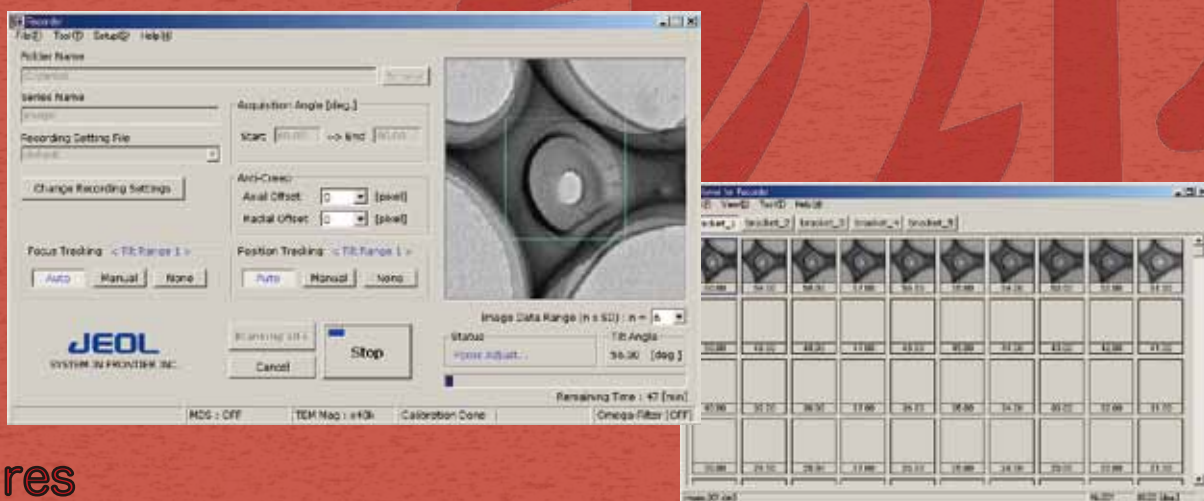


# Recorder

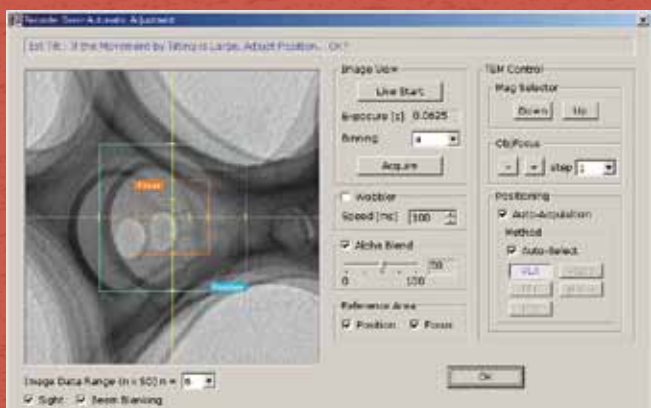
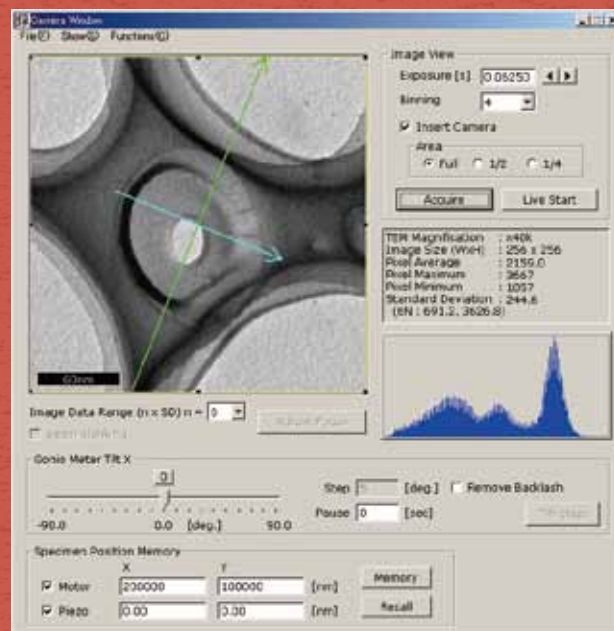
## § Outlines

**Recorder** performs high-precision sequential tilt imaging essential for tomographical 3D image reconstruction. The software realizes total automation in both TEM and STEM modes to provide functions capable of handling all specimen types including biological and material systems. With its simple operation, Recorder has earned favorable reviews from more than 200 customers in Japan and overseas.



