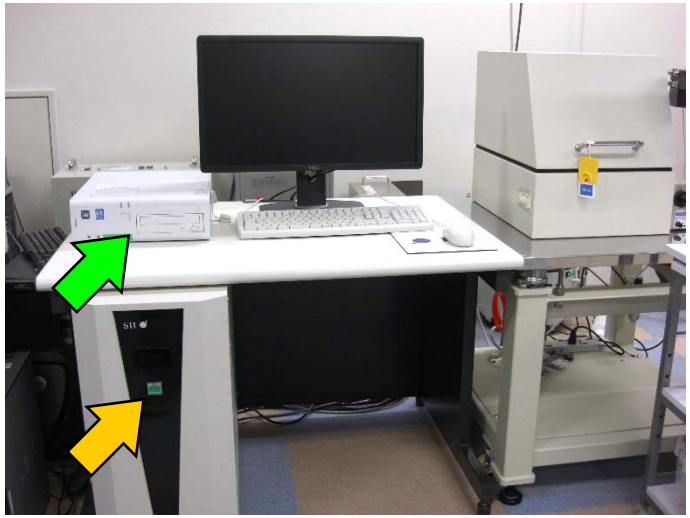
Basic Operation manual for DFM mode

1. Program Start-up

(1) Turn on power of the electric equipment part.

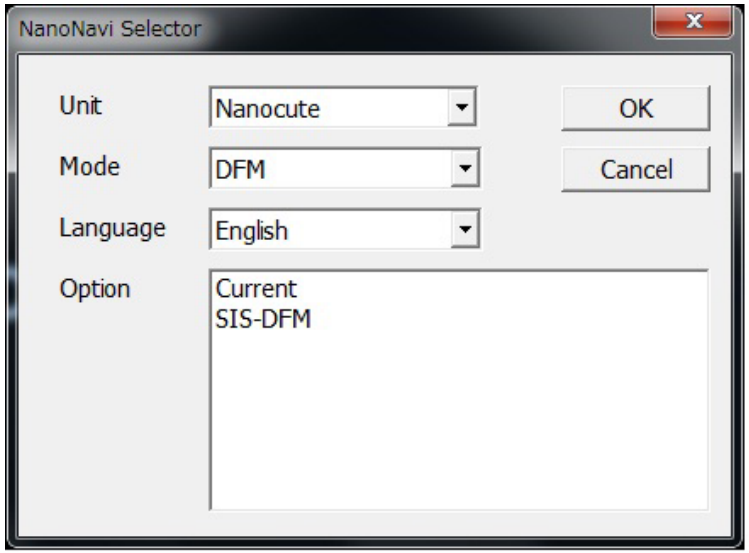


(2) Turn on the PC.

(3) Double-click to start the software『Spisel32』.
→【NanoNavi Selector】is displayed.

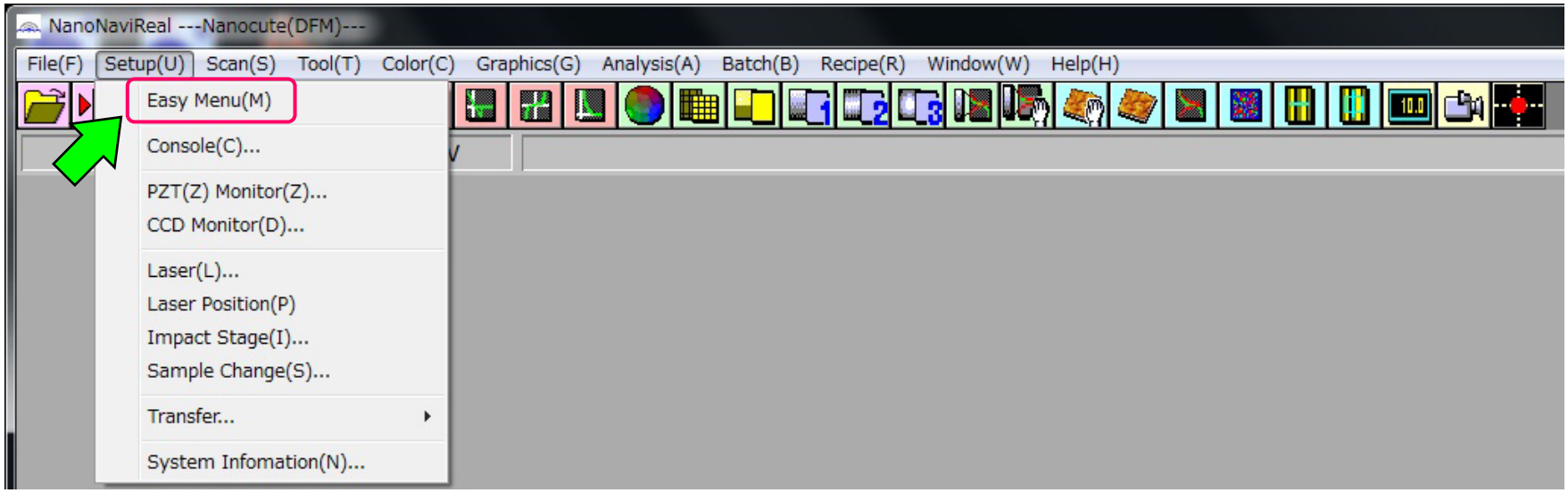
(4) Check selection items of NanoNavi Selector.
【Unit】 :【Nanocute】
【Mode】 :【DFM】
【Language】:【English】

『OK』 → SPIWin program is started.

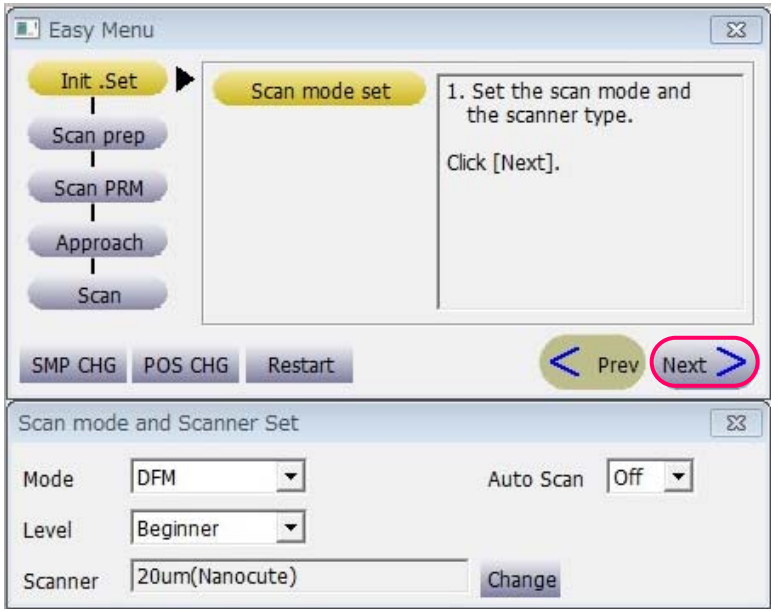


2. Easy Menu

(1) Select【Easy Menu (M)】in【Setup (U)】.



(2) Click【Next ＞】.

