New Auto Polishing Technique for TEM, SEM, SCM, SIMS and SSRM

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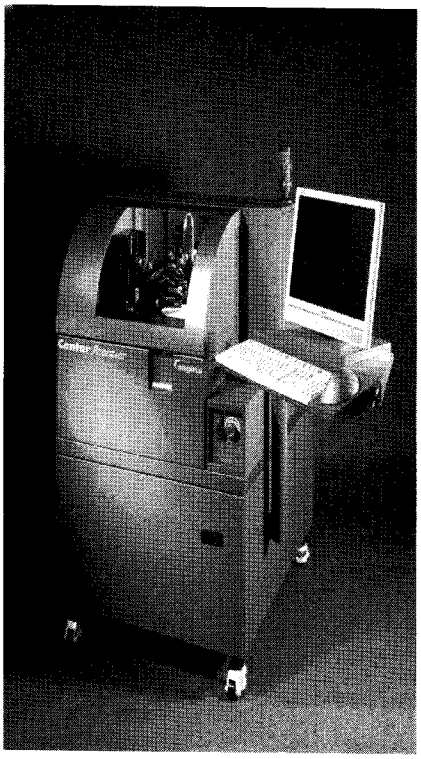


One Platform Multi Capabilities:

Cross-sectioning – SEM, SCM,
Along metal trace, Long chain of vias, 2 distant targets simultaneously, W-plugs, bumps

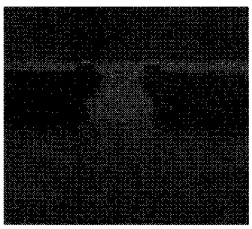
Thinning plain view / X-section – TEM/STEM
Pre FIB or Broad Ion Mill for wide area of interest, no depth limitation, elease bottleneck

Parallel
Frontside/Delayering - SEM – Hands-free
Backside Thinning – PEM, SIMS – Hands-free

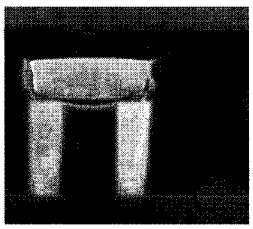
Shallow Bevel – SRM, SPM

Facts:

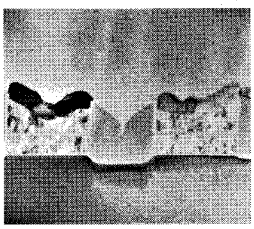
Accuracy: 100nm
Throughout: 15min/x-section,
45min/thinning,
60min/Delayering and backside thinning
Quality: High SQ
Input sample: No minimum size, no limitation on substrate package type or shape
Consumable cost: 30% decrease



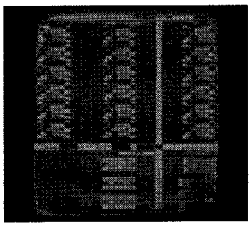
SCM



SEM



TEM

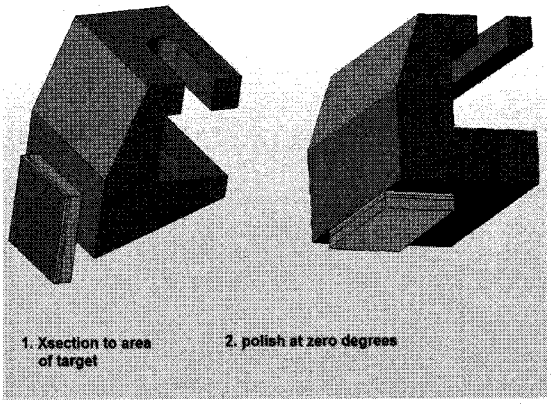


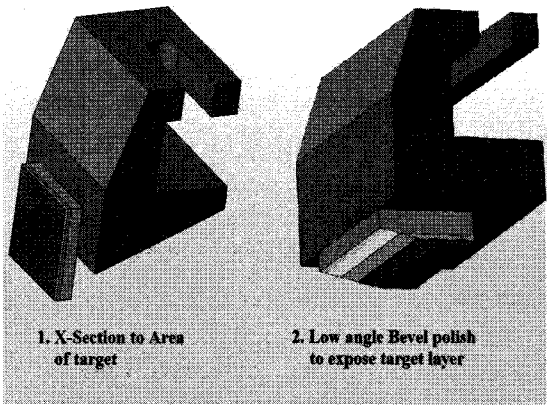
Delayering

Specimen Prep by Polishing Technology

No Limitation By:

- Material Type
- Structure type
- Shape
- Minimum size





AND, No Limitation by capabilities:

- Cross-section (SEM, SCM)
- Thinning, including plain view (TEM, STEM)
- Delayering
- Backside thinning, including for backside SIMS
- Shallow bevel polishing (SRP/SPM)

Competitive Advantages Among Polishers

- Computer controlled polishing - all polishing parameters and the systems' components are controlled by the computer, which allow fine adjustment and very accurate repeatability.

- In-situ optical microscope coupled with a CCD camera - Images are taken automatically or the operator can choose to take any image at any magnification at any point of the process in top view or x-section to save it, print it or share it.

- Automated Alignment in Theta and Tilt with 0.003deg

- In situ closed loop polishing monitoring - monitor the process LIVE without the need for an image.

- Image processing - the sophisticated SMPT offers high accuracy - 100nm based on image processing.

- Ease of use - operating the system using a keyboard and a monitor - same results - regardless experience and expertise