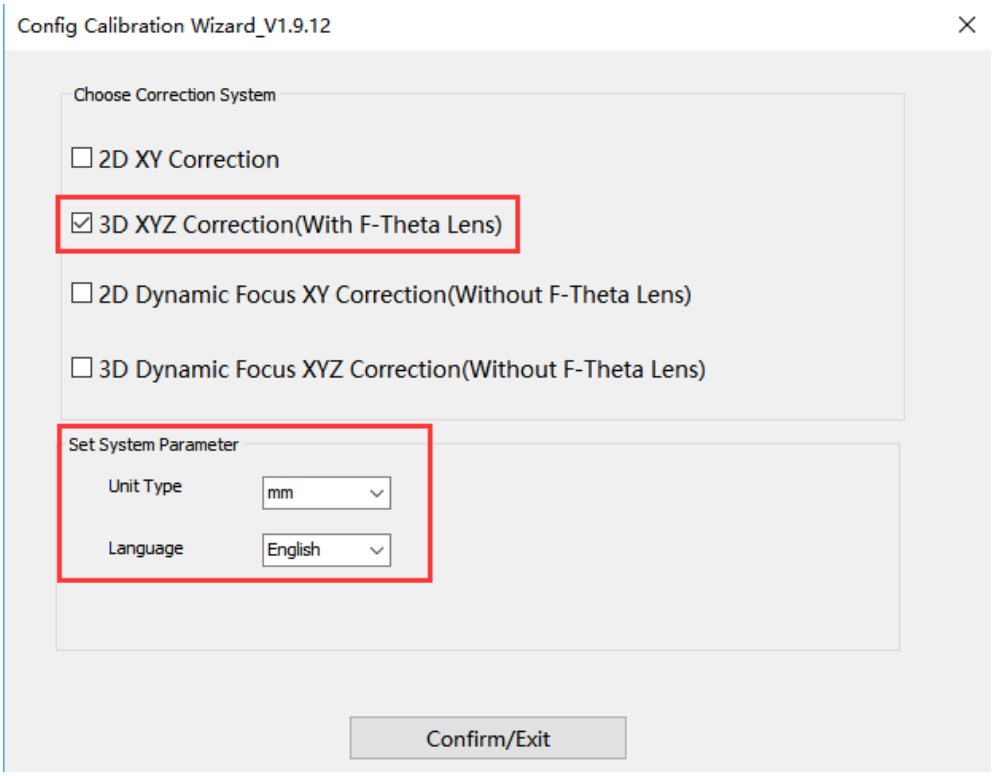
Notice: Every time after we input value, It must need to click "Enter" button for enable!

