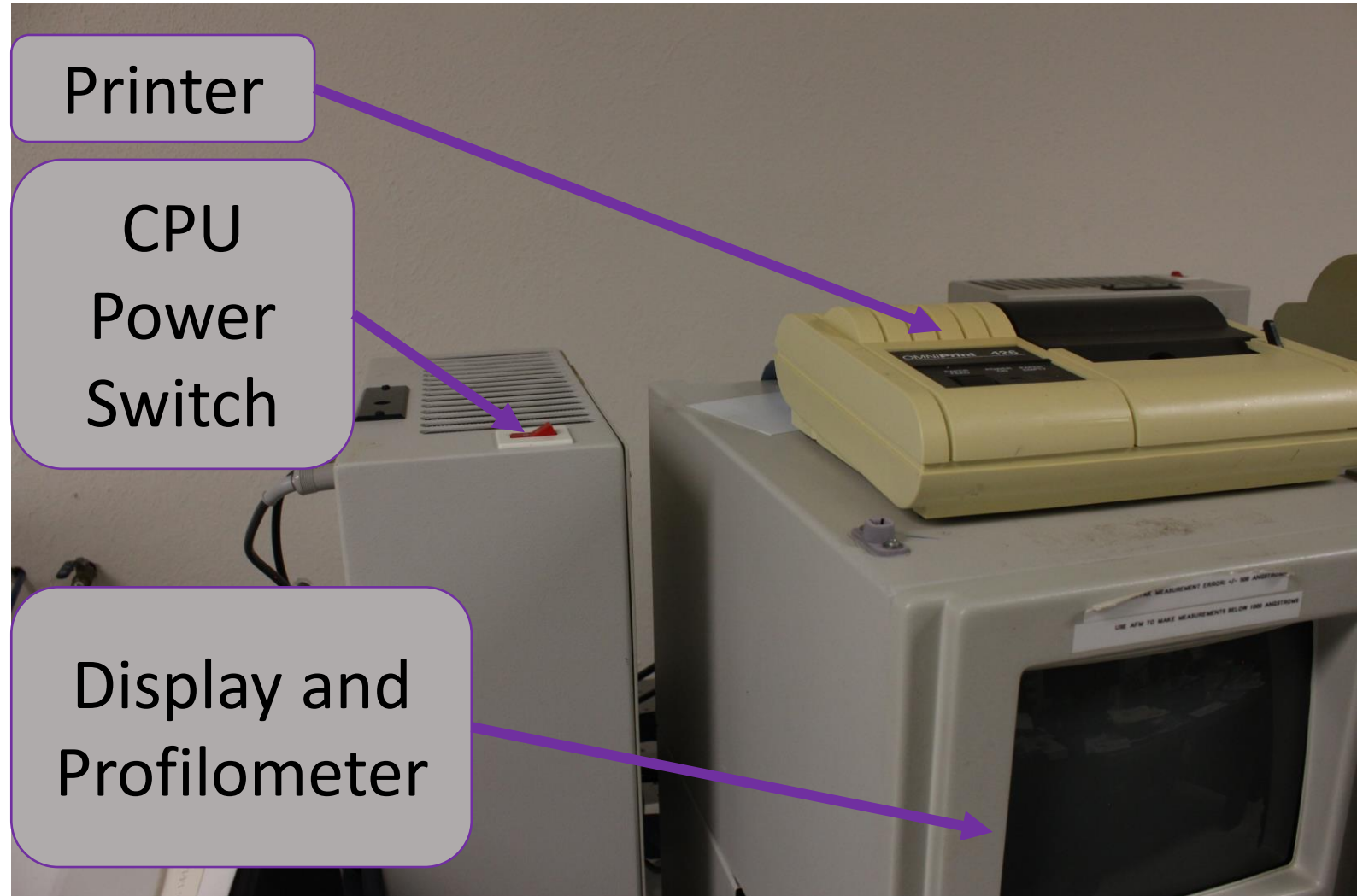


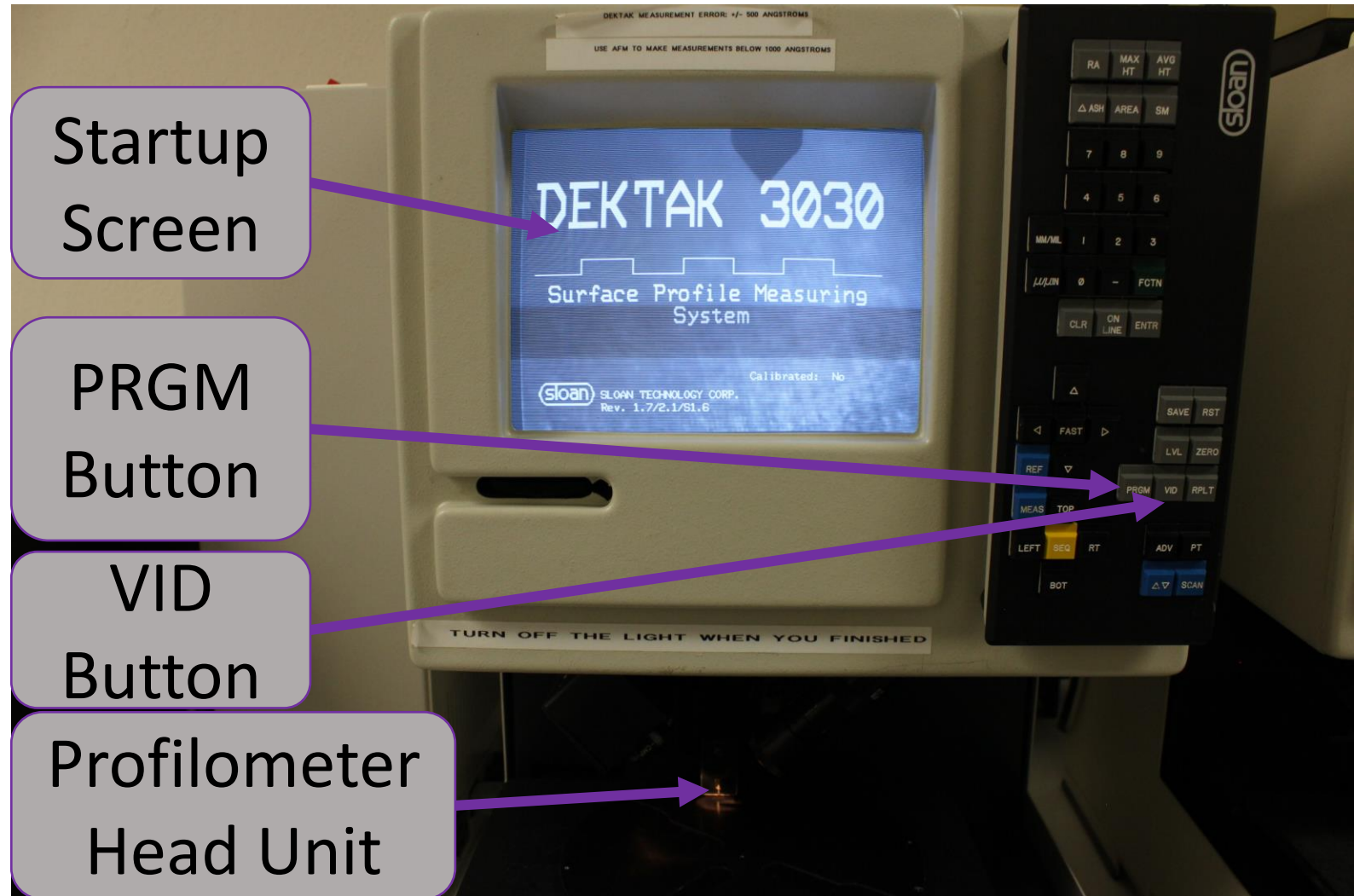
DEKTAK 3030 Contact Profilometer SOP

POWER UP

1. Toggle the Red CPU power switch to activate the profilometer from a cold start.

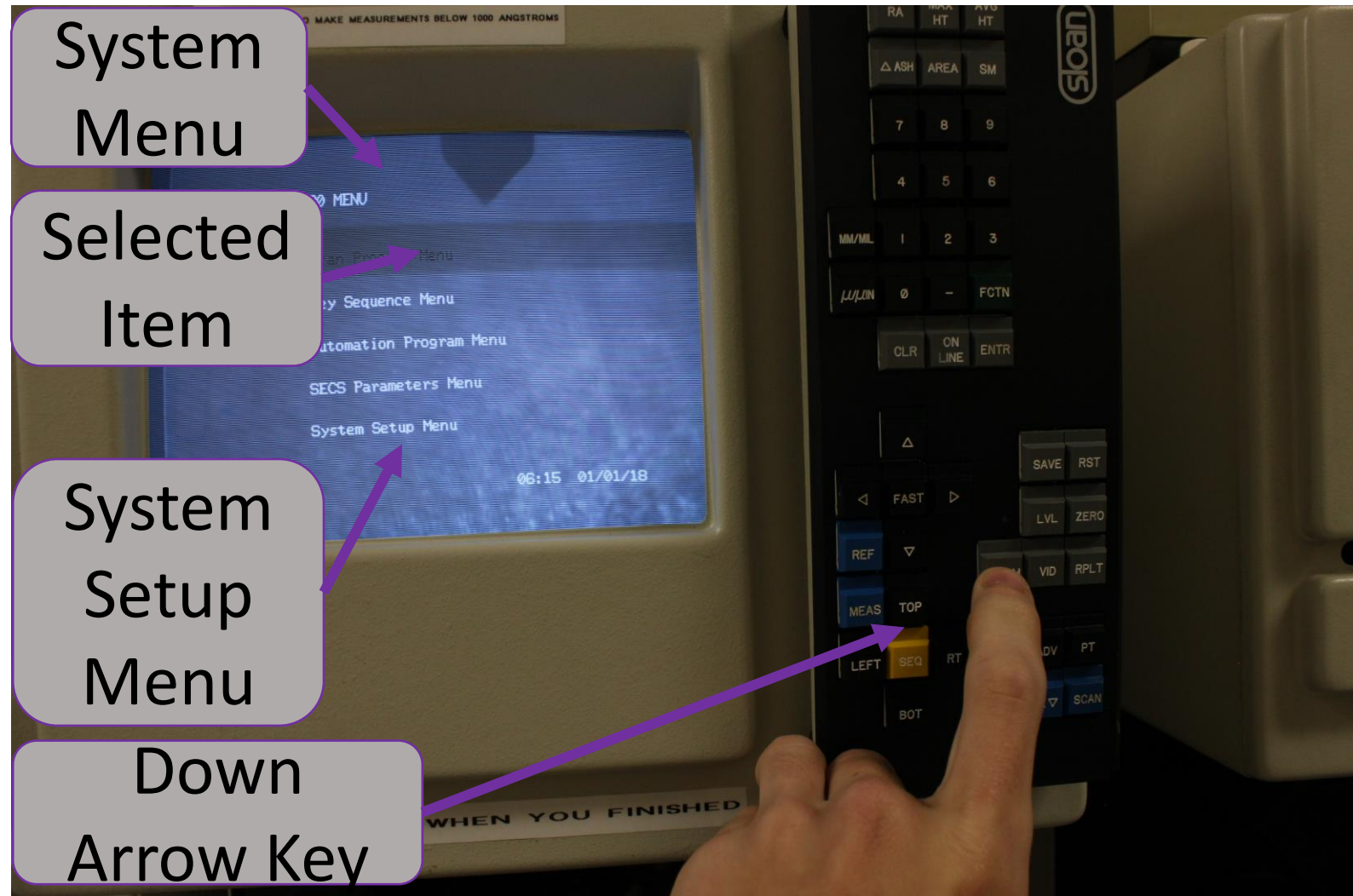


2. Once boot is complete, press the PGRM button to enter the system menu.
