

CAIBE System Procedure Outline v1.0

1. Check the gas supply pressures, rear chamber door, manipulator position, and system water.
2. Pump down Main Chamber to $1e-7$ Torr.
3. Stop pumping Loading Chamber.
4. Vent Loading Chamber.
5. Load sample.
6. Pump Loading Chamber to $1e-5$ Torr.
7. Open Gate F5. Load substrate holder. Pull plastic stop. Mount Substrate Holder.
8. Unload manipulator. Close Gate F5.
9. Close Plasma Shutter.
10. Close window shields.
11. Starting PBN, 15 sccm. Starting Ar, 10 sccm. Wait 15 min.
12. Starting Cl_2 , 0 sccm.
13. Change PBN to 20 sccm, Ar to 25 sccm.
14. Turn on Interlock.
15. Start Plasma Bridge Electron Source, Emission Current=1A.
16. Set RF power to 160W. Start RF power. Wait until stabilized.
17. Change PBN to 15 sccm, Ar to 10 sccm.
18. Turn on Ion Beam by switch to Auto. Set desired parameters.
19. Change Cl_2 to desired flow rate.
20. Set Timer to desired time.
21. Press PF1 start etching while pull Shutter open.
22. After etching, turn off Plasma Bridge Electron Source and Ion Beam.
23. Wait 15 min.
24. Turn off PBN and Ar.
25. Wait 15 min.
26. Unload sample.
27. Turn off gas sources and water.

*** This Procedure Outline is only for qualified users as a reminder. Detailed operation requires practice and the system can be easily damaged (especially for the loading parts and the vacuum system). Please note that **NOBODY SHOULD OPERATE ANY PARTS OF THE SYSTEM WITHOUT PERMISSION FROM THE SUPERUSER.**

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Rev. 15/08/2001