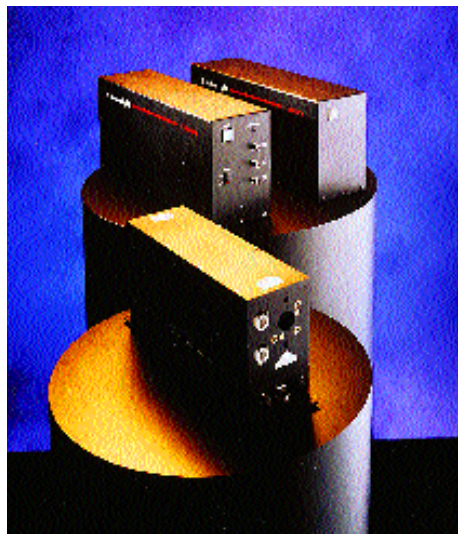


## Infrared Cameras

Inframetrics' new ThermoCAM X95 series consists of three uncooled, infrared, focal-plane-array thermographic cameras. Each model includes what the company says is



the first microbolometer detector designed specifically for precision temperature measurement in an uncooled infrared imaging system. The ThermoCAM X95 cameras provide longwave (8–12  $\mu\text{m}$ ) response, which is useful for predictive and preventive maintenance and for outdoor inspections in sunlight. Features include backlit, direct-access operation keys; automatic calculation of temperature rise; and a choice of display options, including a color LCD viewfinder or a 3-in. color LCD screen. Documentation options include a bar-code reader and a hand-held digital voice recorder.

**Inframetrics, Inc.**  
16 Esquire Road  
North Billerica, MA 01862-2598  
Circle No. 180 on Reader Service Card

## Digital-Imaging Chip

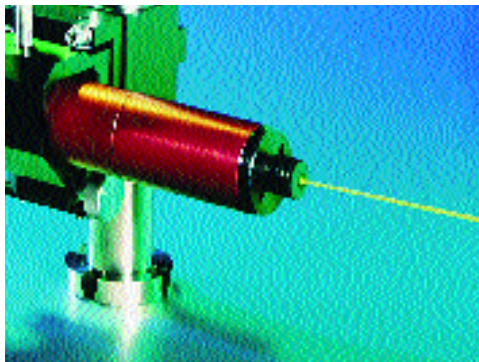
Amain Electronics' new high-resolution digital-imaging camera chip contains 307,200 12-bit analog-to-digital converters, the largest array ever manufactured on a single microchip. Amain used a new technology it developed, called multiplexed oversample analog-to-digital conversion (MOSAD), to create the new chip. The device requires less

than 40 mW of power. Amain developed MOSAD, which uses a new approach to photon-to-digital conversion at each pixel of a focal-plane array, for digital video imaging applications. The company predicts that the technology will reduce converter costs to that of DRAMs and bring prices of converter chips down to 0.001 cent per bit per pixel. This new digital data format should reduce display costs.

**Amain Electronics Co., Inc.**  
1875 Angus Avenue, Unit C  
Simi Valley, CA 93063  
Circle No. 181 on Reader Service Card

## Green Stiletto Laser

Cutting Edge Optronics has introduced a new version of its Stiletto laser. The unit produces more than 6 W at 532 nm at 10 kHz via external frequency doubling with excellent beam quality ( $M^2$  less than 3). The unit's wavelength, short pulses, and beam quality make it particularly useful for small-character marking and many scientific applications. The new Stiletto provides high peak-power pulses with optical pulsewidths of 25 ns at 1 kHz and 50 ns at 10 kHz. The green



Stiletto is the size of a standard helium-neon infrared laser and can be delivered with either a 2-mm or 3-mm Nd:YAG rod. Stiletto laser systems operate from 1 kHz to 50 kHz, but conversion efficiency to the green is highest at 8 to 10 kHz.

**Cutting Edge Optronics, Inc.**  
20 Point West Boulevard  
St. Charles, MO 63301  
Circle No. 182 on Reader Service Card



## Optical Lenses

Meller Optics announces the availability of custom-made lenses and windows for a wide variety of industrial, medical, and environmental uses, including gas analyzers, laboratory equipment, lasers, temperature sensors, and viewport assemblies. The company will fabricate lenses, windows, domes, and square or rectangular substrates from sapphire, ruby, YAG, fluorides, germanium, silicon, fused silica, quartz, zinc selenide, zinc sulfide, laser glasses, rutile, spinel, and BK-7. Sizes range from 0.25 to 4 in. outside diameter, with thicknesses from 0.02 to 0.12 in.