3. Press the VID button to toggle between menu, open camera view, and plain background...



4. Once inside the system menu, use the down arrow key to select “System Setup Menu”.

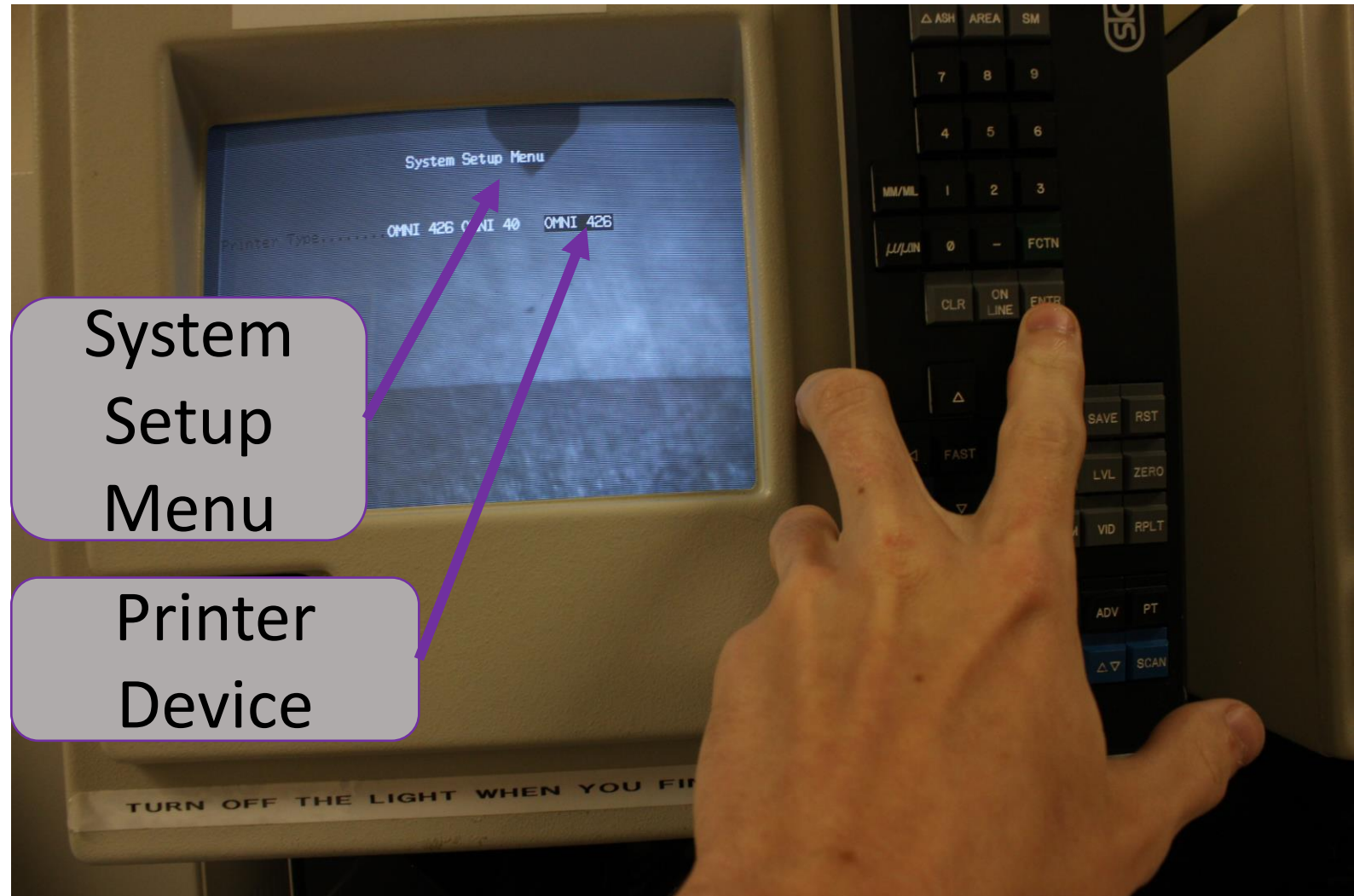
5. Press enter to enter system setup menu.



6. Verify that the printer is OMNI 426, and examine the printer resting on top of the profilometer to confirm that the listed printer is the one connected.

