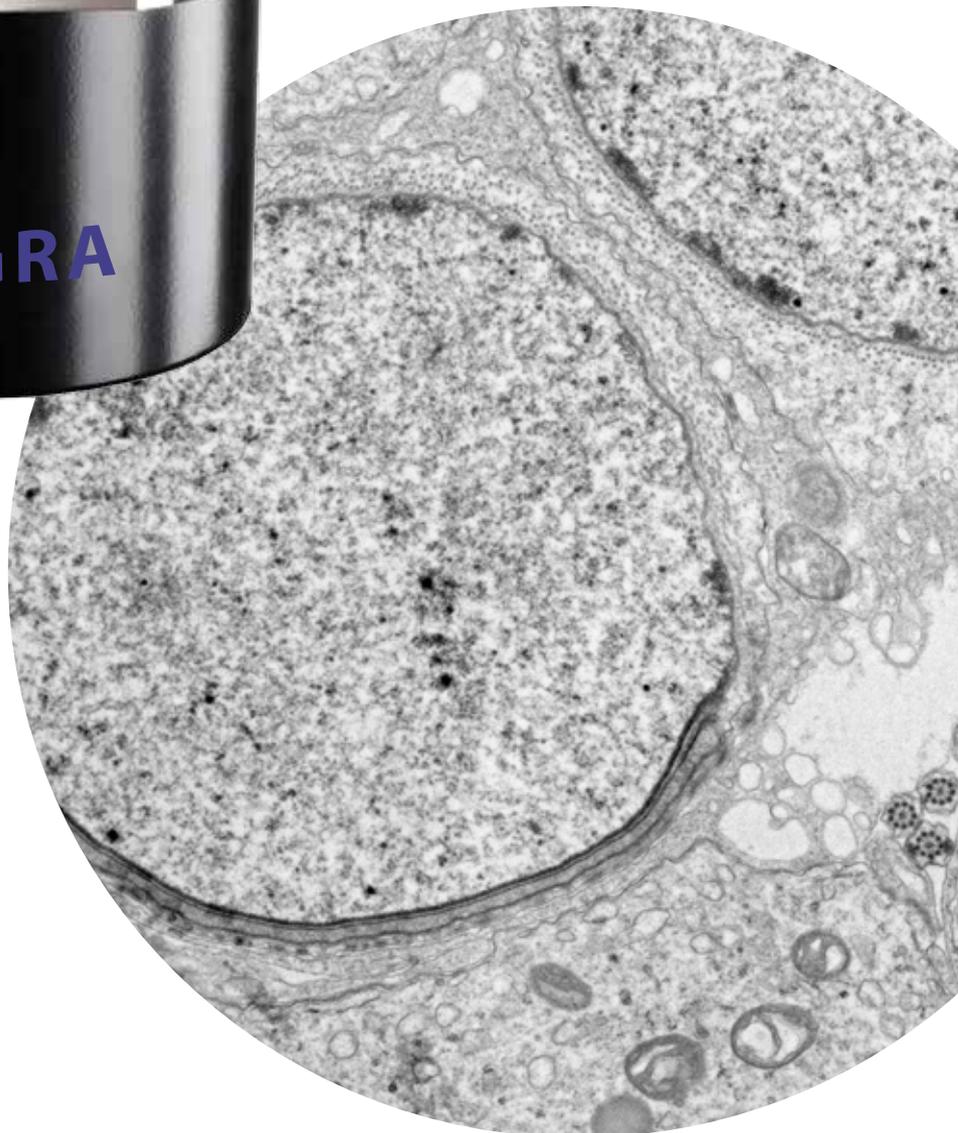




# TENGRA

5.3 MEGAPIXEL BOTTOM-MOUNT TEM CAMERA

Universal and budget-friendly



5.3 MEGAPIXEL  
TAPERED FIBER OPTICS  
SENSITIVE CCD SENSOR  
BUDGET FRIENDLY

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5.3 MEGAPIXEL BOTTOM-MOUNT TEM CCD CAMERA

**Resolution and sensitivity like high-pixel TEM cameras – adapted to low to middle range budgets. It is the perfect choice when budgets are restricted, but applications not.**

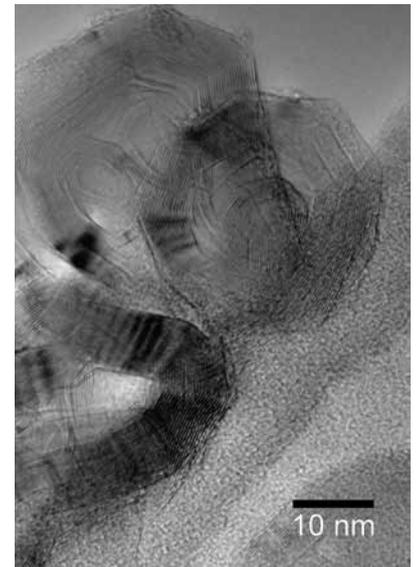
The Tengra camera system combines a fast sensitive CCD chip with attractively high readout speed. Tapered fiber optics fulfilling the most stringent quality demands and a perfectly matched phosphor scintillator, thus providing everything expected of a TEM CCD camera today: good resolution, sensitivity, contrast, and high frame rates. These properties make the Tengra the ideal choice both for biomedical and materials science applications where applications demands the high post-magnification of an on-axis bottom mount system.

The fiber-optical taper provides high quality and a large effective pixel size ensures optimal resolution and sensitivity. With its efficient conversion of electrons and an optimized electronics design, the Tengra system gains a nearly perfect signal-to-noise ratio, resulting in high sensitivity, comparable to that of the Quemesa camera. This enables the user to viewing samples

on the monitor at low at beam intensities: finest details are shown perfectly in the camera image.

The Tengra is as well completely integrated with RADIUS, EMSIS' TEM imaging platform. This guarantees numerous real-time functions such as real-time shading correction, automatic contrast enhancement, averaging, HDR as well as Fourier Transformation during live image acquisition. Furthermore, RADIUS offers functions such as image labeling, image processing, archiving, analysis and report generation. Print-outs in photo quality can be made in just a few seconds after the acquisition. Tengra: don't accept less if your applications demand it.

APPLICATIONS  
LIFE SCIENCES  
MATERIALS SCIENCES  
HR-TEM  
DIFFRACTION  
VIROLOGY



Carbon Black - 180,000x – 120kV

## SPECIFICATIONS

Camera	TENGRA	
Model	B05F	
Sensor type	CCD, interline	
Image size (max)	2304 x 2304 pixels	
Effective pixel size	18 x 18 $\mu\text{m}^2$	
Field of view	41 x 41 $\text{mm}^2$	
Binning	2x, 3x, 4x	
Frame rate @ full resolution	> 2 frames per second (fps)	
Frame rate @ binning	> 12 fps @ 4x	
Anti-blooming	Yes (> 100x)	
Camera coupling	Tapered fiber optics	
Data interface	FireWire (IEEE1394a)	
Exposure time	1 ms – 100 s	
Operating system	Windows 7/10 (64 bit)	
Imaging software	RADIUS 2.0	
Mounting position	Bottom mount, on-axis	
Available options	Flange with integrated shutter for specific TEMs	

*(Specifications are subject to changes without prior notice)  
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