**Meller Optics, Inc.**  
120 Corliss Street, P.O. 6001  
Providence, RI 02940  
Circle No. 183 on Reader Service Card

## Plug-In Spectrometer

Ocean Optics' new miniature fiber-optic spectrometer, the PC2000, offers more sensitivity and greater speed than the company's original version, the PC1000. The board-mounted PC2000 is installed into an ISA-bus slot in a personal computer and requires no bench space. It combines a high-performance ultraviolet/visible/shortwave/near-infrared spectrometer with a 1-MHz, 12-bit analog-to-digital (A/D) system. The PC2000 features a compact optical bench coupled to a high-sensitivity, 2,048-element CCD linear-array detector. It is useful for low-light applications such as fluorescence and plasma monitoring. The A/D system provides an eight-channel multiplexer for

coupling up to seven slave spectrometers to the master card. Extra channels are useful for experiments requiring an expanded wavelength range, multiple point sampling, and reference monitoring.

Ocean Optics, Inc.  
380 Main Street  
Dunedin, FL 34698  
Circle No. 184 on Reader Service Card

## Excimer Laser

Polytec PI now offers the ExciStar S excimer laser. Made by Tui Laser AG (Grafelfing/Munich, Germany) and distributed exclusively in the United States by Polytec PI, the ExciStar S is a compact multi-gas, high-repetition-rate, air-cooled laser. It offers low pulse-to-pulse fluctuations and excellent beam homogeneity; solid-state switching; and metal/ceramic technology for longer life and better beam-



pointing stability.

With up to 18 mJ at 248 nm at 500 Hz, the ExciStar S opens up new applications in materials processing, marking, science, and medicine.

Polytec PI, Inc.  
23 Midstate Drive, Suite 212  
Auburn, MA 01501  
Circle No. 185 on Reader Service Card

## Laser Safety Eyewear

Trinity Technologies announces its new line of safety eyewear, called HVP High Visibility Laser Eye Protection. Whereas standard laser eye protection blocks substantial amounts of visible light, the HVP line incorporates an advanced filter technology that the company says blocks dangerous laser wavelengths while allowing 90 percent or greater transmission of visible light. This



results in improved visibility, color recognition, and eye safety. Trinity offers custom-designed versions of HVP for wavelengths not covered by its off-the-shelf models.

Trinity Technologies  
4110 Central Avenue, N.E., Suite 101  
Minneapolis, MN 55421  
Circle No. 186 on Reader Service Card

## Nd:YAG Laser

Positive Light has released Cadence, its new Nd:YAG laser designed to meet such industrial and original equipment manufacturing requirements as compact packaging, stable performance, and ease of use. It comes in three compact units: laser head, power supply, and cooling unit. In its simplest configuration, Cadence produces more than 250 mJ at 1,064 nm in a near-diffraction-limited beam with a repetition rate of 1 Hz. A 10-Hz version will be available shortly. An optional harmonic-generation package extends the laser's wavelength capability to 532 nm, 355 nm, and 266 nm. An interface allows for internal- or external-control laser firing without any voltage adjustment. Because it requires only 110 V ac, Cadence can be simply plugged in and the output aligned using the optional visible alignment laser.

Positive Light  
103 Cooper Court  
Los Gatos, CA 95030  
Circle No. 187 on Reader Service Card

## New Software

### Diffraction Optics

Optis's new Solstis/Diffractive Optics software provides an accurate tool for calculating diffraction efficiencies for diffractive optical elements (DOEs), including binary optics. The software simulates DOEs, taking into account real lens thickness, real phase shift, and the step effect in binary optics; and tolerancing the position of masks used to

expose the DOE. Optis says its newest release is the only commercially available software that calculates and takes into account diffractive efficiencies in different orders, performs photometry calculations, and calculates laser propagation. Applications include beam shaping, infrared imaging, multirange imaging optics, and optical telecommunications.

Optis  
B.P. 275  
83078 Toulon, France  
Circle No. 188 on Reader Service Card

## New Literature

### Control

Cole-Parmer's free "Process Automation and Fluid Handling" brochure provides a sampling of products for industrial fluid monitoring and control, including con-



trollers, monitors, and sensors for in-line flow, level, pressure, pH, conductivity, and temperature applications. The 16-page brochure also shows a variety of supplemental products used to create complete control systems, including general-purpose, pharmaceutical-grade, and 3A sanitary valves; on/off relays; in-line fittings; and recorders. International customers can call (847) 549-7600.

Cole-Parmer Instrument Co.  
625 East Bunker Court  
Vernon Hills, IL 60061  
Circle No. 189 on Reader Service Card

This section is based on information supplied by the manufacturers, and in some cases by independent sources. *The Industrial Physicist* assumes no responsibility for its accuracy. To facilitate inquiries, a Reader Service Card is attached between pages 42 and 43.