

## Use Case

sinaSCOPE is a digital 3D microscopy platform from Solectrix. A complete sinaSCOPE system consists of a microscope equipped with two digital 4K cameras, a 3D display and an image processing unit. It provides a live 3D image without the need for 3D glasses. For users with existing microscopes, sinaSCOPE digital upgrade kits enable all optical, eyepiece-based stereo microscopes to be expanded to a digital microscope with two 4K cameras and a 3D monitor.



- + Single-user application: Glasses-free autostereoscopic display
- + Multi-user application: Standard stereoscopic display using 3D glasses

- + Fatigue-proof working on a large 3D screen instead of the limited field of view through a pair of binoculars
- + Prevents a lack of concentration
- + Optimum choice of position
- + Unlimited working and viewing area allows for ergonomic working – the head remains freely movable

# Model: sinaSCOPE Professional



## Use Case

Stationary upgrade system for stereo microscopes

### System Key Aspects

Camera & Display Resolution	4K UHD (3840 × 2160 pixels)
Frame Rate	60 fps
Latency (Camera to Display)	90 ms typ.

### System Components

Image Processing Electronics	Mini PC with Solectrix proFRAME PCIe board in a Thunderbolt 3 Box
Camera Heads	2× Solectrix SXC4 miniature 4K camera head
Display	Solectrix SXD2 autostereoscopic 15.6" 4K display
Software	SX Camera ISP, SX 3D Analyzer, SX Monitor License
Included Accessories	2× FAKRA camera cable (1.5 meters) HDMI cable Keyboard Mouse



# Model: sinaSCOPE Professional Complete

sinaSCOPE Professional Complete is a fully equipped 3D microscopy system that combines all the features of the Professional model with a perfectly matched Bresser ETD-201 microscope.

## Use Case

Stationary 3D microscopy applications

# Model: sinaSCOPE Mobile



## Use Case

Mobile upgrade system for stereo microscopes

### System Key Aspects

Camera & Display Resolution	4K UHD (3840 × 2160 pixels)
Frame Rate	60 fps

### System Components

Image Processing Electronics	Acer Aspire 3D 15 SpatialLabs™ Edition laptop with Solectrix proFRAME PCIe board in a Thunderbolt 3 Box
Capturing Module	Thunderbolt 3 Box with Solectrix proFRAME
Camera Heads	2× Solectrix SXC4 miniature 4K camera head
Display	15.6" Acer 4K UHD IPS 3D autostereoscopic display
Software	SX Camera ISP, SX 3D Analyzer, SX Monitor License
Included Accessories	2× FAKRA camera cable (1.5 meters)



# Model: sinaSCOPE Mobile **Complete**

sinaSCOPE Mobile Complete is a fully equipped 3D microscopy system that combines all the features of the Mobile model with a perfectly matched Bresser ETD-201 microscope.

## Use Case

Mobile 3D microscopy applications

# Model: sinaSCOPE OEM



## Use Case

Upgrade for stereo microscopes  
Integration kit for existing ISP systems

## The Alternative: Assemble Your Own sinaSCOPE PC!

If you prefer to use a custom PC system, you can! We offer a complete integration kit with the required software, the sinaSCOPE 4K miniature camera heads, a proFRAME PCIe grabber card and our SXD2 autostereoscopic 15.6" 4K display.

