

OPTOSPLIT III

DATASHEET

Three-way image splitter

The Optosplit III triple image splitter from Cairn Research is a simple device for dividing an image into two, or three separate, spatially equivalent components which can be displayed side-by-side on a single camera chip.

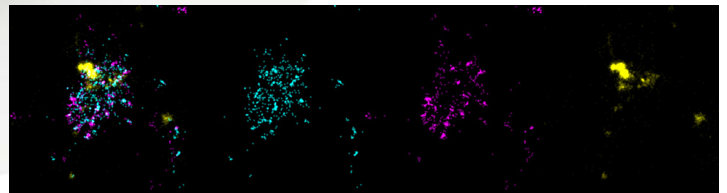


Splitting is usually performed on the basis of wavelength and/or polarisation, allowing applications where there is a requirement for simultaneous, or high speed acquisition of multiple image emission bands or polarisation states. The simultaneous acquisition of up to three images offers a major benefit over manual or electronic filter changers, as there is no longer a need to pause acquisition while the filter position is changed. This allows your camera to be operated in high speed stream modes and reduces demands on the software.

KEY BENEFITS

- Compact design with C-mount input and output ports as standard (F and T mount on request)
- Support for sensors up to 29.4mm diagonal (25mm using single channel cube)
- Budget friendly alternative to three cameras
- 425nm to 875nm AR coatings on all optical surfaces
- 40mm diameter proprietary optics
- Simple & precise controls for image registration
- Interchangeable filter / dichroic holders
- Emission filter dimensions – 25mm diameter
- Recommended dichroic dimensions – 26x38x2mm ($\lambda/2$ flatness)
- Single channel 'Bypass' cube to easily switch to single channel operation
- Fixed or variable centre fully adjustable rectangular mask to delimit region of interest

SD-dSTORM images from hippocampal rat neurons (DIV21) stained for MPP2 (cyan), GABAAR $\alpha 1$ (magenta), homer1 (yellow)



With thanks to Bettina Schmerl, Niclas Gimber, Jan Schmoranzner, Sarah Shoichet (Charité Berlin)

APPLICATIONS

- Förster Resonance Energy Transfer (FRET)
- Ratiometric calcium, voltage & pH imaging
- Simultaneous multi fluorescent probe imaging
- Polarisation studies (anisotropy)
- Simultaneous phase contrast / DIC and fluorescence
- Simultaneous multi Z depth imaging
- Total Internal Reflection Fluorescence (TIRF)
- Spinning disk confocal
- Single Plane Illumination Microscopy (SPIM)
- 3D super resolution PALM/STORM

