

New Products

Disposable mouse cages for housing and breeding laboratory mice now afford up to 30-percent savings in personnel time that is normally required for cleaning and maintenance. They are priced in quantities as low as 18 cents each. The compact cages nest together and require considerably less storage space than ordinary, stacked metal cages, and less initial investment. The S.I.U. cages, as they are referred to, are manufactured and marketed by arrangement with Southern Illinois University. They are formed of a new, tough, inert plastic with smooth, undulating bottom and sides that prevent mice from gnawing their way out. The cage system consists of disposable cage bottom, aluminum feeding hopper, perforated-metal cage top, water bottle, stainless-steel feeding tube, and either disposable cardboard supports or nickel-plated metal supports. The metal supports and aluminum food hopper can be sterilized repeatedly. The transparent cages permit continuous observation; the ventilated metal top helps maintain a uniform, ambient temperature. Each lightweight cage measures 10½ (l) by 8 (w) by 4½ (d) inches and holds six to eight adult mice.—R.L.B. (Disposable Laboratory Cages, Inc., Dept. S87, 3070 W. Grand Ave., Chicago 22, Ill.)

Automatic oscilloscope is said to provide instantly and automatically a properly sized and positioned display of the wave form under study regardless of amplitude, frequency, or d-c offset. A complete set of controls for manual operation is also provided. Vertical specifications include: bandwidth, d-c to 10 Mc/sec; rise time, 35 nanosec; sensitivity, 50 mv to 50 v/cm in ten calibrated steps and vernier; input impedance, 1 megohm, 20 pf; range read-out on numeral indicator tubes. Horizontal specifications include: sweep speed, 0.1 μ sec to 50 msec/cm in 18 calibrated steps and vernier; magnifica-

The material in this section is prepared by the following contributing writers:

Robert L. Bowman (R.L.B.), Laboratory of Technical Development, National Heart Institute, Bethesda 14, Md. (medical electronics and biomedical laboratory equipment).

Joshua Stern (J.S.), Basic Instrumentation Section, National Bureau of Standards, Washington 25, D.C. (physics, computing, electronics, and nuclear equipment).

The information reported is obtained from manufacturers and other sources considered reliable. Neither *Science* nor any of the writers assumes responsibility for the accuracy of the information.

Address inquiries to the manufacturer, mentioning *Science* and the department number.

23 MARCH 1962

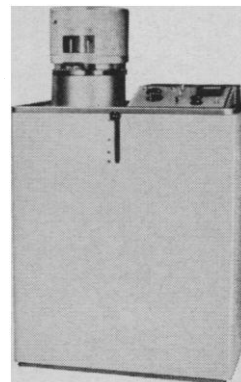
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tion of 5; trigger, automatic or manual, a-c or d-c, plus or minus, internal or external; sweep speed readout on numeral indicator tubes; automatic operation maintains approximately 2 to 6 cycles per sweep.—J.S. (California Instruments Corp., Dept. S79, 3511 Midway Dr., San Diego 10, Calif.)

General-purpose integrator (model GPI-100) utilizes a solion tetrode as the integrating element. It is battery powered and portable. The instrument accepts input signals to 1 volt, and input impedance is 10 kohm. Frequency response extends from d-c to 10 kcy/sec. The integral is read on a meter with both 100 v sec and 1000 v sec ranges. Accuracy is said to be ± 1 percent. Optional features include an input amplifier, time averaging, and digital readout.—J.S. (Texas Research and Electronic Corp., Dept. S78, Meadows Building, Dallas, Tex.)

Water-jacketed test tubes are now available for use with any two-tube or four-tube model Vortex test tube mixer. This new feature helps control temperature while a hot or cold liquid from a constant-temperature bath, water faucet,

and the like is being mixed. The orbital movement of the mixer creates a vortex in the water-jacketed tube—in the same manner as it is done when a jacket is not used. This appears to be an excellent method for evaporation, extraction, and fermentation, for the tubes can be put in or taken out while the machine is in operation. Water-jacketed test tubes are available in three sizes to accommodate 13-mm, 15- to 16-mm, and 22- to 25-mm standard test tubes.—R.L.B. (Scientific Industries, Inc., Dept. S46, 220-05 97th Ave., Queens Village, N.Y.)

