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TEM upgrade

Complete electronics and software for ZEISS EM 109/900 TEMs

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Five reasons to upgrade your TEM

Extended lifetime

- Image quality and contrast of electron-optics are state of art, but electronics have aged.
- Downtime has become excessive and a new approach is needed with pre-emptive service and long term logging.
- Long term assurance must include fast and reliable supply and replacement of electronics.

Enhanced operation

- kV microscope profiles with automated switching require software control of complete TEM.
- Microscope stability must be increased with higher precision and temperature stable lenses and correctors power supplies.

Increased ease of use

- Modern TEM operation require a high quality illuminated ergonomic hardware panel.
- Natural control of sample position relies on automated magnification-compensated controls, and position table.
- Control of vacuum, electron gun, imaging/diffraction modes must be automated.

New techniques

- Added diffraction modes are enabled with the new electronics and software.
- Live image acquisition and processing is integrated with the optional SCCD camera.

Cost reduction

- Extending lifetime of existing TEM is more cost effective than acquisition of new microscope.
- TEM return is maximised as downtime is minimised with new electronics, automation, and safety monitoring.
- Operation costs are significantly reduced with the new energy efficient Standby power mode.

The TEM upgrade path provides a new set of electronics that extend lifetime of these microscopes, and enable further improvements in their use.

TEM upgrade

Due to the unique electron-optics ZEISS EM 109/900, the “red TEMs” have endured as capable microscopes that continue to deliver state-of-art image quality and contrast.

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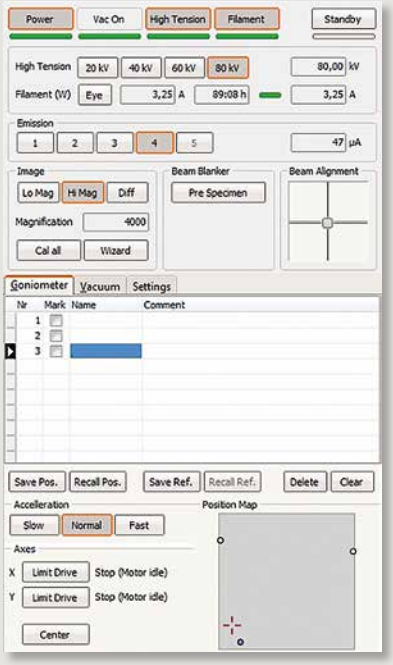
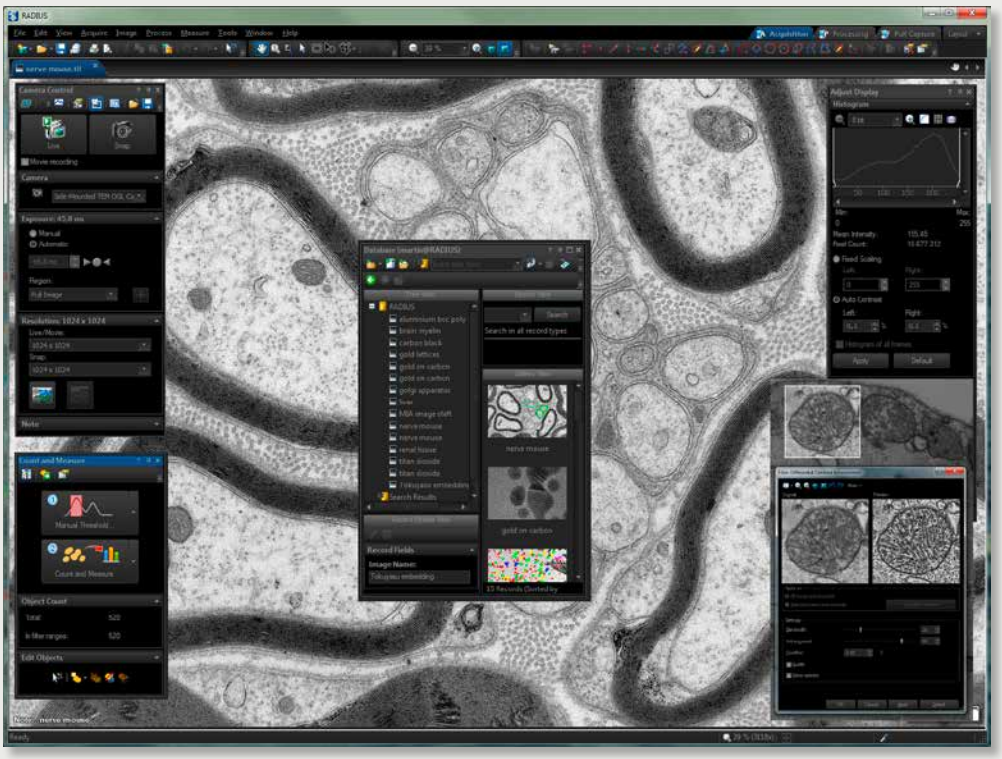


