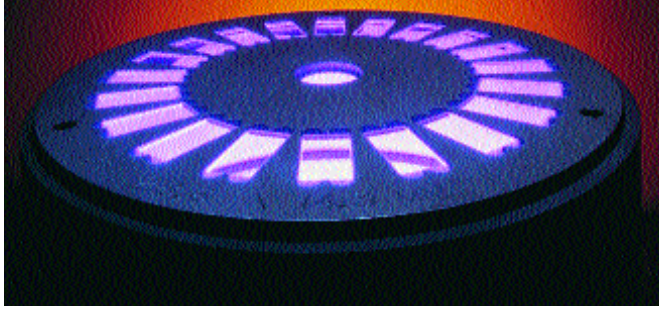
Plate Polarizers



Alpine Research Optics has introduced its new line of plate polarizers with a unique broad spectral band, which are intended for use with high-power lasers. A novel thin-film design yields a very flat spectral response over about 5% of the nominal operating wavelength, which gives the polarizers significantly greater spectral bandwidth than those previously marketed. Their broad spectral characteristics make the new Alpine plate polarizers particularly useful for applications requiring wide bandwidth, such as ultrafast lasers, and minimize the devices' sensitivity to temperature-induced wavelength shifts or small changes in angle of incidence. The polarizer coatings can be chosen for optimal operation between 266 and 1,064 nm, and the standard dimensions are 28.6 ¥ 14.3 mm. Custom performance characteristics and sizes are also available.

Alpine Research Optics
3180 Sterling Circle
Boulder, CO 80301
Circle No. 180 on Reader Service Card

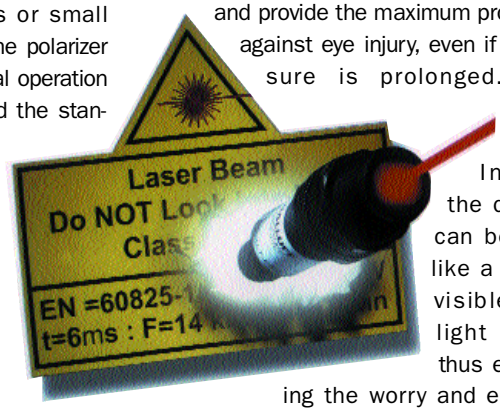
Head Torch

Lightwave introduces its new head torch, the Lightwave Illuminator. The solid-state, portable lighting system uses four bright, white light-emitting diodes (LEDs) with a typical life of 100,000 h. The head torch's specially designed printed circuit board controls the flow of voltage from three AA alkaline batteries. This advanced design prolongs battery life 14 times over that of regular head torches. The Lightwave Illuminator weighs less than 7 oz, batteries included, and the shock-resistant, waterproof unit can be dropped onto hard ground from 10 ft and will still function normally, Lightwave says. The company offers a five-year warrantee that covers everything—including the LEDs—except the batteries and abuse. The head torch has applications in industry, the home, and recreation, such as camping and fishing.

Lightwave
24702 Kim Circle
Laguna Hills, CA 92653
Circle No. 181 on Reader Service Card

Laser Position Sensors

Balluff introduces its new laser position sensors, the 18K Laser series. The sensors have a Class 1 (highest safety) rating and provide the maximum protection against eye injury, even if exposure is prolonged.



Indeed, the devices can be used like a typical visible red-light beam, thus eliminating the worry and expense involved in beam termination. The 18-mm tubular sensors use a 650-nm red laser and are available in all commonly used sensing modes, including diffuse, retroreflective, and through-beam. The 18K sensors have a response time of 333 µs and a switching frequency of 1.5 kHz for high-speed applications such as assembly and packaging lines. The diffuse versions have a range up to 300 mm and a resolution to 0.5 mm, which provides high sensing accuracy at short distances. The polarized retroreflective versions, useful for longer-range applications, are available with a range up to 12 m and a resolution of 1 mm. Through-beam versions provide a range up to 50 m and a resolution to 2.5 mm.

Balluff, Inc.
8125 Holton Drive
Florence, KY 41042
Circle No. 182 on Reader Service Card

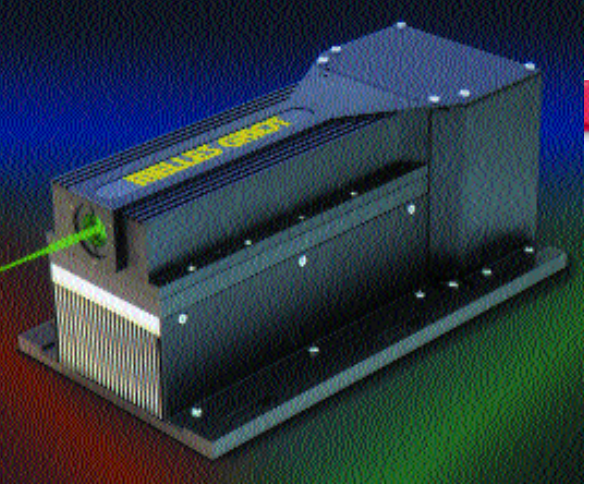
Laser Modules

Cutting Edge Optronics' RE-Series of diode-pumped solid-state (DPSS) laser modules, intended for use in high-power industrial and scientific Nd:YAG laser systems, produce more than 450 W. To meet greater power needs, such as those required by small, portable welding systems, the modules can be used in series to generate several kilowatts of continuous-wave output at 1.064 µm. The RE-Series modular DPSS laser heads use radial pumping of the Nd:YAG laser rod, and the units are designed as drop-in replacements for standard lamp-pumped Nd:YAG laser cavities. The laser modules come in cavity design and resonator configurations, and they carry a one-year or 5,000-h warranty.

