

XR-611/111 TEM Camera Series

Large 10.5 Megapixel Format Sensor
25 MHz, High Speed Readout
Waterless Peltier Cooling
High Speed LVDS Interface
High Performance Lenses



XR611S-B

Classic Wide Angle Side Mount

- 1) >100% photographic or greater field-of-view imaging with up to a 24x36 mm phosphor.
- 2) 12 μm square pixels at phosphor.
- 3) Uses AMT's high performance B-lens.

XR611L-B

High Mag Bottom Mount

- 1) ~50% photographic field-of-view imaging with 31x47 mm phosphor.
- 2) 12 μm square pixels at phosphor.
- 3) Uses AMT's high performance B-lens.
- 4) Film compatible

XR111L-C

Wide Angle, Biological Bottom Mount

- 1) ~85% photographic field-of-view imaging with a large 62x94 mm phosphor.
- 2) Largest available, 24 μm square pixels at phosphor.
- 3) Uses AMT's high performance, large format C-lens.
- 4) Film compatible.

XR611M-B

Wide Angle, Multi-Discipline Mid-Mount

- 1) ~70% photographic or greater field-of-view imaging with 31x47 mm phosphor.
- 2) 12 μm square pixels at phosphor depending on lens option.
- 3) Uses AMT's high performance B-lens.

XR611M-C

Super Wide Angle Mid-Mount

- 1) ~100% photographic or greater field-of-view imaging with 62x94 mm phosphor.
- 2) Largest available, 24 μm square pixels at phosphor depending on lens option.
- 3) Uses AMT's high performance C-lens.



Finite-Conjugate Lens Options For XR-611/111 Series

AMT B Lens: Combines extraordinary speed with high resolution. This lens maintains a >70% MTF @ 70 line-pairs/mm across the entire image to provide unmatched sharpness at its maximum aperture of f/1.4 (f/2.3 working). This low f-number gives B lens systems extremely high sensitivity. The B lens has <1% distortion across the field.

AMT C Lens: This is a sharp 4:1 lens (0.25x magnification) that is also very fast f/1.25 (f/1.81 working). This lens maintains a >60% MTF @100 line-pairs/mm across the entire image of large phosphor screens needed for high definition, biological imaging. It is used at its maximum aperture to achieve low mag factor bottom mount imaging. The C lens has <1% distortion across the field.

XR-611/111 Camera Properties

Sensor: Scientific grade, progressive scan SONY CCD sensor with anti-blooming sensor architecture. 4000x2624 pixels on CCD with 12-bit ADC. Actual format depends on TEM model, configuration and user preference.

Cooling: Peltier cooling of CCD to 20 degrees C below ambient temperature with no water required.

Shutter: Electronic Shutter with no beam blanking or mechanical shutter required with exposures adjustable from 1 ms to 10 s. Overlapped shutter mode is used to maintain fast readout at longer exposures.

Digital Interface and Electronics: High speed LVDS industrial quality, digital camera interface for both data transfer and control. All electrical components are outside the TEM vacuum for reliability and maintenance.

Readout Rate: 25MHz single port readout.

Maximum viewing speeds:

Full field/1x1 binning (i.e. full resolution): 2 fps

Half field/2x2 binning: 6 fps

Full field/4x4 binning: 6 fps

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