

ZIVA Light Engine for Yokogawa CSU Case Study

“The brightness, exposure and biology played out beautifully in a very rational and simple-to-approach illuminator. As microscopes have gotten more complicated having an easy-to-use, indestructible Light Engine is invaluable.”
-Clare Waterman, Ph.D.

INTRODUCTION

Yokogawa CSU is a widely accepted, life-science industry standard for 3-dimensional confocal imaging of live cells, tissues, and model organisms. However, the wavelengths of traditional lasers on CSU are typically limited to four. Further, the cost of these lasers often exceeds the cost of the CSU scanner itself.

Lumencor’s [ZIVA Light Engine](#) increases the number of lasers from four to seven at a price significantly below that of the CSU scanner.

THE CHALLENGE

Laser combiners are notoriously expensive to purchase and maintain, requiring considerable expertise and upkeep. Lumencor’s ZIVA Light Engine for Yokogawa CSU changes the game. ZIVA enhances brightness, spectral breadth and field flatness in a compact, user-friendly package.

01

Key Outcome

7 turnkey lasers eliminate cost and time associated with laser service.

02

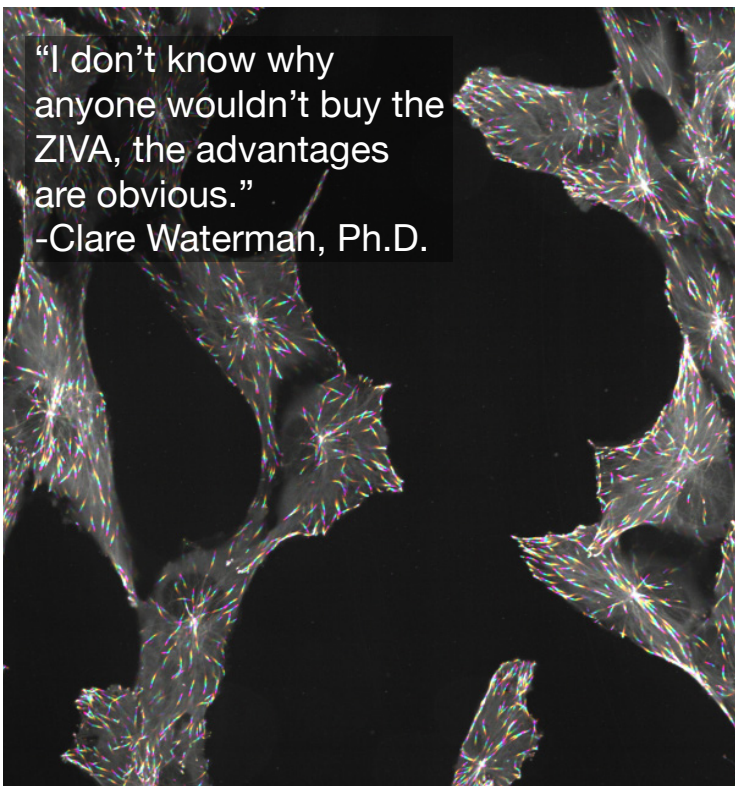
Key Outcome

“I don’t know how you did it, but the size and indestructibility is absolutely wonderful. Amazing!”

03

Key Outcome

Focus on the science, not overly complicated lighting hardware.



Images captured by Timothy Mitchison, Ph.D., Harvard University

THE SOLUTION

Lumencor's ZIVA for Yokogawa CSU includes seven independent, solid-state lasers. Bright, stable lasers are allied to sophisticated control and electronic monitoring to deliver the performance needed to support CSU-W1, X1 and SoRa super-resolution microscopy.

ZIVA's lasers are refined by bandpass filters, merged into a common optical train, despeckled, and directed through a precision-engineered adapter tailored to the Yokogawa CSU-W1 or CSU-X1. After installation, alignment is as simple as translating a robust illumination field onto the center of your camera sensor. Up to 22mm camera diagonals are well supported.

ZIVA wavelength selection is fully electronic; as such, in the absence of an external optomechanical selection component, no light leakage occurs. Precision engineered optical couplers provide intense, uniform sample-plane illumination. These sophisticated capabilities are seamlessly integrated within a turnkey, compact, bench-top device.

THE RESULTS



75% More Spectra

Seven stable, robust lasers span 405 – 750 nm.



75% Lower Cost

ZIVA's (7 lasers + filters) cost less than a traditional four laser combiner.



2023 MBL Feedback

"It is unusual to have something come along that is a giant step forward...especially in a developed area."

THE FUTURE

Within sensitive cells, living tissue and organelles, dual disk spinning disk systems offer a "gentle" means to observe denoised biological specimen dynamics.

Whether your Yokogawa CSU is new or old, Lumencor's ZIVA for Yokogawa CSU adds unmatched value. Bright, stable, robust, long-lived, spectrally broad light is critical to advancing your imaging capabilities. Doesn't your CSU deserve the best in solid-state lighting?

Learn more about ZIVA Light Engine for Yokogawa CSU [here](#).

