

Aluminum Mirrors

Edmond Industrial Optics has introduced a new line of aluminum substrate mirrors for use in far-infrared laser applications, especially those using wavelengths at or greater than $2 \mu\text{m}$. The mirrors come in a range of diameters from 25.4 to 76.2 mm. They are composed of an aluminum 6061-T6 substrate coated with a protective aluminum or gold reflectance coating. The aluminum coating has a reflectance greater than 96% at 1,750 nm and longer. The gold coating has a reflectance of greater than 98% at and higher than 2,000 nm. All the mirrors have a diamond-turned front face with a roughness of less than 175 \AA .

Edmond Industrial Optics
101 East Gloucester Pike
Barrington, NJ 08007-1380
Circle No. 180 on
Reader Service Card

Image Digitizer

Datel's new functionally complete image digitizer directly connects to the highest-performing charge-coupled devices. The ADCDS-1405 includes a user-configurable input amplifier, a correlated double-sam-

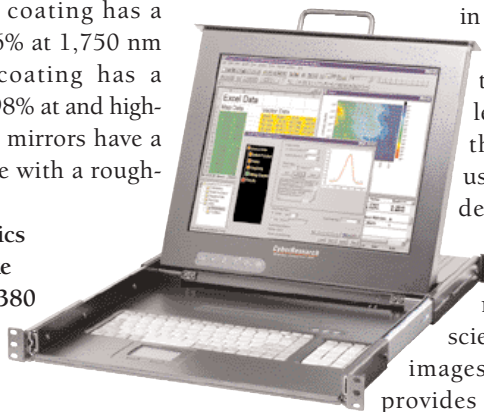


pling function, and a high-speed (5-MHz), high-resolution (14-bit) analog-digital converter in its single, 40-pin triple-dual-inline package. The image digitizer combines a variety of mixed-signal integrated circuits and passives in a single assembly. It has a sampling rate of 5 megapixels/s, a signal-to-noise ratio of 73 db/s, and a dynamic range of 16,384 to 1. Users can vary the bandwidth of the ADCDS-1405 input stage to trade off noise against sampling rate.

Datel, Inc.
11 Cabot Boulevard
Mansfield, MA 02048-1151
Circle No. 181 on Reader Service Card

Foldaway Monitor

CyberResearch's new space-saving fold-away GFA 1710 17-in. rack-mounted monitor and keyboard provide ease of operation in industrial and laboratory settings and excellent resolution that enables users to see fine details in complex, high-density engineering and scientific graphic images. Its monitor provides 250 cd/m² of

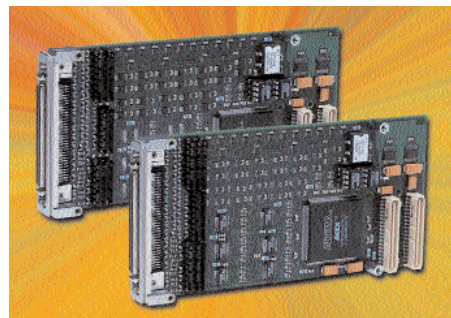


brightness, resolution of up to 1,280 × 1,024 pixels, and sealed push-button controls that activate an on-screen display menu that controls every aspect of the display. The full-function keyboard includes a two-button touch-pad pointing device, and it is sized for natural typing to prevent errors.

CyberResearch, Inc.
25 Business Park Drive
Branford, CT 06405
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Input/Output Modules

Acromag has introduced two new multi-function input-output (I/O) modules with digital I/O and counter-timer functions on



a single PCI mezzanine card module. The PMC424 provides 40 digital I/O channels for transistor-transistor logic (TTL) and differential signals and four 16-bit counter-timers. The PMC464 has 64 channels for TTL digital I/O and four 16-bit counter-timers. The I/O channels are bi-directional and meet almost any I/O configuration. The counter-timers allow counting events, generation of waveform control signals, measurement of waveforms, and other process-monitoring operations. For more flexibility, users can combine two 16-bit counters to form a 32-bit counter.