Cutting Edge Optronics, Inc.
20 Point West Boulevard
St. Charles, MO 63301
Circle No. 183 on Reader Service Card

Microlasers

Melles Griot's two new series of continuous-wave, diode-pumped, solid-state microlasers produce up to 3 W of output at 532 nm. The Series 58 GSS (standard) and 58 GLS (low noise) have their output

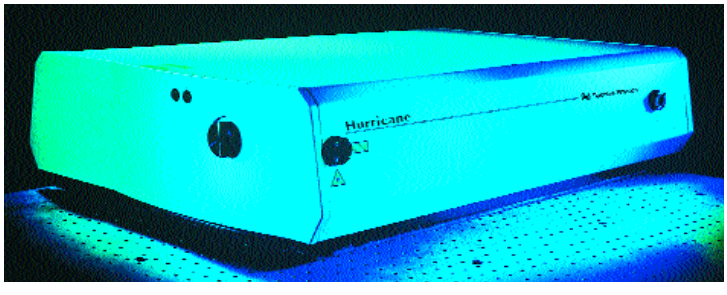


concentrated in a single beam, unlike previous green DPSS lasers whose two beams diverged slightly. The lasers are designed specifically for original-equipment-manufacturer applications in which small size, low power consumption, hands-off operation, and reliability are critical. The compact, air-cooled laser head is less than 10 in. long, including the cooling fan and heat sink. Total power dissipation is 100 W. Micro-lasers in both series can operate in either a light-regulated or current-regulated mode. Output power can be controlled from a few milliwatts to maximum, and both series are available with specified output of 2.0, 2.5, and 3.0 W.

Melles Griot
2051 Palomar Airport Road, 200
Carlsbad, CA 92009
Circle No.184 on Reader Service Card

Picosecond Laser

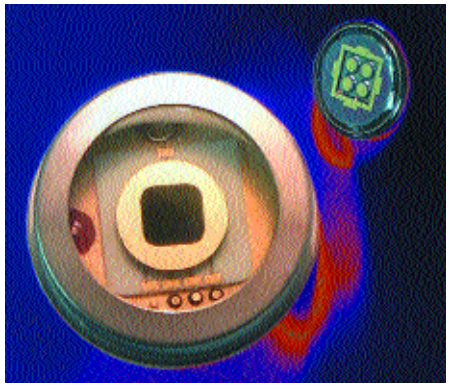
Spectra-Physics announces a new version of its Hurricane Ti:sapphire ultrafast amplifier, which delivers pulse widths of ≤2 ps at repetition rates of 1 to 5 kHz and pulse energies up to 1 mJ per pulse. The output is centered at a nominal 800 nm, and other wavelengths are available. The picosecond Hurricane is a "one-box," amplified-laser source that is entirely diode-pumped. It measures 39 ¥ 27 ¥ 9.5 in. The Hurricane is designed to ensure high mode quality and output stability, and it provides a unique combination of spectral and temporal resolution. Applications include ultrafast spectroscopy, nonlinear interactions, and combustion studies.



Spectra-Physics
1335 Terra Bella Avenue
Mountain View, CA 94043
Circle No. 185 on Reader Service Card

Position Detector

Advanced Photonix describes its new four-element Large Active Area Avalanche Photodiode as the first solid-state position-sensing detector to combine a large active area with low light sensitivity. The detector consists of a square 2 ¥ 2-element array



with a total active area of 18 mm^2. When operated with an amplifier configured to provide differential signals, it delivers position sensing together with the high gain needed for low light detection. Moreover, the signal for each detector element can be read independently, which allows the unit to replace up to four individual high-gain detectors. The new compact, rugged position sensor offers several advantages over previously available detectors, including simpler driving circuitry.

Advanced Photonix, Inc.
1240 Avenida Acaso
Camarillo, CA 93012-8727
Circle No. 186 on Reader Service Card

Fiber-Optic Illuminator

StockerYale introduces Stabilite, a high-intensity, quartz-halogen, fiber-optic illuminator designed for machine-vision applications that require regulated light intensity. Uses include high-speed inspection of galvanized steel and the measurement and placement of electronic components. The Stabilite uses a closed-loop system with optical feedback to stabilize and maintain a consistent light output. The unit can be adjusted to vary its light intensity either manually or remotely by computer. Stabilite allows both analog and digital inputs to give a true linear relation to light-output intensity, thus eliminating the need for linearization algorithms.

StockerYale, Inc.
32 Hampshire Road
Salem, NH 03079
Circle No. 187 on Reader Service Cards

Blue Diode Lasers

Micro Laser Systems offers two new series of blue diode lasers (405 nm) as engineering evaluation units. The Lepton IV-TE series is intended for use with digital versatile disks, mass storage, or printing applications that require the lowest wavefront error possible, and it can be used for other applications, including spectroscopy, cytometry, and microscopy. It has a 2.5- to 3.5-mW output; a 6-mm, well-collimated circular beam; and no scatter. The SRT series has a 4-mW output and a 2-mm beam diameter, and it is highly stable and useful in situations where a circular beam is not needed. Both series use ambient air for cooling, which provides a more stable laser.

Micro Laser Systems
12771 Western Avenue, Suite N
Garden Grove, CA 92841
Circle No. 188 on Reader Service Card

The New Products section is based on information supplied by the manufacturers and in some cases by independent sources. *The Industrial Physicist* can assume no responsibility for its accuracy. To facilitate inquiries, a Reader Service Card is attached between pages 32 and 33.