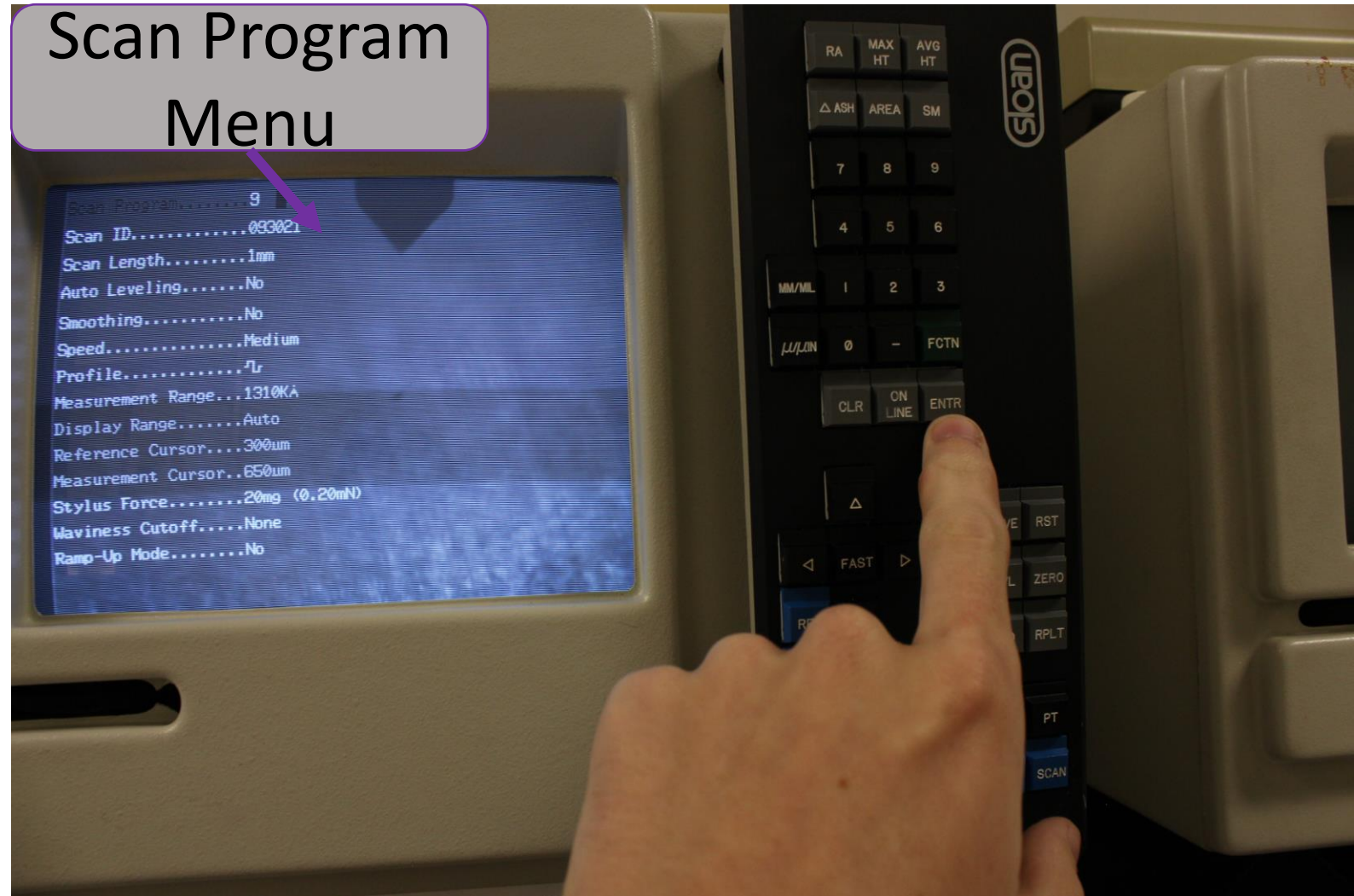
7. Press ENTER to refresh the listed printer device.

8. When finished, press PGRM again to return to the system menu.



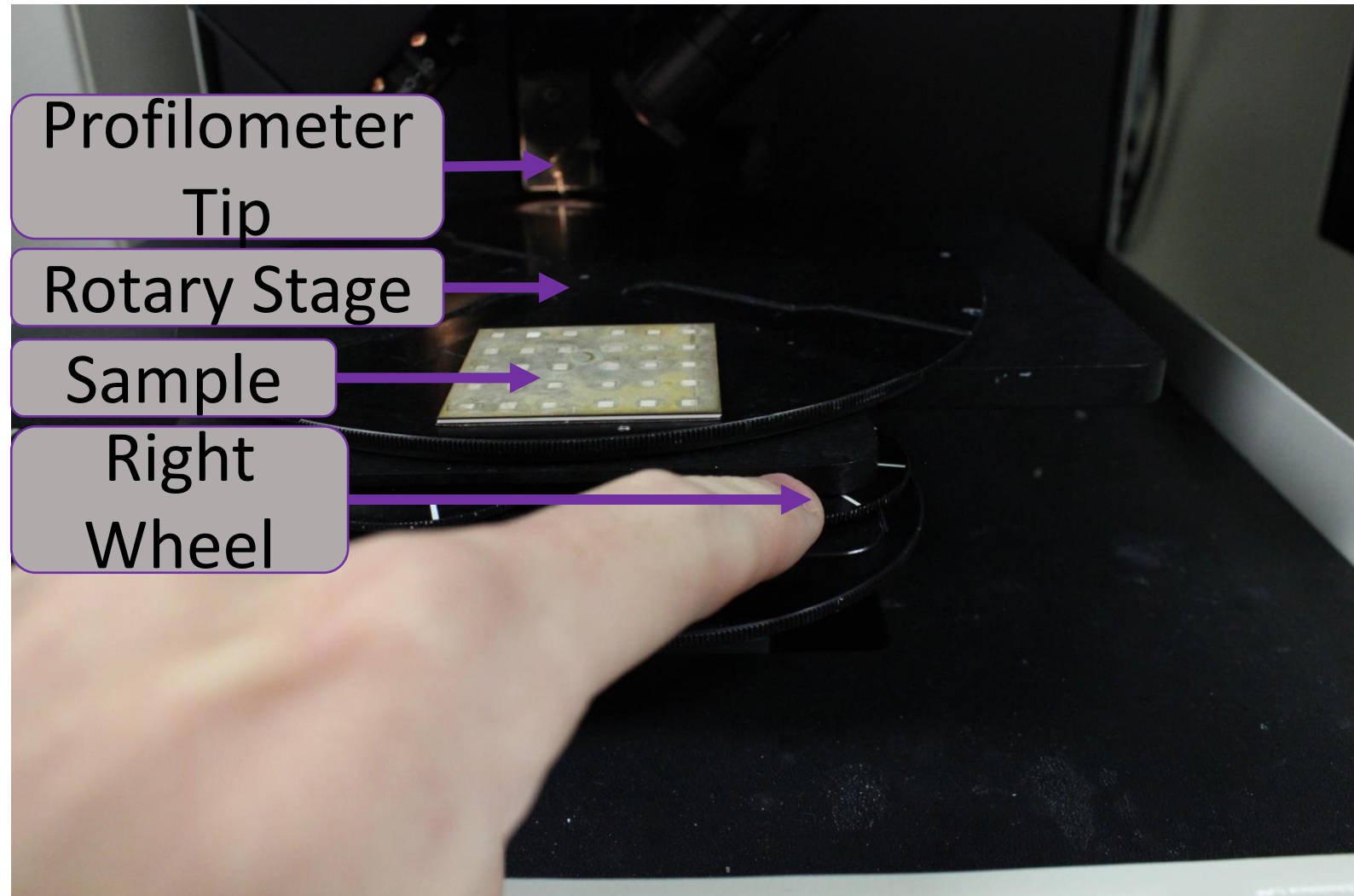
9. After returning to the system menu, use the up arrow and the enter key to select “Scan Program Menu”

