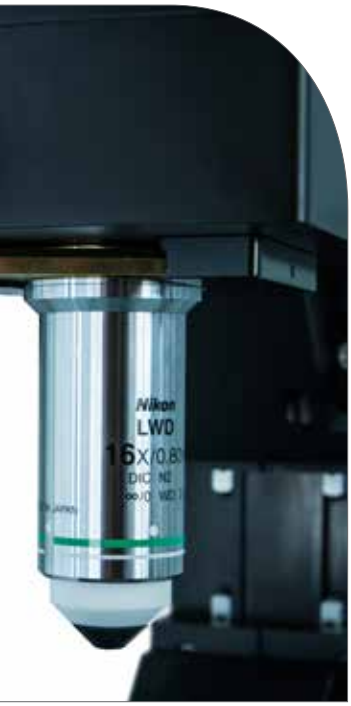
Scientifica

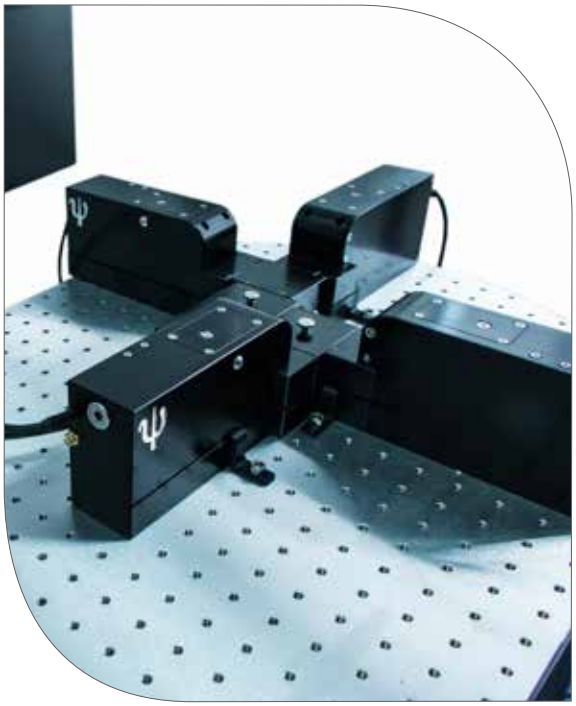
Experts in Electrophysiology & Imaging

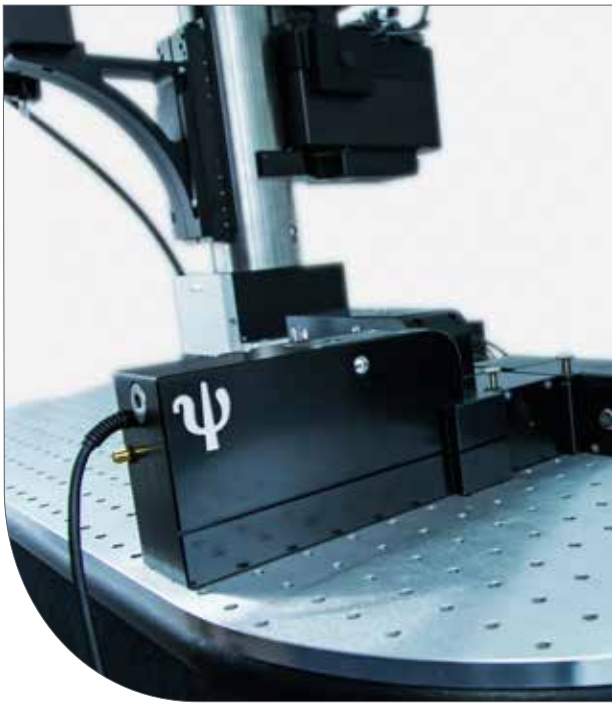
Multiphoton Imaging

ChromoFlex

The flexibility of four colour multiphoton imaging







www.scientifica.uk.com/chromoflex

ChromoFlex

Multiple dyes in vivo

Simultaneously image up to four different colour dyes from in vivo samples with the increased sensitivity of GaAsP photomultiplier tubes (PMTs).

ChromoFlex with four GaAsP PMTs

As always, it's modular

Choose between a 2, 3 or 4 PMT system depending on your current budget and experimental requirements.

Upgrade when necessary for more complex studies.

Put it anywhere

Place the ChromoFlex remotely on your antivibration table or another nearby surface, using the two-metre length of the liquid light guide (LLG).

