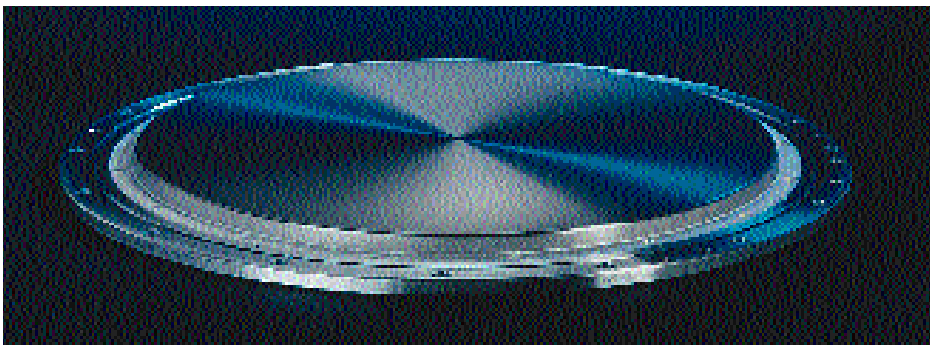
Titanium sputtering target



Tosoh SMD's Prelude diffusion-bonded titanium sputtering target works with the Applied Materials Durasource TN and TTN Cathode. This target includes an inexpensive, lightweight, and high-strength aluminum backing plate, which provides higher thermal conductivity. The costly high-purity titanium material is restricted to the area to be sputtered. Tosoh says that the Prelude runs cooler during operation, with less distortion and deflection, and has a target life of 1,800 kW hours. A 50% reduction in the grain size of the titanium target ensures superior thin-film uniformity and consistent performance.

Tosoh SMD, Inc.
3600 Gantz Rd.
Grove City, OH 43123
Circle No. 180 on Reader Service Card

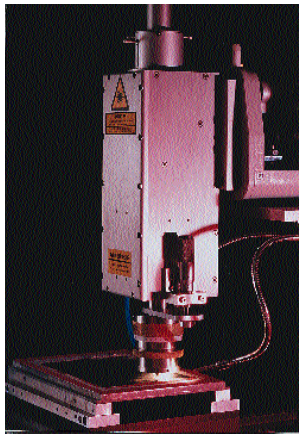
Car navigation system

The Automatic Vehicle Location (AVL) system from Siemens Corporate Research uses a vehicle-mounted camera to guide a car or bus. A computer samples images from the camera several times per second, then compares them to a database of previously videotaped streets and highways. Once a match is found, a computer locates the image on an electronic street map, and that location can be turned into verbal navigation instructions. Siemens says the AVL has been tested on suburban streets and in New York City with excellent results. Beyond navigation, Siemens says the AVL can be used for accident documentation, blind-spot analysis, lane-change warnings, and more.

Siemens Corporate Research, Inc.
755 College Rd. East
Princeton, NJ 08540
Circle No. 181 on Reader Service Card

Micromachining laser

Spectron Laser Systems announces the SL600 series of high-frequency pulsed lasers for precise micromachining and drilling. According to Spectron, the SL600 can achieve a 20 μm kerf in 0.05 mm stainless steel with cutting speeds of 400 mm/min. The SL600 uses a high pulse frequency (50–1,000 Hz) that ensures exceptional edge quality and straightness. The SL600 can be controlled manually or through an RS232 serial interface. The SL600 is designed for cutting and drilling sheets of metal, currently to a maximum thickness of 1–1.5 mm, depending on the specific metal. In addition, it can be used to cut, scribe, and drill ceramics, silicon, and graphite.



Spectron Laser Systems
8 Consul Rd.
Rugby
Warwickshire CV21 1PB
Circle No. 182 on Reader Service Card

Avalanche photodiodes

Hamamatsu Corporation says its S6045 series of avalanche photodiodes makes an excellent choice for distance measurements, laser radar, and communications applications. This series includes six models, each well suited for applications that require low-light detection in the near-infrared region. These photodiodes provide peak sensitivity at 800 nm and operate over a temperature range from –40 to 85°C. Hamamatsu says that all six devices in the S6045 series achieve quantum efficiency of 75% with an excess noise figure of only 0.3 at 800 nm. The active areas range from 0.2 to 5 mm in diameter, and cutoff frequencies range from 35 to1,000 MHz.

