

Coherent

Solid-State

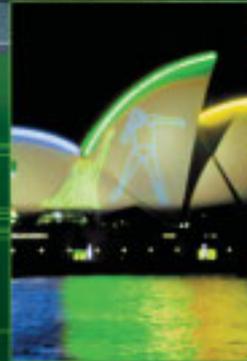
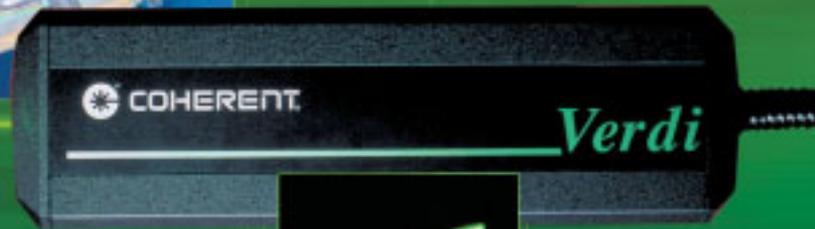
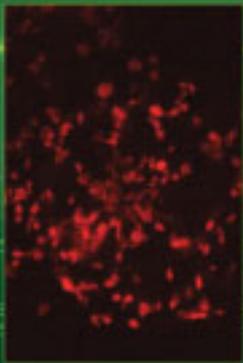
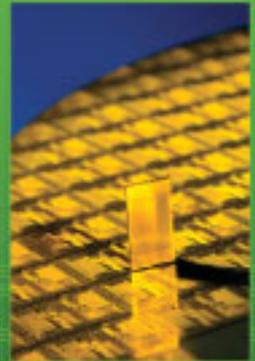
Diode-Pumped



# VERDI

Solid-State Green Laser

*Superior Performance by Design.*





# VERDI:

Proven to deliver long-lasting, cost-effective results

Now, you can gain the benefits of an advanced design in a time-tested system—with the Verdi™ solid-state green laser. It provides a wide range of breakthrough functions that make it more stable—and more efficient—than any other green laser. If you need a high-power beam of pure green light for your applications, Verdi is a solid investment in more ways than one.

### **Self-optimizing for greater efficiency.**

Verdi has a long list of innovative features to boost its efficiency beyond any other laser in its class.

For example, consider Verdi's exclusive, self-optimizing MIN-I™ system. It's a closed-loop feedback system that continuously controls the precise wavelength emitted from the pump laser diode modules. The MIN-I system constantly maximizes the

absorption of pump light into the Nd:YVO<sub>4</sub> laser crystal in the resonator, leading to the highest possible laser efficiency. As a result, Verdi uses the lowest amount of laser diode pump power and drive current. It's a simple equation: maximum laser efficiency—minimum pump diode drive current—longer pump diode lifetime.

Additional efficiency comes from the Verdi's automatic Second Harmonic Generation (SHG) feature. This peaks the production of green laser light within the resonator by optimizing the SHG crystal's phase-matching temperature.

These features combine with a precision-designed optical resonator to deliver a conversion efficiency from diode-to-green light that's typically >25%.

long coherence length of >100m

superb resonator mechanical stability  
requires less diode power

## **Build on our strengths.**

When you're choosing a laser to be at the very heart of your system, you'll probably ask several important questions. Does the laser provide state-of-the-art performance and efficiency? Does it offer the utmost reliability and long life? Is it backed by service and support that sets the standard in the industry?

At Coherent, we think that power, durability, efficiency, innovation, and reliability are exactly the features you expect from a laser. And we have the laser that delivers them.

**Presenting Verdi—the solid-state green laser.**

**Lower cost of ownership.**

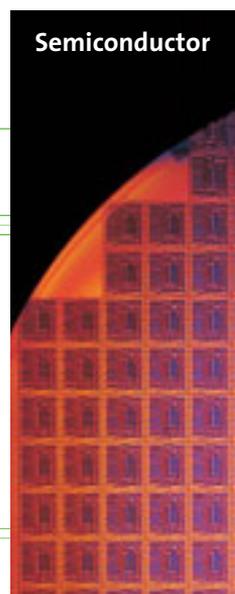
Verdi can save you money throughout its lifetime. One reason is that it uses durable highly-efficient Aluminum-Free Active Area (AAA™) laser diode pump modules. These devices are housed in Verdi's easily accessible power supply. You can replace them yourself, saving on maintenance costs, service visits, and downtime. What's more, since Verdi's efficient design requires less pump diode power, and uses a lower drive current, the lifetimes of the pump diodes are significantly extended.