Broad-band power generator for ultrasonic research provides continuous tuning from 10 key to 2 Mcy. It features a broad-band output transformer that delivers 250 watts over the full frequency range. A wide variety of output transducers can be matched to the 92-ohm output impedance by means of relatively simple matching elements. This unit is intended to provide a versatile source of power that can be used to drive any ultrasonic equipment within the range. Cleaning, drilling, welding, chemical effects, biological fragmentation, metallurgical grain effects, poly-

merization, and other phenomena can be studied or utilized at the optimal frequency for the effect. Matching elements for driving piezoelectric, electrostrictive, and magnetostrictive transducers are available.—R.L.B. (International Ultrasonics, Inc., Dept. S81, 331 Centennial Ave., Cranford, N.J.)

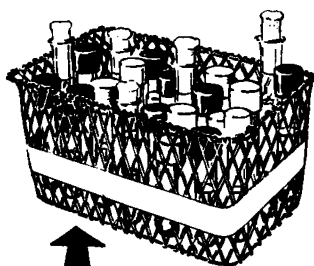
Integrating servo provides integration of d-c input voltage with respect to time as a function of shaft angle displacement. An integral-plus-proportional combination amplifier provides infinite gain causing essentially no variation of output speed with change of load, frequency, or line voltage. The command signal is isolated, and command-signal loading is less than 30 μ a.—J.S. (Kearfott Division, General Precision, Inc., Dept. S96, 1150 McBride Ave., Little Falls, N.J.)

Argyle bubble tubing is a clear plastic tubing for general laboratory use that is supplied with a spindle-shaped dilation every 36 inches so that the tube can be cut through the enlargement to provide tapered ends that can be spliced without the use of connectors. The funnel shaped ends resulting from a cut through the center of the enlargement facilitate connections to gas and air cocks, and tapered ends from cuts adjacent to the enlargement make internal connections to taper joints and other plastic or glass tubing. Additional spindle-shaped bubbles are available for connecting shorter pieces or making adapters to other sizes. This strong, water-clear, nontoxic, chemically resistant tubing is available with 3/16- and 9/32-inch inside diameters in boxes of 100 feet.—R.L.B. (Aloe Scientific, Dept. S83, 1831 Olive St., St. Louis 3, Mo.)

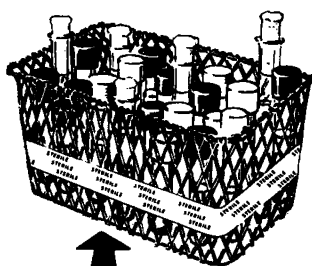
Semiconductor heat-sink manual (12 pp.) is intended to guide selection of heat sinks for specific conditions. The manual covers the three modes of heat transfer normally involved (conduction, convection, and radiation) and explains the significance of each type. A nomograph enables selection of a heat sink on the basis of known conditions of allowable temperature rise and power to be dissipated. The heat-sink arrangements have thermal resistances ranging upwards from 0.019°C per watt for forced convection assemblies to 28°C per watt for small natural convection types.—J.S. (AstroDynamics, Inc., Dept. S97, Second Ave., Northwest Industrial Park, Burlington, Mass.)

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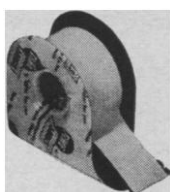
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Animal Nutritionist, Biochemist, Ph.D. wants academic appointment offering superior research facilities and requiring research, administrative ability. Has 8 years of academic fundamental research (laboratory and farm animals); many publications. Box 70, **SCIENCE**. X

Cell Biologist. Microbial and plant physiology, genetics, radiation effects; Ph.D., broad experience, research, administration, teaching; prefers academic location. Box 67, **SCIENCE**. X

Parasitologist-Entomologist. Ph.D., age 36; 2 years postdoctoral research fellow; 2½ years teaching and research, medical school. Immunological interests. Publications. Seeks academic appointment with research opportunity. Box 69, **SCIENCE**. 3/30

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Ph.D. Botany. Plant physiology. Genetics. Seeks academic position with perhaps some chance for research. Experienced teacher. Publications. Box 68, **SCIENCE**. X