10. Next comes startup and sample installation...

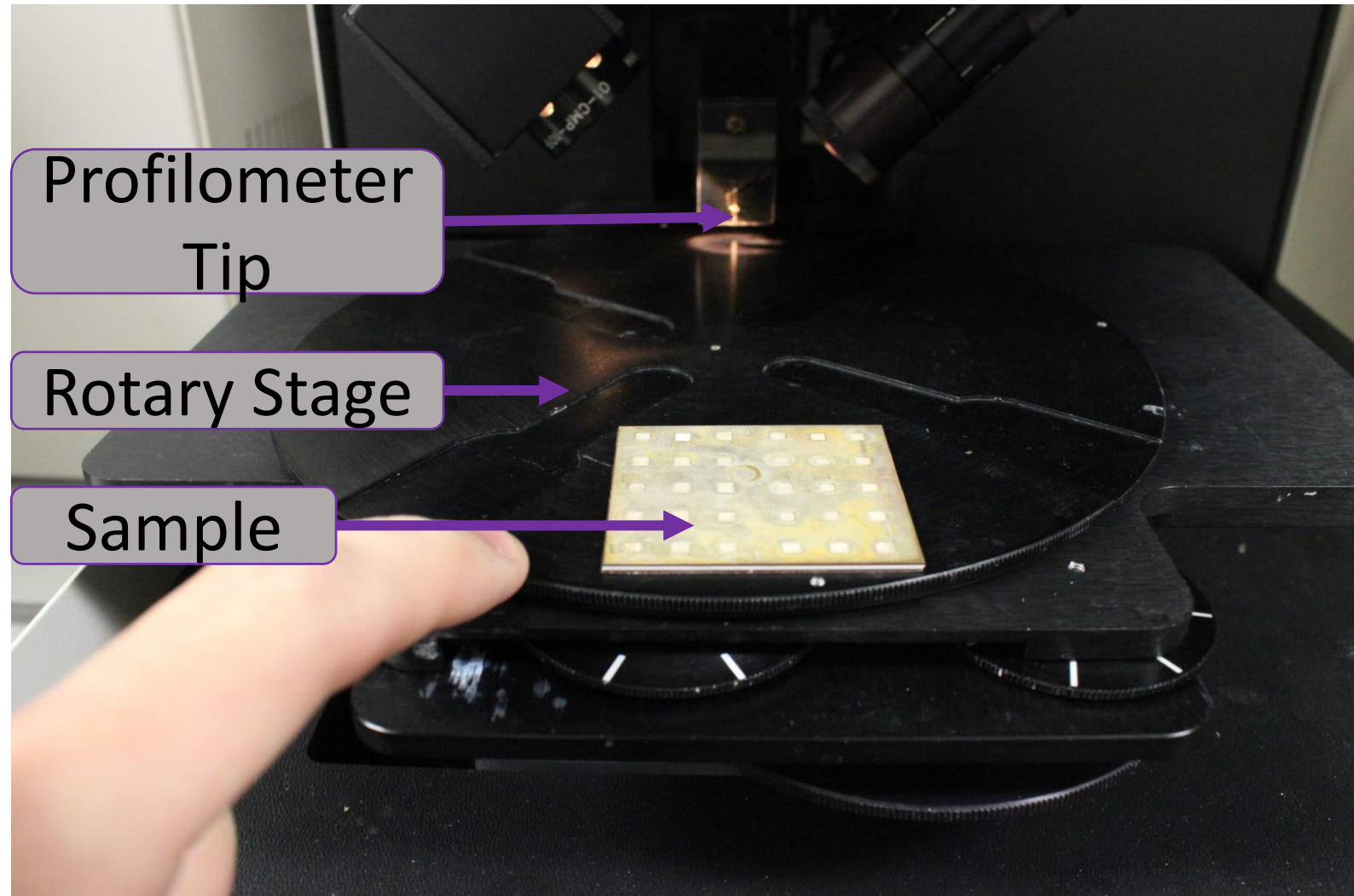


Startup and Installation

1. Locate the two small stage control wheels in front.
2. Rotate right wheel to drive stage toward self...
3. Place sample on the edge of the rotary stage as shown, such that it will slide under the profilometer tip when rotated on the stage.



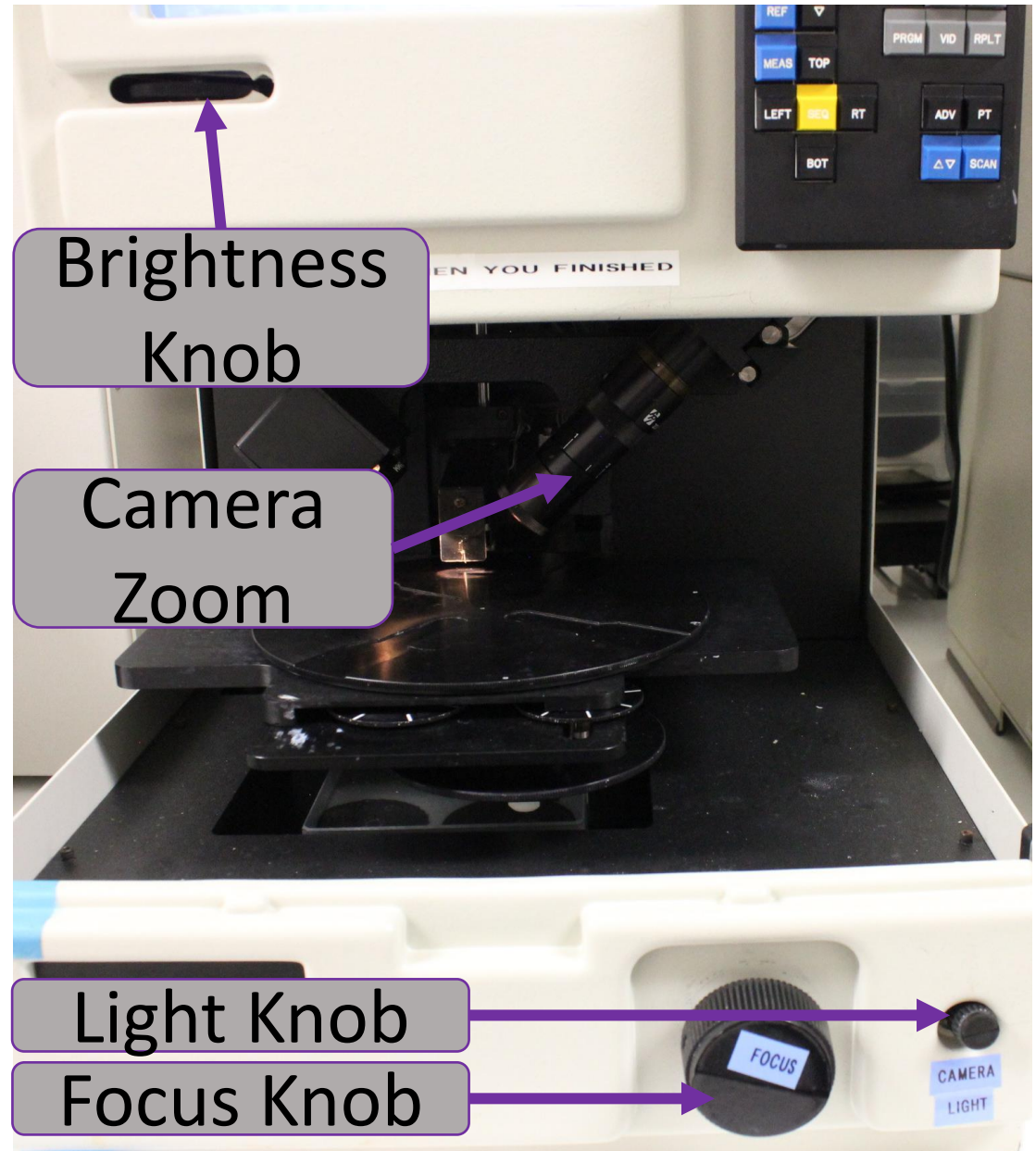
4. Rotate the rotary stage until the sample is under the profilometer tip. **DO NOT TO RUN THE SAMPLE INTO THE TIP!**