To further improve longevity, Verdi benefits from the exclusive PermAlign™ manufacturing process. All mirrors, crystals, and other laser-head optics are carefully positioned by custom semi-robotic tooling, then soldered into place. The result is a permanently aligned resonator structure that's immovable. This entire process takes place in a cleanroom to prevent contamination, with the laser head hermetically sealed to assure long-lasting performance.

**Outshining the competition.**

When you examine what other diode-pumped lasers have to offer—and what they don't—it's easy to see why Verdi is clearly your best choice. While competing lasers have no way of indicating their system and pump diode lifetimes, Verdi has system and pump diode hour meters that you can easily check. Verdi also requires far less pump diode power than other lasers, resulting in a much longer operating life. No other laser has the superb resonator mechanical stability that you get with Verdi. And thanks to its single-frequency design and exclusive, advanced noise-control circuitry, Verdi has the lowest optical noise specification of any laser in its class—without the mode-beating noise that's common to most lasers.

Best of all, no competing laser can come close to Verdi's superb reliability and reduced cost of ownership.



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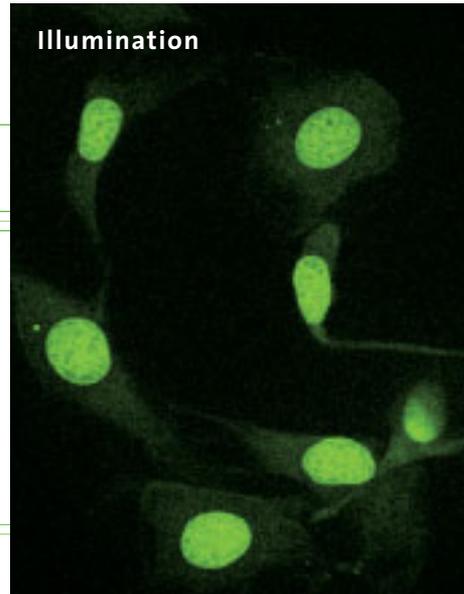
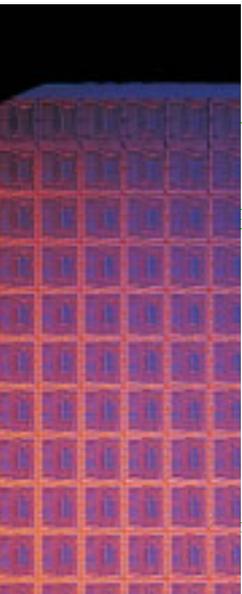
**Give your system the green light.**

Since Verdi combines high power and low optical noise with true single-frequency operation, it's the only laser that can be used in such a wide range of applications, including:

- Laser pumping
- Holography
- Interferometric test and measurement
- Optical cooling and trapping
- Light shows/entertainment
- Illumination Bio-image
- Semiconductor processing

See why the efficient, high-performance Verdi is the right laser for your system. Visit the Coherent Website at [www.Coherent.com](http://www.Coherent.com). Or call 1-800-527-3786.

Then, take advantage of the refined design and advanced features that make Verdi a laser without comparison.



**Coherent as your partner.**

To compete and succeed in today's fast-paced research and manufacturing environments, you need a laser partner who understands your needs. A partner who can provide a wide range of technology solutions, and the support that goes with them.

Since 1966, Coherent has been helping customers by providing complete laser-based solutions for a wide range of commercial and scientific applications.

With a heritage of innovation and an uncompromising position on quality, Coherent is the most forward-thinking and diversified manufacturer of solid-state, gas, excimer and semiconductor lasers in the industry.

For more information, visit us on the Web at [www.Coherent.com](http://www.Coherent.com). Or call 800-527-3786.



**COHERENT, INC.**

5100 Patrick Henry Drive  
Santa Clara, CA 95054

**phone** (800) 527-3786  
(408) 764-4983

**fax** (800) 362-1170  
(408) 988-6838

**e-mail** [tech.sales@Coherent.com](mailto:tech.sales@Coherent.com)

**web** [www.Coherent.com](http://www.Coherent.com)

**LOCAL OFFICES**

**phone**

Japan +81 (3) 5635 8700

Benelux +31 (30) 280 6060

France +33 (1) 6985 5145

Germany +49 (6071) 9680

Italy +39 (02) 34 530 214

UK +44 (0) 1353 658833