Hamamatsu Corp.
360 Foothill Rd.
P. O. Box 6910
Bridgewater, NJ 08807
Circle No. 183 on Reader Service Card

Sapphire lens

Meller Optics, Inc., introduces a full line of sapphire lenses for near-infrared laser systems, including erbium and holmium medical lasers, ultraviolet excimer lasers, and other focusing and beam-steering applications. Meller says that these lenses are ideally suited for use in harsh environments, and that they provide high transmittance and are impervious to water, common acids, and alkalis to approximately 350°C. These lenses feature Moh 9 surface hardness and focal lengths of 10–100 mm at 633 nm. The lens-

es are available in plano convex and plano concave configurations in sizes from 0.5 to 2 inches in diameter.

Meller Optics, Inc.
120 Corliss St.
P. O. Box 6001
Providence, RI 02940
Circle No. 184 on Reader Service Card

Adjustable vacuum valve

The HPS Division of MKS Instruments recently introduced a micrometer head for the VacuComp Two-Stage Valve. This valve is an isolation valve that is used to slow the evacuation of a vacuum system, thereby leading to reduced contamination from particle turbulence and to reduced damage from a sudden change in pressure. The micrometer head controls the flow through the bypass valve, which creates a small opening for the initial pump-down.

MKS Instruments
HPS Division
5330 Sterling Dr.
Boulder, CO 80301
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Defect review tool

The XL50 Defect Review Tool from Philips Electron Optics incorporates a scanning electron microscope for yield-improving in semiconductor fabrication. Philips says the XL50 combines an easy user interface, proven analytical performance, and exceptional stage accuracy. It allows classification of defects in semiconductors with an image resolution of 3–5 nm. The XL50 includes a 200 x 200 mm, 5-axis movement stage, which has an average accuracy to within 1.5 μm across an entire 8-inch wafer. The system includes menu-driven operation in the MS-Windows environment. Philips says that the XL50 can be used to examine a wide variety of wafers and wafer parts.

Philips Electron Optics
Bldg. AAE
5600 MD
Eindhoven, The Netherlands
Circle No. 186 on Reader Service Card

Temperature logger

ACR Systems, Inc., announces its ACR JR Temperature Info Logger. This device can typically store more than 22 days of temperature information. Logged and real-time data can be graphed automatically on any IBM or 100% compatible PC by directly plugging the logger into any COM port and using the supplied software. The ACR JR can be used to verify the performance of climate-control systems in buildings, to monitor the temperature of perishable products, and also for process verification.

ACR Systems, Inc.
Unit 210-12960 84th Ave.
Surry, B.C.
Canada V3W 1K7
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New Literature

Microscopy guide

Park Scientific Instruments recently published "A Practical Guide to Scanning Probe Microscopy." This 75-page booklet explains the technology behind scanning probe microscopy in an easy-to-understand format. This publication covers various forms of microscopy: atomic force, lateral force, magnetic force, and scanning tunneling. It also describes many techniques, including electrostatic force, force modulation, nanolithography, near-field scanning, phase detection, scanning capacitance, and thermal scanning. To receive a complimentary copy, contact Park by telephone (1–800–776–1602), fax (1–408–747–1602), or e-mail (info@park.com).

Park Scientific Instruments
1171 Borregas Ave.
Sunnyvale, CA 94089
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Instrument catalog

The "Keithley Direct Catalog" describes nearly 40 of the most popular products from Keithley Instruments, Inc. Each product is available for direct sale to customers. This catalog includes several new instruments: the Model 2400 digital source meter, the Model 2010 low noise 7 1/2 Digit multimeter, and the Model 7001 high-density switching system. The catalog also includes information about Keithley's SpecDirect program, which allows customers to request full instrument specifications and to receive them almost immediately by fax. To receive a complimentary copy of this catalog, contact Keithley by telephone (1–800–552–1115), fax (1–216–248–6168), or e-mail (product_info@keithley.com).

Keithley Instruments, Inc.
28775 Aurora Rd.
Cleveland, OH 44139
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The descriptions of new products listed in this section are based on information supplied by the manufacturers, and in some cases by independent sources. *The Industrial Physicist* can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card is attached between pages 38 and 39.