Step 1 ：**Open CalibrationWizard.exe.**

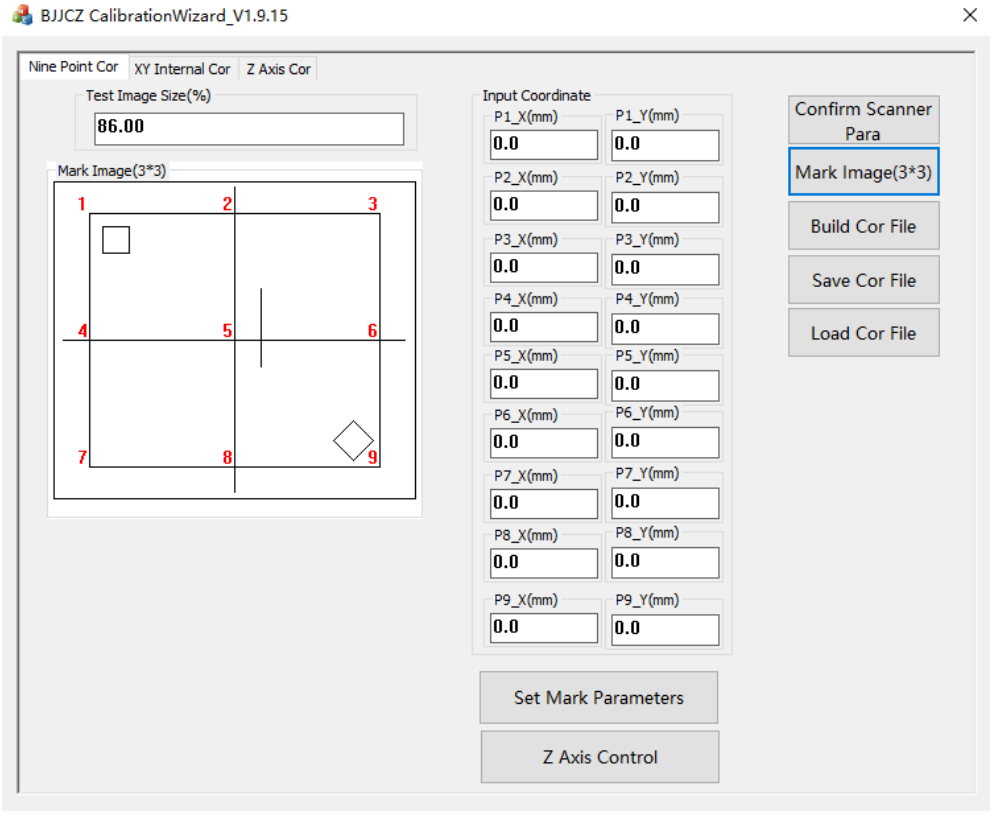
1. Open the program



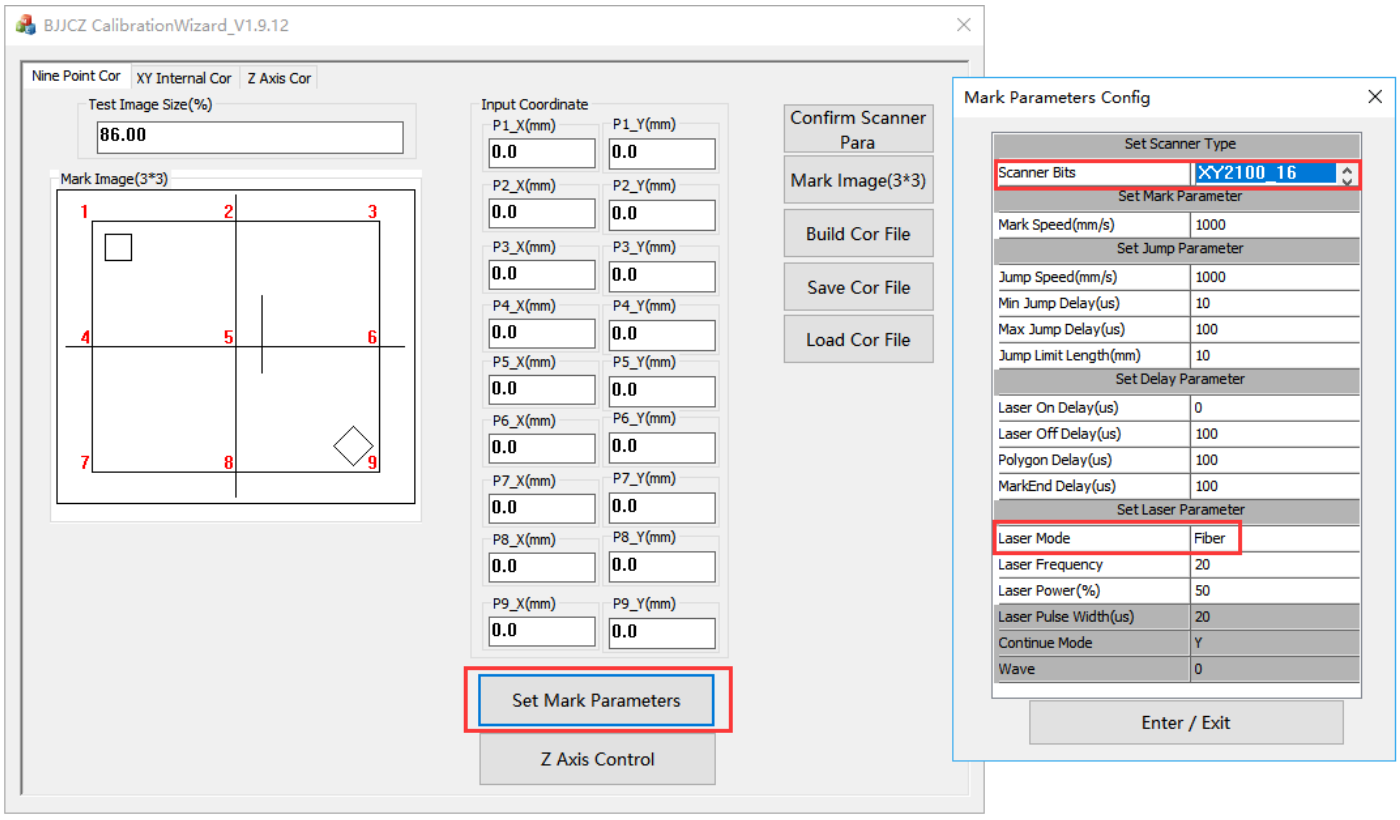
2. Choose Correction System and Set System Parameter



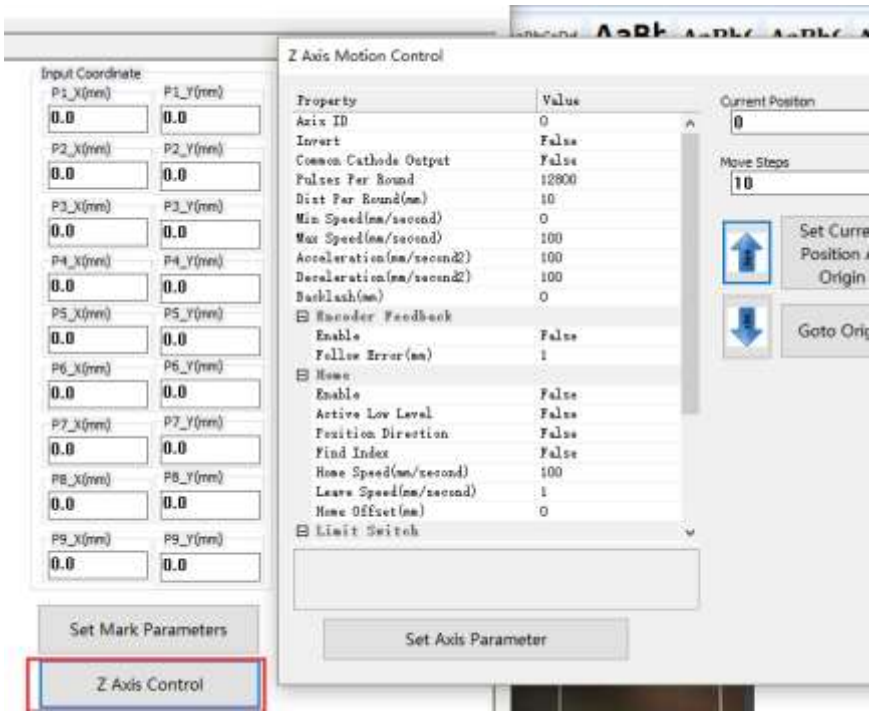
3. Click “Confirm” Button



Step 2 ：**Set Mark parameters for laser and scanhead.**

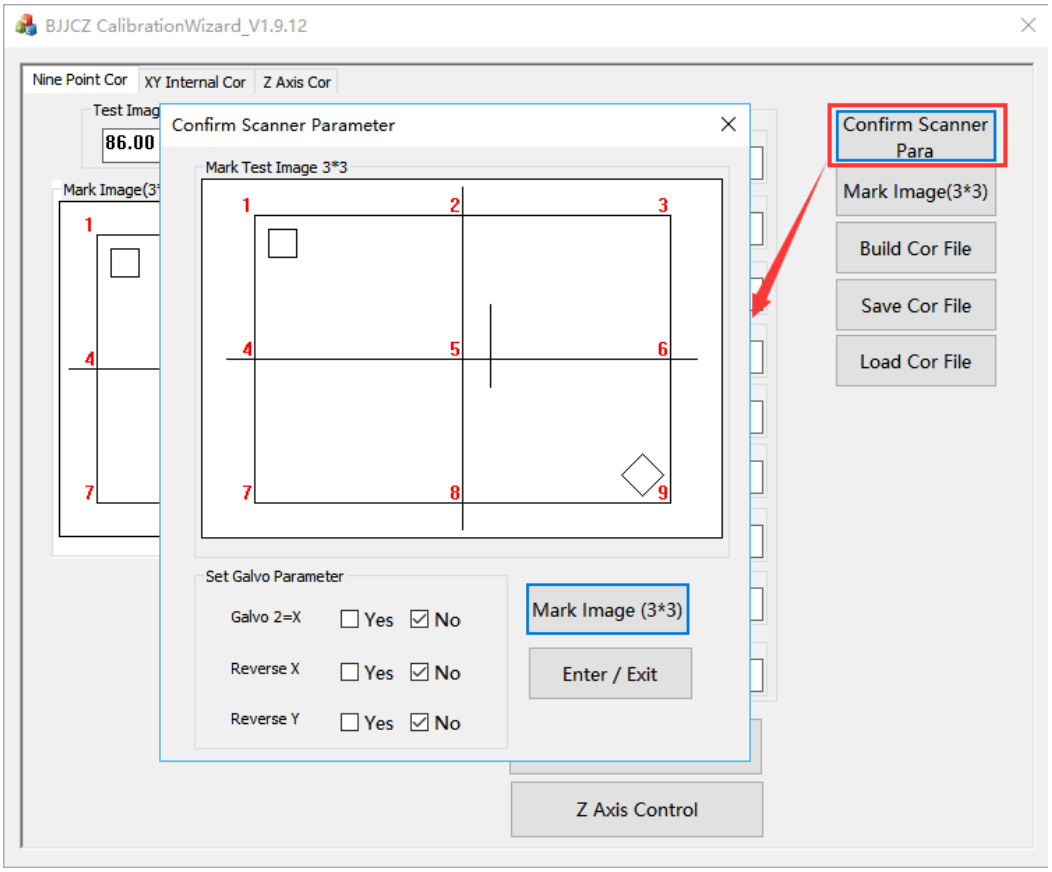


Step 3 ：Calibrate motor Z axis (If no Motor Z axis , Don’t set it)