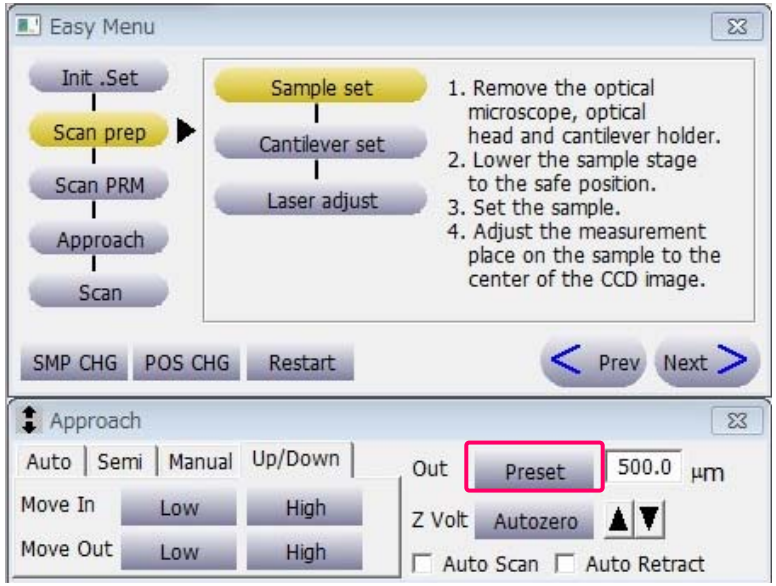


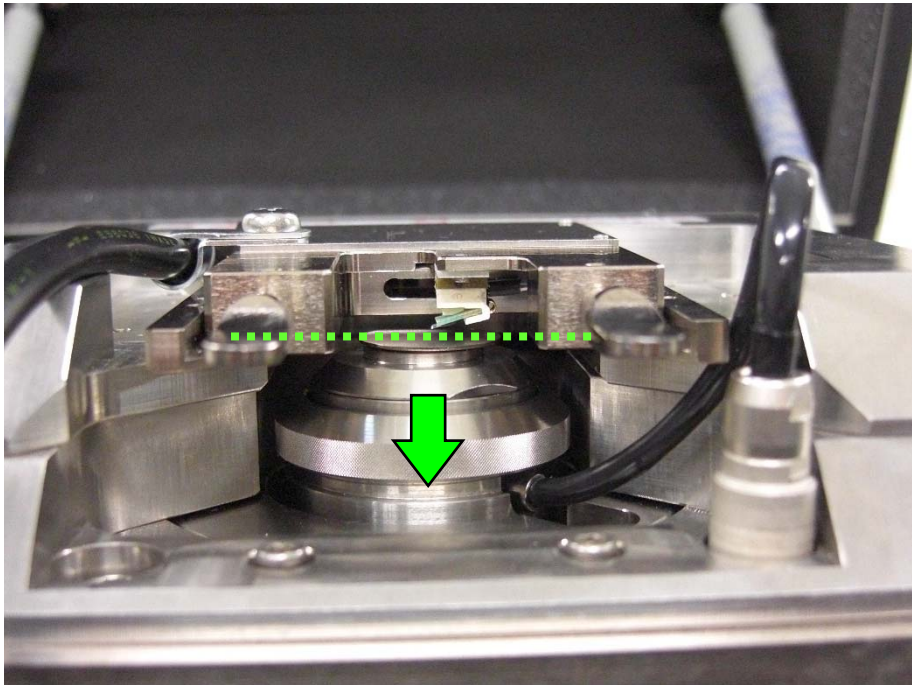
3. Sample Set

(1) Open the noise-proof cover.

(2) Stage height.

Lower the sample stage to the safe position by【Preset】out.

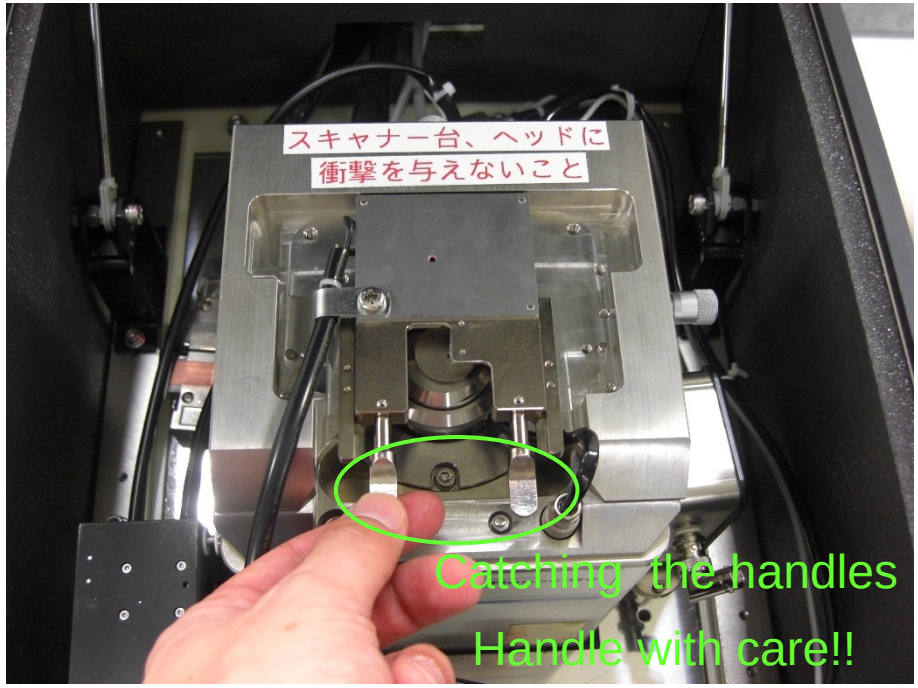


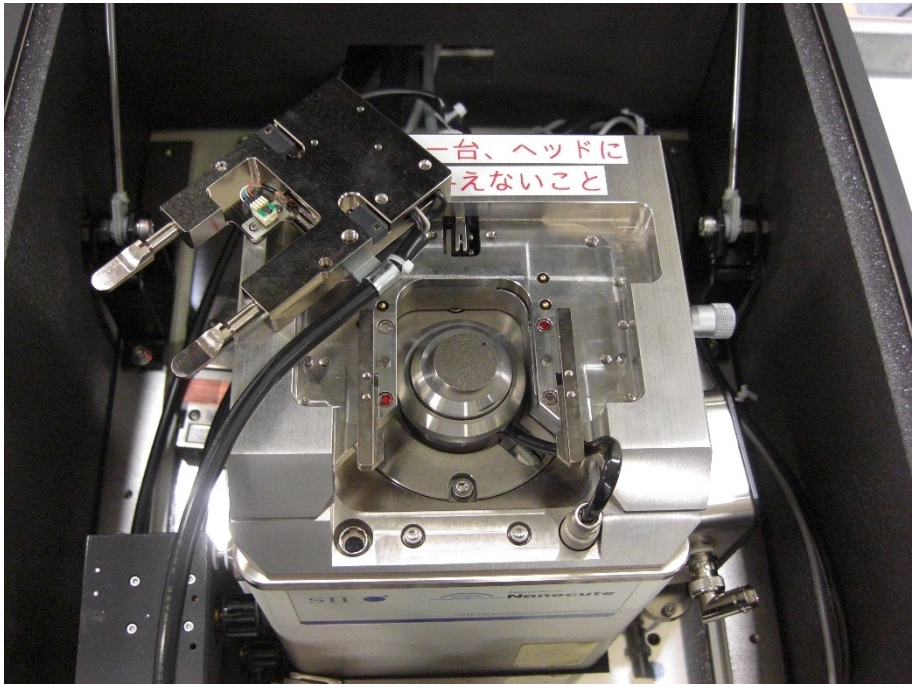


3. Sample Set

(3) Sample set.

Upset the cantilever holder while catching the handles and put the sample on the stage.