1st stage – the controls upgrade

- Microsoft Windows 10 or less, with network compatibility
- New TEM controls electronics and software
- Complete electronics for the TEM column and vacuum
- Automatic vacuum, gun, holder, detector controls



2nd stage – the imaging upgrade

- Live image acquisition with standard SCCD technology
- Option of 2.8 or 4 MPixels side-mounted TEM cameras
- RADIUS EM imaging software for acquisition, processing and exports

Highest quality control panel for increased speed and productivity

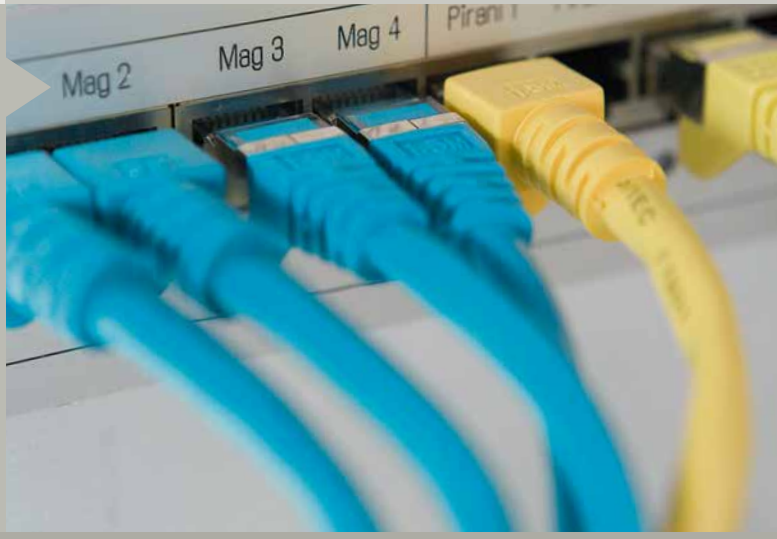
- Full TEM control including power, imaging/diffraction modes, focus, magnification, spot size and alignment
- Illuminated display of all relevant microscope information
- USB2 controlled and fully integrated with the microscope control software

Advanced manual and automatic goniometer control

- Trackball with magnification-dependent speed for intuitive and precise control
- Save/load into locations table for most efficient repositioning
- Position lock for safe operation

Safe and automated microscope control

- Automated firmware control of power, vacuum, high tension and filament
- Pre-defined kV microscope profiles with automated software switch
- Low-magnification, high-magnification, and diffraction imaging modes



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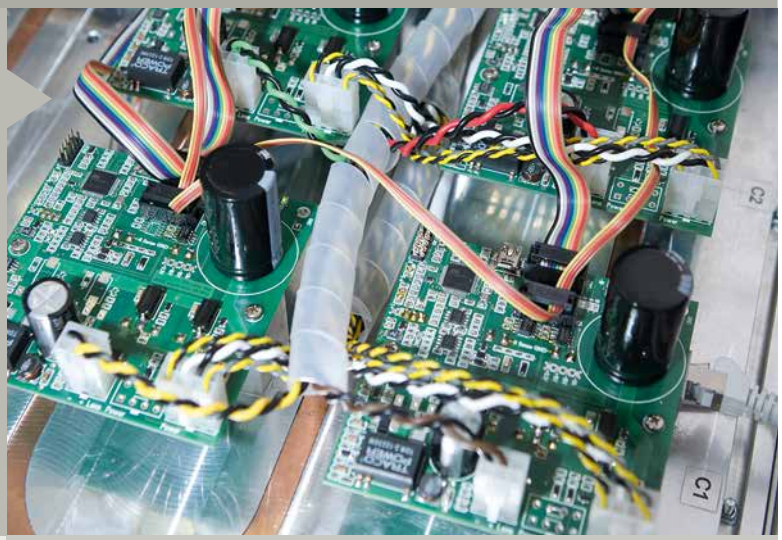
High precision and temperature stable power supplies for lenses and correctors

- New electronics for electron-optics, goniometer, interlocks and vacuum
- Advanced built-in water cooling for improved electronics stability
- Miniaturised electronics rack fits under the TEM table