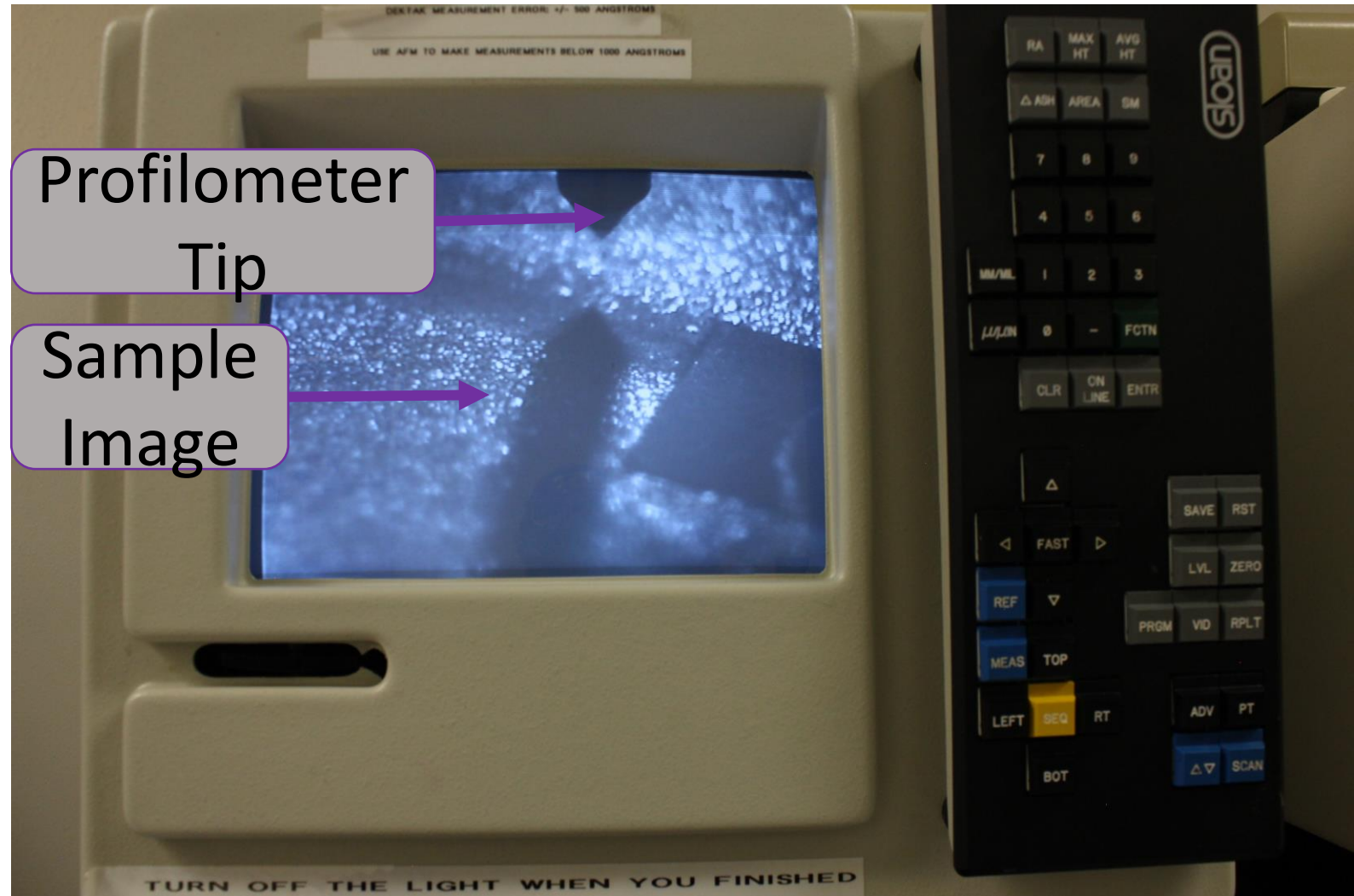
5. If the tip is too low, Adjust the focus knob so the tip rises. Adjust height until the tip is ~0.5cm off the surface of the sample...

6. Use the light knob to the right of the focus knob, and adjust it to an appropriate light level for your eyes. (90 deg. Clockwise should do it)

7. Adjust the monitor brightness knob to a comfortable level so you can clearly see the tip, and sample surface.



8. Use the VID button to cycle through view options...
9. Adjust the focus knob to get the area of interest on the sample in focus.
10. Adjust the camera zoom as needed to help with finding the area of interest and setting the focus.
11. Use the left and right stage wheels to position the view at the area of interest.
12. Reset the VID button to Camera and Graph view

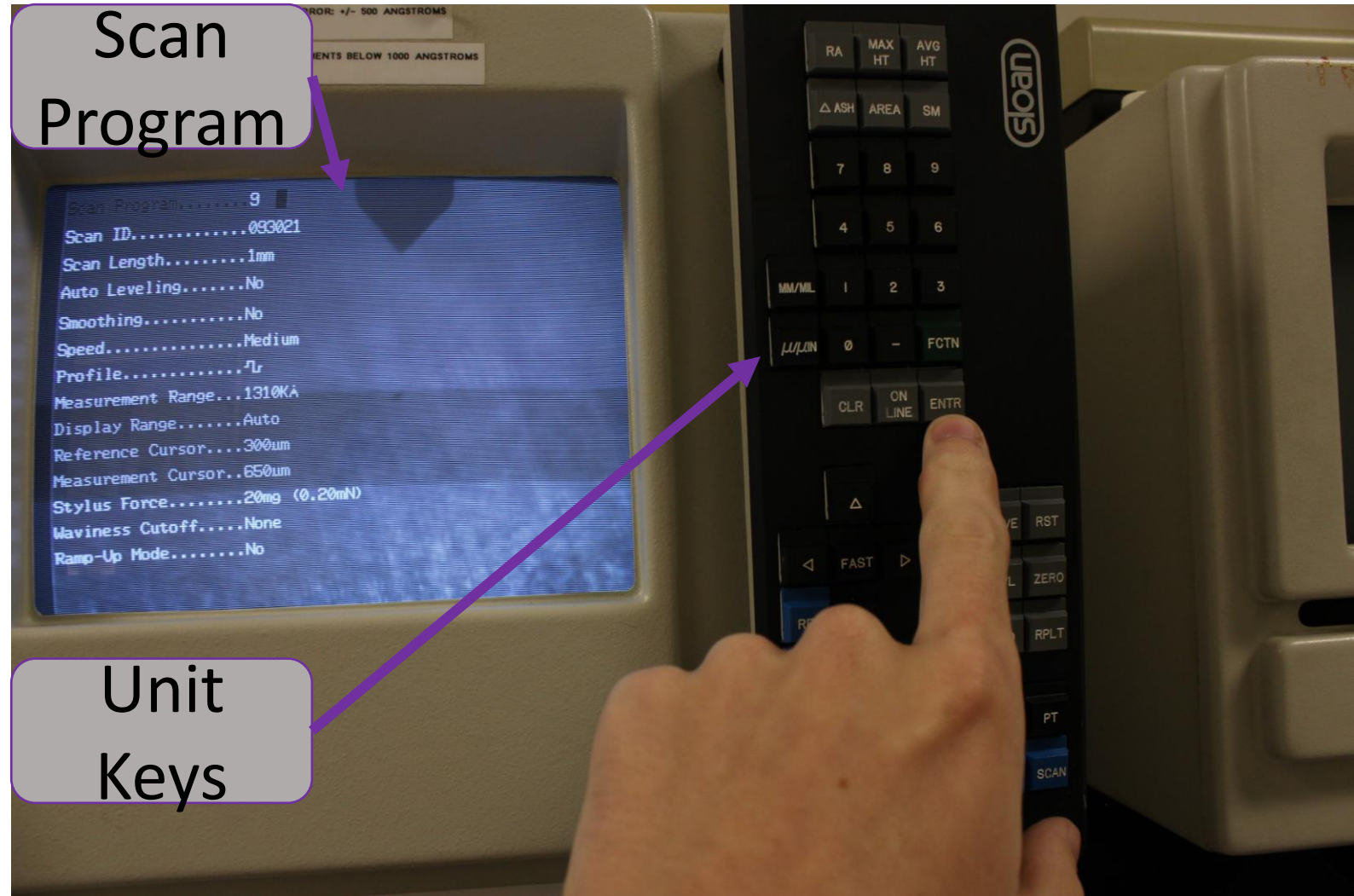


Reviewing and Editing Profilometer Program

1. Once the sample is positioned and in the area of interest is in focus, press PRGM to return to the system menu.
2. Select Scan Program Menu from the system menu to adjust the scan settings for the profilometer scan.



3. If you wish to adjust the length of the scanned line, select scan length, and enter the number of the keypad. Press enter to accept the new number. You can adjust between units of mm or micrometers using unit keys.
4. likewise, the other options can be adjusted.



5. When adjusting the speed, low is for relatively rough surfaces, no more than RA ~80 micrometers, medium is for average surfaces, no rougher than RA 60 micrometers. Fast is best left for very smooth surfaces, with RA ~20 micrometers or less.