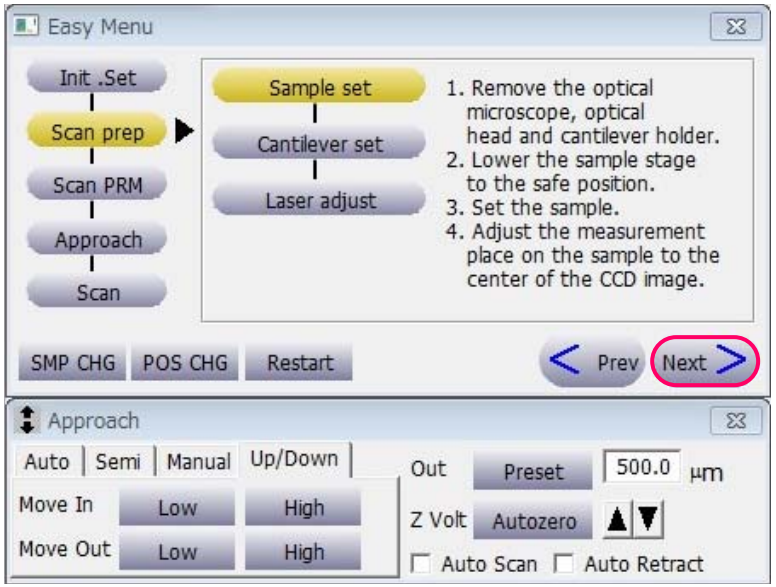


Cantilever holder / Stage
FRAGILE

3. Sample Set

(4) Close the noise-proof cover.

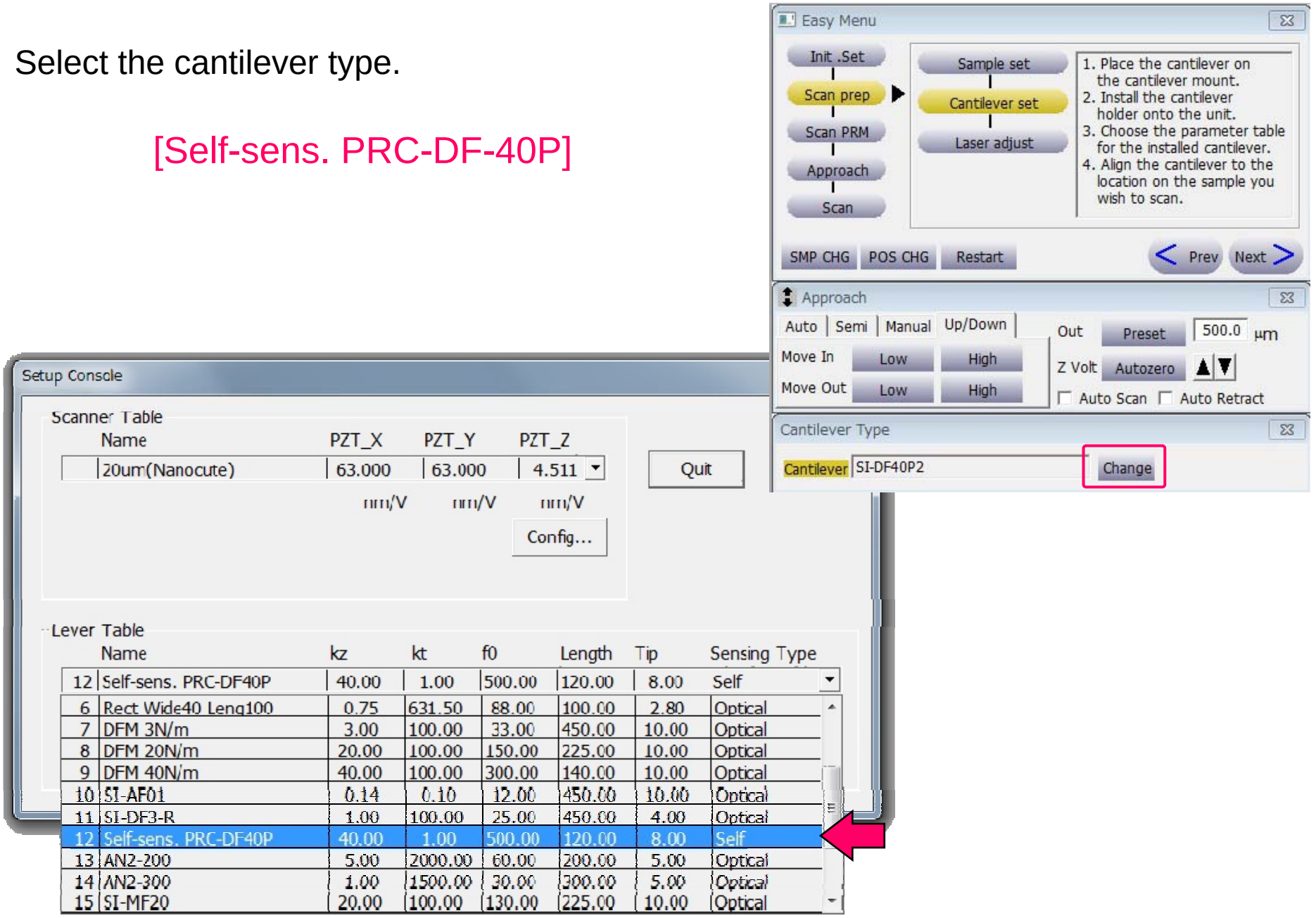
(5) Click【Next ＞】.



4. Selection of cantilever

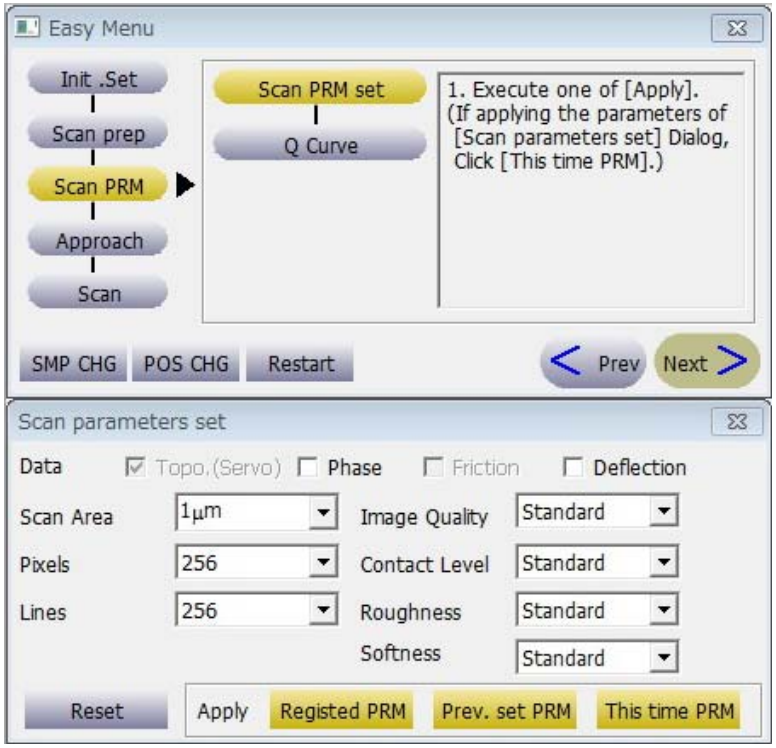
Select the cantilever type.

[Self-sens. PRC-DF-40P]



5. Scan parameter

Select the scan parameter.