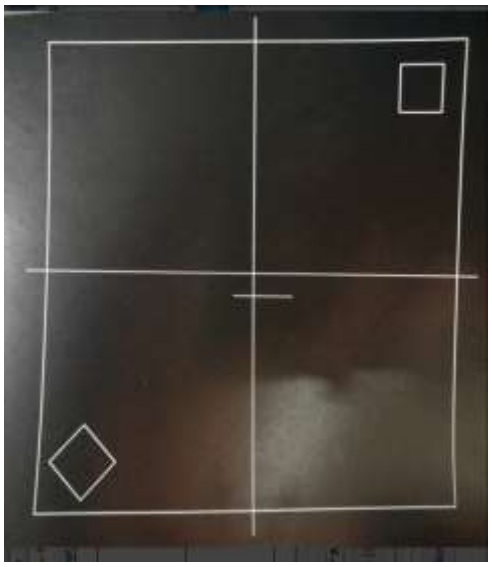


Step 4 ：**3*3 Scanner calibrate**

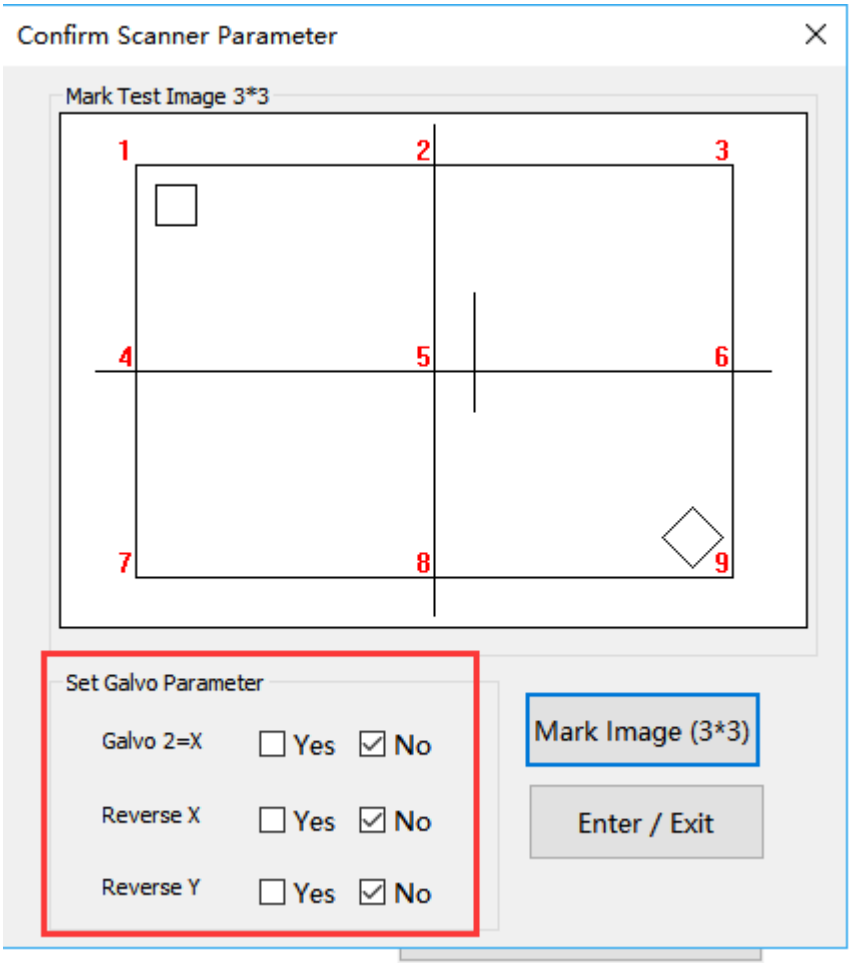
1. Click “confirm scanner para” button, on the pop-up window click “Making Test Image (3*3)” button

