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MSL MSL — a precision, budget priced instru-ment. Vertical binocular

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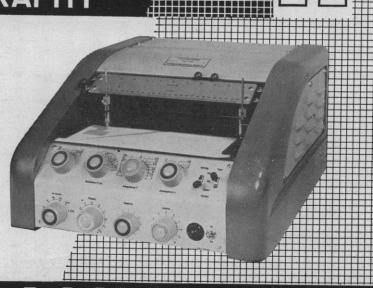
\$267 MSHL — a versatile

UNITRON INSTRUMENT DIVISION OF UNITED SCIENTIFIC CO.



A major disadvantage of polarographic methods, especially in industrial laboratories, has been the considerable time used to run a complete test (polarogram). A minimum time of from five to fifteen minutes is required with all DC polarographic recorders currently available from commercial sources, both here and abroad. These delays result from the dropping time of the mecury electrode which should be in intervals of two to five seconds in order to obtain a sufficient number of measuring points.

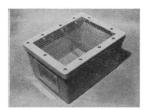
Recent experiments at the METROHM laboratories in Herisau, Switzerland produced a major breakthrough to the "time problem" - Rapid DC Polarography. With this method the mercury drops of an otherwise normal dropping capillary are mechanically induced to fall at a much faster rate. Consequently, artificial drop signals measured in tenths of seconds are obtained. Since a considerably greater number of individual drops are utilized, one can also increase the speed of the potential change. The normal running time in Rapid Polarography is 50 seconds. With a drop interval of 0.2 seconds there are 250 drops on the polarogram. To obtain the same number of measuring points with the standard method would require a running time in excess of 12 minutes for a drop interval of 3.0 seconds. SEND FOR COMPLETE DESCRIPTIVE CATALOG TH 25



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# a review of recent animal care developments from

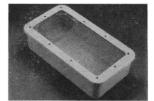




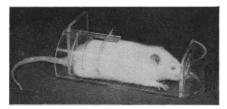
General purpose fiberglass cage #12 with Lid 12B is 11" x 8½" x 6" deep



Mouse cage #22 with Lid 22A, of fiberglass, has four lid styles, is  $11\frac{1}{2}$ " x  $7\frac{1}{2}$ " x 5"



Holding and breeding cage #32, of fiberglass, is shown with Lid 32B. Cage is 19" x 10½" x 5½"



Restraining cage #90, for immobilizing and holding rats up to 300 grams, has many applications



Newly developed all metal lids with single piece deep drawn feeders come in several sizes



Polypropylene cage #25 and clear cage #23, both 11½" x 7½" x 5", are new additions to the Econo-Cage line

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Federalsburg, Maryland



### **New Products**

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.

- PROXIMITY TRANSDUCER measures small mechanical displacements at frequencies from 0 to 20,000 cy/sec. Calibration can be performed under dynamic conditions; a micrometer head on the transducer is calibrated directly in 0.0001-in. units. Output is designed for cathode-ray-tube display. (Photocon Research Products, Dept. Sci480, 421 N. Altadena Dr., Pasadena, Calif.)
- AUDIOMETER provides signals at frequencies 500, 1000, 2000, and 4000 cy/sec at three intensity levels, 15, 30, and 40 db. Frequency accuracy is said to be ±10 percent and amplitude accuracy ±2 db. Selection of each signal is provided by 12 push buttons. Facilities for as many as six telephones or a double headphone with changeover switch and bone conduction can be provided. (Technisch Handelsbureau, Dept. Sci482, c/o Netherlands Trade Commission, 551 Fifth Ave., New York 17, N.Y.)
- COORDINATE INSPECTION MACHINE permits inspection of machined work to an accuracy of  $\pm 0.001$  in. with travel 24 by 15 in. Vertical travel of 10 in. is not used for measurement. Motion in the x and y directions is measured photoelectrically by the Moire fringe pattern generated by crossed gratings. Measurement information is displayed continuously by two 5-digit counters. (Ferranti Electric Inc., Dept. Sci492, 95 Madison Ave., Hempstead, N.Y.)
- DATA PRINTER is a miniaturized device weighing a few ounces. As many as 20 digits are printed simultaneously on electrosensitive paper when appropriate elements of an array of stainless-steel printing segments are energized. Operating power is said to be low enough to eliminate the need for isolation and driver stages to couple the data-producing device to the printer. (New York University, Dept. Sci493, University Heights Center, New York 53, N.Y.)
- CONDUCTIVITY METER is a portable battery-operated meter designed to read parts per million of solute in saline or other solutions. Meter ranges are from 0 to 100,000 parts per million with increments down to 0.5. A temperature compensation adjustment is provided. Weight is 1.5 lb. (Carma Mfg. Co., Dept. Sci505, 1879 Mullin Ave., Torrance, Calif.)