System Components	
Capturing Module	Solectrix proFRAME PCIe board
Camera Heads	2× Solectrix SXC4 miniature 4K camera head
Display	Solectrix SXD2 autostereoscopic 15.6" 4K display
Software	SX Camera ISP SX 3D Analyzer SX Monitor License
Included Accessories	2× FAKRA camera cable (1.5 meters)

System Recommendations	
CPU	AMD Ryzen™ 7 5700X CPU or better recommended
GPU	NVIDIA® GeForce RTX™ 3050 GPU or better recommended
Memory	16 GB DDR4 RAM recommended

# Components: Display

Solectrix SXD2 Autostereoscopic 15.6" 4K Display	
Operation	Glasses-free single-user operation
Refresh Rate	60 Hz
Resolution	4K UHD (3840×2160)
Aspect Ratio	16:9
Size	15.6" (39.62 cm)
Brightness	500 cd / m <sup>2</sup>
Color	100% Adobe RGB
Optimal Viewing Distance	450 mm ~ 800 mm
Optimal Viewing Angle	± 35°
Eye Tracking Speed	90 fps
Eye-Tracking Camera	Intel RealSense D435
Display Rated Input Power	PD 25W
Interfaces	2× USB 3.0, 2× HDMI 2.0
Weight	1.4 kg
Dimensions	354.2 × 252.5 × 30.2 mm (w × h × d)
Installation	Vesa Mount 100 × 100 mm, M4, depth 6 mm
Connection	via HDMI 2.1, USB 2.0 (Eye Tracker), DisplayPort 1.4a or USB-C PSU (Power)



# Components: Camera Heads & Capturing Module

## Solectrix SXC4 Miniature 4K Camera Heads

Sensor	Sony IMX678, rolling shutter, diagonal 9 mm (type 1/1.8")
Resolution	4K UHD (3840×2160)
Framerate	60 fps
Color Depth	10 bit
Electrical Interface	GMSL2/3
Dimensions	3.0 × 4.4 × 4.4 cm (w × h × d)
Weight	70 g
Lens Mount	C/CS-mount + adapters where needed
Stand Mount	1/4-20 UNC thread



## Solectrix proFRAME Capturing Module

Type	PCIe Grabber Card
Connection	via PCIe x8 Gen3 interface
Dimensions	175.26 mm × 106.68 mm Full height, half length PCIe board

proFRAME, a product of Solectrix, is a frame grabber system for capturing and replaying of raw video data streams. It is used in all sinaSCOPE models and serves as the core of the sinaSCOPE OEM. More here: [www.solectrix.de/proframe](http://www.solectrix.de/proframe)



# Components: Optional Accessories & Services

## 3Dconnexion SpaceMouse

3D mouse for easy operation

## Foot Switch

To toggle live image correction for a calmer picture

## Monitor Stand

Wearson WS-03A – Foldable monitor stand for the 3D display

## Monitor Arm

StarTech.com ARMPIVOTE2 – Flexible monitor holder for the 3D display

## Microscope Camera Adapter

For microscopes without C/CS-mount, the required model depends on eyepiece size. The adapter must match your microscope's eyepiece format and be suited for a 1/1.8" sensor (8.86 mm diagonal). Solectrix support can assist in the adapter selection.

## Camera Cables

Customized FAKRA camera cable (5 or 10 meters)

## Optional Services

Integration support – let our experts help you assemble your customized sinaSCOPE processing unit!



# Components: Software

Windows 10 and later is supported. Linux support is coming soon.

## SX Camera ISP

Adjust sharpness, exposure, contrast, brightness, saturation, and white balance

Up to 5× digital zoom

## SX 3D Analyzer

Live 3D image analysis

Automatic rectification for stereoscopic displays

## SX Monitor License

Supports Solectrix SXD2 autostereoscopic displays

Supports standard stereoscopic displays with glasses

Support for other displays can be realized on request

## 3D Image Capturing / Viewing

Capture 3D images in JPEG Stereoscopic format

View 3D images

## Developed by Solectrix GmbH

Since 2005, Solectrix has been successful as a reliable and innovative partner in image processing at the highest level. Based in the Nuremberg/Fürth/Erlangen area, the design house for embedded systems with its over 150 employees became known for its significant contribution to the ARRI ALEXA, the most popular digital camera for big Hollywood productions, and its own 3D camera system sinaCAM, which was used in numerous TV productions and commercials to achieve unique 3D image quality.

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