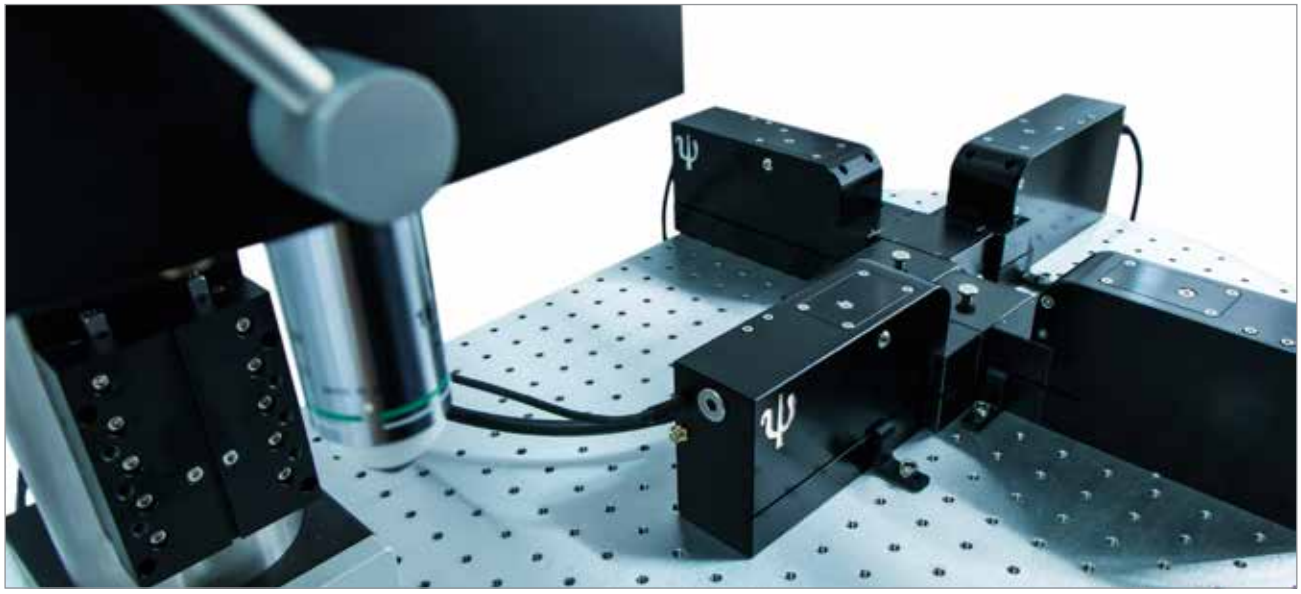
The new space created above the objective lens allows for larger collection lenses and dichroic mirrors for more efficient light collection.

Superior light collection efficency

Large collection optics enable greater light-gathering from the objective back aperture (up to 8° of divergent light).

These optics, coupled with the liquid light guide, increase overall efficiency by up to 10% compared to our original multiphoton detection unit, for better examination of weak fluorescent signals.

Remote location
The detection module can be placed remotely on your antivibration table or another nearby surface.

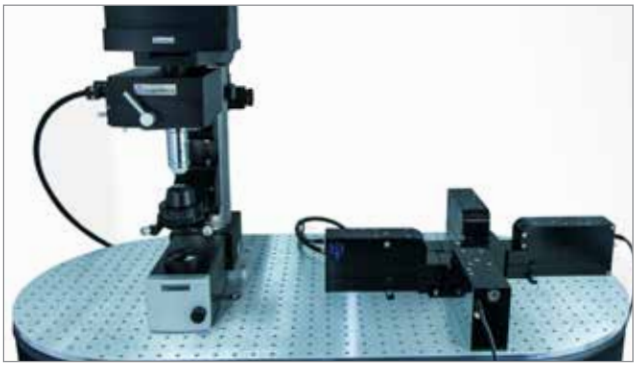


Four is better than two

The ChromoFlex is excellent for in vivo applications where the collection of more than two wavelengths of light is necessary, and substage light collection isn't possible.

It is also ideal for cell morphology studies where different cell types, subclasses or cellular structures are 'tagged' with different dyes.

Additionally, ChromoFlex enables the identification of different cell types while co-expressing calcium indicators and voltage sensitive dyes.



Liquid light guide technology

The LLG acts a single optical transmission medium, similar to a single silica fibre. However, the much larger diameter of the LLG enables the delivery of higher power levels.

Additionally, the transmission efficiency is not limited by the dead space between bundles of silica fibres (packing losses).

