

# Tempress Wafer Scriber

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## Standard Operating Procedure

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*Revision: 1.0 — Last Updated: Aug.28/2012, Revised by Nathanael Sieb*

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### Overview

This document will provide a detailed operation procedure of the Tempress 1713-10C wafer scriber. Formal Training is required for all users prior to using the system.

### Revision History

#	Revised by:	Date	Modification
1	Nathanael Sieb	Aug. 28, 2012	Initial Release
2			
3			
4			
5			

Document No. 4DSOP000X

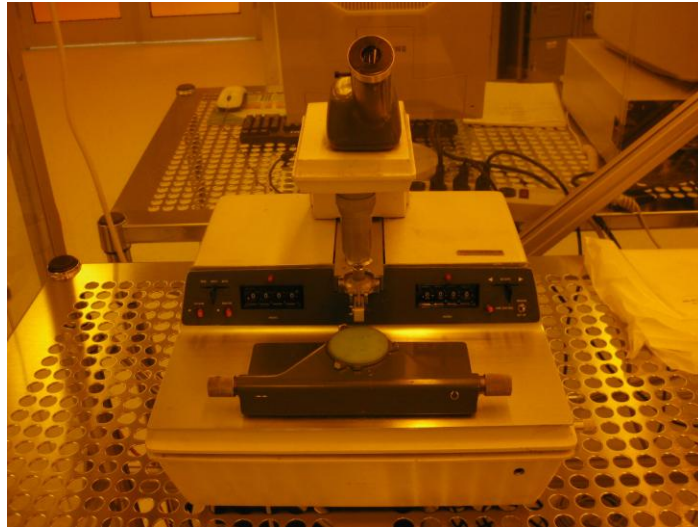


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## General Information

The tempress wafer scribe uses a diamond tip to vertically scratch a surface. This technique can be used to accurately define where a wafer will be cleaved. The system will keep the tip elevated as it moves towards the user, and then descends and scribes the surface as it move away from the user. The maximum scribe length is 50 mm. The force can be varied as needed.

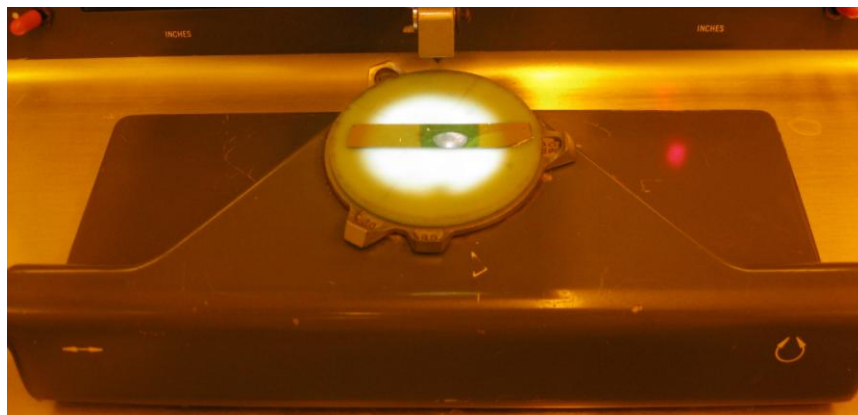


## Operation

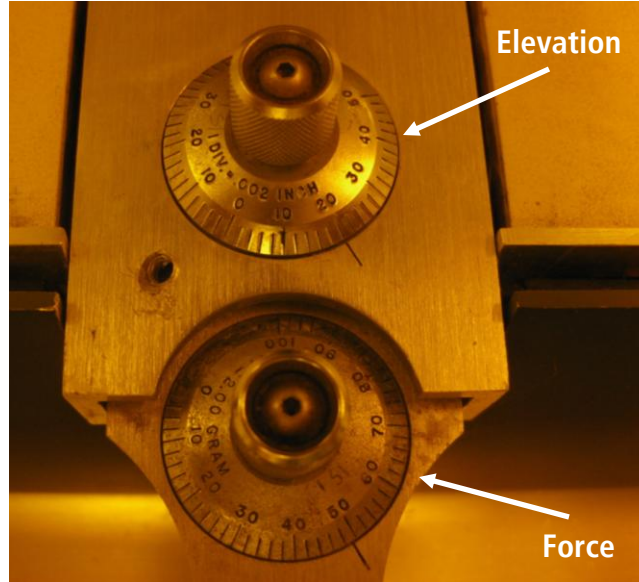
1. Turn on the main system with the MASTER switch.



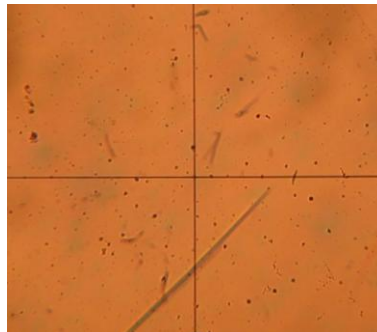
2. Place sample on stage.



3. Turn on VACUUM switch.
4. Adjust the vertical elevation of the stylus with the top dial so that it is approximately level with the wafer surface. A value of 20 will work for a silicon wafer. A higher elevation should be used for a glass wafer. The stylus force is adjusted with the bottom dial. Each increment equals 2 grams (e.g. 50 = 100 g).



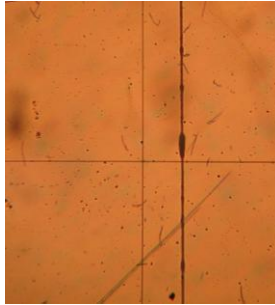
- Use the microscope to align the vertical crosshair to where the scribe should be made. The horizontal and rotational controls on the stage can be used to move the sample. NOTE: Remember to scribe along a crystal plane.



- For a single scribe, press the switch on the far right of the system to the SET-UP position and return it to NORMAL after motion begins.



7. For multiple scribes, set to AUTO and slide the ACTUATE switch to either side. Return switch to INDEX position to stop scribing.
8. After the scribe, if one moves the stage slightly, they will see a vertical scribe under the microscope.



9. If necessary, break the wafer using common techniques. It should break along the scribe line.

## References and Files

Tempress 1713-10C Manual and training notes.

## Contact Information

Questions or comments in regard to this document should be directed towards Nathanael Sieb ([sieb@4dlabs.ca](mailto:sieb@4dlabs.ca)) in 4D LABS at Simon Fraser University, Burnaby, BC, Canada.