MULTISPLIT

DATASHEET

Four-way image splitter

The MultiSplit image splitter from Cairn Research provides four separate, spatially equivalent image components which can be displayed as four quadrants on a single camera chip.

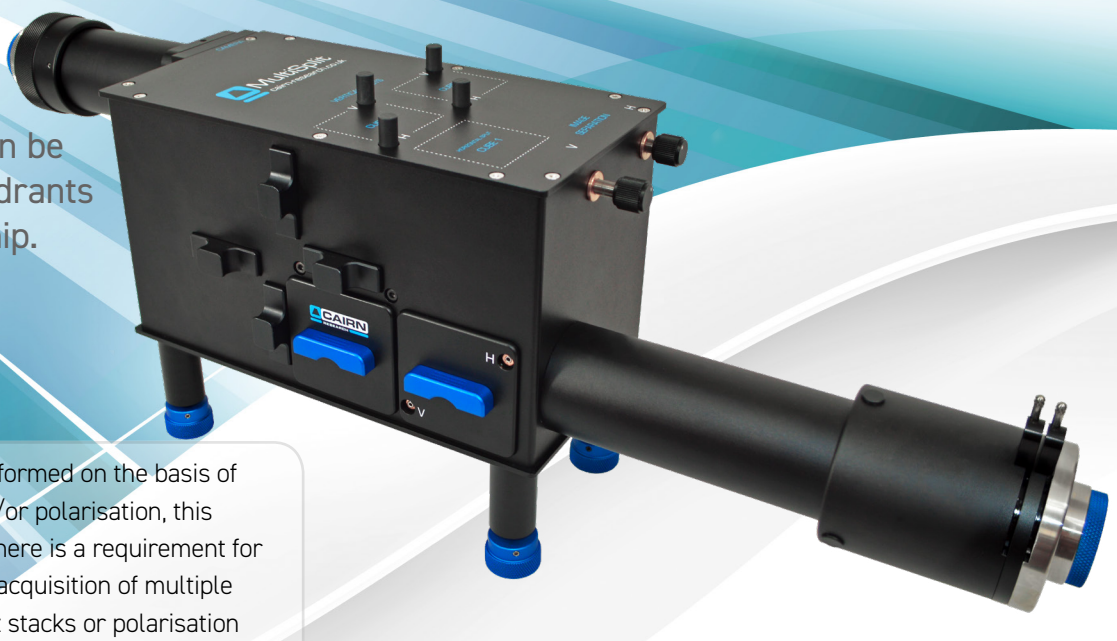


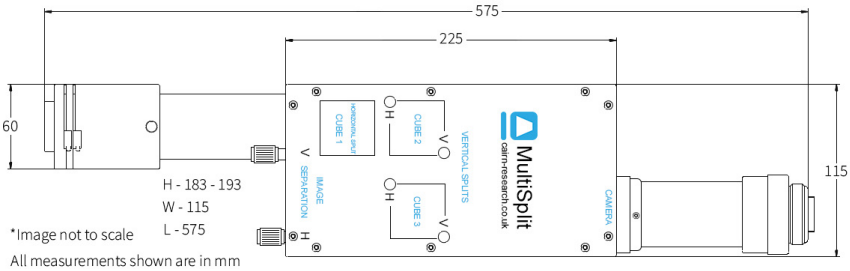
Image splitting is usually performed on the basis of wavelength, multi-depth and/or polarisation, this enables applications where there is a requirement for simultaneous, or high speed acquisition of multiple image emission bands, mini z stacks or polarisation states. The simultaneous acquisition of up to four 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 cameras to be operated in high speed stream modes and reduces the demand on software.

KEY BENEFITS

- Simple & precise controls for image registration
- Adjustable rectangular aperture for user-defined field of view
- Supports 25mm filters and ultraflat dichroics (26 x 38 x 2mm recommended)
- Broad 425nm to 875nm coatings on all surfaces
- Splitter cubes interchangeable
- Angled and flat auxiliary drop ins for neutral density filtering, polarisers or chromatic correction
- Integral C mount input and output ports (optional F mount on request)
- 1x magnification as standard, for other options, please contact us
- Support for sensors up to 25mm diagonal
- Image J / MicroManager plugin for live or offline image overlay

APPLICATIONS

- Ratiometric calcium, voltage & pH imaging
- Förster Resonance Energy Transfer (FRET)
- Simultaneous multi depth imaging (using independent lenses)
- Polarisation studies (anisotropy)
- Simultaneous multi fluorescent probe imaging
- Spinning disk confocal
- Super resolution STORM / PALM / SIM (including 3D using cylindrical lenses)
- Simultaneous phase contrast / DIC and fluorescence



CAIRN RESEARCH

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MULTICHANNEL EMISSION SPLITTING RANGE

NO.1 IN OPTICAL PERFORMANCE, STABILITY AND USABILITY

DATASHEET

OptoSplit II & III

With an elegant configuration for simple side by side image splitting and optimised for sensors up to 18.8mm diagonal, the OptoSplit delivers high throughput imaging at a realistic price. Ideal for FRET, ratiometric imaging, polarisation studies and most simultaneous imaging applications requiring two or three images. User-configurable cubes and intuitive x, y and focal adjustments offer convenience and simplicity.

Optosplit II Bypass

This builds on the success of the OptoSplit II, but adds a convenient single lever bypass mode making it more suitable for multi-user microscopes where simultaneous dual channel imaging is required for specific experiments alongside single wavelength recordings.

MultiSplit

Up to four channels simultaneously on one camera chip! The Multisplit uses the four quadrants of a single camera in a 2×2 square format. The Multisplit has the further possibility of simultaneous multi-depth imaging which is particularly attractive, as we can now do this at four depths rather than just two or three.

Multi Camera Adapters

Splitters for up to four channel imaging using multiple cameras (up to 22mm diagonal). Perform simultaneous recording, polarisation states or z depths without having to reduce their size. Variable rectangular aperture allows for the use of cropped sensor modes for the fastest speeds. Now with new more rigid camera mounting clamps and magnetically aligned filter cube facility.

OptoMask

Enables precise FOV control for the high-speed, cropped sensor mode offered by several camera manufacturers including Andor and Roper Scientific.

OptoSpin

An intelligently designed, fast-spinning and stepping filter wheel.
This slim unit has low inertia, enabling smooth operation and the ability to step between emission filters in 30ms, and spin continuously at 7500rpm when synchronised with a suitable light source. Change filters without moving the camera. Mount two units together in the same 35mm optical path length for versatile combinations. (6 position for one filter wheel, 10 position for two).

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