



Scientific / Metrology Instruments  
Electron Microscope

Solutions for Innovation

# JEM-1400Flash



JEOL Ltd.

# JEM-1400Flash

Equipped with a high-sensitivity sCMOS camera, the JEM-1400Flash offers new “Flash” for TEM users via powerful new functions, including an ultra-wide area montage system and an OM (optical microscope) image linkage function.

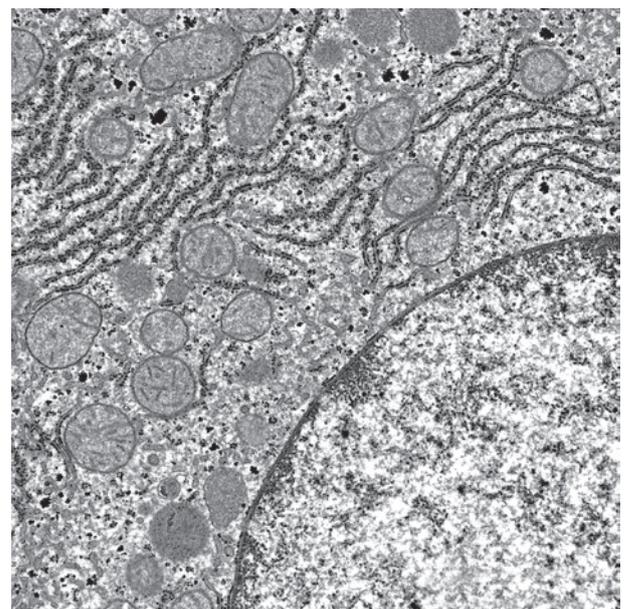


## JEOL's high-sensitivity sCMOS camera “Matataki Flash” camera

>>The JEM-1400Flash comes with a high-sensitivity sCMOS camera. “Matataki Flash”, JEOL's innovative sCMOS camera, dramatically reduces the readout noise while possessing high frame rate comparable to that of TV. This powerful feature enables the acquisition of sharp TEM images with extremely low-noise.

### Main specifications of sCMOS camera for JEM-1400Flash

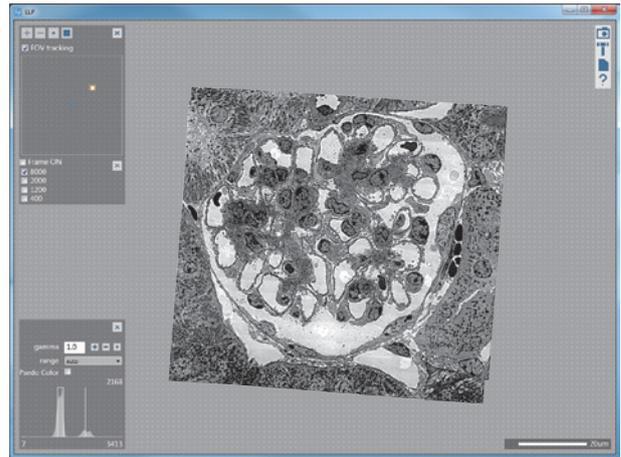
Readout noise	0.8 electrons
Frame rate	30 fps (unbinned)
Pixels	2048 x 2048 pixels
Saved image format	16 bit TIFF, BMP, JPEG
Effective pixel size	21.7 x 21.7 ( $\mu\text{m}$ ) <sup>2</sup>



Specimen: Rat liver Accelerating voltage: 120 kV  1.0 $\mu\text{m}$

## Ultra-wide area montage system Limitless Panorama (LLP)

>>In addition to the conventional electromagnetic image shift, the JEM-1400Flash comes with a montage system capable of utilizing stage drive for the field shift. This new system allows for simple capture of a montage panorama image over a limitless wide area. Thus, an ultra-wide area, high pixel-resolution image is obtainable, which is comparable to the image taken by conventional photo film. The captured image can be saved by cutting from any area and in any direction. The saved image is subjected to size measurement by displaying it on the TEM center software or the offline Viewer software "Sight Viewer".

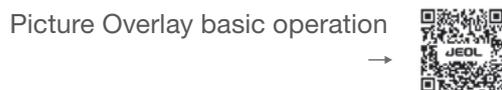


Operation screen of LLP

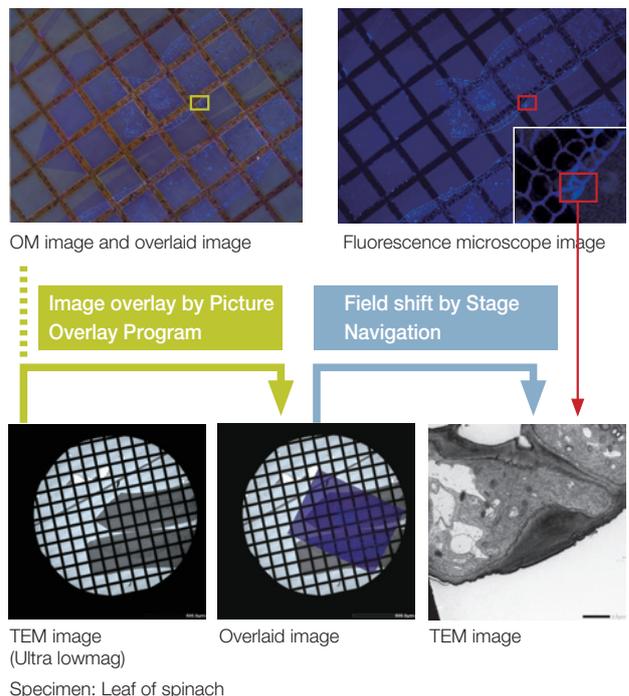


## OM image linkage function Picture Overlay

>>A digital image acquired with an OM can be overlaid on a TEM image. Since an observation area can be searched on the overlaid image, high resolution observation of a fluorescence site is easily made on the TEM image. Combined use of the TEM control software (TEM Center) and the Stage Navigation system enables fast specimen movement to the target area.