(a) **Ph.D. Pharmacologist;** interested in academic appointment; cardiovascular research. (b) **Ph.D. Animal Nutrition** (biochemistry, physiology), would like academic or industrial opportunity including nutrition research. (Please write for information regarding these and other scientists, senior and junior, in all fields; nationwide and very active service.) Science Division, **THE MEDICAL BUREAU, INC., Burnice Larson, Chairman**, 900 N. Michigan Avenue, Chicago 11, Illinois. X

Zoologist, Ph.D., experienced, publications, desires teaching-research position, preferably Midwest or Northeast, Box 71, **SCIENCE**. 4/6

POSITIONS OPEN

Research Programs in Animal Nutrition. Special problems in minerals, vitamins, ruminant biochemistry, enzyme function, as well as other areas are open to students seeking M.S. or Ph.D. degrees. Stipends are liberal ranging from \$2400 to \$3000 with out-of-state fees waived. Graduate Record Examination required. Interested persons should write to R. L. Shirley, Nutrition Laboratory, University of Florida, Gainesville, Florida. 3/30; 4/6, 13

(a) **Director, Quality Control:** req's M.S., Ph.D. pharmacy, pharmacol, chem, w/good exp or trng bact, virol; plan, supv analytical, other tests for qual standards, biol. pharm prod; lge city, MW. (b) **Biochemist;** M.S. to hd dept, 250-bd vol gen hsp; min \$7500; N.Y.C. vic. (c) **Bacteriologist;** supv sect, very lge fully approved gen hsp; 15 miles from N.Y.C. in lge city. (d) **Biochemist;** Ph.D. trng lipid metab, pref atherosclerosis exper; to \$10,000; prom pharm co. E. Science Division, **Woodward Medical Personnel Bureau**, Ann Woodward, Director, 185 North Wabash, Chicago. X

23 MARCH 1962

POSITIONS OPEN

HISTOCHEMIST

Experimental morphologist. M.D., Ph.D., or equivalent. Enzyme histochemistry, muscle and/or pancreas. University and hospital-affiliated research institute, New York.

Box 46, **SCIENCE**

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LABORATORY TECHNICIAN. Large general teaching hospital, must be college graduate and registered ASCP. Responsible for teaching medical students. Experience in blood bank preferred. Must be able to meet the public. Excellent salary and working conditions. Send résumé to **Cleveland Metropolitan General Hospital**, 3395 Scranton Road, Cleveland 9, Ohio, Personnel Relations department. 3/30; 4/6, 13

Laboratory Technician to work in Research Laboratory specializing in steroid biochemistry—training offered. Send resume to Dr. Ludwig Kornel, University of Alabama Medical Center, 1919 South 7th Avenue, Birmingham 3, Alabama.

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An opening exists for a recent or prospective Ph.D. to collaborate in physicochemical studies of heme proteins at an East Coast research institute. Availability no later than July is required. Excellent salary with appointment renewable for several years. Write

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Box 63, **SCIENCE**

LOW-LEVEL IRRADIATION

Editor: Austin M. Brues

A symposium organized by the AAAS Section on Zoological Sciences, cosponsored by the U.S. Atomic Energy Commission and the Division of Biological and Medical Research of the Argonne National Laboratory.

Public debate on global fallout has been acrimonious because scientific facts about radiation and human implications regarding nuclear warfare have become confused. Scientists have consequently been thought guilty of ignorance or of partisanship. The Symposium on Low-Level Irradiation deals in a considered way with the many points of view that have brought this about and indicates possible solutions.

Scientific Background: Introduction—National and Artificial Radiation Background of Man—Meteorological Factors and Fallout Distribution—Genetic Effects—Somatic Effects

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Send résumé to **Box 64, SCIENCE**

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A senior position is immediately available in department of pharmacology for M.D. or Ph.D. with extensive knowledge in neuroanatomy, peripheral and C.N.S. physiology. The candidate should be thoroughly acquainted with electrophysiological techniques (EEG, evoked potentials, micro-electrodes). Excellent compensation and benefits. Please send full résumé to:

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Pharmacologists, Biochemists, Physiologists. Applications are invited for positions in the Department of Pharmacology, University of Alberta, at the ranks of Assistant and Associate Professor. Salary range \$7000 to \$11,000 depending upon qualifications and rank. Successful applicants can be aided by removal grants. Applicants in the fields of neuropharmacology, biochemical pharmacology, and biophysical pharmacology are encouraged to apply. Applications will be considered from individuals who have received their primary training in fields other than pharmacology but who have been working in pharmacology or wish to do so.

