

vancement of Science, Cleveland, Ohio. (R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C. 20005)

27-29. American Economic Assoc., Boston, Mass. (H. F. Williamson, American Economic Assoc., 629 Noyes St., Evanston, Ill.)

28-29. Linguistic Soc. of America, Chicago, Ill. (H. L. Smith, Jr., Dept. of Linguistics, Univ. of New York at Buffalo, N.Y.)

January 1964

1-4. Solid State Physics Conf., Institute of Physics and the Physical Soc., Bristol, England. (The Institute, 47 Belgrave Sq., London, S.W.1)

7-9. Reliability and Quality Control, natl. symp., Washington, D.C. (American Soc. for Quality Control, 161 W. Wisconsin Ave., Milwaukee, Wis. 53203)

8-11. Radioactive Isotopes in Clinical Medicine and Research, 6th intern. symp., Bad Gastein, Austria. (R. Höfer, Second Medical University Clinic, Garnisonsgasse 13, Vienna 9, Austria)

8-11. National Soc. of Professional Engineers, winter meeting, Phoenix, Ariz. (P. H. Robbins, 2029 K St. NW, Washington, D.C.)

16-18. Royal College of Physicians and Surgeons of Canada, Quebec. (The College, 74 Stanley Ave., Ottawa 2, Ont.)

16-23. Nucleic Acids, symp., Hyderabad, India. (P. M. Bhargava, Regional Research Laboratory, Hyderabad 9)

19-24. American Chemical Soc., 146th natl. meeting, Denver, Colo. (ACS, 1155 16th St. NW, Washington, D.C.)

20-15. Commission for Aeronautical Meteorology, World Meteorological Organization, 3rd, Paris, France. (WMO, 41 Ave. Giuseppe-Motta, Geneva, Switzerland)

20-22. American Inst. of Aeronautics and Astronautics, aerospace sciences mtg., New York, N.Y. (R. R. Dexter, AIAA, 2 E. 64 St., New York 21)

20-23. Cardiovascular Drug Therapy, symp., Philadelphia, Pa. (S. Rosen, Dept. of Medicine, Hahnemann Medical College and Hospital, 230 N. Broad St., Philadelphia 2)

20-24. American Mathematical Soc., Miami, Fla. (AMS, 190 Hope St., Providence 6, R.I.)

20-24. Australian and New Zealand Assoc. for the Advancement of Science, Canberra (J. R. A. MacMillan, Faculty of Agriculture, Univ. of Sydney, N.S.W., Australia)

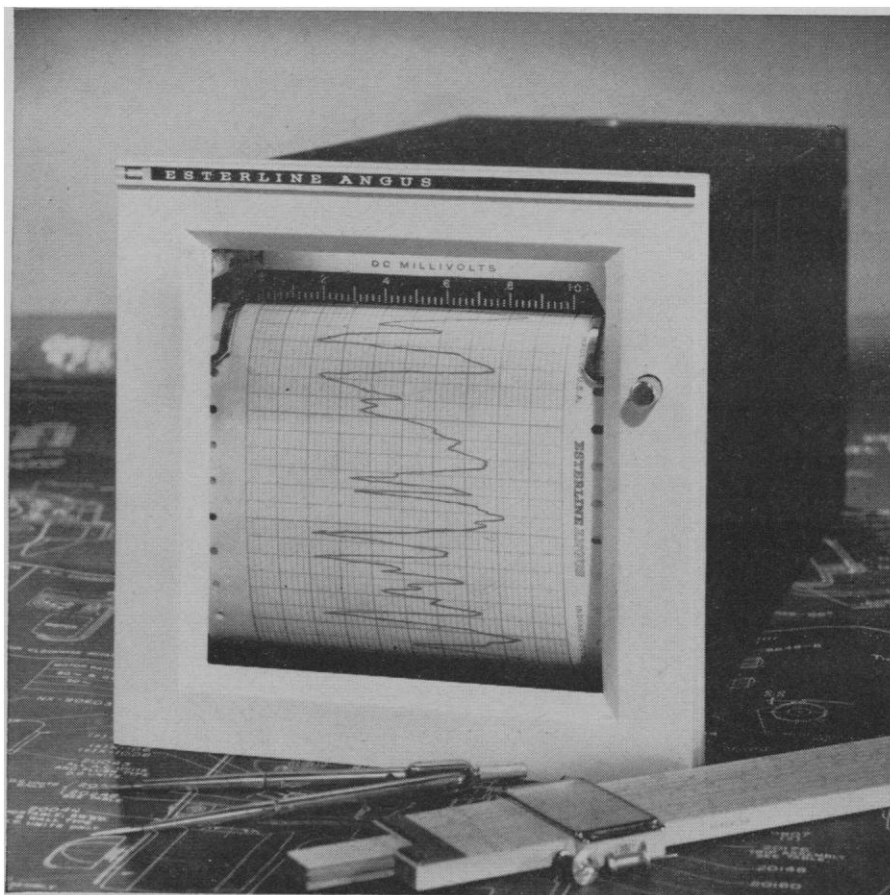
20-27. Agricultural Film Competition, 3rd intern., Berlin, Germany. (Congress Hall, John Foster Dulles Allee, Berlin N.W. 21)

22-25. American Physical Soc., New York, N.Y. (APS, Columbia Univ. New York, N.Y.)

