



Laser Welding

Advanced Laser Technologies has introduced its ALT CO₂ laser welder, which is less expensive to operate and five times as fast as tungsten inert gas welding. The ALT CO₂ uses a contact-free, pulsed-laser process that is often the only alternative for welding extremely small parts. It can provide full-weld penetration on tubing of 0.1 in. outer diameter by 20 mil thickness. The new laser welder is well suited for joining thin-walled tubes to end fittings or other assemblies, and for use with stainless steels, beryllium, titanium, steel and nickel alloys, and Inconel. The ALT CO₂ eliminates distortions and mechanical stresses in tubing and the need for fillers.

Advanced Laser Technologies, Inc.

74 Maple Street, Unit A

Stoneham, MA 02180

Circle No. 180 on Reader Service Card

USB Interface

Ophir Optronics has announced that its new plug-and-play smart head to USB interface can turn a Windows-based personal or laptop computer into a powerful, multi-channel, full-featured laser power and energy meter. Once connected, the interface provides such information as detailed graphical displays, log power or energy averages, statistics, and histograms. An almost unlimited number of photodiode and thermal smart heads will work with one

computer, and once the software is installed, the user can begin to make laser power and energy measurements. Each head requires the use of one USB interface box. By using a USB hub, users can attach one or more heads to a computer and run them simultaneously, as well as log data from each head at the same time.

Ophir Optronics, Inc.

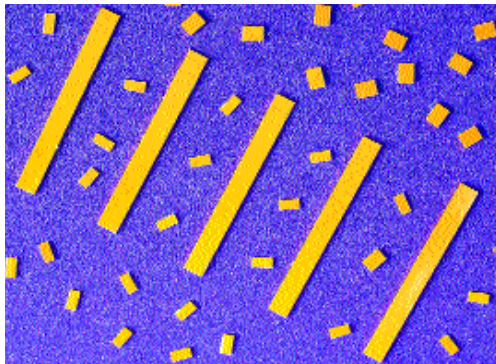
9 Electronics Avenue

Danvers, MA 01923

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Diode-Laser Bars

Coherent's semiconductor division has announced its high-peak-power, quasi-continuous-wave, unmounted diode-laser bars for integration into many solid-state laser pumping applications and for direct-diode target illumination. The 90% fill-factor, 100-W peak power bars emit at around a 900-nm wavelength. When the bars were used at Lawrence Livermore National Laboratory, they delivered 100 W of peak power at 900 nm at 115 A of drive current. The diode-laser bars are the lat-



est addition to Coherent's extensive line of products for original equipment manufacturers and researchers.

Coherent, Inc.

P.O. Box 54980

Santa Clara, CA 95056-0980

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Sapphire Windows, Lenses

Meller Optics provides sapphire windows and lenses that combine excellent surface flatness and smoothness with a hardness second only to that of diamond. They can be produced as rectangles, squares, and plano

convex or plano concave shapes from 0.25 to 6.0 in. in diameter and in various thicknesses with a 10-to-1 aspect ratio. The windows and lenses, which Meller precision



manufactures to customer specifications, have a 1/10th wave flatness and transmitted wavefront. They transmit light from the ultraviolet to infrared wavelengths, 270 nm to 4.7 μm, with up to 85% transmission uncoated and 99% transmission with A/R coatings on both sides. They are particularly useful for applications that require greater durability than glass and quartz.

Meller Optics, Inc.

P.O. Box 6001

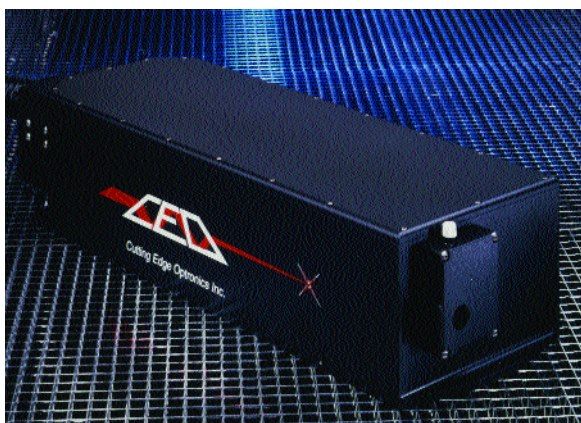
Providence, RI 02940

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Machining Laser

Cutting Edge Optronics' new 1,604-nm, Nd:YAG, DPSS Scimitar laser comes as a turnkey system that includes a laser head, diode driver, controlled recirculating water chiller, and operations manual. Its applications include micromachining, cutting, ablating, drilling, very fast laser marking, engraving, sintering, and other types of machining that require good beam quality. The Scimitar is equipped for continuous-wave or acousto-optic Q-switch operation from 1 to 50 kHz and produces 150 W



multimode or 20 W TEM₀₀. A capability to produce up to 35 W of light at a 532-nm wavelength is offered as an option. Cutting Edge's laser has solid-state ruggedness and reliability, as well as a compact and efficient design. A version is available for original equipment manufacturers.

