



Imaging is NOT just a
black and white issue.



Xtender™

Collimated Emission Port Adapter

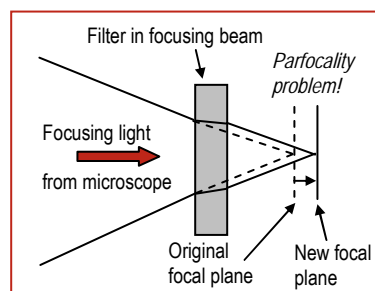
- Two-piece optical adapter creates collimated (infinity) space at emission port of microscope allowing addition of other optical devices without sacrificing performance or introducing optical aberrations
- Create "extra space" at the emission port for installation of instrumentation such as filter wheels and liquid crystal tunable filters (LCTFs).
- Flexible enough for use with a variety of optical devices with c-mounts.
- Fits in between virtually any microscope and CCD.

The Problem.....

For many imaging applications, it is necessary to utilize devices such as filter wheels and liquid crystal tunable filters on the emission port of a microscope. However, the beam emerging from the emission port of a microscope is coming to a focus. While optical devices are often placed in a focusing beam, this approach produces a series of errors including:

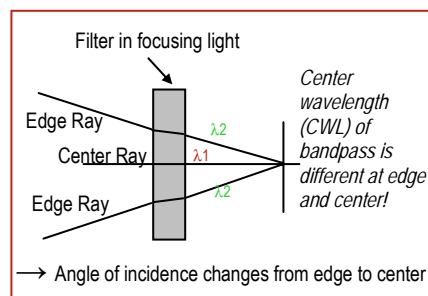
Parfocality

Anytime a flat piece of glass, such as an emission/barrier filter is inserted in a focusing beam, the beam will no longer focus at its original location. Instead, the location of the focal plane will be shifted. The amount of shift will depend on the thickness of the filter and the index of refraction of the glass used to make the filter. This focal-shift error destroys parfocality between the detector and the eyepiece.

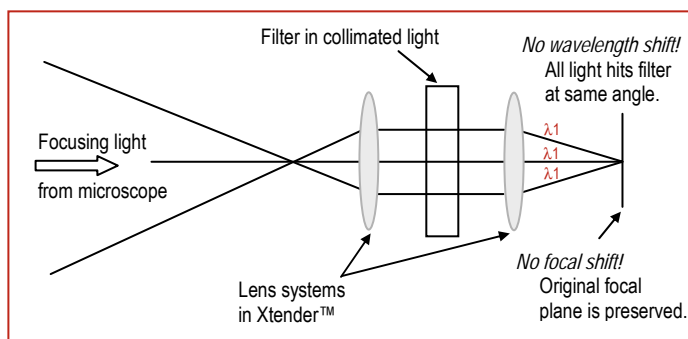


Bandpass Variation

It is a well-known fact that the bandpass of a filter varies with the angle at which the light hits it. When a filter is placed in a focusing beam, the light at the edge of the beam hits the filter at a different angle than light at the center of the beam. As a result, there is a variation in the center wavelength (CWL) of the filter bandpass for different parts of the beam.



The Solution.....



Correct emission
imaging with the
Xtender™

New Product Announcement!

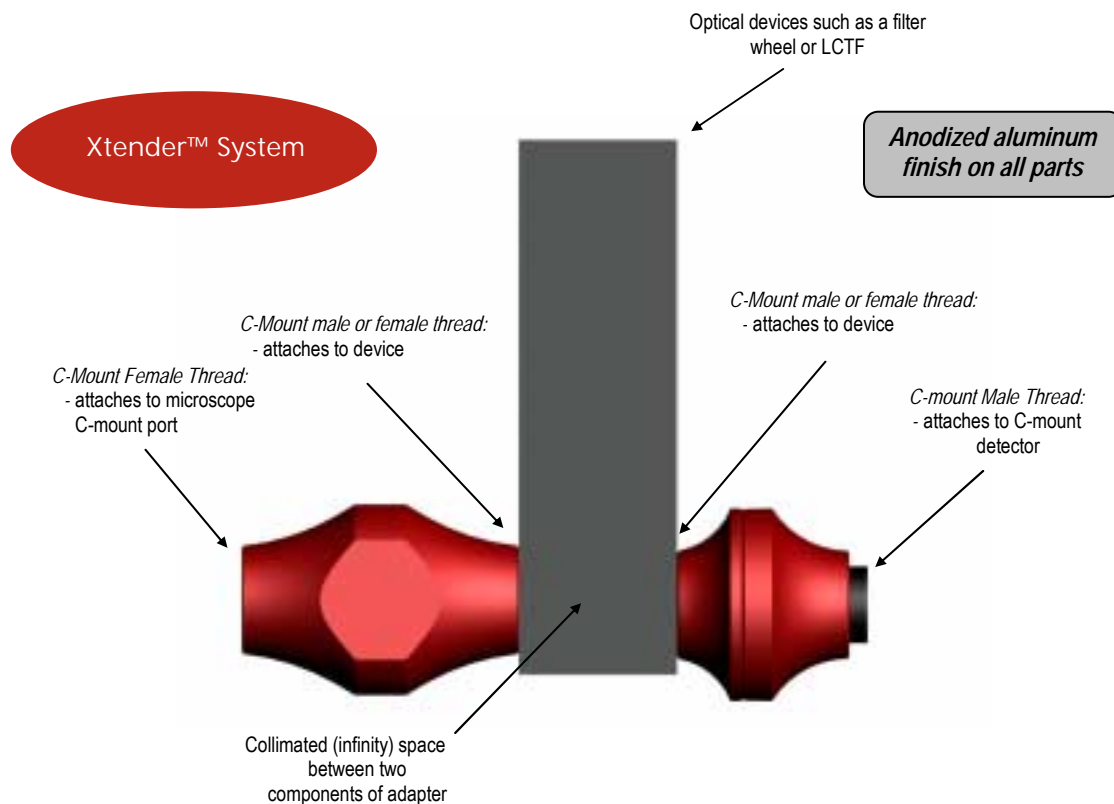
Product Specifications

Specification	Xtender™ (MS-DV-EXT)
Detector Options	
Attachment Thread	C-Mount (male)
Max Diagonal Dimension ¹	12 mm
Microscope Attachment Options	C-Mount (female)
Device Attachment Options	Male and Female C-mount
Efficiency	~96%
Wavelength Sensitivity	400 nm to 800 nm
Spatial Resolution²	~0.4 microns
Weight	1.2 lbs
Dimensions	2.5" x 8.0"
Operating temperature	-10° C to 50° C

Optical Insights, LLC reserves the right to change specifications without notice.

1 Without experiencing measurable image distortion.

2 Assumes 100x, 1.6NA microscope objective



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