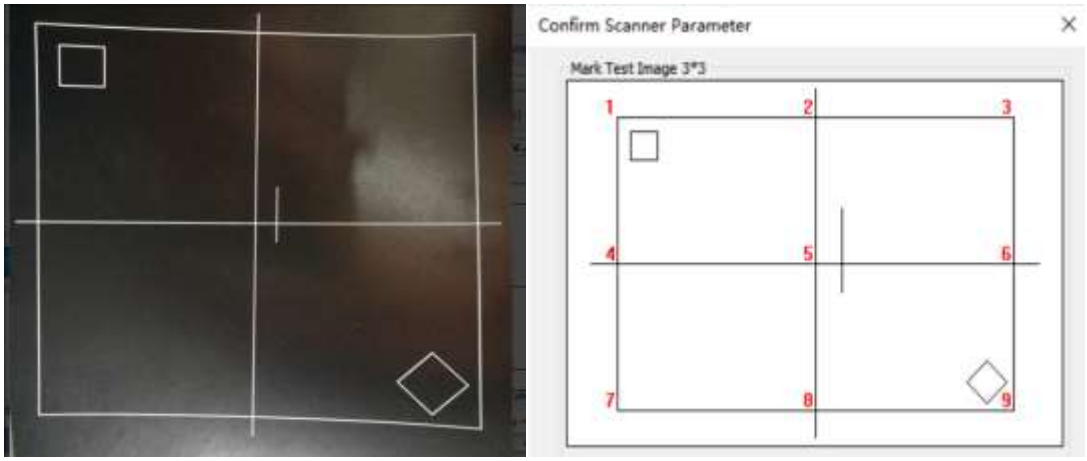


2. Check the marking result



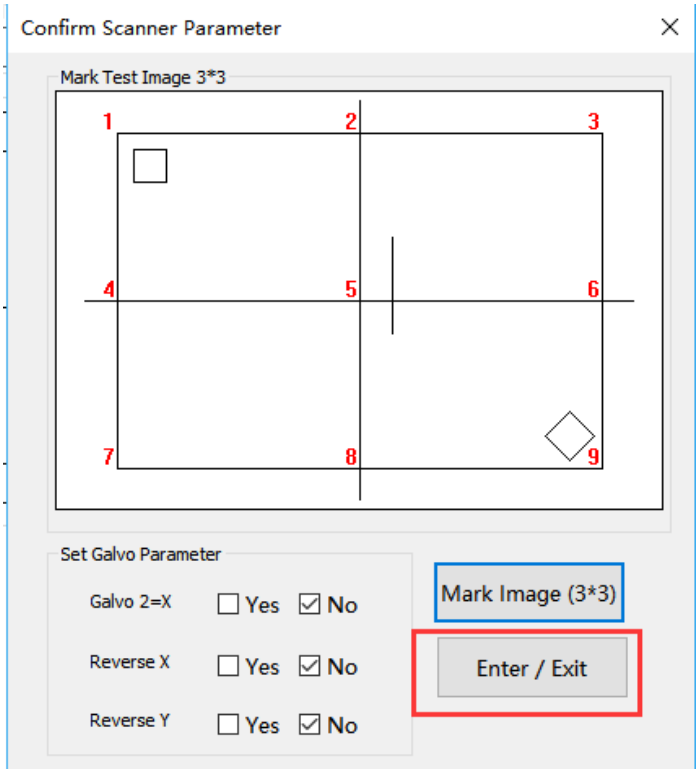
3. Change “Set Galvo Parameter” and “mark Image”. Until marking result same as software windows.



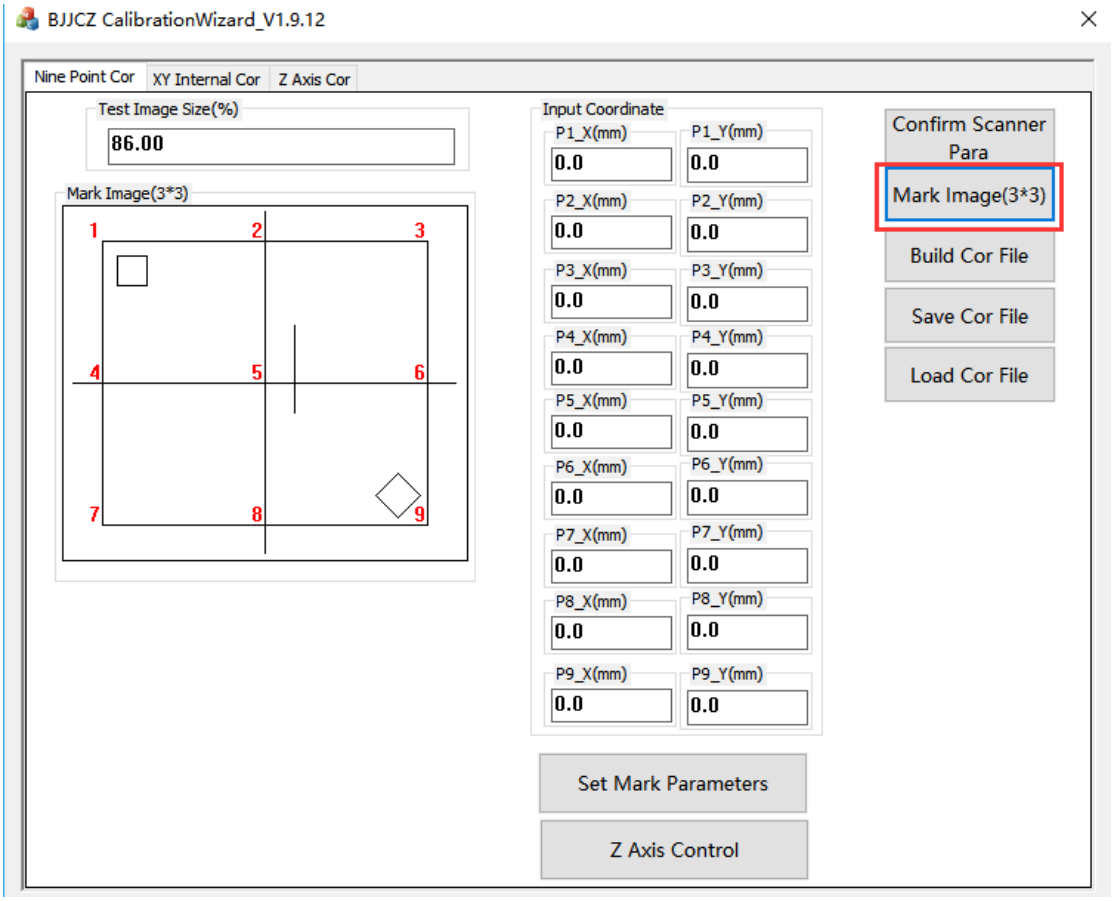


NOTE: the marking result must show same direction with software.

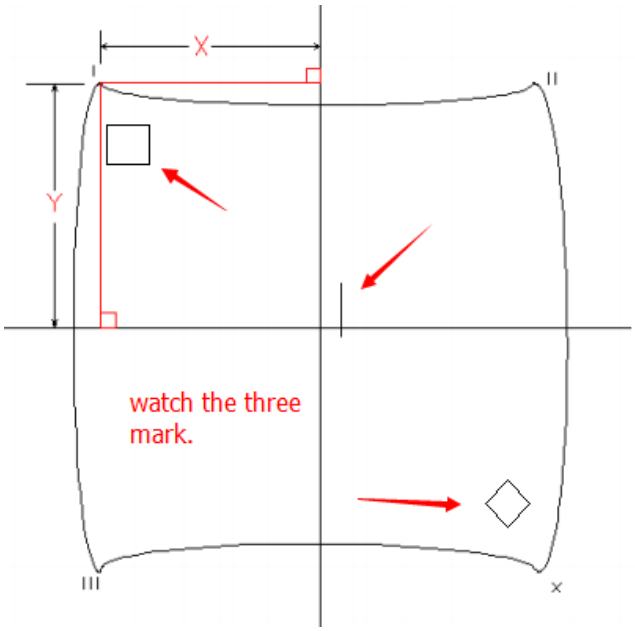
4. Click “Enter/Exit” button to confirm. The software will back to first interface.