Contact level

Hard	Amplitude ref. : large
Standard	Amplitude ref. : middle
Soft	Amplitude ref. : small

Roughness

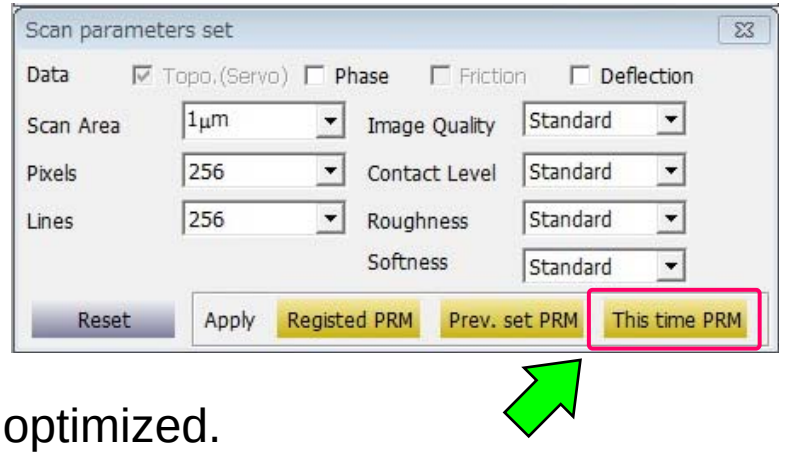
Rough	~ 100 nm
Standard	~ 10 nm
Flat	~ 1 nm

Softness

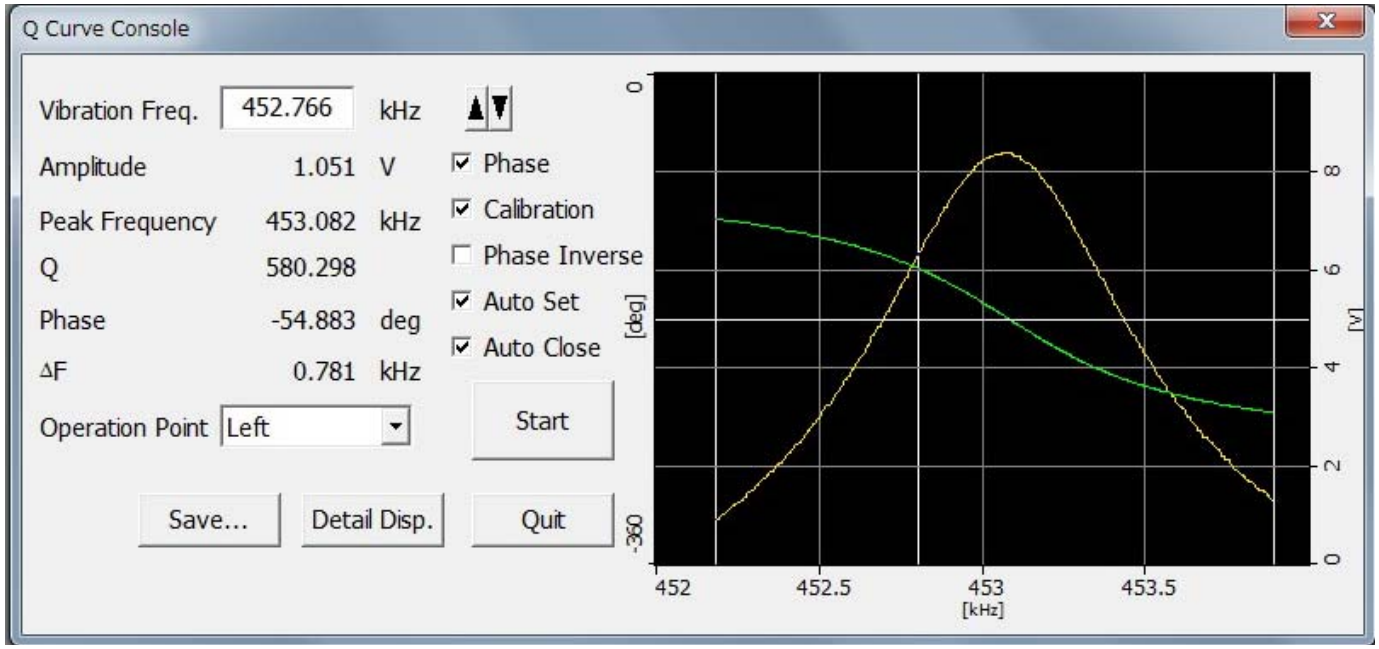
Hard	semiconductor, glass
Standard	metal
Soft	polymer, resin

6. Q-curve

Press the【This time PRM】.



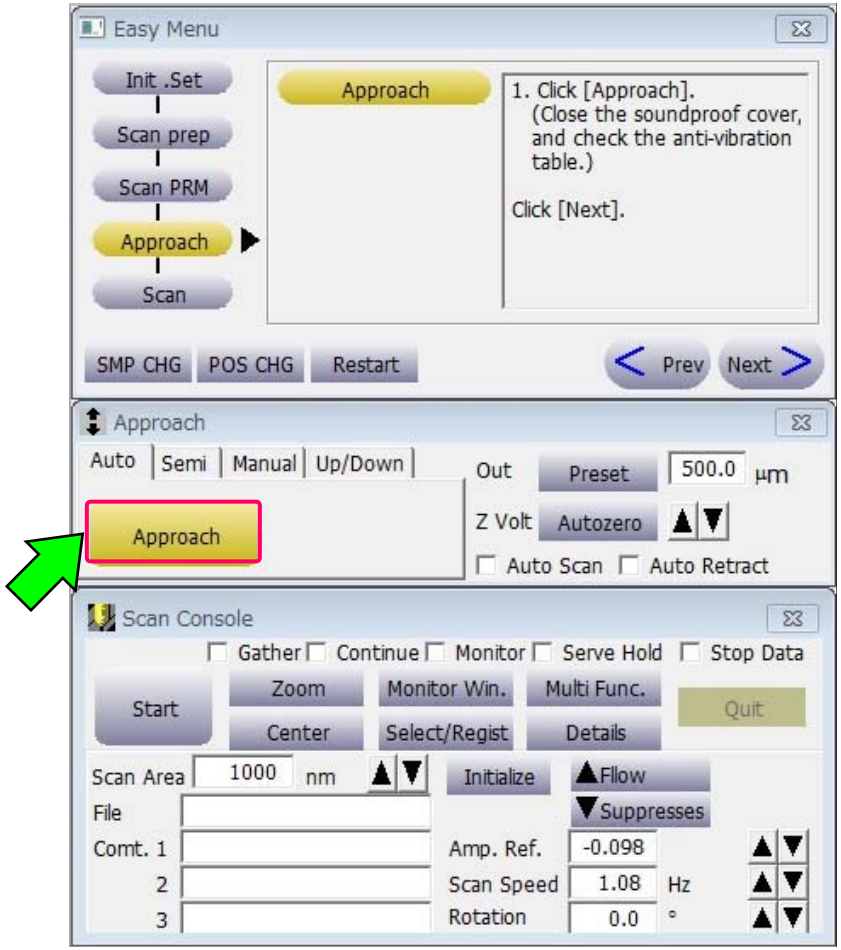
→ Q-curve console is displayed, diagnostic parameters are defined, and all parameters are automatically adjusted so that the vibration frequency parameter is optimized.

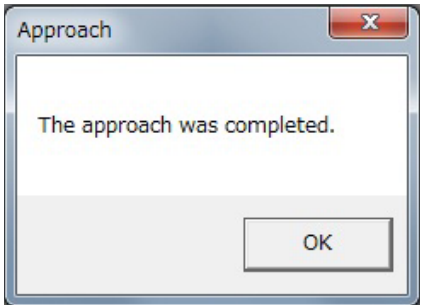


7. Approach

After Q-curve adjustment, press the【Approach】.

→ When the approach completed normally,
the PZT voltage is monitored around -30V.