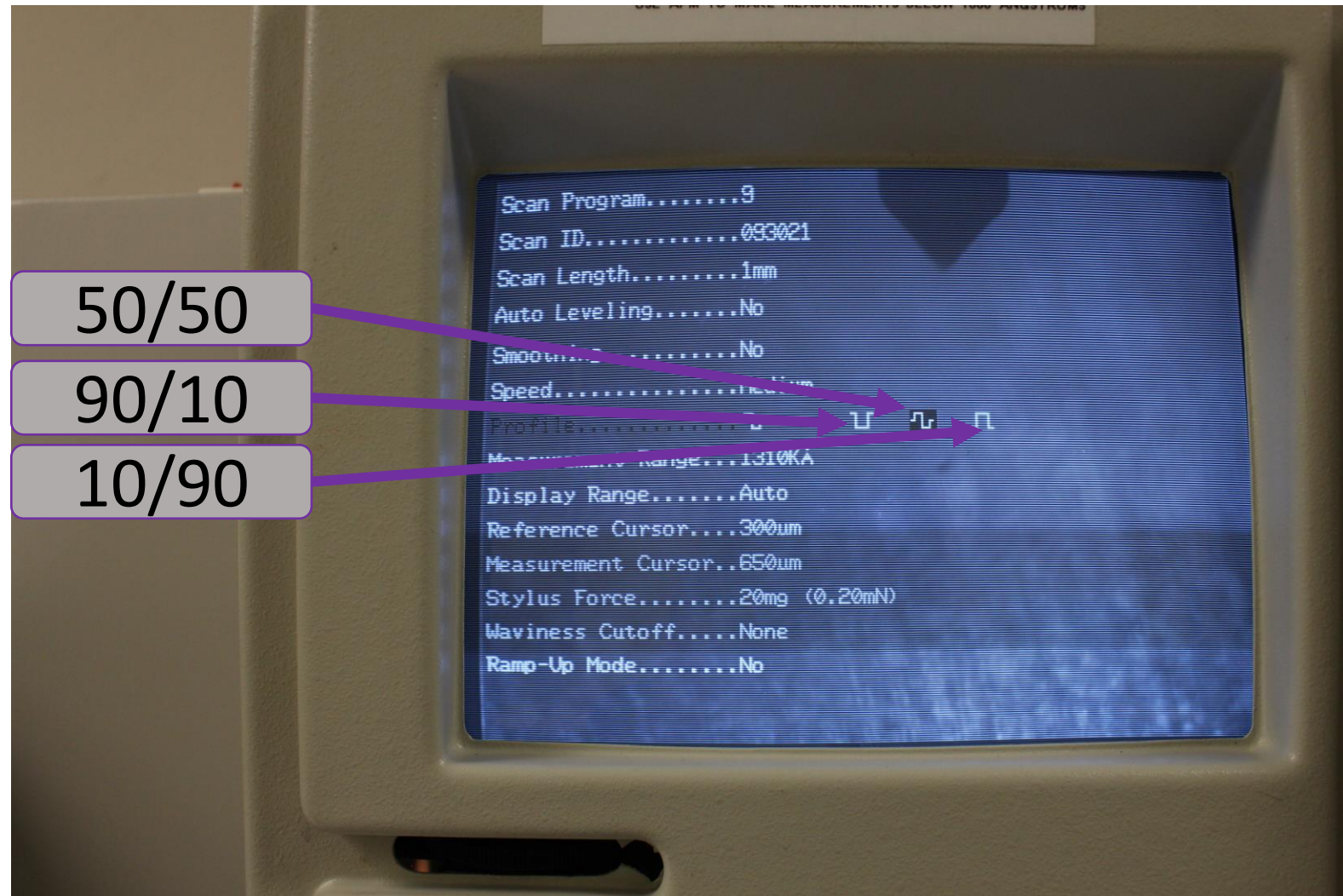


6. Profile can be adjust between three settings;

90/10, 50/50, and 10/90. 90/10 is for measurements where you expect to see a large valley like feature. 50/50 is for mixed surfaces, and 10/90 is for raised structures, 50/50 is best unless you have features of >60 micron tall or deep.

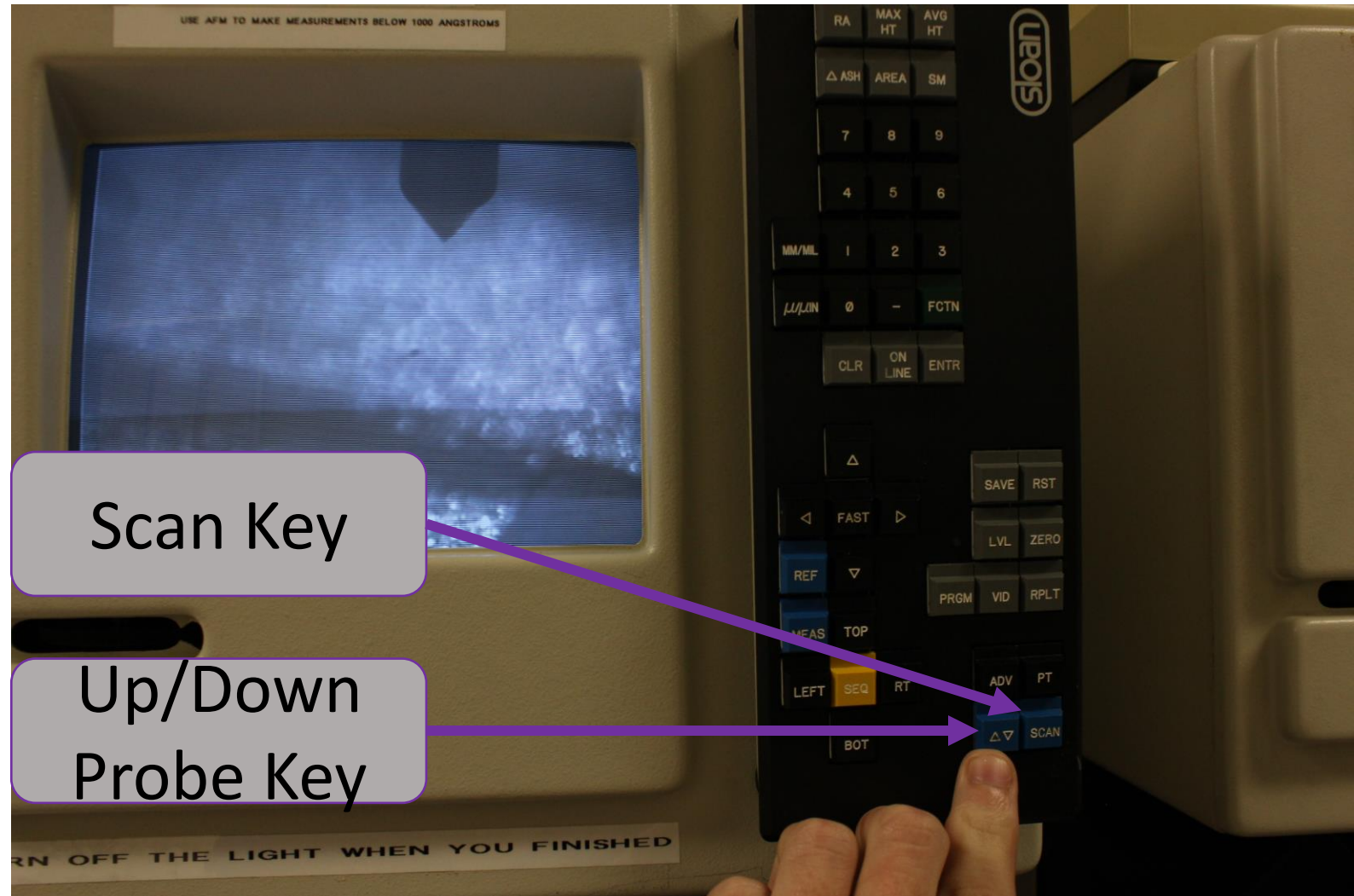
7. The measurement range can be left at it's optimal 131 micron. (1310 kilo-angstroms)

8. Display range is best left to AUTO, and Stylus Force is best at 20 mg. **DO NOT CHANGE THE OTHER OPTIONS WITHOUT AN EXPERINED OPERATOR!**