## § Features

- Complete automatic acquiring of the sequential tilted image series  
Sequential tilted images of TEM images and STEM images are shot automatically.
- Supporting CCD cameras of multiple manufacturers  
Since different operations of the respective CCD cameras are absorbed by the Recorder, consistent operation is available. TEM and CCD cameras can be controlled collectively through the Recorder. Thereby, complicated operations covering multiple applications such as decision of targets in the visual field and settings of acquiring conditions can be executed with the Recorder only.
- STEM image acquiring is supported  
The same user interfaces of ones for the TEM mode that are acknowledged in the STEM mode are materialized.



- Assist functions for the sequential tilted image acquiring  
Algorithms corresponding to inherent problems, such as correction of shifted positions when specimens are tilted, and maintenance of the focus are provided. Furthermore, fine adjustment with manual operation is also available. Therefore, it is possible to acquire your favorites sequentially.

# § Specifications

Controllable electron microscope	JEM-1400, JEM-ARM200F, JEM-2100, JEM-2100F, JEM-2200FS, JEM-2500SE, JEM-2800, JEM-3100F, JEM-3200FS, JEM-1230(※1), JEM-2010(※1), JEM-2010F(※1), JEM-3000F(※1), JEM-3010(※1), JEM-4010(※1)		
Controllable CCD camera	JEOL, GATAN, TVIPS, AMT, OLYMPUS SIS		
Controllable Scan Controller	JEOL		
Output image format	TMG, DM3(※2), TIFF (16bit)		
Automatic function	Automatic stage tilting (*3)		
	Focus adjustment function	TEM mode	To maintain the focus set at the time of observation
		STEM mode	To adjust the best focus every time. It is possible to obtain images which are in clear focus by interlinking the scan position and the focus. (dynamic focus function)
	Position adjustment function	To correct shifted positions at the time of tilting by using the deflectors and the stage	
Beam stabilizer function (only in the TEM mode)	To fix the projecting position of the beam by interlinking the deflector and the beam shift		
Minimum tilting angle	0.25° (1 step)		
Acquiring time	About 15 seconds per 1 step (*4)		
Electron beam damage minimizing method	<ul style="list-style-type: none"> <li>• Beam blanking</li> <li>• MDS function (only in the TEM mode)</li> </ul>		
Energy filter image	In the three-window method, tilted series of up to three elements can be shot at the same time		

※1 The specifications are partially different.

※2 In case that a CCD camera of Gatan Inc is used. DM3 is an image format of DigitalMicrograph of Gatan Inc.

※3 The available range of tilting depends on the configuration of the electron microscope, the shapes of the retainer and the acquiring conditions.

※4 This is a value in case of automatic recording with exposure time of 0.5 seconds by using JEM-3200FS and MSC794 of Gatan Inc. This value may drastically vary with the model of TEM, the CCD camera, the acquiring conditions and the acquiring method.

The descriptions in this document are based on conditions as of May 2014. The functions and specifications of this product may be changed without any prior notification. Confirm the latest information. Any proper nouns such as company names and products names in this document are trademarks or registered trademarks of the respective companies.

Contact

**SYSTEM IN FRONTIER INC.**

2-8-3 Shinsuzuharu Bldg.4F Akebono-cho Tachikawa-shi, Tokyo 190-0012 Tel.+81-42-526-4363

<http://www.temography.com/>

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