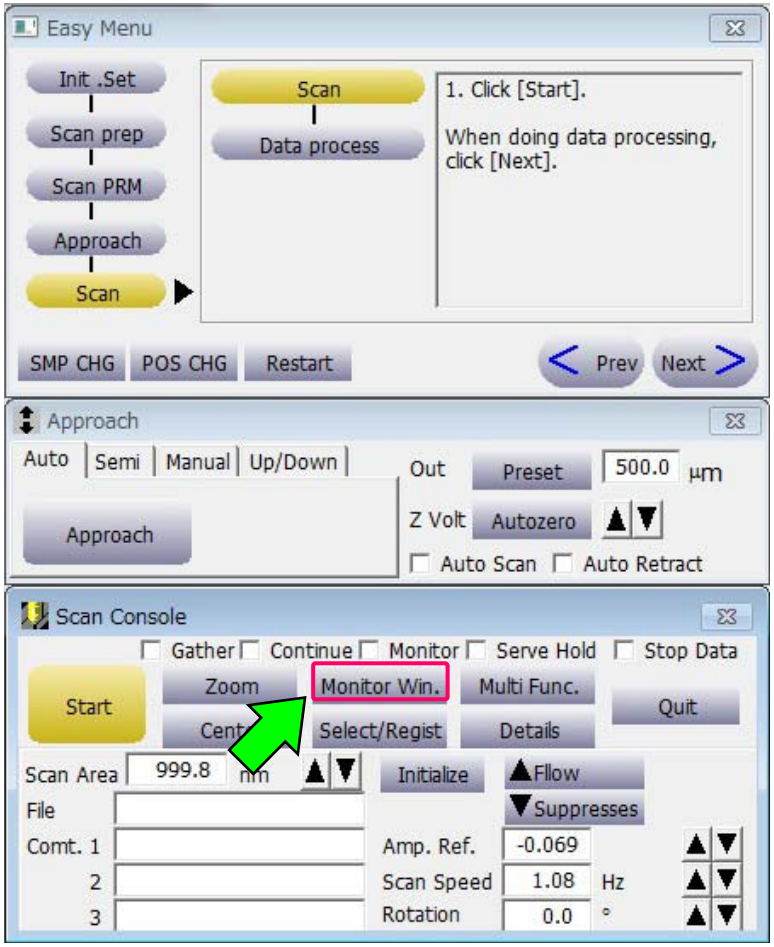


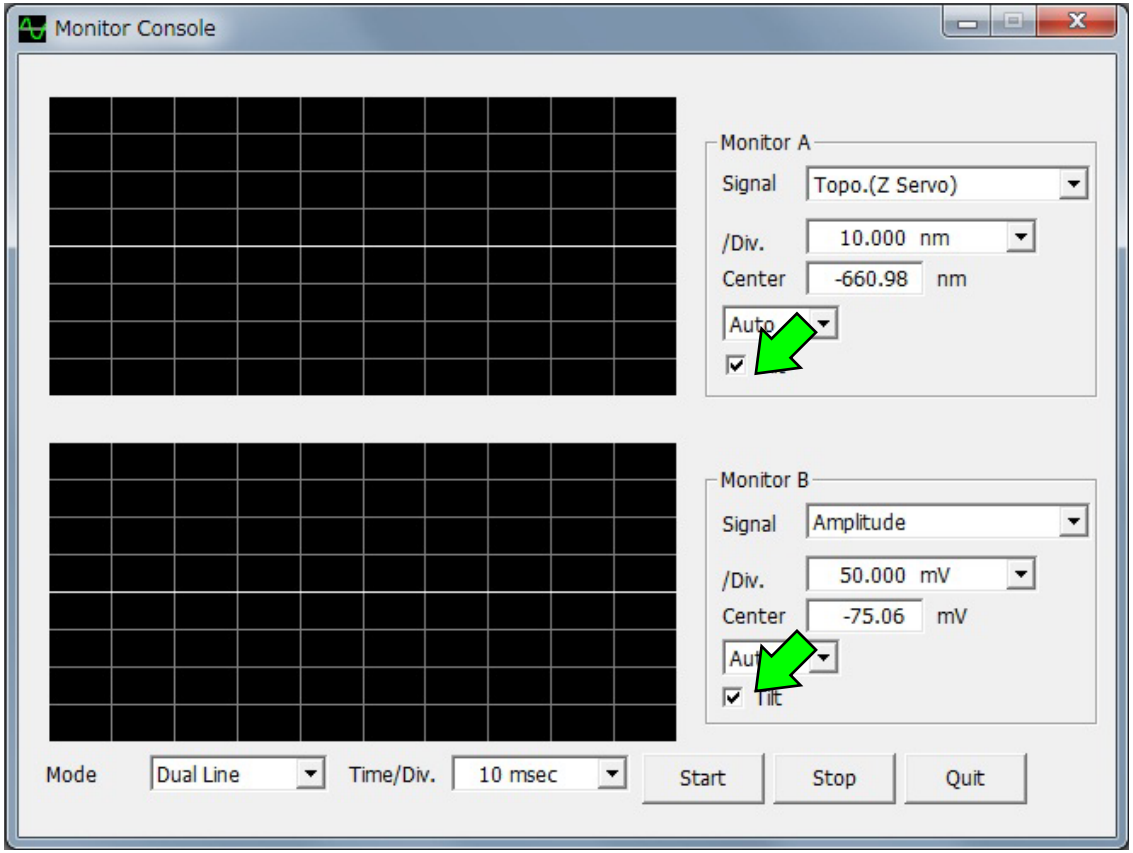


8. Monitor Window

(1) Open the【Monitor Win.】.

Check the【tilt】and start the line scan.

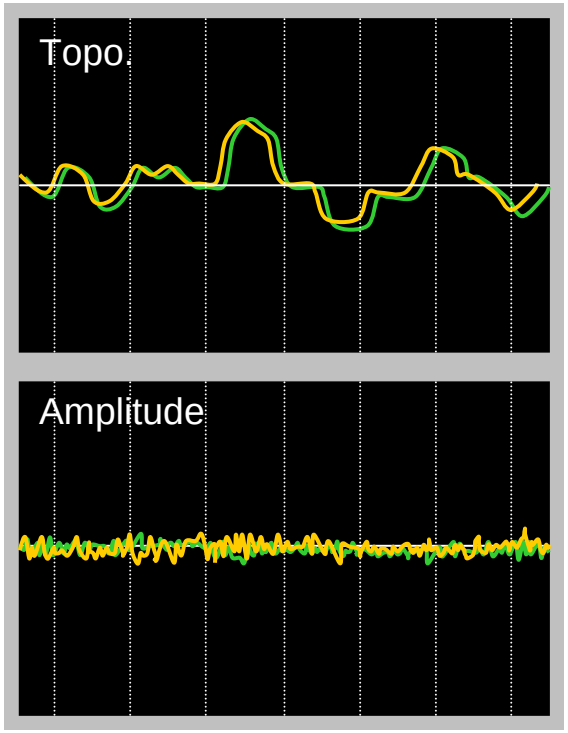




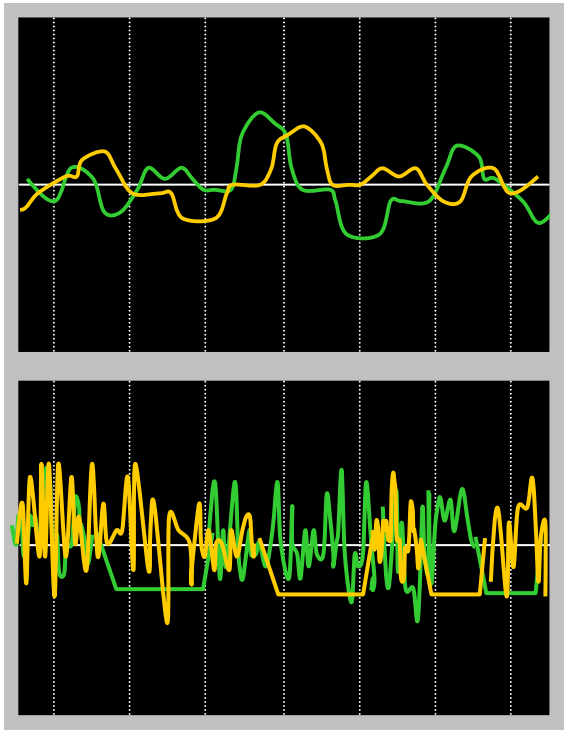
8. Monitor Window

(2) Monitor console (cross-sectional shape).