The light guide consists of a high refractive index liquid in a sealed polymer jacket with stainless steel end caps containing polished quartz windows covered with an anti-reflective coating. It is suitable for the transmission of all visible wavelengths.

SciScan

Scientifica's open-source data aquisition software

SciScan is a two-photon acquisition software package designed and built by Scientifica in collaboration with researchers.

Expert designed multiphoton aquisition software, SciScan 1.0 is available for download on sciscan.scientifica.uk.com

Simultaneous data collection

SciScan can be used to control Scientifica's galvo and resonant scanning systems for both in vivo and in vitro imaging applications.

The software, created in LabView and utilising popular National Instruments interface boards, can be provided "open source" to allow you to create custom modules and develop new functions.

SciScan allows the collection of data from all ChromoFlex PMTs simultaneously.

The software contains integrated controls for industry standard instruments including Pockels cells, piezo objective positioners, XY Stages and microscope focus drives.

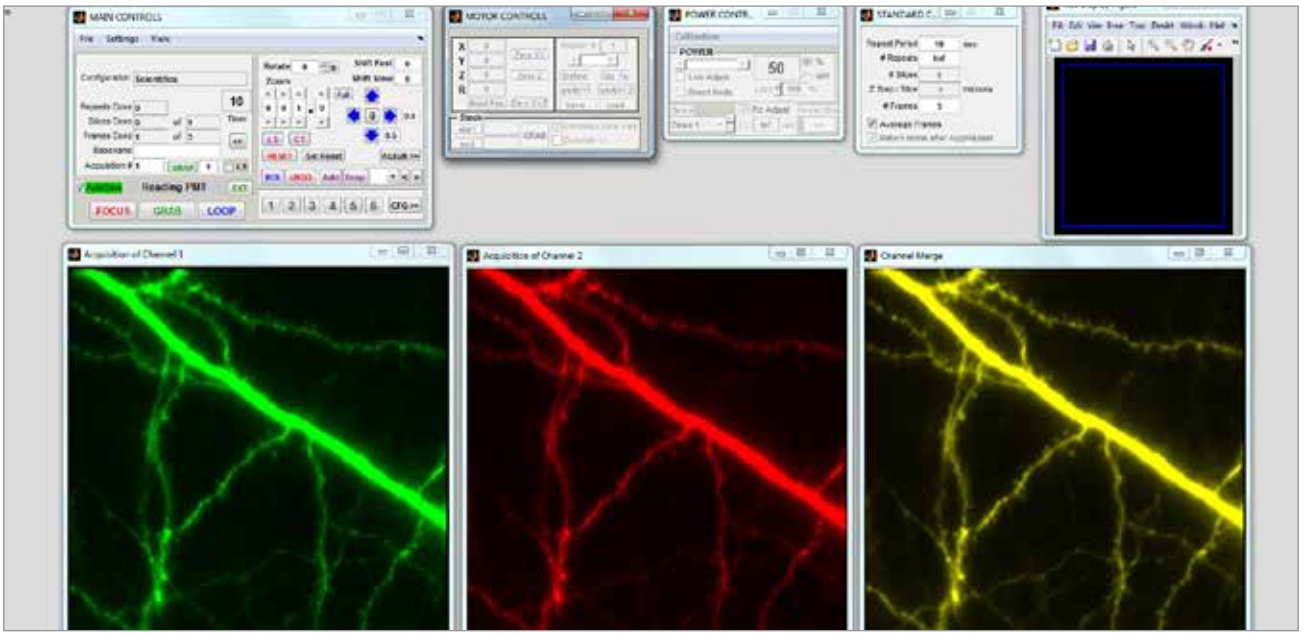
Powerful modules

The new SciScript Module allows users to pre-program recording sequences and stage motions.

The Position Save Module enables chronic in vivo experiments with repeated imaging sessions over the course of days, weeks or months. It greatly simplifies the task of precisely repositioning the scan area over the same locations.

ScanImage software

Vidrio Technologies have fully integrated Scientifica's multiphoton hardware into their ScanImage software packages.



Software functions

Researchers at the HHMI Janelia Farm Research Campus developed ScanImage specifically for neuroscience applications.

Get ScanImage 3.8.1 for all your galvo requirements or ScanImage 5 for your resonant system.

Input and output signals synchronise your software with additional hardware.

Download the software for free and develop the functions necessary for your experiments.

Warranty & support

Scientifica's success is founded on supplying superior support and application of our significant manufacturing experience. We would therefore really value the opportunity to understand your applications better and to offer no obligation advice on equipment, configurations and compatibility.