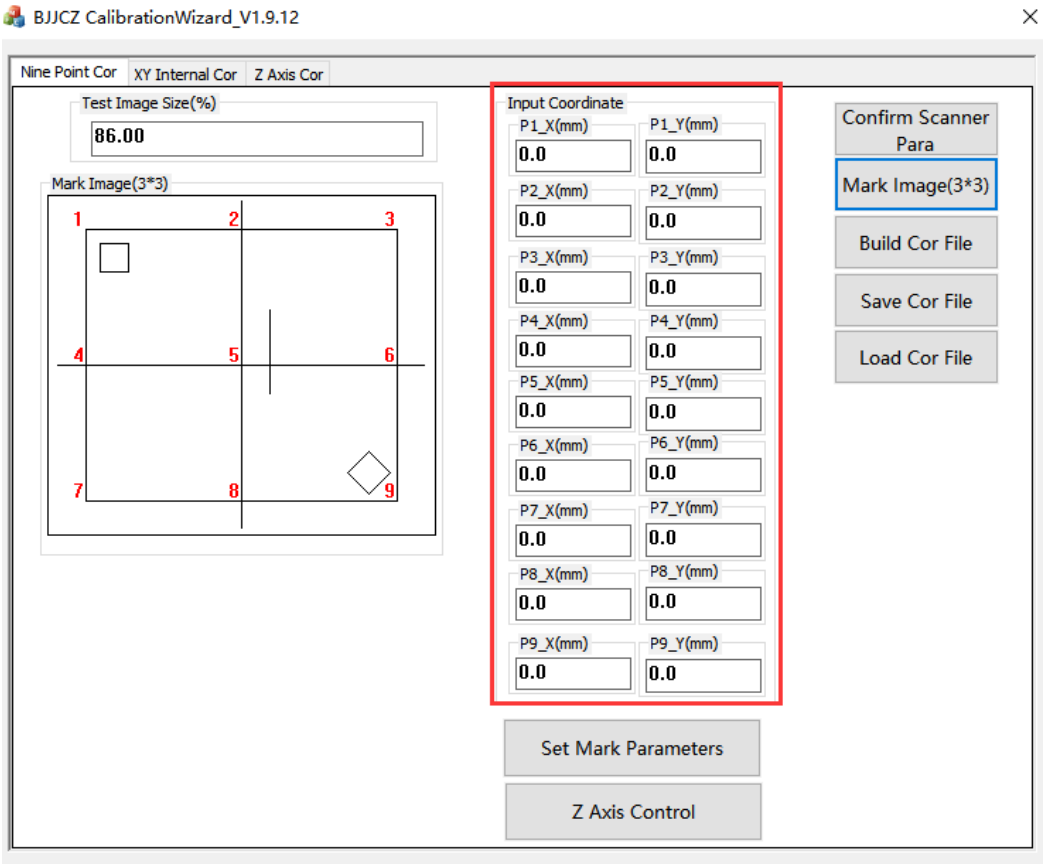
5. Click “Mark Image (3*3)” button to mark. (now the marking result show will same as software, If not ,please do the last step again.)



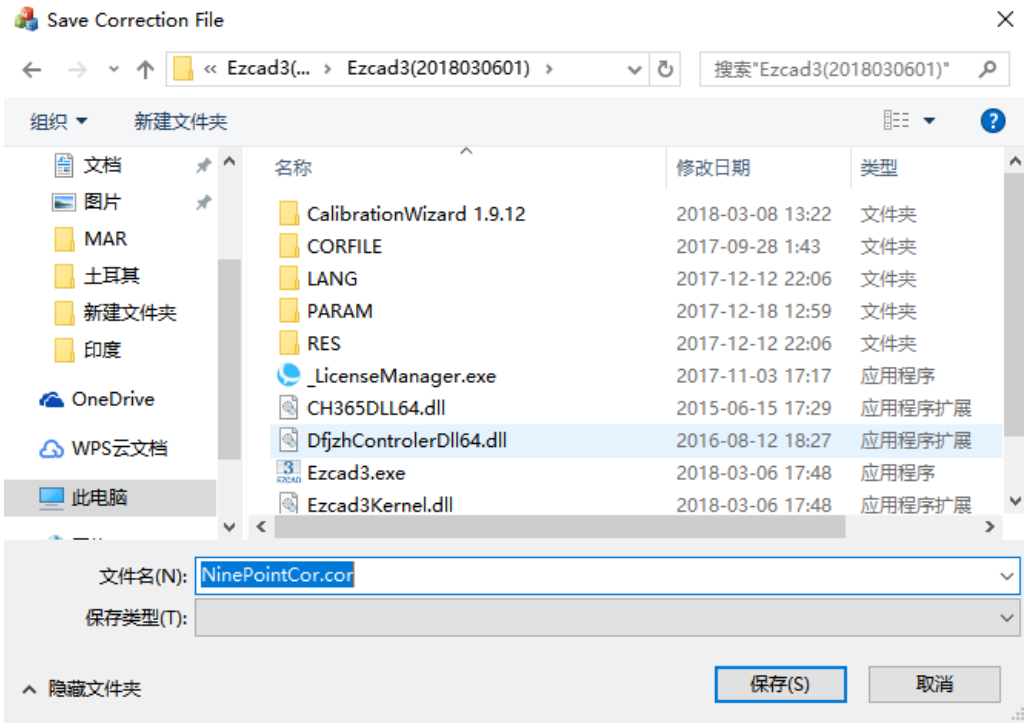
6. Measure the coordinate value of point 1 to point 9



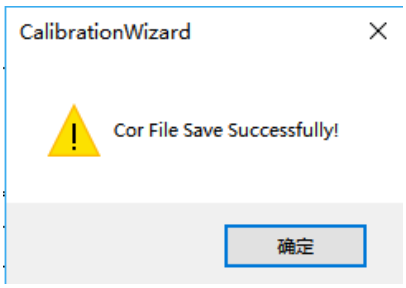
7. Input the value to software (only input the value, no need to input + or -).



8. Check the X and Y coordinates value , if correct, then click Build Cor File button, then click Save Cor File button to save the cor file.



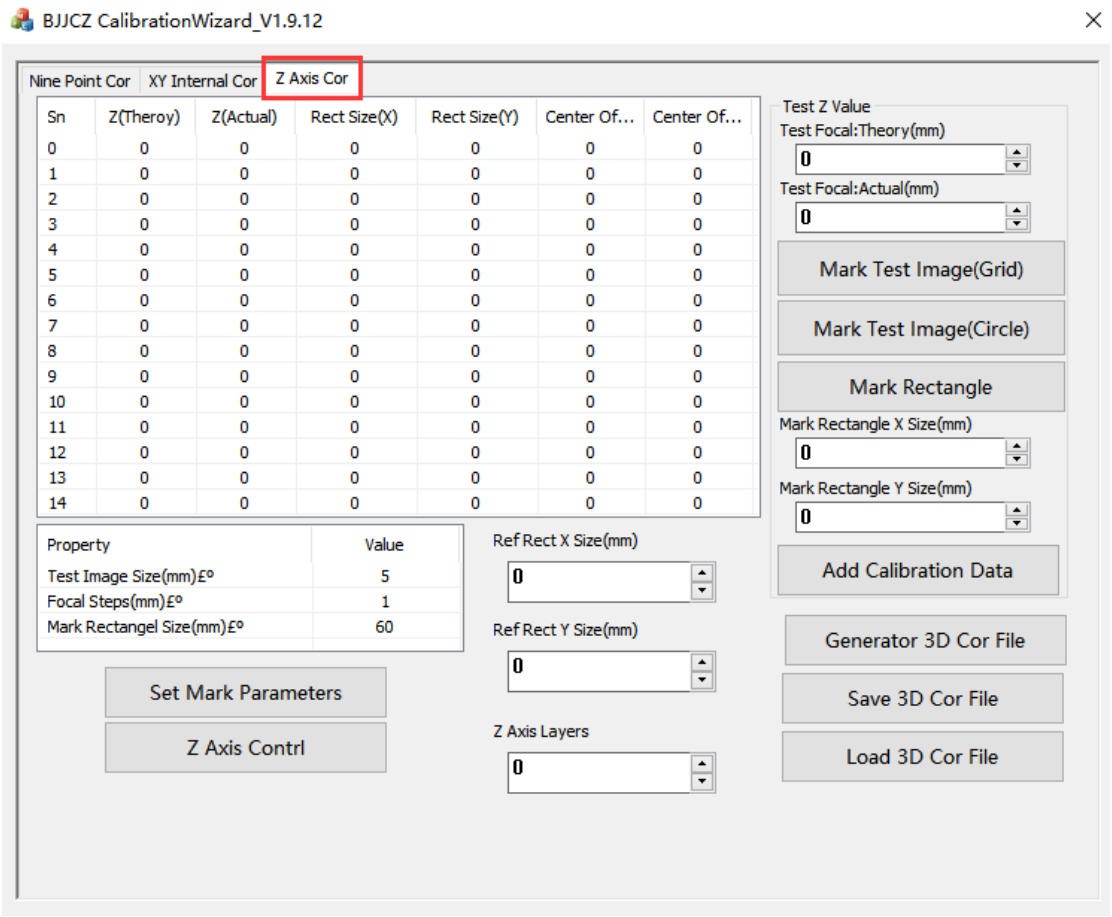
9. After save the .cor files ,the will show Cor files save successfully , click “OK” .