Applications should be directed to Dean W. C. MacKenzie, Faculty of Medicine, University of Alberta, Edmonton, Alberta, and should include a complete curriculum vitae, a list of publications, names of three referees, and a recent photograph.

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Box 57, SCIENCE

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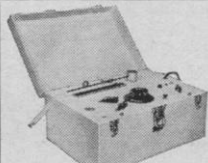
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RESEARCH PHYSIOLOGIST OR BIOCHEMIST—Will conduct research in using methods of protein separation employing paper chromatography, electrophoresis, column chromatography, etc. A Ph.D. in protein chemistry is prerequisite.

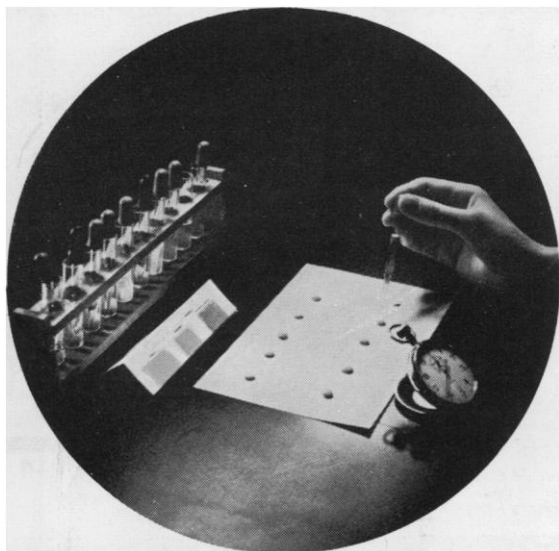
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RESEARCH PHARMACIST—Duties will include carrying out research in the area of product development to determine marketable dosage forms, provide satisfactory shelf life and meet medical standards for marketing new pharmaceutical products. Must hold Ph.D. in pharmacy or pharmaceutical chemistry. Industrial or post-doctoral experience in pharmaceutical research is desirable but not essential.

RESEARCH INFORMATION SCIENTIST—Major activity will be working closely with laboratory and clinical scientists in collecting, evaluating, organizing and presenting scientific information pertinent to a current or proposed program having potential diagnostic or therapeutic interest to the company. Should have Ph.D. in a biological science, preferably physiology or pharmacology. Experience in the science information field, while helpful, is not prerequisite.

RESEARCH CHEMIST—Will have principal responsibility of applying knowledge of chemistry in defining research objectives and programs and engage in basic and applied research. Must have Ph.D. in chemistry and several years' experience in organic synthesis, polymers, resins and/or plasticizers.

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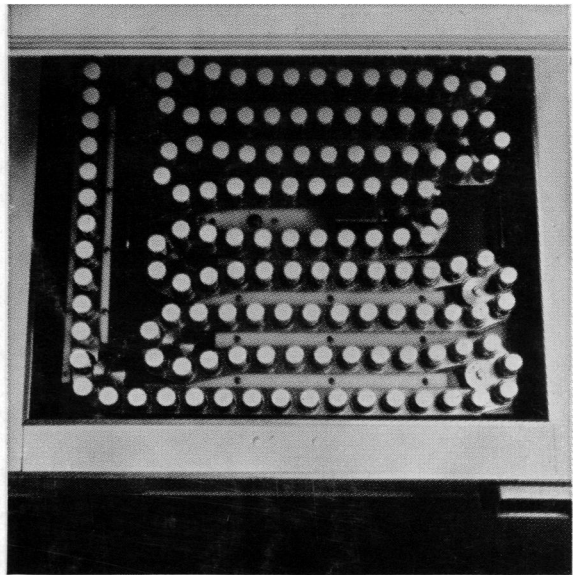
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