Corresponding shape

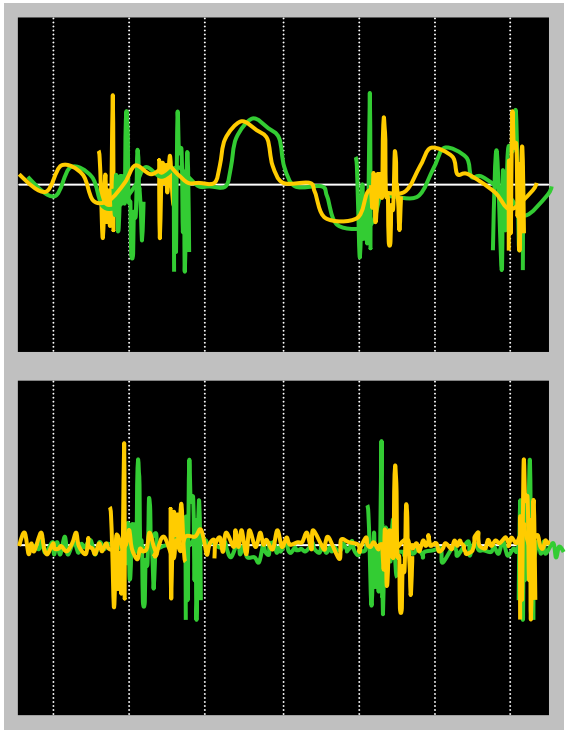


Difference shape



Increase [I Gain], [P Gain]
Reduce [Scan Speed]
Reduce [Amp. Ref.]

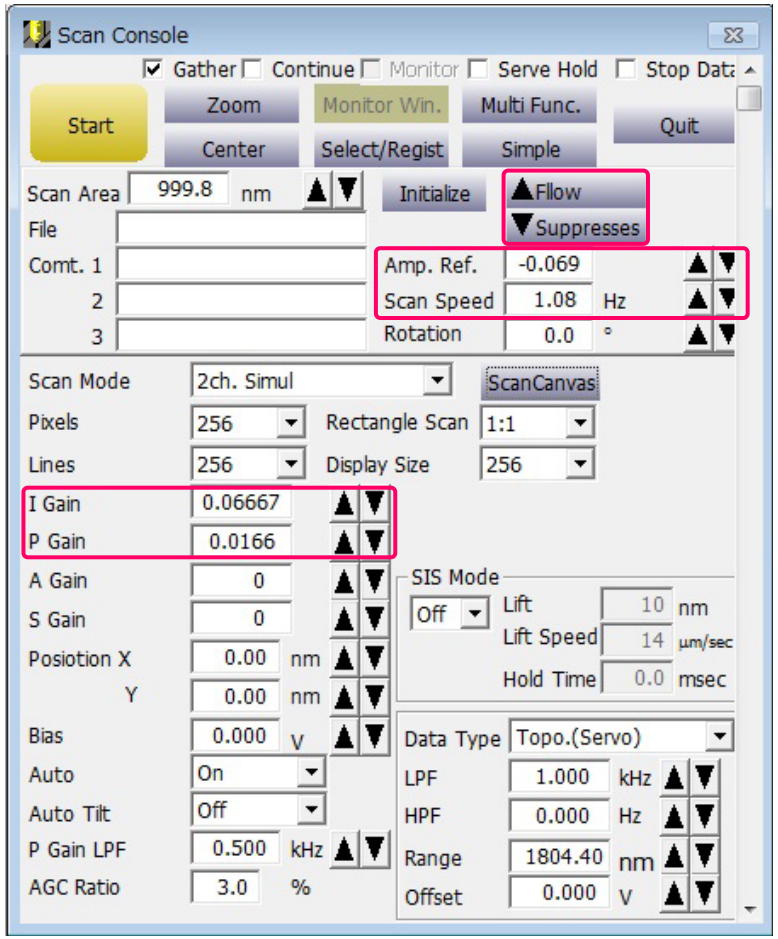
Noise



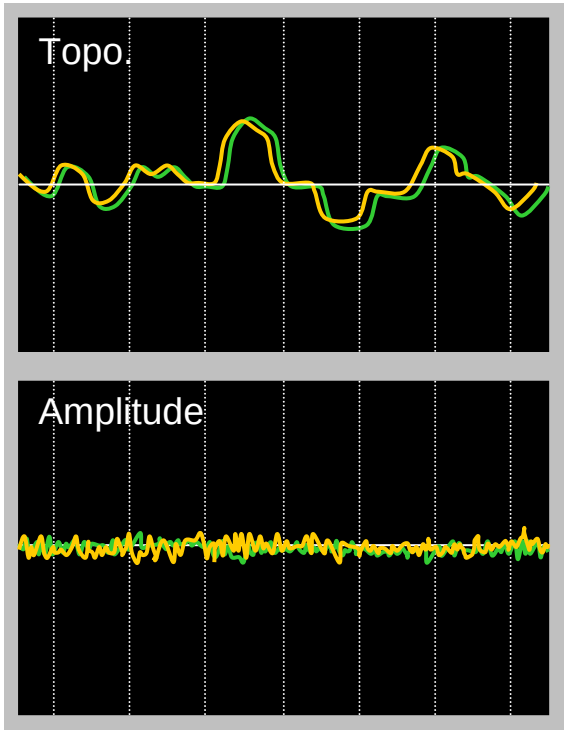
Reduce [I Gain], [P Gain]
Increase [Scan Speed]
Increase [Amp. Ref.]

8. Monitor Window

(3) Adjust each parameter.

