Red TEM Electronics Update
Extend the Lifetime and Benefit from New Functionalities of Your ZEISS EM 109 / 900
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Introduction
Even if you have been working for years with your ZEISS EM 109 / EM 900 Transmission Electron Microscope (TEM) – the so-called “Red TEMs” –, its image quality and contrast are still state of the art, thanks to its unique electron optics. To also ensure a reliable operation over the next years, upgrade your red TEM with new electronics. The update includes newly developed electronic modules such as power supplies, high tension-, vacuum- and stage control.

Electronics and TEM control software communicates via USB. This allows the use of computer technology up to Microsoft Windows 8.

The redesigned graphical user interface and control panel enables you to intuitively and smoothly operate your system.

The new TEM electronics is compatible to all common slow scan charge-coupled device (SSCCD)-camera systems already available for your TEM.

The entire conversion of your system and operation training can take place at your facility within a couple of days.

Availability
The Red TEM Electronic Update is available for:
- EM 109
- EM 900

Benefits
Easy use and handling
- Relevant conditions clearly displayed, thanks to illuminated, ergonomic control panel
- Comfortable stage control via trackball navigation
- Easy handling of all control functions via TEM-control-software (magnification-dependent saving of parameters, set-up assistance “Wizard”, position-memory for stage control, etc.)
- Spacious newly designed table top

Enhanced functionality and application
- Different high voltages
- Several additional diffraction modi
- Energy-saving mode (“standby”)
- Magnification-dependent compensation of stage control

Cost reduction and lifetime extension
- Reduced cost of ownership thanks to energy-efficient electronics
- High precision, temperature-stable control of lenses and correcting coils
- Failure reduction thanks to comprehensive safety monitoring
- Easy replacement of all electronic components
- Modular rack construction
### Operation

**TEM Control:**
- Setup support/assistance ("wizard")
- Position storage for stage control
- Magnification independent saving of all parameters
- Displaying of failures for analyses
- Save against incorrect use
- Neat control of TEM

### Upgrade path

<table>
<thead>
<tr>
<th>Hardware</th>
<th>SSDCC camera system (TRS, Olympus) required</th>
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<tr>
<td>Software and PC hardware</td>
<td>SSDCC software has to be compatible with at least Microsoft Windows 7 PC. Older operation systems upon request.</td>
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A system preventive maintenance performed within the last 12 months is mandatory.

The retrofit must be performed by a ZEISS-authorized service engineer. Application training is recommended. For further information, contact: microscopy@zeiss.com

<table>
<thead>
<tr>
<th>Part</th>
<th>Ordering No.</th>
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<tbody>
<tr>
<td>Update Kit Electronics EM 109 IGP</td>
<td>340983-9010-990</td>
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<tr>
<td>Update Kit Electronics EM 109 / EM 900 TP</td>
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![Control panel and diagram of TEM control system]