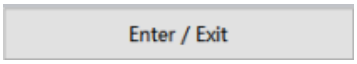
10. Click Load Cor File button to load the .cor file.

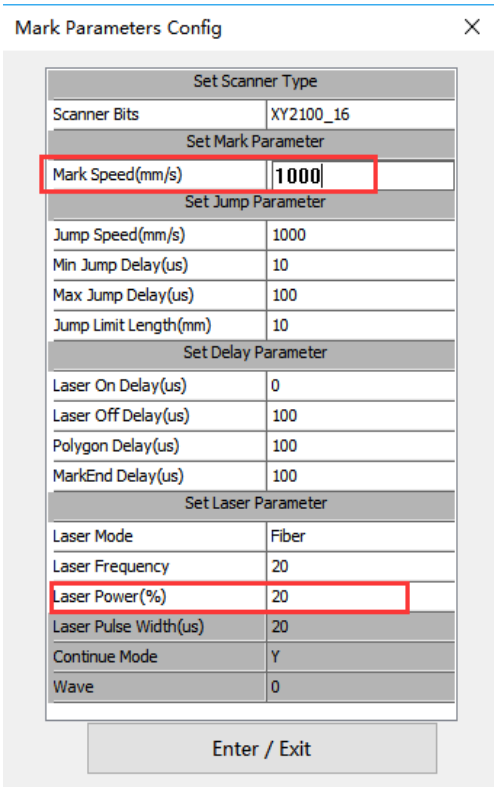
Step 5 ：**Z axis calibration**

1. Click “Z Axis Cor” button to open z axis calibration page.



2. Click  button , input the laser power “20%-30%” ,and click “Enter ” Button **on the Keyboard**

3. Click  back to the First page



4. Set the parameter for Property :

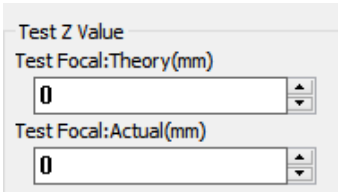
Property	Value
Test Image Size(mm)£º	2
Focal Steps(mm)£º	2
Mark Rectangel Size(mm)£º	25

174-254 lens

Property	Value
Test Image Size(mm):	2
Focal Steps(mm):	2
Mark Rectangel Size(mm):	17

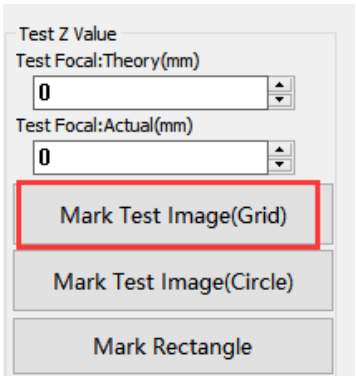
112-164

5. Test Z value

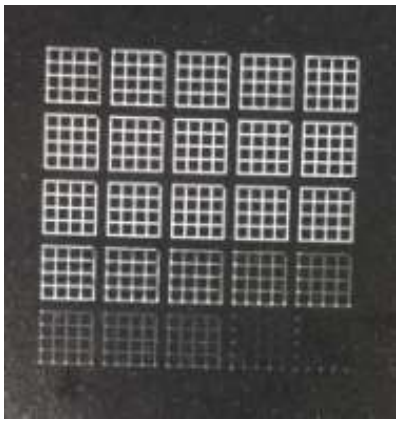


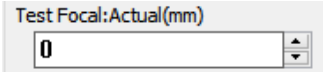
Set “Test Focal: Theory(mm)” value = 0,
“Test Focal: Actual(mm)” value = 0,

6. Click “Mark Test Image” button

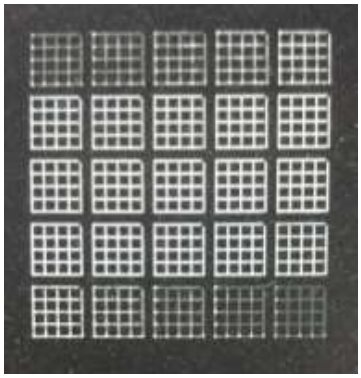


Mark 5x5 grid rectangle image like below picture, each grid rectangle has different focus steps (different z coordinate).



Check the grid rectangles, if the grid rectangles are not symmetrical and clear, adjust 

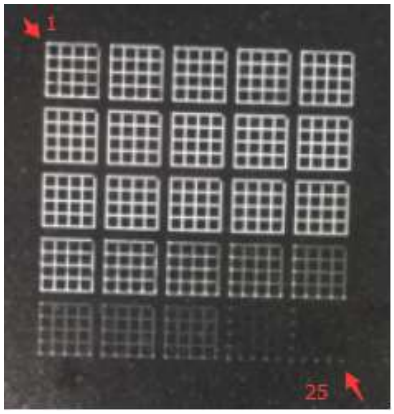
and mark again, until getting a symmetrical grid rectangles. The good result should look like below picture:



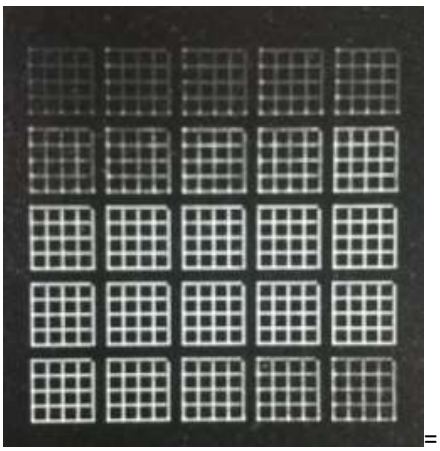
Noted :

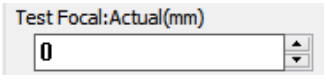
There are 25 small grids, Group them like this : 1 and 25, 2-24, 3-23, 4-22, 5-21, 6-20, 7-19, 8-18……every two grids show have same marking result.

