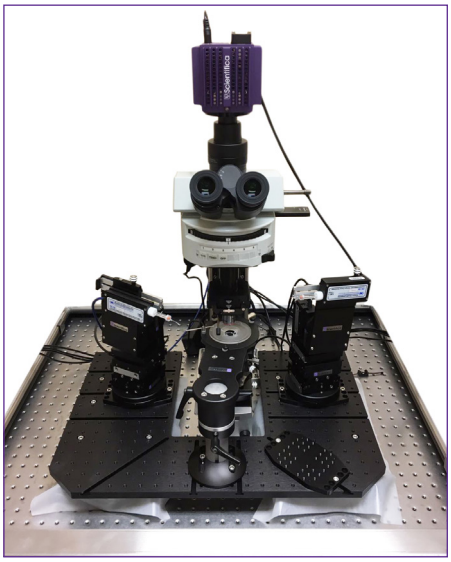
SciCam Pro

Scientifica

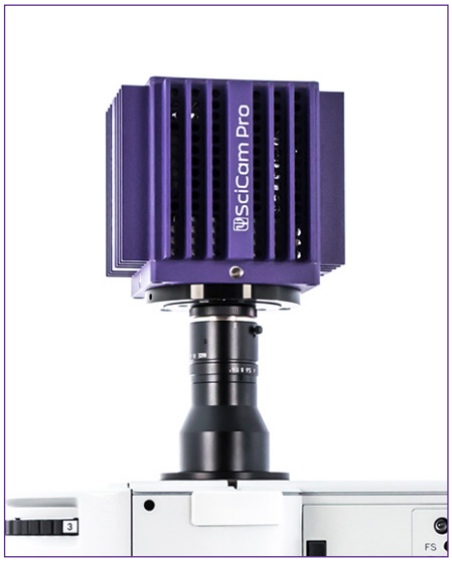
Built in collaboration with scientific camera experts QImaging, the SciCam Pro is specifically designed for use with electrophysiology setups.

The fanless cooling system and built-in grounding point create zero vibration and electrical noise for careful electrode positioning and fine electrophysiological recordings. The camera is suitable for wavelengths of 780nm and 850nm imaging, making it perfect for IR-DIC imaging for patch clamp experiments.

Scientifica's SciCam Pro CCD camera

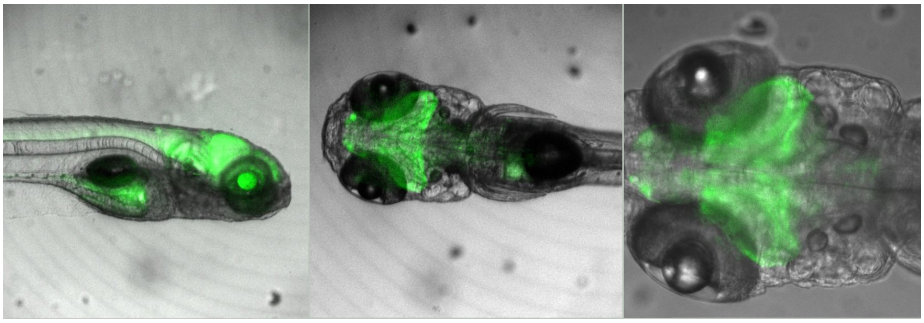


SliceScope Pro 6000 system with two PatchStar Micromanipulators & the SciCam Pro camera



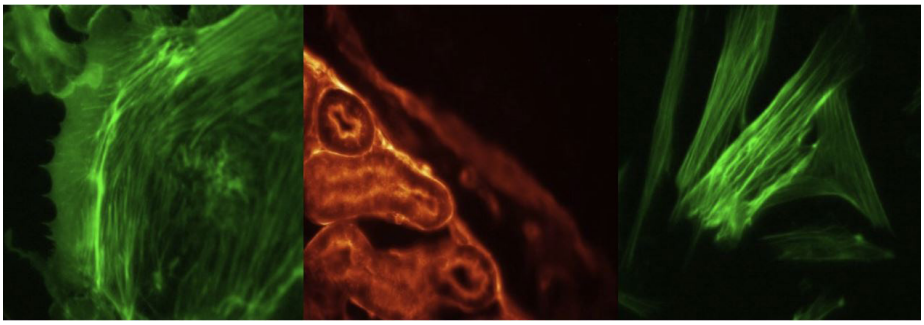
The SciCam Pro attached to the Scientifica HyperScope multiphoton imaging system

Merged Widefield IR and Fluorescence Images



In vivo 6DPF zebra fish larvae expressing GCamp6 imaged using the SciCam Pro

Widefield Fixed Cell Fluorescence Images



From left to right: Bovine Pulmonary Artery Endothelial Cells labelled with Alexa Fluor® 488 phalloidin for F-actin; Mouse kidney section stained with Alexa Fluor® 488 wheat germ agglutinin; Muntjac skin fibroblast labelled with green fluorescent Alexa Fluor® 488 phalloidin for F-actin.

Key features & benefits:

Fanless cooling
Cooling fins create a heat sink to enable fanless cooling for completely vibration-free imaging.

Fast frame rates
50 MHz pixel digitisation delivers fast frame rates for smooth visualisation of electrode positioning.

Integrated grounding point
Electrically isolate the whole camera with ease.

High sensitivity
75% peak QE enables the detection of weak signals not possible on industrial cameras.