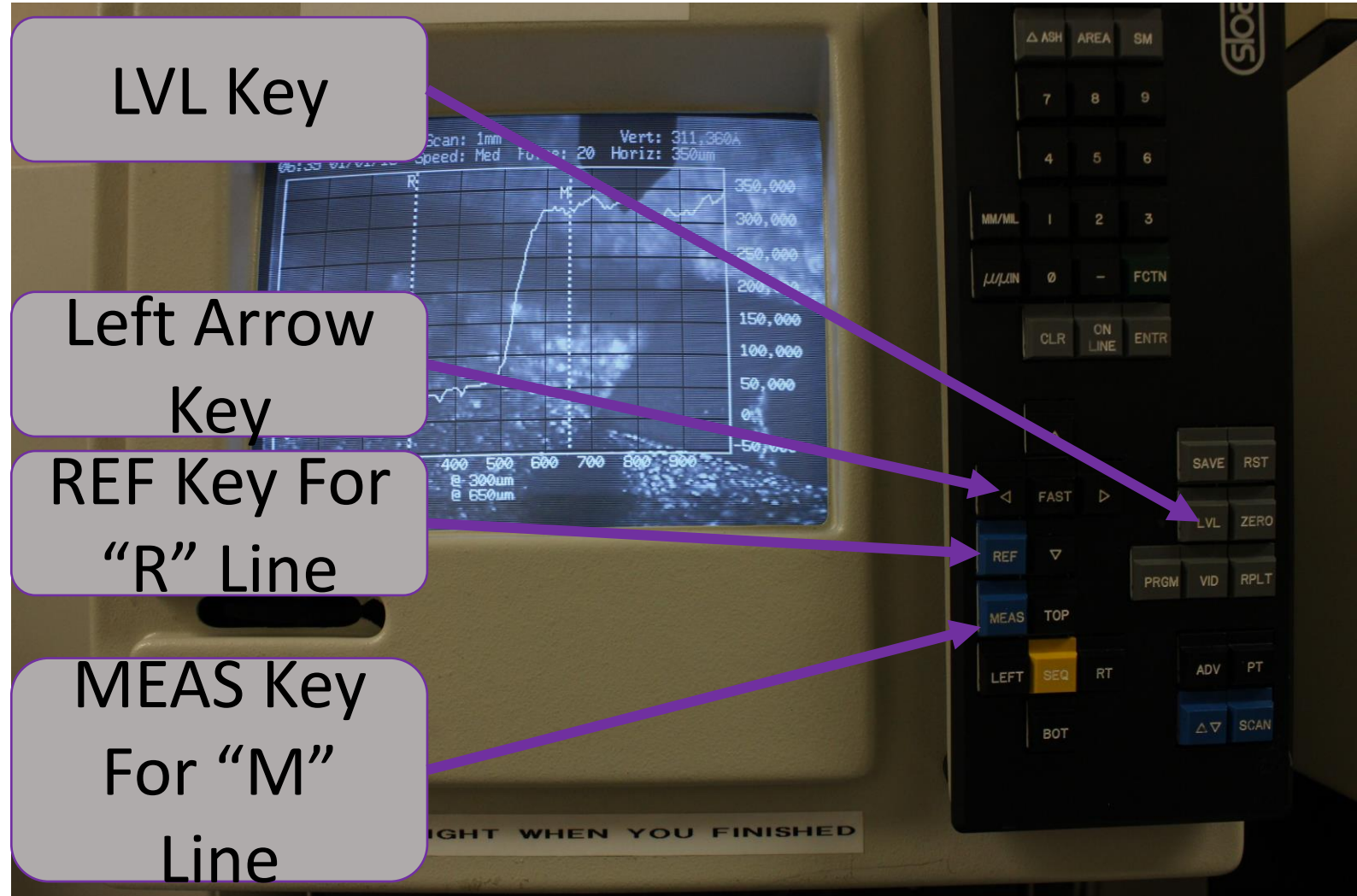
Position and Scan Sample

1. Press the blue up/down probe tip key ONCE. After 5 seconds, the probe tip will come down. Wait until the tip touches the sample and stops moving. Check on the monitor to see if the tip is in the correct location for your scan.
2. Use the left and right knobs to position the tip until it is in the correct location. Make small movements so the tip does not retract or get damaged.
3. Press the SCAN key, exactly once. Wait for the scan to begin and complete. A new graph will appear on the screen.

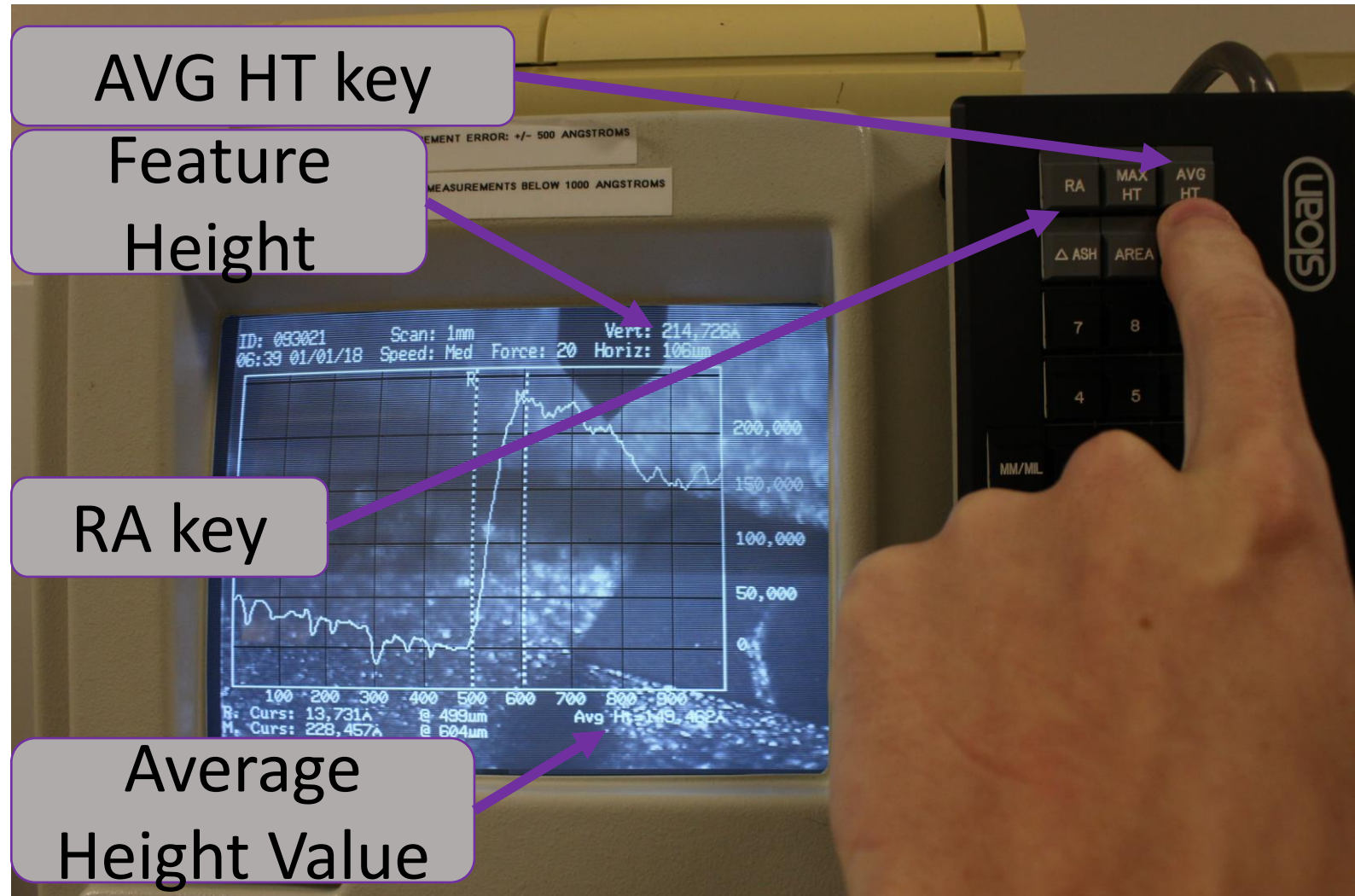


Level and Review Graph

1. After the graph has been generated. We must level it and make sure our measurements are in the current frame of reference.
2. Use the left and right arrow keys, while holding the REF Key to move the "R" line to the left side of the feature of interest.
3. Use the left and right arrow keys while holding the MEAS key to move the "M" to the right side of a the feature of interest.
4. Press the LVL key to level the plot to the level of the region between the "R" and "M" lines.