- SIGNAL GENERATOR furnishes crystalcontrolled calibration frequencies at intervals of 100 kcy/sec from 300 to 1000 Mcy/sec. Intermediate frequencies are continuously tunable with error of ±300 cy/sec. Auxiliary equipment permits the crystal-synchronization interval to be reduced to 100 cy/sec and the continuous tuning error to 0.1 cy/sec. (Electronics Applications, Inc., Dept. Sci497, 174 Richmond Hill Ave., Stamford, Conn.)
- ELECTROMETER features miniaturized design that permits two electrometers to be mounted in 3½ in. of a standard relay rack. Highest sensitivity range is 10-12 amp, full scale. Specifications include: accuracy,  $\pm 2$  percent of full scale from  $10^{-3}$  to  $15^{-7}$  and  $\pm 3$  percent in other ranges; drift, less than 2 percent per week, and noise, less than 2 percent except on the most sensitive range; input drop, less than 6 mv; fullscale output for recorder, 10 mv. (Gyra Electronics Corp., Dept. Sci495, P.O. Box 184, LaGrange, Ill.)
- INTERFERENCE FILTER is said to remove ultraviolet radiation completely and reflect infrared radiation. The filter transmits about 90 percent in the visible from 425 m $\mu$  to 700 m $\mu$  and has a sharp cutoff beginning at 700 m $\mu$ . The half-transmission points are at 412  $m_{\mu}$ on the short side and 725 mu on the long side. (Fish-Schurman Corp., Dept. Sci504, 70 Portman Rd, New Rochelle, N.Y.)
- PRESSURE GAGE is designed for use where small differential pressures at relatively high line pressures are to be measured. Sensitivity is 0.1 percent and accuracy is  $\pm$  0.5 percent of full-scale range. Two models available have fullscale ranges, respectively, of 2 lb/in.2 differential at line pressure up to 50 lb/in.2, and 5, 10, or 20 lb/in.2 differential at line pressures up to 300 lb/in.2 Dials can be supplied calibrated in any desired units. (Wallace and Tiernan, Inc., Dept. Sci509, 25 Main St., Belleville, N.J.)
- TIME ANALYZER analyzes the distribution of nuclear events with respect to time. Information is stored digitally in 32 consecutive gated channels of variable width from 1  $\mu$ sec to 0.08 sec. Channel scalers have a double-pulse resolution of 1  $\mu$ sec and count up to 2500/pulses per second. Each channel has two electronic counting units and a 4-digit mechanical register to provide 10° number storage. The total number of pulses entering the analyzer is also indicated. (Eldorado Electronics, Dept. Sci500, 2821 Tenth St., Berkeley, Calif.) Joshua Stern

National Bureau of Standards, Washington, D.C.

# PERSONNEL PLACEMENT

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(a) Pharmacology/Physiology Ph.D.; faculty of leading medical schools; extensive publications on CNS, cardiovascular, respiration, shock, tension research; available for academic or research appointment. (b) Zoology Ph.D., human anatomy minor; 10 years of anatomy teaching at medical school, neuroanatomy research experience; prefers academic teaching and research opportunity. Medical Bureau, Inc., Science Division, Burneice Larson, President, 900 North Michigan Avenue, Chicago.

Physiology-Endocrinology, Ph.D. Background-training in endocrine, cellular, mammalian, zoological physiology; biochemistry. Academic or research. Box 98, SCIENCE.

### POSITIONS OPEN

#### POSITIONS OPEN

Faculty of Agriculture. The University of Alberta invites applications for a position in the Department of Animal Science as Assistant Professor, starting safary \$6000-\$7000 depending on experience and qualifications, excellent prospects for advancement. Candidates should have a Ph.D. or equivalent in animal physiology with a minor in biochemistry and be qualified to conduct research involving the use of isotopes. Duties, to commence 1 September 1960, include fundamental and applied research with farm and laboratory animals, teaching and limited extension work.

Applications, accompanied by a recent photograph, and giving age, nationality, and other personal information, transcripts of academic record, list of publications and experience, and names and addressed to the Head, Department of Animal Science, University of Alberta, Edmonton, Alberta. Closing date: 30 June 1960.

Botanist. Experienced in microtechnique and general botanical preparation. For work with well-known biological supply house. Preparation of slides and other demonstrations for botany and general biology. Male or female, prefer Ph.D.; M.S. and experience acceptable. Good salary, benefits, paid vacation, and sick leave. Opportunity for advancement. Reply to Box 95, SCIENCE.

(a) Microbiologist; Ph.D. or equivalent training to serve as head, cell production facility, conduct cell culture research; must be familiar single, suspended, monolayer cell culture techniques, related procedures; midwestern office prominent pharmaceutical company. (b) Pharmacologist; Ph.D. to establish evaluation program associated toxicity studies in new drug screening; report to director, pharmacologic research; to \$8500; midwestern subsidiary, prominent company; Chicago suburb. (c) Biochemist; Ph.D. to train in-plant visitors in coagulation, related problems; keep abreast of competitive products, developments; give seminars in coagulation, related areas; about \$10,000; East (d) Bacteriologist; B.S., M.S., for consulting firm doing drug evaluations, vitamin, hormone, toxicological asays; superior facilities; to \$6000; Midwest (e) Biochemist; M.S., Ph.D., to head department, 300-bed Chicago hospital; minimum \$8000. (Please write for an analysis form. Our 64th year: Founders of the counselling service to the medical profession. Serving medicine with distinction over half a century. Science Division, Woodward Medical Bureau, Ann Woodward, Director, 185 North Wabash, Chicago.

Microbiology Graduate master's degree; \$1800, free tuition. Excellent facilities. Phone inquiry collect. Orton Stark, Miami University, Oxford, Ohio. 4/22, 29

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