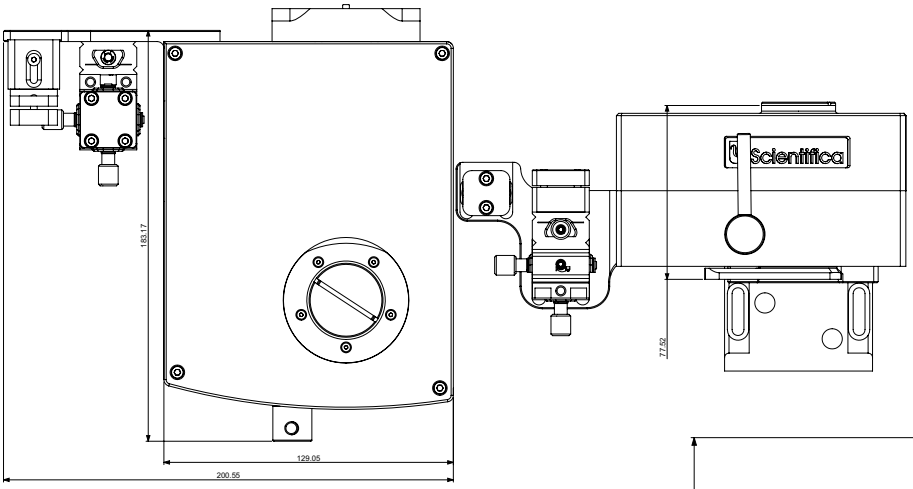
The standard warranty for all Scientifica designed and manufactured goods is two-years. However, Scientifica's ChromoFlex system, includes components from other companies, which offer a twelve-month warranty. For an extended warranty on the full system (including some external companies) please contact your Scientifica representative. All warranties cover defects in manufacturing and materials. In this unlikely event, Scientifica will manage the repair and replacement of all components.

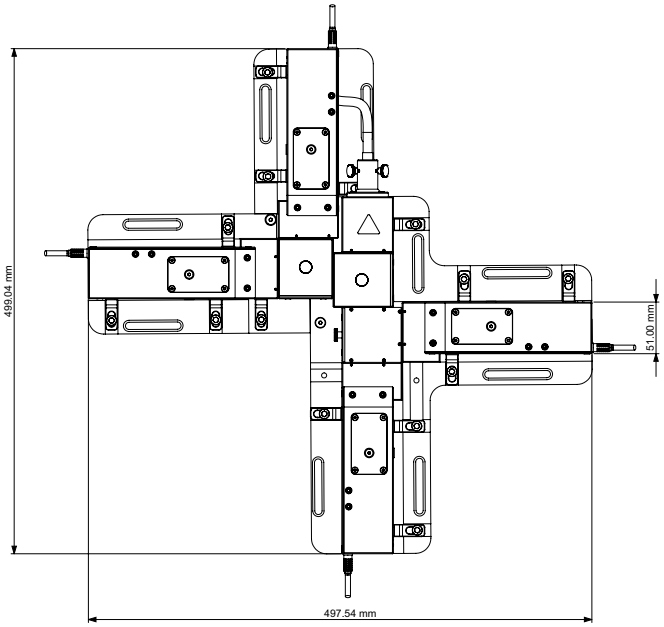
Our team of customer support engineers is dedicated to providing you with the very best advice and support, should you experience any difficulties with our products. With all products we offer a complete installation support service.

Technical specifications

Laser/visible dichroic mirror	665 nm long-pass dichroic, factory-fitted (60 x 40 x 1 mm)
Laser blocking filter	680 nm short-pass filter, factory fitted
Objective max exit aperture	20 mm diameter
Angular collection	+/- 8 degrees maximum from 20 mm exit aperture
Objective compatibility	M32X0.75, M27X0.75, M25 X0.75 and RMS threaded objectives
Spectral filtration	To be specified with order and requires Scientifica filter cube, compatible with standard fluorescence filter sets (25 mm ø filters; 24 X 36 x 1 mm dichroic mirror)
Number of channels	Two, three and four channel options
Detector types	Hamamatsu H10771P-40 GaAsP
Preamplifier bandwidth	20 MHz (resonant system) and 1 MHz (galvo) with low noise linear power supply
Preamplifier gain	100000
Output connection	BNC
High voltage control	Manual and.or software control
PMT protection	Integrated protection circuitry in H10771P-40 and remote light sensor

Schematics





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