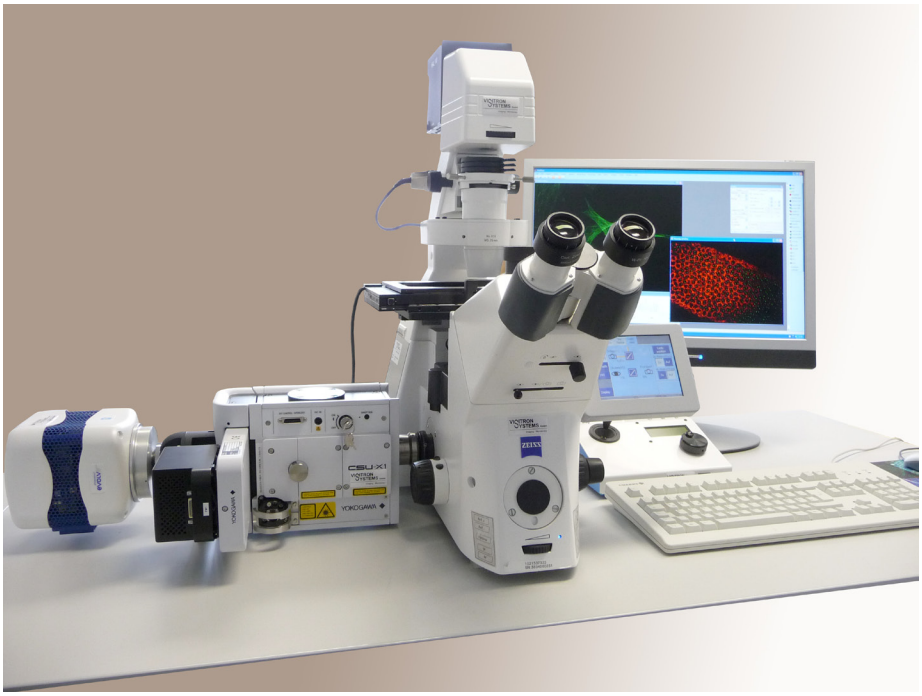
VisiScope Real-Time Confocal System based on CSU-X1 with Dual-Disk Technology

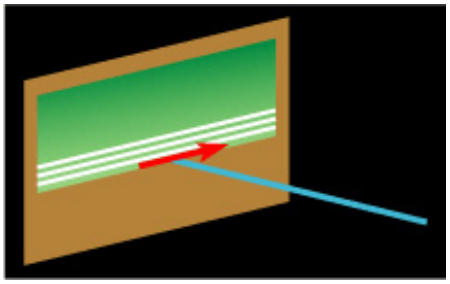
The CSU-X1 is the advanced model of our Yokogawa CSU-series of spinning disk confocals. It is widely recognized as the most powerful tool for live cell imaging. A Nipkow spinning disk containing about 20,000 pinholes and a second disk containing the same number of microlenses to focus the excitation laser light into each corresponding pinhole. This allows a very rapid raster scan of the field of view with about 1,000 laser beams when rotated.

VisiScope Confocal

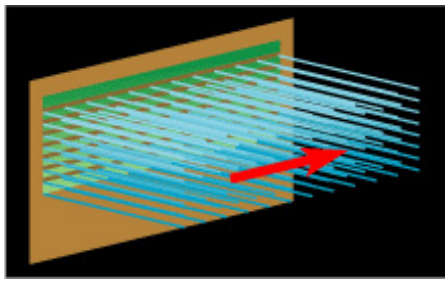
Spinning Disk CSU-X1



Zeiss Axio-Observer with CSU-X1, Evolve camera and VisiView® Imaging Software.



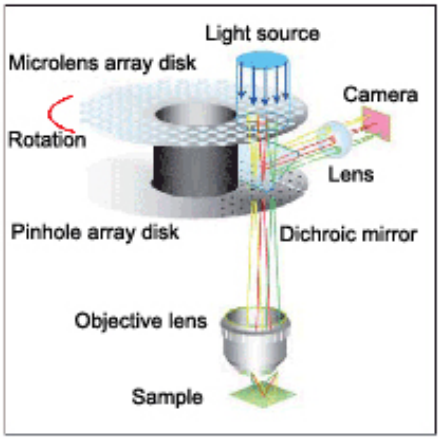
Conventional single beam scanner.



Multi-point scanning with the CSU.

More Flexibility: CSU models and options

Model	CSU-X1-M basic manual version	CSU-X1-A high end motorized version
Image speed frames/sec.	360 standard 1000 option	1000 standard 2000 option
Dual camera option	manual	manual or motorized
Emission filter	manual slider or motorized filter wheel 6 / 10 position	motorized filter wheel 6-position
Bright Field Path Option	manual	manual or motorized



CSU-X1 diagram with Dual-Disk.

VisiScope Confocal

Spinning Disk CSU-X1

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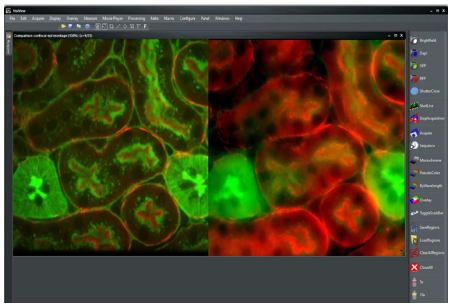
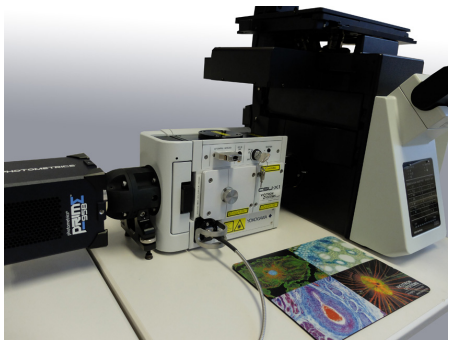
The CSU-X1 pinhole and microlens pattern are arranged in the Yokogawa proprietary design to optimize raster scan. Multi-beam scanning with the CSU-X1 not only increases scanning speed, but also results in significantly lower photobleaching and phototoxicity, because multiple excitation needs only a low level of spot laser power at the specimen to fully excite fluorescence.

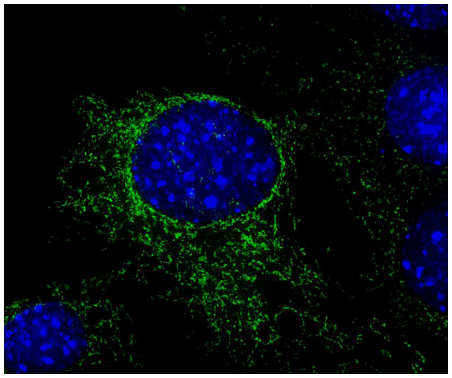


comparison of confocal and widefield images

Zeiss Axio-Examiner with CSU-X1 and dualcam option with Zyla sCMOS cameras



CSU-X1M manual version with Prime 95B camera



Second Camera Port for Simultaneous Image Acquisition

You can either simultaneously image two different emission ranges with two cameras, or selectively use one of the two cameras you installed depending on what is most suitable for your current experimental requirement. For each camera port, you can select to install a high-speed filter wheel (option). In addition to standard C-mount adapter, adapters for 8x8 mm EMCCD cameras and F-mount cameras are available.

Bright Field Path Option

It allows you to use one camera for both confocal imaging with the CSU-X1 and bright-field (non-confocal) imaging through the bypass light path.