Down the Test Focal:Actual(mm) if marking result like this



Up the Test Focal:Theory(mm) if marking result like this,

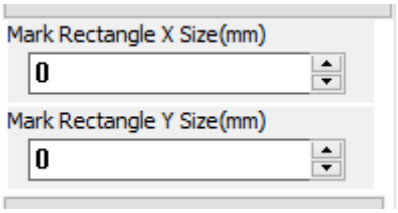

=

Change 

until get a good result.

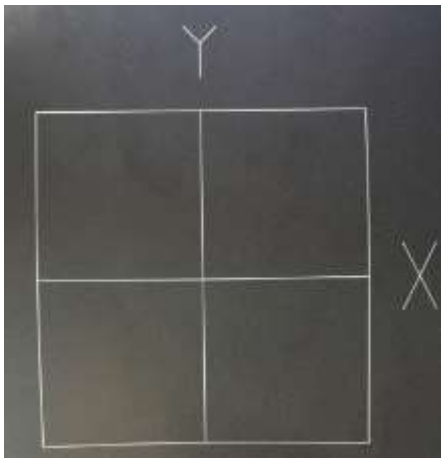
7. Click “Mark Rectangle” button

   Software will mark a rectangle measure this rectangle’s size (average size of length and width). Input to

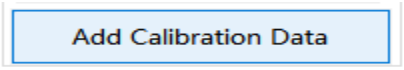


   (Press “Entry” on the keyboard after input the every value)

   Every time we need to measured cross on the center.



   Noted ： if you want to change size of this rectangle, adjust Mark Rectangle Size, normally this size need to nearly your calibration size.

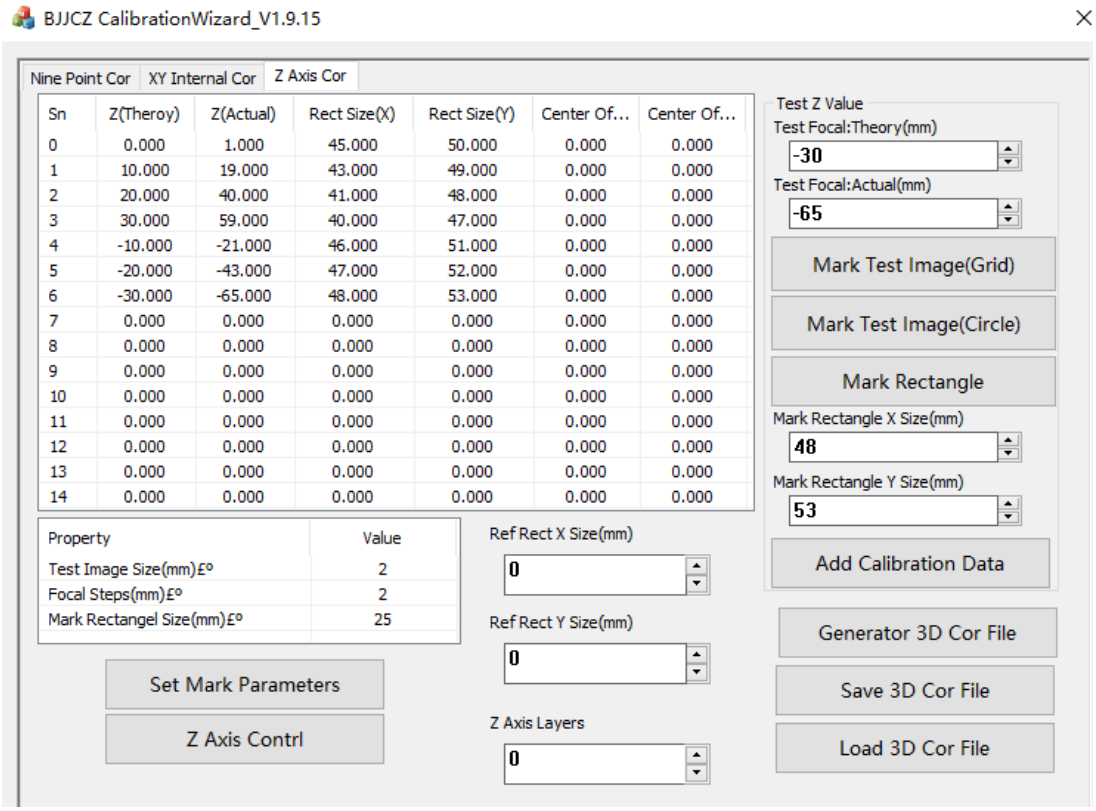
8. Click “Add Calibration Data” button 

to add the Sn0 line’s z calibration data.

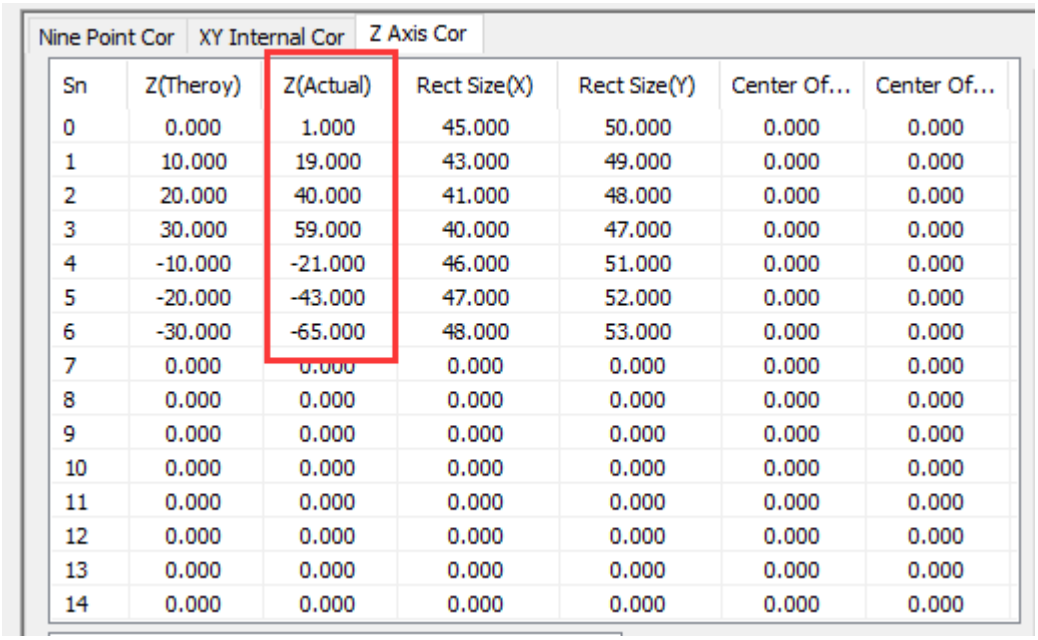
9. Move Z axis for different Z calibration.