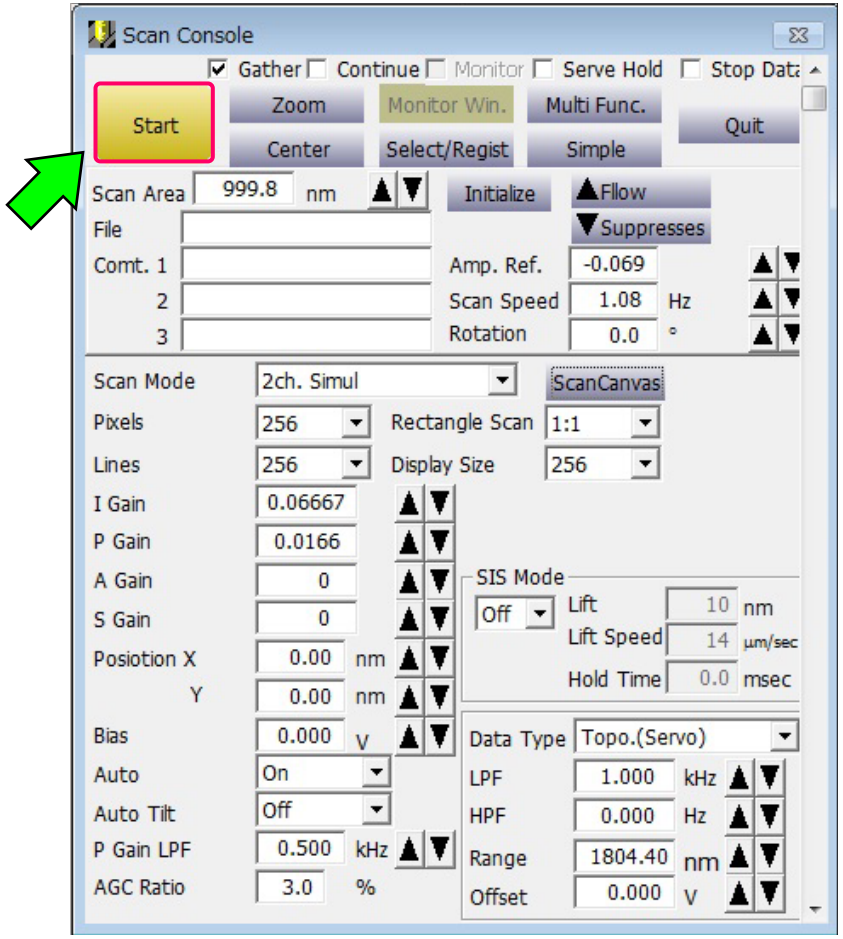


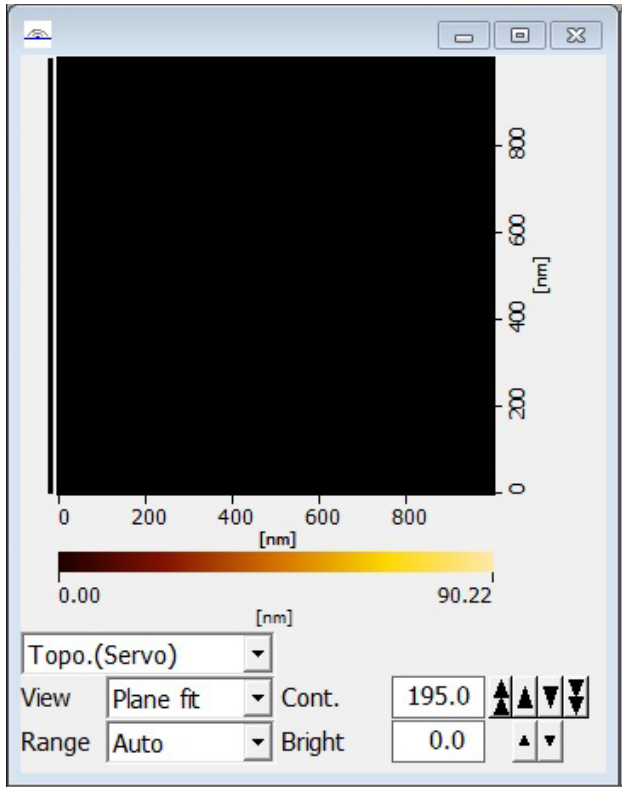
Corresponding shape



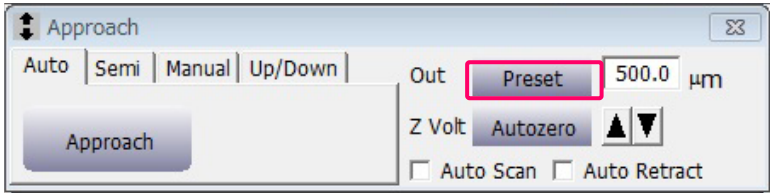
9. Start Scan

(1) Start scan【Start】.