### Basic operation flow of Picture Overlay



## Main Performance and Basic Configuration of JEM-1400Flash

	JEM-1400Flash HC	JEM-1400Flash HR
TEM resolution	0.2 nm	0.14 nm
Accelerating voltage	10 to 120 kV	
Magnification	×10 to ×1,200,000	×10 to ×1,500,000
Maximum tilt angle(Tilt-X) *1	± 70°	± 70°
Maximum number of samples to load*2	4	
Vacuum system	TMP	
JEOL's sCMOS camera	○	
Ultra-wide area montage system LimitLess Panorama	○	
OM image linkage Picture Overlay	○	
Use of special holders	○	

\*1 With optional high tilt specimen holder, EM-11230HTH

\*2 With optional specimen quartet holder, EM-01070SQH

Certain products in this brochure are controlled under the "Foreign Exchange and Foreign Trade Law" of Japan in compliance with international security export control. JEOL Ltd. must provide the Japanese Government with "End-user's Statement of Assurance" and "End-use Certificate" in order to obtain the export license needed for export from Japan. If the product to be exported is in this category, the end user will be asked to fill in these certificate forms.

\* Improvements or changes to device appearance or specifications may be made without notice.



JEOL Ltd.

3-1-2 Musashino Akishima Tokyo 196-8558 Japan Sales Division Tel. +81-3-6262-3560 Fax. +81-3-6262-3577  
www.jeol.com ISO 9001 • ISO 14001 Certified

• AUSTRALIA & NEW ZEALAND /JEOL(AUSTRALASIA) Pty.Ltd, Suite 1, L2 18 Aquatic Drive - Frenchs Forest NSW 2086 Australia • BELGIUM /JEOL (EUROPE) B.V. Planet II, Gebouw B Leuvensesteenweg 542, B-1930 Zaventem Belgium • BRAZIL /JEOL Brasil Instrumentos Cientificos Ltda, Av. Jabaquara, 2958 5º andar conjunto 52 ; 04046-500 Sao Paulo, SP Brazil • CANADA /JEOL CANADA, INC. 3275 1ere Rue, Local #8 St-Hubert, QC J3Y-8Y6, Canada • CHINA /JEOL(BEIJING) CO., LTD. Zhongkeziyuan Building South Tower 2F, Zhongguancun Nanshanjie Street No. 6, Haidian District, Beijing, P.R.China • EGYPT /JEOL SERVICE BUREAU 3rd Fl Nile Center Bldg., Nawal Street, Dokki, (Cairo), Egypt • FRANCE /JEOL (EUROPE) SAS Espace Claude Monet, 1 Allée de Giverny 78290, Croissy-sur-Seine, France • GERMANY /JEOL (GERMANY) GmbH Gute Aenger 30 85356 Freising, Germany • GREAT BRITAIN & IRELAND /JEOL (U.K.) LTD. JEOL House, Silver Court, Watchmead, Welwyn Garden City, Herts AL7 1LT, U.K. • ITALY /JEOL (ITALIA) S.p.A. Palazzo Pacinotti - Milano 3 City, Via Ludovico il Moro, 6/A 20080 Basiglio(MI) Italy • KOREA /JEOL KOREA LTD. Dongwoo Bldg. 7F, 1443, Yangjae Daero, Gangdong-Gu, Seoul, 05355, Korea • MALAYSIA /JEOL(MALAYSIA) SDN.BHD. 508, Block A, Level 5, Kelana Business Center, 97, Jalan SS 7/2, Kelana Jaya, 47301 Petaling Jaya, Selangor, Malaysia • MEXICO /JEOL DE MEXICO S.A. DE C.V. Arkansas 11 Piso 2 Colonia Napoles Delegacion Benito Juarez, C.P. 03810 Mexico D.F., Mexico • RUSSIA /JEOL (RUS) LLC. Krasnoproletarskaya Street, 16, Bld. 2, 127473, Moscow, Russian Federation • SCANDINAVIA /SWEDEN JEOL (Nordic) AB Hammarbacken 6A, Box 716, 191 27 Sollentuna Sweden • SINGAPORE /JEOL ASIA PTE.LTD. 2 Corporation Road #01-12 Corporation Place Singapore 618494 • TAIWAN /JIE DONG CO., LTD. 7F, 112, Chung Hsiao East Road, Section 1, Taipei, Taiwan 10023 (R.O.C.) • THE NETHERLANDS /JEOL (EUROPE) B.V. Lireweg 4, NL-2153 PH Nieuw-Vennep, The Netherlands • USA /JEOL USA, INC. 11 Dearborn Road, Peabody, MA 01960, U.S.A.

No.1301G757C(Bn)