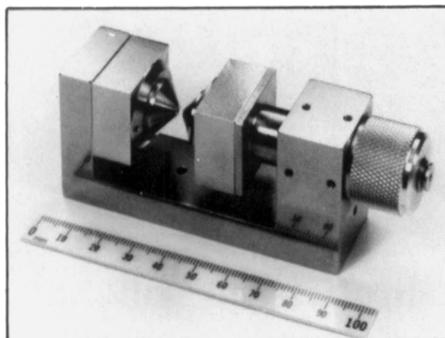


## RESEARCH RESOURCES

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

### **Mini-Magnet for Light Microscopes:**

Small permanent laboratory magnet designed for direct mounting on the stage of a microscope permits viewing specimens with a light microscope or an x-ray beam. The SPM-25 Mini-Magnet produces a uniform field of 2.5 tesla at a 1 mm gap and is continuously adjustable from 1 to 12. A 1 mm hole through the entire magnet along the axis of the pole pieces permits insertion of a capillary tube. Measuring only 2.5 x 4.5 x 11 cm, the magnet is constructed with steel and iron parts that are nickel plated for corrosion protection. Charles Supper Company, 15 Tech Circle, Natick, MA 01760; (508) 655-4610; (800) 323-9645.



**Mini-Magnet for Light Microscopes**

**Focused Ion Beam Milling System:** Focused ion beam milling system integrates sophisticated high current density, submicron ion beam technology with the familiar conventional SEM style of vacuum system and sample manipulation technology. Versatile system is designed for both failure analysis and IC development work at an affordable cost. The FIB 500D can perform critical micromachining, microcross-sectioning, and selective area metal deposition. It can be used to probe, repair, and rework integrated circuits and other microstructured devices on a real-time basis. The system delivers beam diameters less than 50 nm using a gallium liquid metal ion source at 25 KeV. The sample handler accepts up to six-inch wafers with full area coverage for micromachining and selective area metal deposition. FEI Company, 19500 N.W. Gibbs Drive, Suite 100, Beaverton, OR 97006-6907; (503) 690-1500.

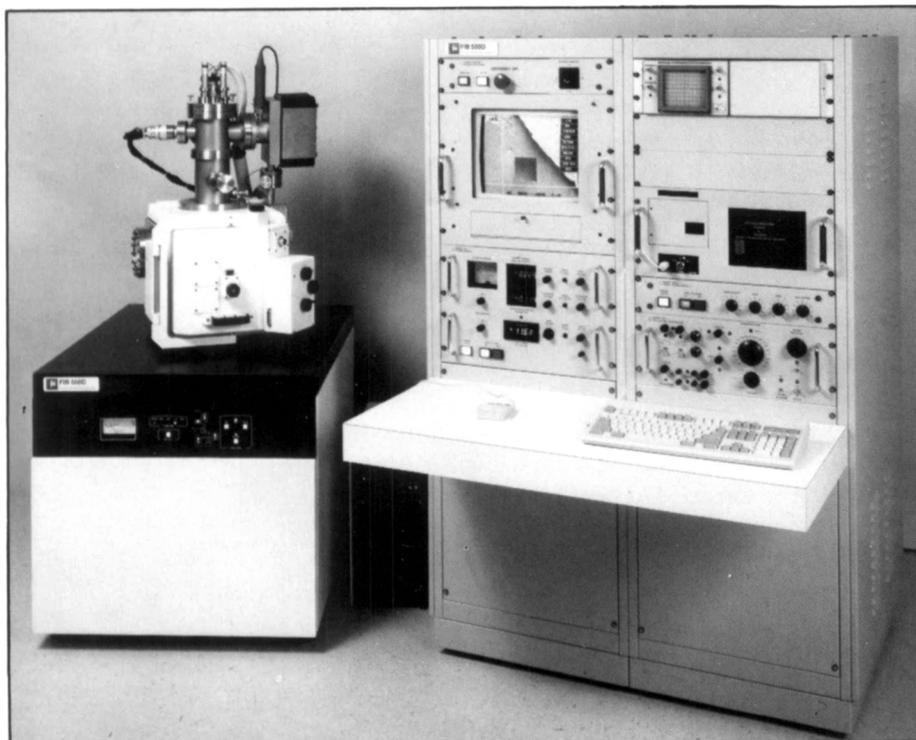
### **Properties Guide for High Performance**

**Plastics:** Free guide provides an overview and comparison of the most popular plastics and certain metals used for making critical parts for bearing and structural applications, including polyimide, polyamide-imide, polyetheretherketone, polyetherimide, polyphenylene sulfide, liquid crystal polymer, polytetrafluoroethylene and aluminum, titanium, bronze, steel, and cast iron. Published to help designers and engineers select the appropriate mate-

rial for an application, the guide lists major characteristics for each plastic or metal (e.g. tensile and compressive strength, etc.). Mack Plastics Corporation, 66 Tupelo Street, Bristol, RI 02809; (401) 253-2140. November 20, 1989

**High Production Cryotest System:** Eight-position cryotest system for high-volume testing of electro-optic detector arrays, detector readout chips, digital integrated circuits and other devices features a convenient, removable carousel that can be loaded and unloaded in a clean-room environment. Pre-loading multiple samples under controlled conditions eliminates the difficulties of handling test devices in a dewar one-at-a-time during high throughput operating periods. Cryogen consumption is reduced dramatically because only one cooldown cycle is necessary to test eight devices. The MTD-500 system incorporates a modular vacuum chamber with an integrated mounting frame, first- and second stage radiation shields, continuous flow cryostat with high efficiency heat exchangers, and device test area assembly hardware configured with eight LCC sockets. Lake Shore Cryotronics, 64 East Walnut Street, Westerville, OH 43081; (614) 891-2243.

**X-Y Positioning Table:** Developed to provide high accuracy motion in a low height package, the Anoride® Integral X-Y Positioning Table is ideally suited for precision measurement and inspection applications that require either very smooth velocity control, or submicron positioning accuracy with quick settling times. The table provides 6 inches (150 mm) of travel along each axis with an overall operating envelope of 18 x 18 x 5 inches (460 x 460 x 125 mm). Ball screw or linear motor drives as well as brushless drives are available with this table. Position and velocity feedback can be provided by a precision incremental linear optical encoder or a stabilized, double-pass laser interferometer with orthogonal plane mirrors. Resolution of the tables depends on the choice of position sensor. Typical move and settle times are 90 ms for 1000 micron moves, and 150 ms for 5000 micron moves. Anorad Corporation, 110 Oser Avenue, Hauppauge, New York 11788; (516) 231-1995. □



**Focused Ion Beam Milling System**