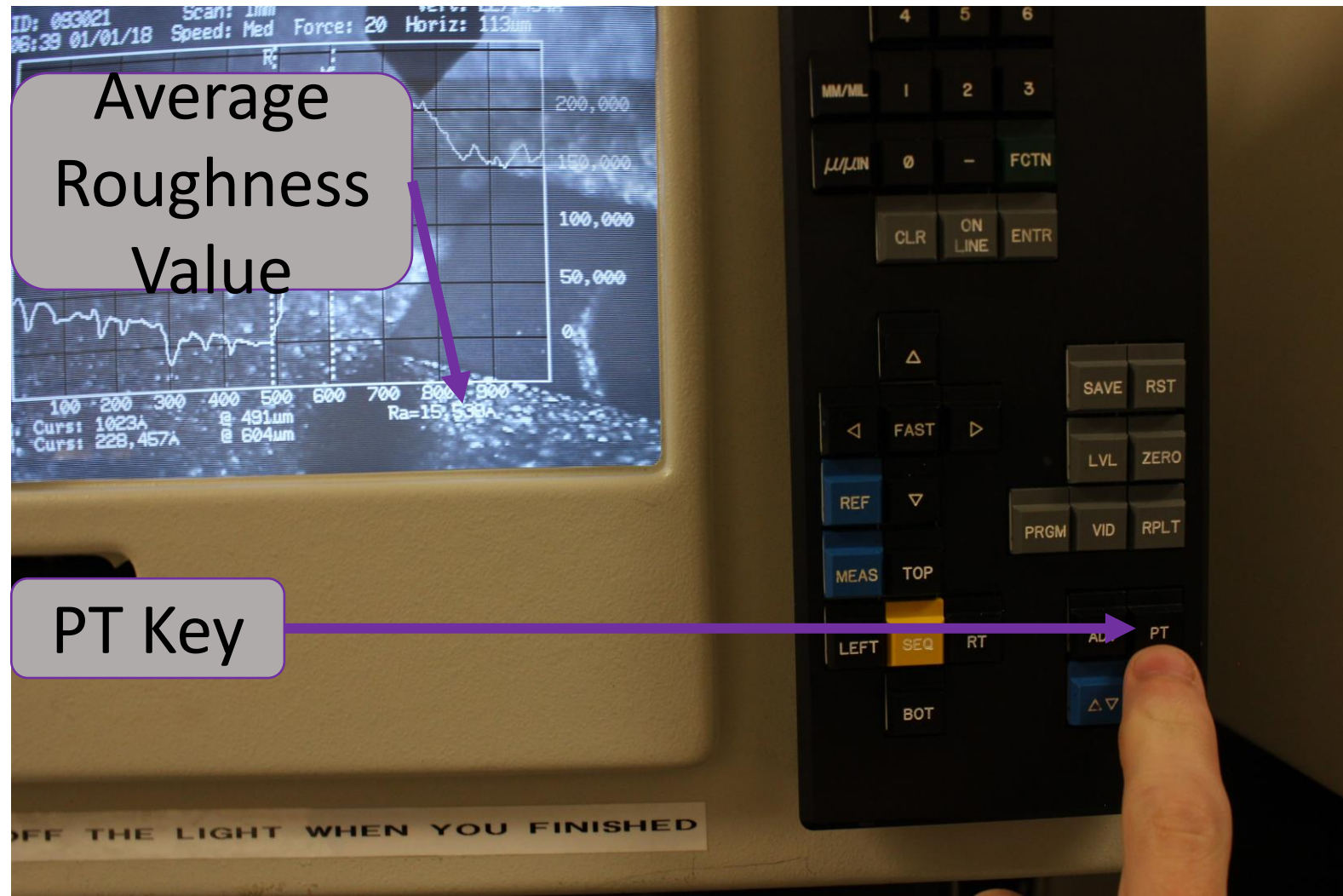


- To determine the height of a feature of interest, move the MEAS line on top of the feature. Look at the vertical value in the top right of the display to see the height.
- To determine the average height between the "R" and "M" lines, move the "R" line to the left feature edge, and the "M" line to the right feature edge. Pres AVG HT key. The average height should appear in the bottom right.



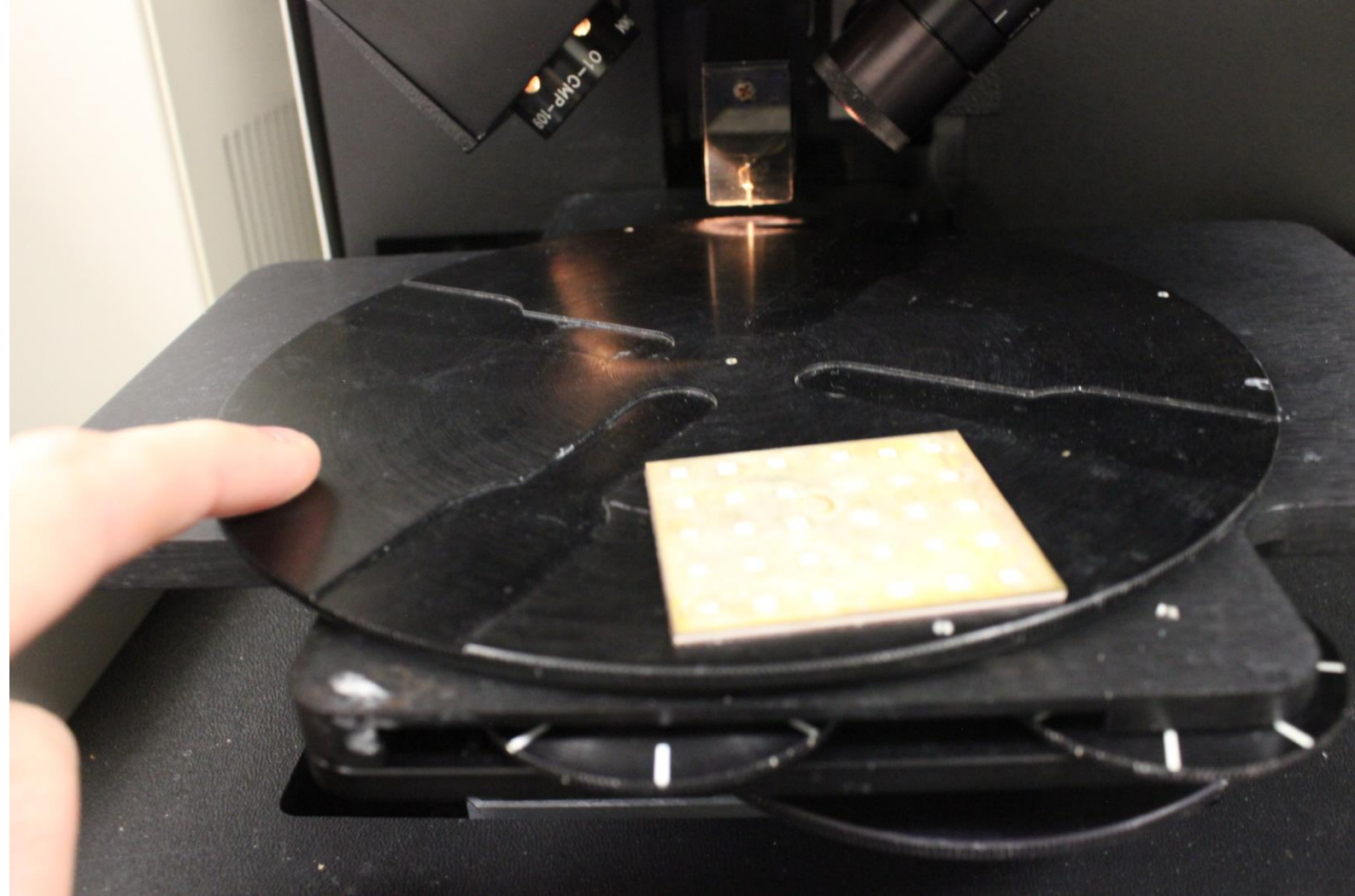
7. To determine the average roughness of the region between the cursors, align them as before with feature height, and press the "RA" Key. The value of average roughness in microns should appear in the lower right-hand corner.

8. To print your graph with the currently displayed information, press the "PT" key. Be sure to write down the other information of interest on the single printout. Please conserve our thermal paper. It is quite hard to source.



Completion

1. Locate the two small stage wheels in front. Rotate the right wheel to drive the stage toward you.
2. Rotate top stage until sample is near you, making sure the tip is not in contact with the sample when you rotate the stage.
3. Remove the sample.
4. Reduce the monitor brightness to it's minimum.
5. Rotate the light knob until the microscope light turns off.



6. Toggle the red switch at the top of the CPU back to the off position to deactivate the unit.

7. BE SURE TO LEAVE THE WORKSPACE BETTER THAN YOU FOUND IT! DO NOT FORGET YOUR SAMPLE OR OTHER PERSONAL EFFECTS AS THIS IS A SHARED FACILITY!

HAPPY EXPLORING!