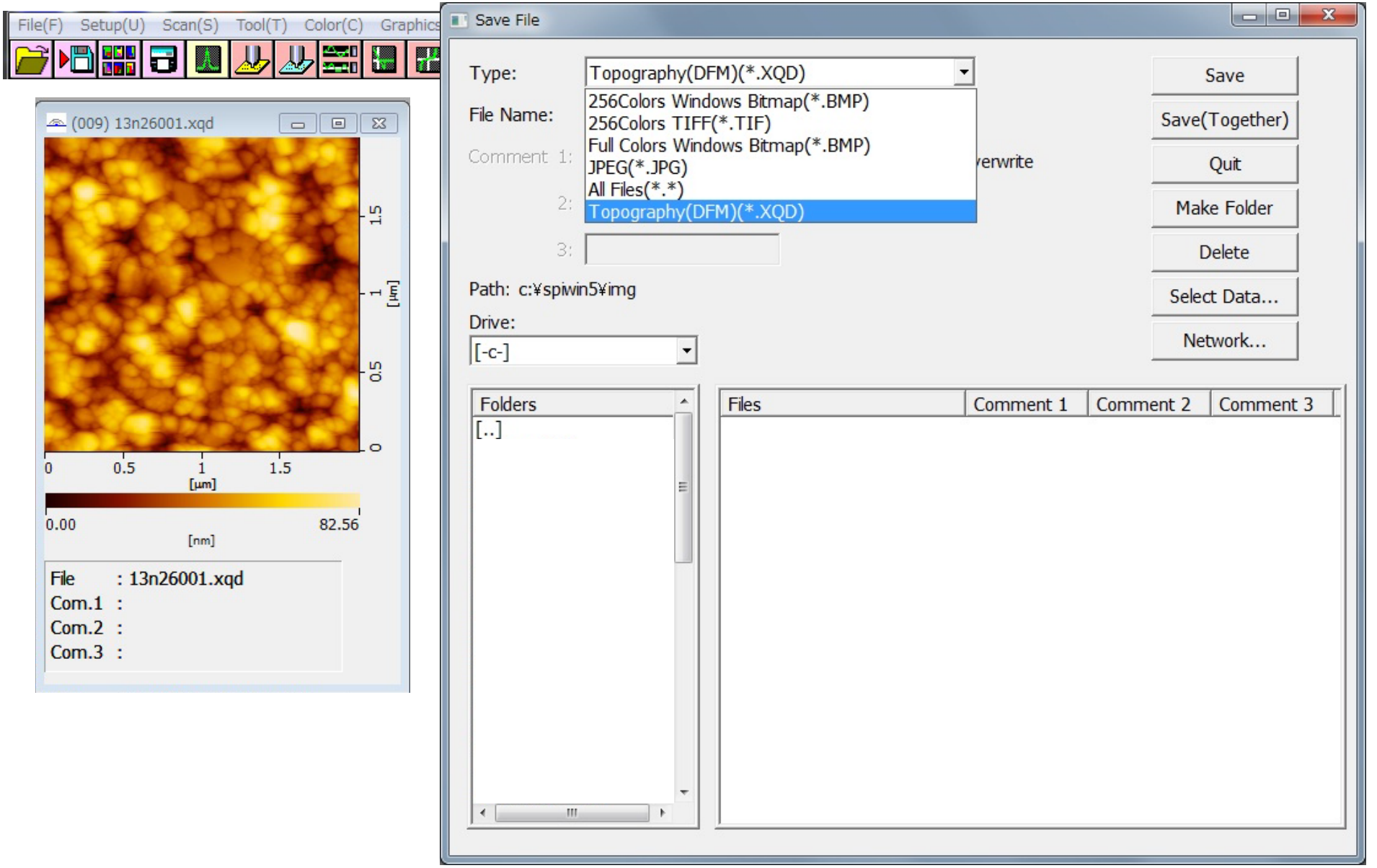


(2) After the scan, move out【Preset】twice



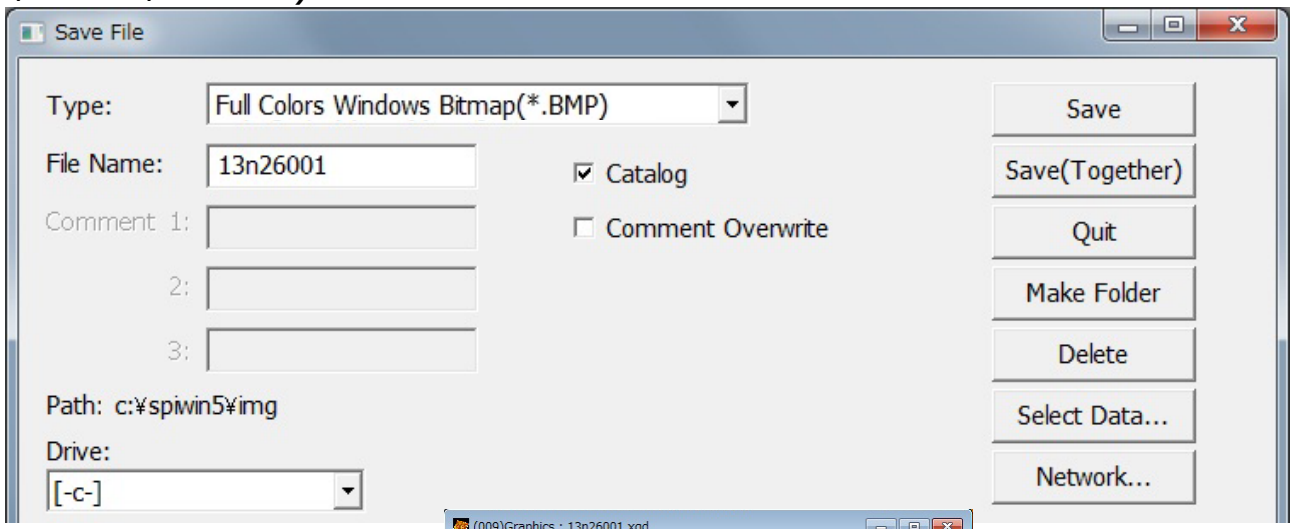
10. Save image

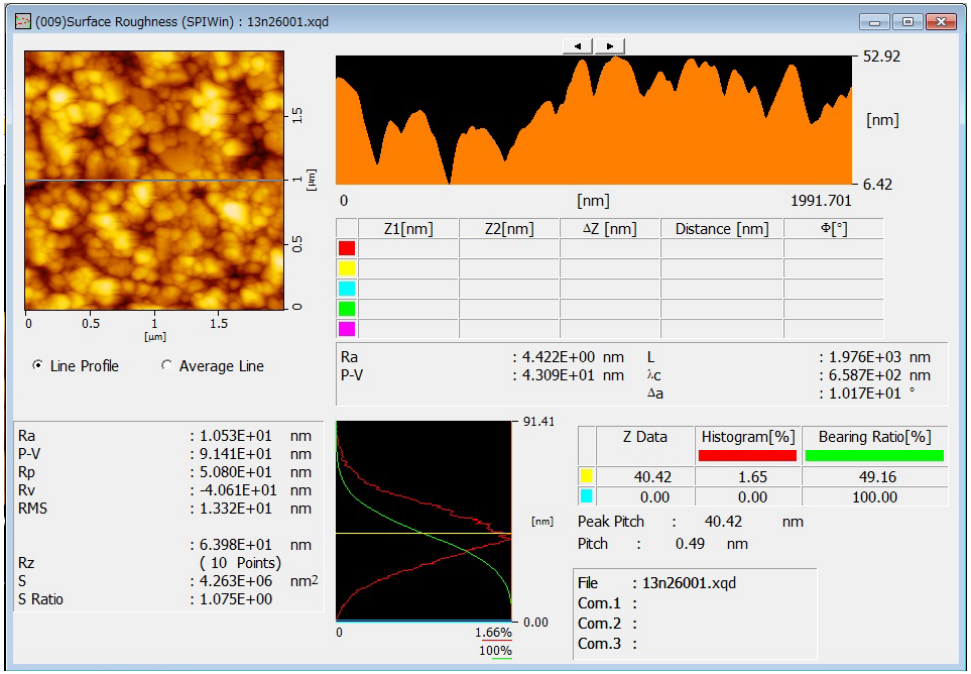
(1) Select image and save as a raw data (*.XQD)

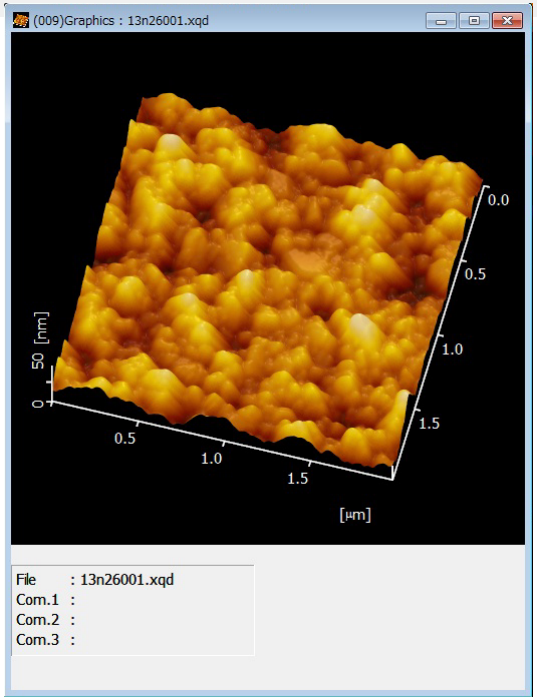


10. Save image

(2) save as image (*.BMP, *.TIF, *.JPG)



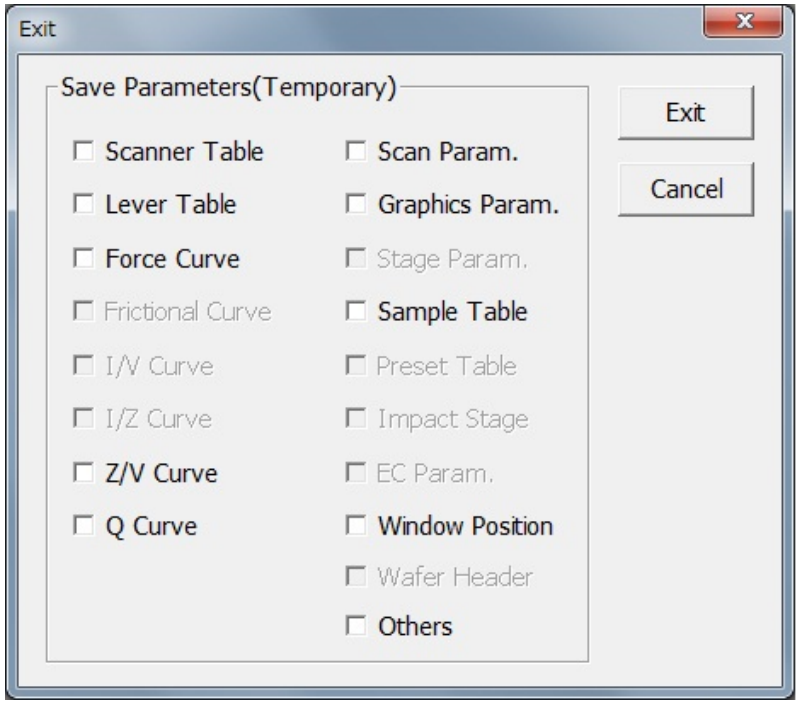




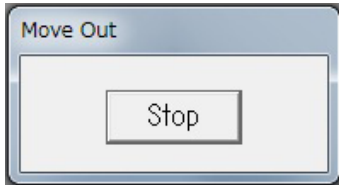
11. End

(1) Close【Easy Menu】.

(2) Select【Exit (X)】in【Setup (U)】and【Exit】.



(3) When the【Move Out】is displayed, press the【Stop】immediately.



(4) Turn off the electric equipment part and PC