Acromag, Inc.
30765 South Wixom Road
P.O. Box 437
Wixom, MI 48393-7037
Circle No. 183 on Reader Service Card

Data Logger

ACR Systems' newly introduced ACR-205 data logger—designed for measuring indoor air quality—provides channels to record temperature, relative humidity, and carbon dioxide, as well as two additional channels for use with any of 10 interchangeable sensors to detect toxic or dangerous gases. These gases include carbon monoxide, chlorine, hydrogen chloride, nitric oxide, nitrogen dioxide, and sulfur dioxide. The ACR-205



has a resolution accuracy of 1 part in 4,096, an important feature because many of the gases it can monitor are hazardous in minute traces. The data logger provides real-time dis-

play of all channels, customizable alarm points, and a choice of power source—either an ac adapter or an 8-h rechargeable lead acid battery.

ACR Systems, Inc.

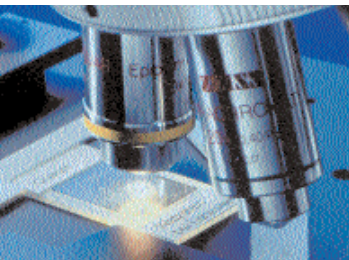
Unit 210, 12960 84th Avenue

Surrey, BC V3W 1K7 Canada

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Microscopes

Carl Zeiss has introduced several upright and inverted microscopes for use in materials microscopy to provide a better understanding of structure. Applications include materials science, analysis, and inspection. Among the Zeiss innovations is DeepView



technology, which allows users to dramatically increase the microscope's depth of focus, almost in real time. Another

new feature, circular differential interference contrast, uses circularly polarized light to provide greater detail of materials samples. Other new techniques enable more efficient and precise materials analysis by allowing, for example, the optical visualization of nanometer-scale height differences.

Carl Zeiss, Inc.

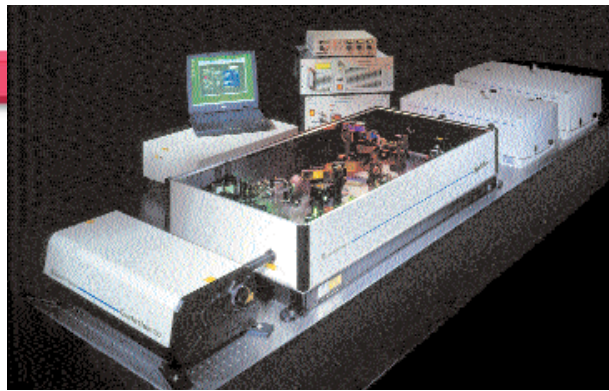
One Zeiss Drive

Thornwood, NY 10594

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Ultrafast Amplifier

Spectra-Physics calls its New Spitfire HPR the first solid-state, regenerative amplifier to simultaneously deliver high-power, ultrafast pulses; high mode quality; and excellent energy and beam-pointing stability. The single-stage amplifier provides output power up to 2.25 W, pulse duration from less than 50 fs to more than 80 ps, and repetition rates of up to 5 kHz. The Spitfire HPR comes with a tunable output wavelength from 750 to 840 nm, but other



wavelengths are available. The unit's primary application is pump-probe experiments in quantum physics and photochemistry research.

Spectra-Physics, Inc.

