E-BEAM #3 OPERATING INSTRUCTIONS

1. Push “VENT TO LOAD/ UNLOAD” button on the load lock control box.

2. Slide sample holder out of load lock.
   Clip or tape your sample on the sample holder and slide it back into the load lock.

3. Push the “PUMP TO DEPOSIT” button on the load lock controller. The controller will pump and then lower your sample into the process chamber.

4. Press I/G [ion gauge] button on the vacuum gauge controller. Wait until the pressure is at 3.00E-6.

- If roughing the chamber exceeds the set point time, the pump down step will be aborted and the “Pumpdown Time Out” alarm will activate.
- If the “Pumpdown Time Out” alarm is activated, firmly press the “Reset” button.
- Inspect for obstructions or any reason that would cause the pump down to fail.
- Once obstructions are cleared, Start over at Step 3.
- Should the “Pumpdown Time Out” alarm activate a second time, report a problem in Sign Up Monkey.

5. Verify that the crystal sensor is good by pressing the F2 sensor button on the upper right of the IC/5. The number in the Life value should be 125. Then press the Operate button at bottom right of IC/5.

6. Program the IC/5 deposition controller for the correct thickness and rate of the desired material. Press F6 PROGRAM, then F2 PROCESS DIRECTORY. Use the arrow keys to enter your final thickness and rate, press E to enter. Press F6 PROCESS DIRECTORY, next press F6 PROGRAM, next press F6 OPERATE and then F1 ZERO THICKNESS. The IC/5 should show READY and the chosen program on the screen.

7. Verify that the Shutter Controller is in the AUTO position. On bottom rack, left side.

8. Verify that both gun power supplies are on. If not flip the breaker up on both CV-6SXL power supplies. They should show green and amber lights.

9. Verify that the EBC controllers or in Operation mode. If not press the small arrow near the upper right of the screen and select Operation from the drop down menu. Press the sweep button. The number should turn white.

10. Press START button on the IC/5. The lights on the CV6SLX power supplies should all turn green and the 0.0% mA on the EBC should turn white when the IC/5 reads RISE 1. If not press Stop then Reset on the IC/5 then put the EBC into manual mode by pressing Operate then Change mode, then Manual, then back to

Operate. Next press Start on the IC/5. As the power ramps up use the shuttered port on the front of the tool for Gun #1 or the camera for Gun #2 to verify that the beam is hitting the source. Use the beam sweep controller to focus the beam if needed. Once the shutter opens [The shutter light will come on] you can see the Gun#1 source thru the front viewport and the Gun #2 source with the camera. If you need to adjust the beam during the deposition use the hand held controller with the small joy stick. Press the Pos Adjust button. Move beam into the center of the source. If "pits" or "holes" are melted into the source, slowly move the beam around the edges of the hole, and let the melt flow back in and fill it. Unselect the Pos Adjust button on the hand held. Press the Exit Edit button on the EBC controller (Exit Edit only appears if you move the beam position} .

- Once the program has started, YOU MUST stay with the machine until the program is complete.

11. The shutter will close and the gun will the power supply will go into standby mode at the end of the process. Turn the sweep off by pressing the Sweep button on the EBC.

12. Push "VENT TO LOAD/UNLOAD" button on the load lock controller. The sample holder will return to the load lock and vent the load lock. Remove your sample.

13. Push "PUMP TO STANDBY" on the load lock controller.

14. Fill out the tool log.

- Should any step of the loading and unloading operation fail to start, press the "RESET" button, wait for 5 seconds, and then try the operation again.
- If pressing "Reset" does not work, report a problem in Sign Up Monkey.