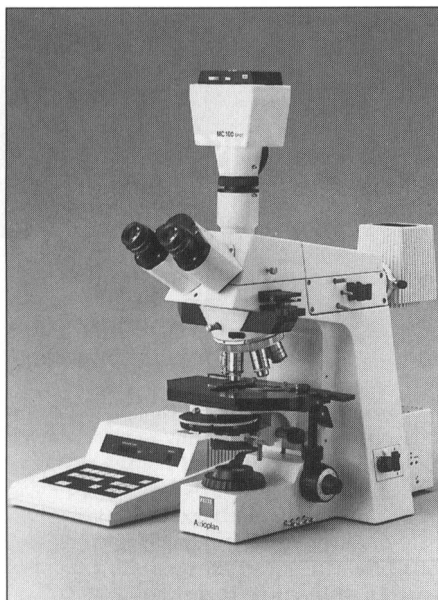


RESOURCES

*A summary of new products and services
for materials research...*



▲ **Microscope Camera:** The MC 100 SPOT from Carl Zeiss builds on its MC 100 camera to improve specimen image documentation. All camera functions are automatic, but a manual override option allows users to select exposure parameters to enhance specific specimen features. For specimens with uniform distribution of features over the recorded field, as well as those where brightness differences must be considered, users can determine exposure by centerweighted averaging or SPOT metering. The SPOT reading covers 3% in the center of the film format and provides automatic exposure for small specimen areas on either a black or white background.
Circle No. 64 on Reader Service Card.

▲ **High-Resolution Electron Energy Loss Spectrometer:** The Electron Analyzer Company's IB2000 uses a 35-mm-radius double-pass design to allow ultimate resolutions of 0.98 and 2 meV in a suitable chamber. The 40-mm-diameter sample space between the lens and electron monochromator facilitates sample handling, and electrooptical isolation reduces noise. Software working in Apple 7.1 includes utilities for automatically tuning the spectrometer and acquiring and manipulating data, so that the system can simultaneously display and tune up to six lens voltages. The IB2000 can be retrofitted to an existing surface science chamber or is available as a complete system with UHV chamber, mu-metal shielding, and accessories.
Circle No. 68 on Reader Service Card.

▲ **Air-Stable Electron Multipliers:** ETP Scientific's Active Film Multipliers® integrate a vacuum-deposited film on the multiplier's active surfaces and a discrete-dynode configuration to eliminate grain decay after exposure to air. The multipliers combine the features of discrete-dynode and continuous-dynode electron multipliers in one detector to improve operating life, dynamic range, noise characteristics, unit-to-unit consistency, and pulse height distribution.
Circle No. 61 on Reader Service Card.

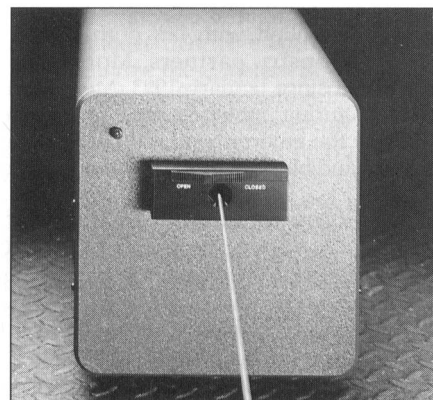
▲ **Optical Analyzer:** Optical Analyzer from n & k Technology combines the capabilities of a profilometer, an RBS system, a Raman spectrometer, and a spectroscopic ellipsometer to simultaneously determine the carbon overcoat thickness, optical constants (wavelength range 190–900 nm), percent hydrogen, and microstructure order parameter of textured or smooth magnetic disks. Surface roughness of the magnetic disk can also be determined. The system may be extended to thin-film head, semiconductor, and flat panel display industries.
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▲ **Atomic Force Microscope:** Digital Instruments' NanoScope Dimension™ 3000 can analyze samples up to eight inches in diameter in air or liquid, with manual and automated stepping for unattended scanning of multiple areas of samples. The instrument supports AFM/STM scanning techniques with many of the capabilities of large-sample-stage and multimode microscopes. Users can locate areas of interest via built-in top-view video optics with motorized zoom; a laser system tracks the scanning probe tip to eliminate artifactual image bowl. Vacuum accessories are standard for mounting wafers, disks, and other samples.
Circle No. 63 on Reader Service Card.

▲ **Cold Field Emission SEM with Dual Detectors:** Hitachi's S-4500 provides 4.5 nm resolution or better at 1 kV and can accommodate samples up to six inches in diameter. Materials such as glass, plastics, polymers, ceramics, semiconductors, electron beam resists, thin films, or beam-sensitive or nonconductive materials can be studied in their natural states, without a coating. Setup parameters are optimized automatically and at all voltages, and the computer can store multiple images for future reference.
Circle No. 69 on Reader Service Card.

▲ **Scanning Probe Microscope Software and Datasystem:** OMICRON's updated software and computer package for their scanning probe microscopes facilitates operation with graphical user interface and menus for instrument parameter preset, real-time experiment, and image processing. Featured are updated spectroscopy software and a data analysis package, with tools for displaying data and enhancing image quality by processing or filtering, or using the 2-D, 3-D, or shading display modes.
Circle No. 71 on Reader Service Card.

▲ **InSb Mid-Wavelength IR Camera:** Amber's Model 5512C mid-wavelength infrared camera incorporates indium antimonide detectors in a high-resolution 512 × 512 array format. InSb demonstrates a quantum efficiency 10 times greater than that of platinum silicide. The camera's third-generation focal plane array implements a region of interest (ROI) processing technique, which allows one or more "windows" within a data field to be programmed for direct access while pixels outside the ROI are ignored. Data rates up to 19,000 frames per second can be achieved.
Circle No. 65 on Reader Service Card.



▲ **Diode-Pumped Oscillator:** Continuum's HPO-300 oscillator is a Q-switched Nd:YAG laser that provides TEM₀₀ and optional single-longitudinal-mode output to improve beam quality and pulse-to-pulse stability. The laser generates near-diffraction-limited pulses at repetition rates ranging from 1 to 300 Hz. A TTL interface allows for remote control access, and the unit provides up to 3 mJ at 1064 nm, with harmonic options to yield high energy at 532, 355, and 266 nm. Applications include mass spectroscopy, micromachining, optical ranging, and materials processing.
Circle No. 66 on Reader Service Card.