1335 Terra Bella Avenue

Mountain View, CA 94043

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DAPserver Boards

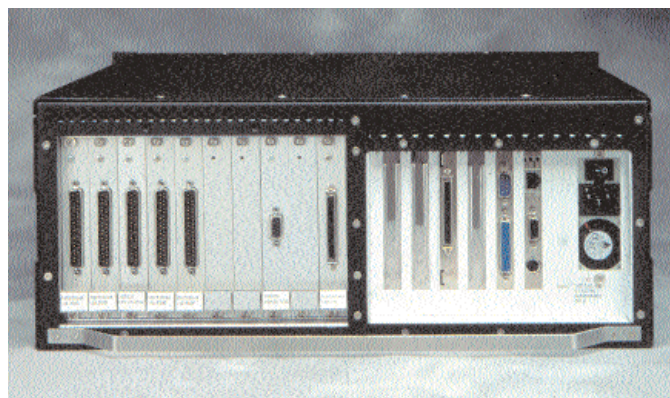
Microstar has introduced two data-acquisition processor (DAP) boards, the first in its new DAPserver line of test, measurement, and control products. DAPserver 200 and DAPserver 200R contain the same components, but the 200R has a specially engineered housing for use in rugged environments. Both models combine a five-slot PCI backplane and a 10-slot Euro-card cage in an industrial chassis, and come preloaded with Windows or Linux software and DAPcell Network software. After receiving either model, users can load their own additional software and begin operations immediately. Both models also include a hard drive—shock-rated to 800g—a floppy disk drive, and front-panel handles suitable for equipment installed in standard 19-in. racks.

Microstar Laboratories, Inc.

2265 116th Avenue N.E.

Bellevue, WA 98004

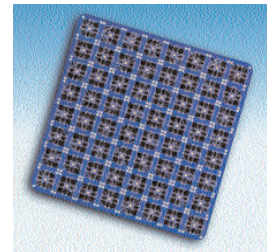
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MEMS Products

Olympus has expanded its custom microelectromechanical systems (MEMS) foundry services to include off-the-shelf MEMS chips. Olympus designs, performs rapid

prototyping, manufactures, and packages MEMS devices for optical-networking, biotechnology, medical, and industrial applications. It also provides MEMS chips for variable optical attenuators, optical MEMS switch chips for use with a small number of ports, and optical switches for optical cross-connects with a large number of ports. Olympus focuses its MEMS technology on bulk micromachine processes, and it can package MEMS for flip-chip applications and other low-temperature processes.



Olympus Partnership

Development Group

180 Baytech Drive

San Jose, CA 95134-2302

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Slot Crate

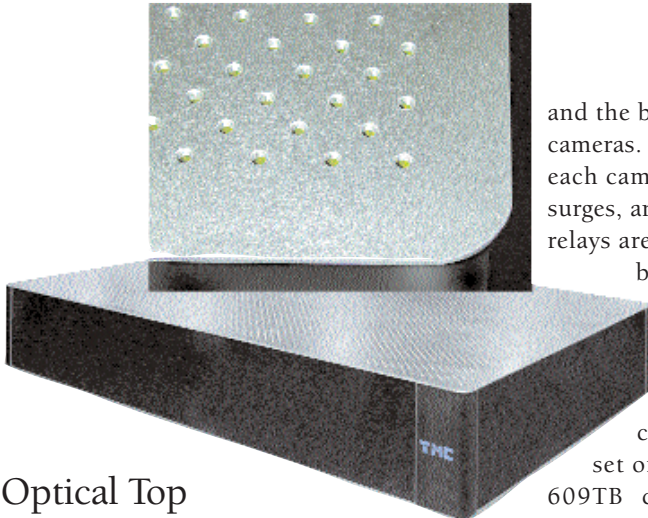
Acqiris USA's new 21-slot instrument crate enables the configuration of high-speed digitizer systems with up to 80 channels in a standard 19-in.-wide, 9-unit-high rack. The Model CC121 is particularly useful for data-acquisition systems that require a high number of channels in a small space, and in uses that must optimize system size and cost per channel. Equipped with a quad-channel digitizer module, the unit—at 1-GHz bandwidth—enables the operation of 80 channels at a 1 gigasample per second (gs/s) sampling rate; 40 channels at 2 gs/s; and 20 channels at 4 gs/s. Applications cover many fields.

Acqiris USA

234 Cromwell Hill Road

Monroe, NY 10950

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Optical Top

Technical Manufacturing Corp.'s (TMC's) latest innovation to the optical-table industry, the new CleanTop II DoubleDensity optical top, provides twice the number of tapped holes as conventional grids. Because TMC uses its existing honeycomb core design, there is no change in performance specifications. Made with the company's proprietary sealed-hole technology, the new optical top provides twice the number of honeycomb cells of its competitors and the highest core density in the industry (13.3 lb/ft³). The DoubleDensity unit is available with any version of the company's CleanTop II optical table.