Pristine images
Intelligent Quantification algorithms enable Defective Pixel Correction (DPC) to provide flawless, high-quality images.

Regulated sensor cooling
Provides high-quality images for long experiments.

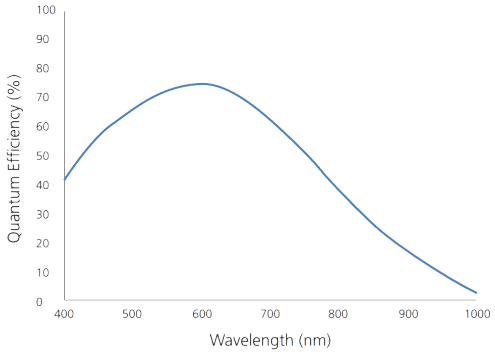
Software

The SciCam Pro is packaged with QImaging's brand new Ocular software. Designed from the ground up, it is the ideal software choice for image capture in microscopy.

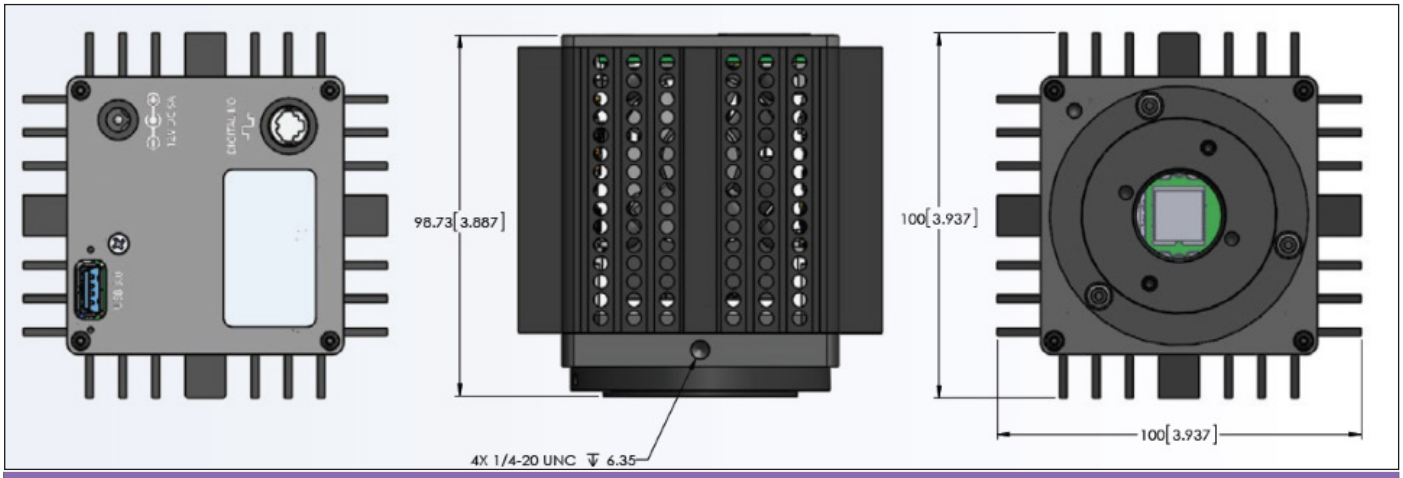
Applications

- Electrophysiology
- Fluorescence Imaging

Spectral Response



Schematics



Technical Specifications

CCD sensor	**Sensor Type:** Sony ICX-825 Scientific Interline CCD (Monochrome) **CCD Array:** 1360 x 1024 **Pixel Size:** 6.45µm x 6.45µm **Sensor Dimensions:** 8.8mm x 6.6mm (11mm diagonal) **Peak Quantum Efficiency:** 75% at 600nm **Full Well Capacity:** >11,000e- single pixel
Camera	**Digital Output:** 14-bit with 50MHz readout **Digitization Rate:** USB3: 50MHz high frame rate **Read Noise (typical):** <5.5e- RMS with 50MHz readout **Frame Rate:** 22 fps (full resolution), 31 fps (binned 2 x 2) **Exposure Time Range:** 25µs - 5sec **Supported Binning Modes:** 1 x 1, 2 x 2, 4 x 4, 6 x 6, 8 x 8, 12 x 12, 16 x 16 **Dark Current Rate (typical):** 0.036 e/p/s at +15°c regulated **Sensor Cooling:** 0°c stabilised at 22°c ambient Thermoelectric cooling with convection **Intelligent Quantification Features:** DPC - Defective Pixel Correction
Interfacing	**Computer Platforms/Operating Systems:** Windows 7 (64 bit), Windows 8 (64 bit), Windows 10 (64 bit). Refer to the QImaging website for the latest list of minimum computer recommendations **Digital Interface:** USB 3.0 (USB 2 compatible at reduced max fps) **Triggering I/O Signals:** Trigger In, Expose Out, End-of-Frame, Shutter Out **Supported Triggering Modes:** Trigger First, Strobe, Bulb
Mechanical	**Optical Interface:** 1", C-mount optical format **Mounting Hole Thread Size:** 1/4" -20 thread, 4 sides **Camera Dimensions:** 98.4mm x 76mm x 76mm (length x width x height) **Weight:** 1.55lb, 0.72kg **Power Requirement:** 7.5V DC, 2.5A