

The following shows the effective features of the Upper detector (secondary electron detector: SED), Lower detector (LDD) and the various modes. Select the most appropriate mode for your needs.

WD	Selecting energy range (specimens that do not charge)		Measures for charged specimens			
Upper 1.5-5 mm	SEI		SEI		GB	
	SE	BE	E	EV	GB-High	GB-Low
	Secondary electron (Pure SE) Topographic image	Backscattered electron (Pure BE) Composition image	Energy filter Capture parts of the secondary electron and eliminate unevenness in the image. <ul style="list-style-type: none"> • Sensitive to localized electric fields in the specimen. • Irradiation current cannot be increased. • Sensitive to current density. • Some specimens cannot be viewed in Fine View. 		(High BIAS) 1.5kV-2kV GB mode for <u>capturing</u> <u>information on the</u> <u>extremely shallow</u> <u>surface of the</u> <u>specimen.</u> (inclination not allowed)	(Low BIAS) 100-400V GB mode for <u>eliminating charge</u> (inclination allowed) * Charge can be suppressed by inclining the specimen. • Reduced diffusion domain • Electron extrusion effect due to the electric field. • Due to combined effects such as capturing the high-energy secondary electrons.
	Sb	Bs	→ This is a compensatory method. Measures against charge by secondary electrons		For extremely-low acceleration and high resolution (0.1kV) Dynamic imaging of topographic images <Reference> GB is a type of lens based on electromagnetic field superposition. Measures against charge by secondary and backscattered electrons	
	LEI				LEI	
Lower 4-12 mm					Acquisition of high-energy secondary electron. (Low-angle backscattered electrons) -> Sensitive to localized electric fields on the specimen. The irradiation current (PCc) can be increased. Slow Scan is possible. Image quality: Composition image + Topographic image <u>Creates a better topographical image</u> <u>than SEI (Upper detector).</u> Supports the Bs of the upper detector. • Measures against charge up to x100K • Effective during analyses. Measures against charge by backscattered electrons	