Technical Manufacturing Corp.
15 Centennial Drive
Peabody, MA 01960
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Camera Connection Box

Sensoray's new turnkey Model 609TB camera connection box allows linking up



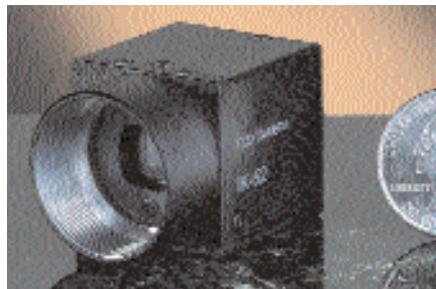
to 32 cameras, video monitors, and digital input-output signals to the company's frame grabbers (video-capture cards) using a single unit. The 609TB supplies 12 V, 200 mA power for up to 32 units, and flat cables connect the frame-grabber boards

and the box's connections to the cameras. Transorb diodes protect each camera's input from power surges, and 32 electromechanical relays are available for switching bipolar circuits of up to 2 A. Eight real-time video outputs are available for display on video monitors, and a power indicator lamp sits next to each set of supply terminals. The 609TB comes in a standard 19-in. enclosure with two removable mounting brackets.

Sensoray Co.
7337 SW Tech Center Drive
Tigard, OR 97223
Circle No. 191 on Reader Service Card

CCD Cameras

Toshiba's two new monochrome, high-resolution charge-coupled device (CCD)



cameras have applications in a broad range of machine-vision uses and are well suited for use in restricted spaces. The IK-53N uses a 1/3-in. CCD format, and the IK-52N has a 1/2-in. CCD format. Both new models measure 29 mm², weigh 45 g, and have a resolution of 768 × 494 pixels. Their one-piece design eliminates the need for a communications control unit, and they are built to withstand the

vibrations often encountered in machine-vision applications. The minimum illumination requirement for the IK-52N is 0.4 lux; the IK-53N needs 0.5 lux. Both models are compatible with standard video-capture cards.

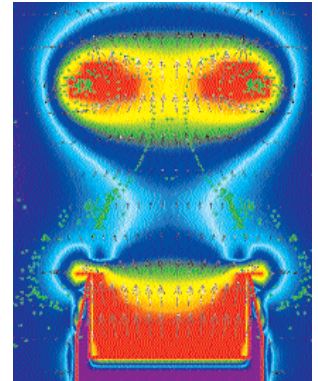
Toshiba Imaging Systems Group
9740 Irvine Boulevard
Irvine, CA 92618
Circle No. 192 on Reader Service Card

New Software

Data Visualization

Dynaflow has released DF_Contour, a new software package that allows users to generate publication-ready

graphs and contours from numerical and experimental data, and recognizes a simple user-generated ASCII file format for data input. It produces color graphics of vector and scalar fields, shapes, curves, and markers, and it can generate a screen animation of a succession of color maps. The software allows viewing of up to 16 different data sets or graphs simultaneously, displays data on a page or screen in rows and columns, and provides on-the-fly scale modification and selection of color palettes. DF_Contour is intuitive and follows familiar Windows interfaces and commands.



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Dynaflow, Inc.
10621-J Iron Bridge Road
Jessup, MD 20794
Circle No. 193 on Reader Service Card

The New Products section is based on information supplied by the manufacturers. The Industrial Physicist can assume no responsibility for its accuracy. To facilitate inquiries, a Reader Service Card is attached between pages 30 and 31. Only a few new product press releases can be selected for each issue. High-quality color art is taken into account in the selection process, as well as newsworthiness and relevance to physicists in industry. Mail releases to New Products, The Industrial Physicist, One Physics Ellipse, College Park, MD 20740, or e-mail cccumming@aip.org.