Cutting Edge Optonics, Inc.
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St. Charles, MO 63301
Circle No. 184 on Reader Service Card

Diffuse Reflectance

Ocean Optics' new WS-1 diffuse reflectance standard is a compact, high-grade physical standard that the company says will increase the accuracy and quality of reflectance measurements.

The WS-1's reflectance material is poly(tetrafluoroethylene), a chemically inert substance that provides long-term stability, even at deep ultraviolet wavelengths, and a 95% reflective surface for applications from 250 to 2,000 nm. For applications that begin in the visible range, its reflectivity is 98%, making it ideal for colorimetry applications. The WS-1 has a 32-mm-diameter reflective surface. It comes in a black anodized housing with a screw cap to protect its reflective surface.

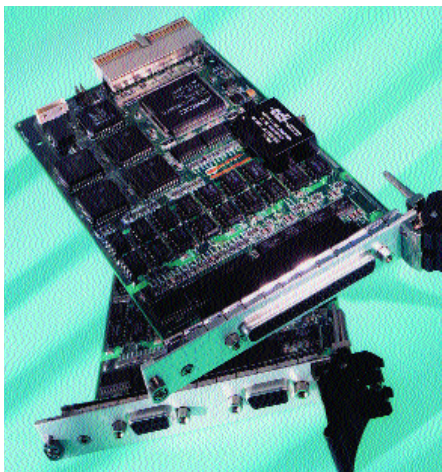
Ocean Optics, Inc.
380 Main Street
Dunedin, FL 34698
Circle No. 185 on Reader Service Card

Communication Boards

Quatech has introduced a line of eight uniquely configured CompactPCI serial communication boards, which are available with either two or four ports and in RS-232 or RS-422/RS-485 versions. Two-port cards are accessed by D-9 connectors or RJ45-10 shielded modular connectors. Four-port cards are available with RJ45-10 connectors

or with a single D-37 output connector that can be converted to four D-9 ports using an optional cable. All ports are protected by 2500 VRMs isolation. Quatech's 10-pin modular connector is designed to implement all handshaking signals, which

provides an advantage over older 6-pin jacks. The use of high-performance transmitter chips with 64-B FIFO memories



enhances performance in multitasking environments and allows applications to run more efficiently by increasing communication speed and lowering CPU overhead.

Quatech, Inc.
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Akron, Ohio 44311
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Digital Camera

TexSEM Laboratories, working with a scientific-camera supplier, has developed the DigiView 1612, a high-resolution, high-speed, charge-coupled-device camera for electron backscatter diffraction and orientation-imaging microscopy. It optimizes performance for the different requirements demanded by automated crystallographic analysis in scanning electron microscopes. The DigiView 1612 operates in a slow-scan mode for optimal image resolution for phase-identification applications and in a fast-scan mode for optimal speed for orientation mapping. Maximum image resolution is 1,300 × 1,030 pixels with a 12-bit dynamic range and a maximum image read-

out speed of 64 frames/s for images at 162 × 128 pixels.

TexSEM Laboratories
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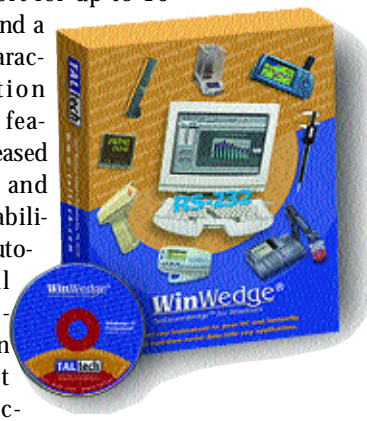
New Software

Data-Acquisition Program

TALtech has released a 32-bit version of its WinWedge serial data-acquisition program designed for easy interface with RS-232 devices, including bar-code scanners, scales, calipers, micrometers, laboratory instruments, and other serial output devices. WinWedge 32 v3.0 is the first major upgrade to WinWedge in five years. It contains new capabilities that include definable "hot keys" that enable users to control many serial input-output functions with a simple key press, support for up to 16

serial ports, and a pre-input character-translation table. Other features are increased data-parsing and filtering capabilities, timed automatic serial output function, and an expanded set of dynamic-data-exchange commands. A new virtual-instrument mode allows users to test the functionality of WinWedge without requiring the attachment of a serial instrument.

TALtech
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