   - Sn0 is for Z=0,
   - Down the scanhead 10mm (or Up the Work table 10mm), the Z(theory)=10mm,
     Up the scanhead 10mm (Or down the work table 10mm), the Z(theory)=-10mm.
     And then we adjust Actual for testing.
   - Set “Test Focal: Theory(mm)” value = 10, set“Test Focal: Actual(mm)” value = 20,(it is around this value, Need adjust it according to our marking result),
   - Repeat step 6, 7, 8 to make Sn1 line’s z data. Then make other line’s z data
   - Different lens, Layer numbers are different, for 174-254 lens, calibrate from -30 to 30 (Means Test Focal: Theory have 7 value, -30, -20, -10, 0, 10, 20, 30).

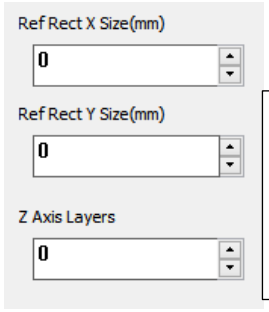
Example for 174-254 lens.



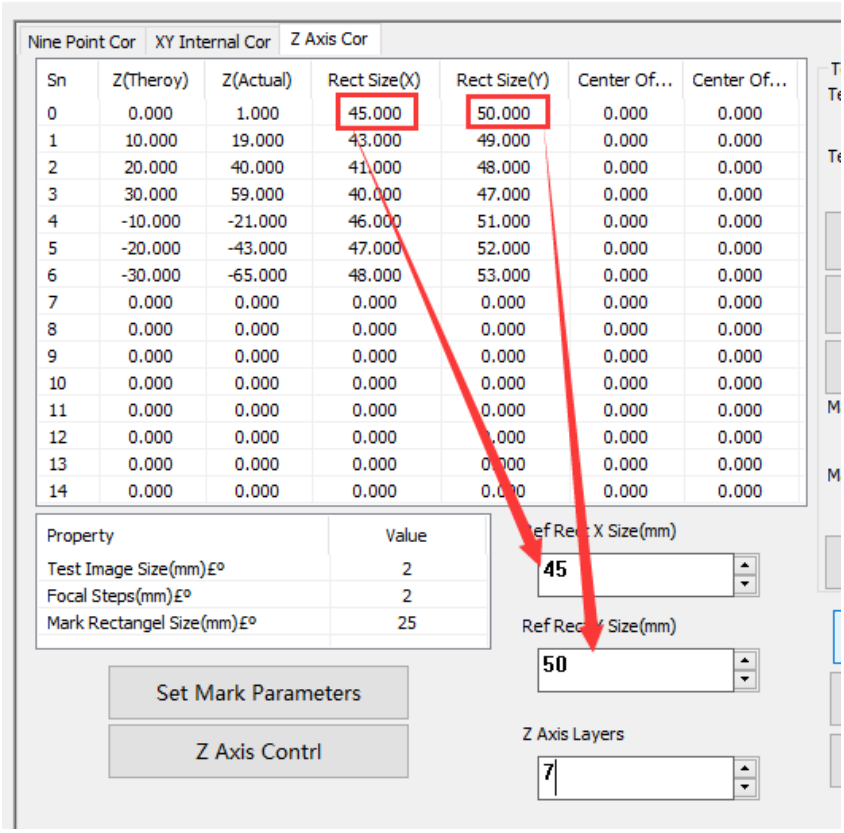
The Actual Z value will around the number on the picture's show.



After we finished this 7 layers,
Input the Sn0 X and Y value into the software
Input Z axis layer number into the software

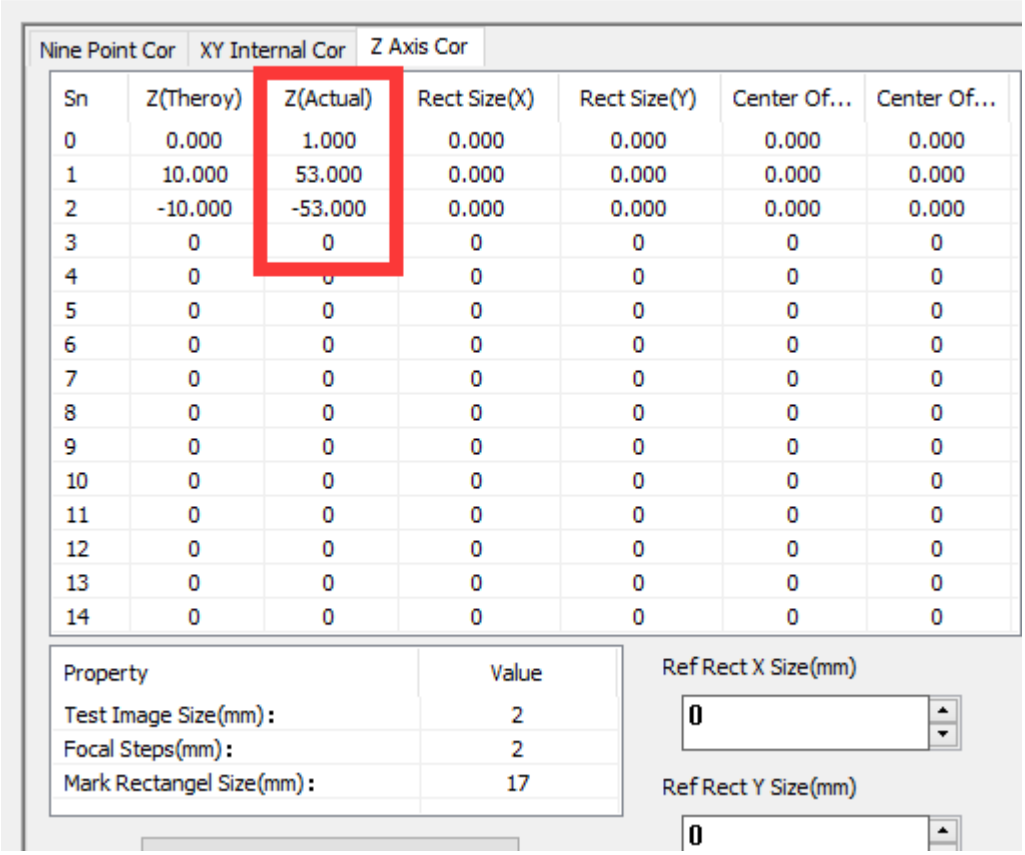


Notice: every time we input value, we need to click Enter, this is very important!



10. After adding all the z calibration data, click “Generator 3D Cor File” button to build 3D calibration file. Click “Save 3D Cor File” to save 3D calibration file .

11,here have some param for 112-164 lens,



And there just 3 different layers.

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