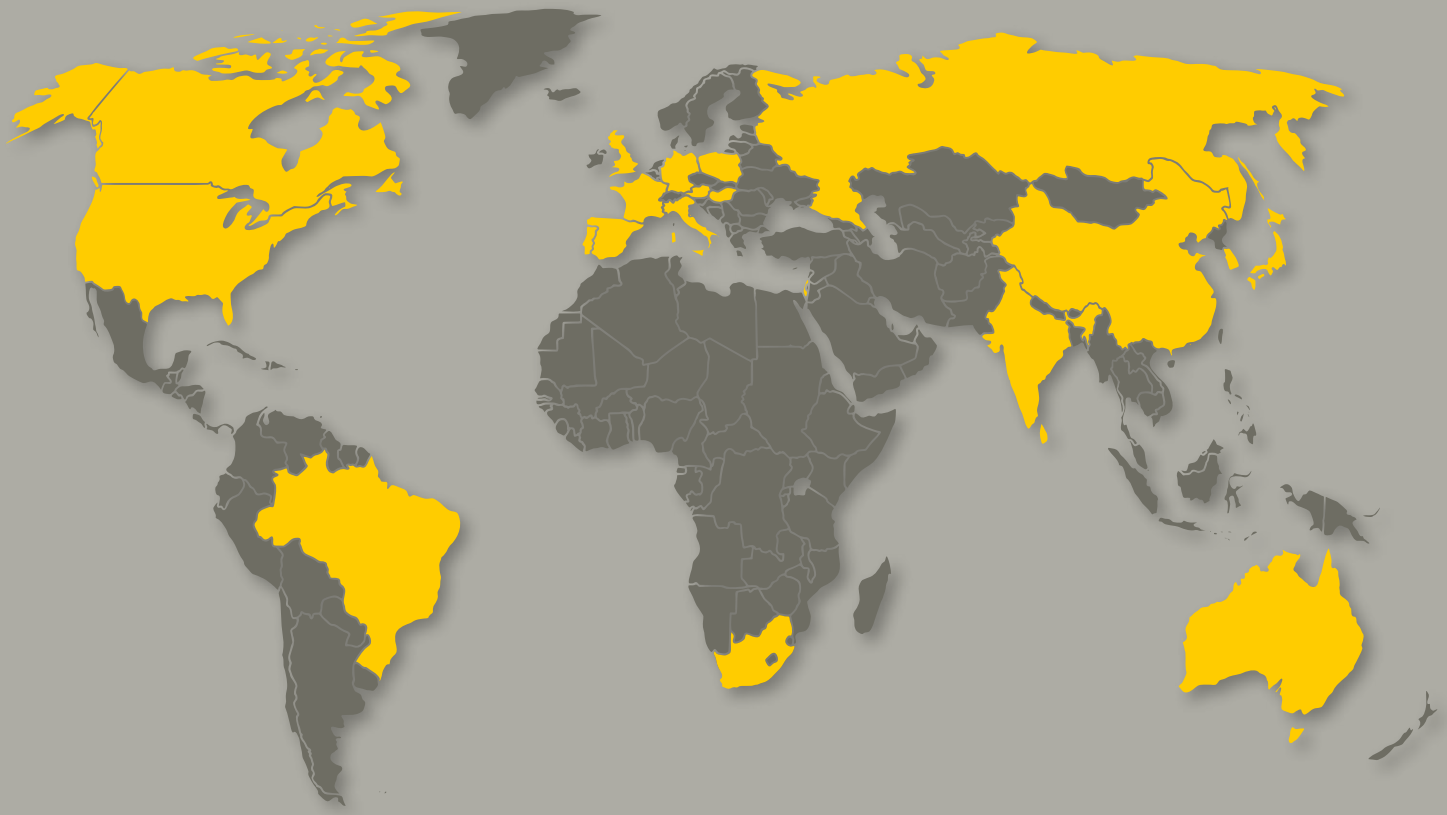
Optional MegaView G3 side-entry camera for entry-level digital image acquisition

- Budget friendly SCCD camera for bio-medical, life sciences and materials research
- Fast frame rates for image acquisition and alignment
- Optional software packages for particle analysis, diffraction and tomography

TEM upgrade

Optional Morada G3 side-entry camera for high quality digital image acquisition

- The largest field-of-view of all side-entry TEM cameras
- Patented mechanics and custom-made lens for minimum distortion and high efficiency
- Optional software packages for particle analysis, diffraction and tomography



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