22-25. America Assoc. of Physics Teachers, New York, N.Y. (E. U. Condon, Oberlin College, Oberlin, Ohio)

23. Central Council for Health Education, annual conf., London, England. (Director, CCHE, Tavistock House, Tavistock Sq., London, W.C.1)

23-24. Industrial Water and Waste Conf., Austin, Tex. (J. B. Maline, Jr., 305 Engineering Laboratories Bldg., Univ. of Texas, Austin 12)



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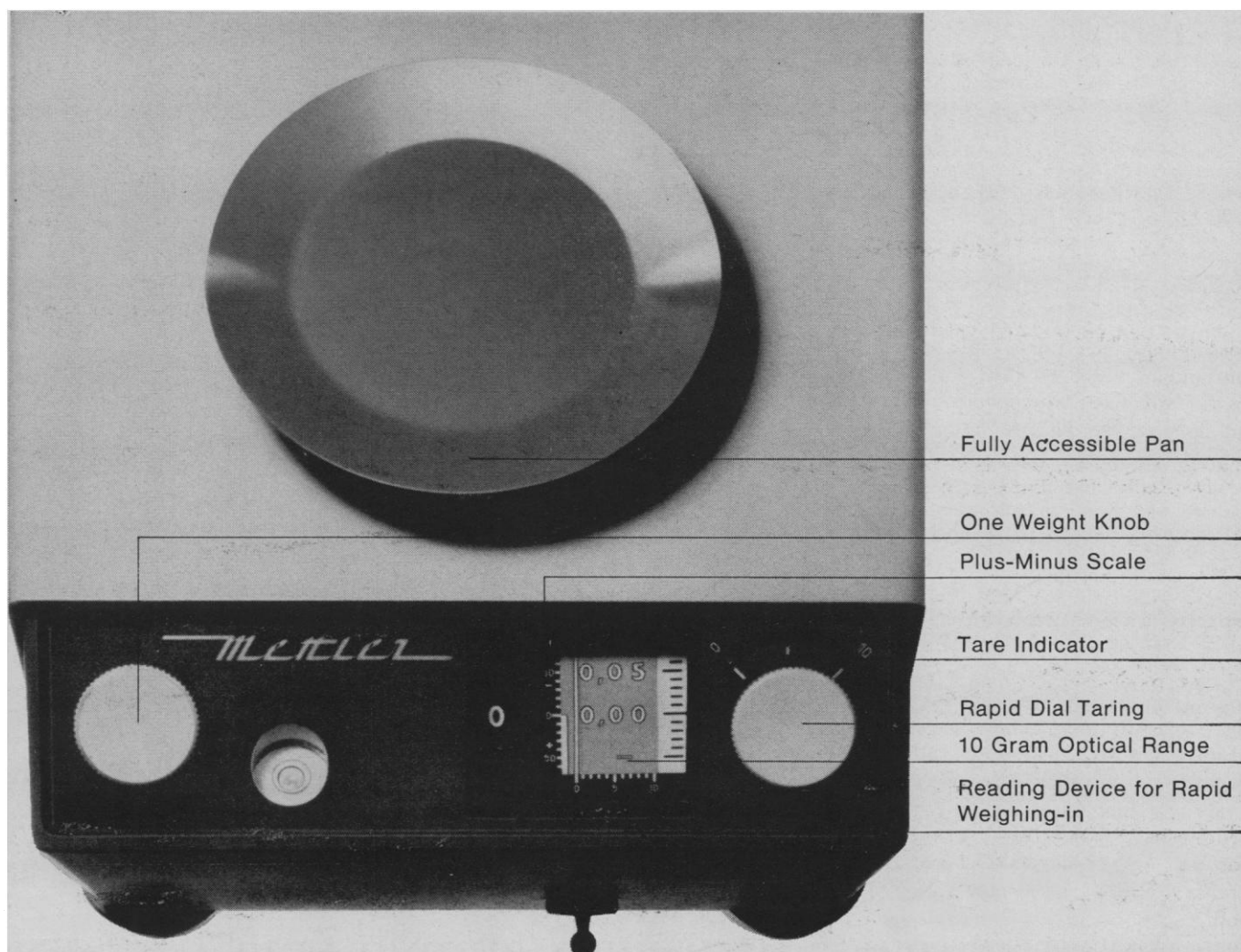
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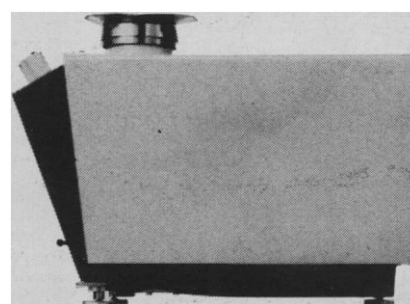
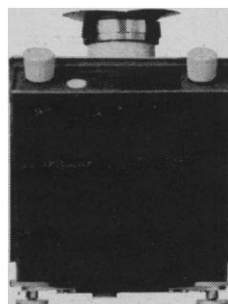
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Abridged ratio-type spectroradiometer and colorimeter uses an array of 16 narrow band pass interference filters for quantitative spectral analysis of luminous sources having ratings as small as 0.5 candle power. In addition, the instrument uses separate, built-in, tristimulus, equal-energy filters for sim-

plified color-difference measurements. A reference source is used in all measurements. The standards supplied are tungsten lamps calibrated and controlled to serve as reference sources of known spectral emittance. Other standards, such as known source known-filter combinations may be used as applicable. The filters peak within $\pm 2 \text{ m}\mu$ of nominal wavelength distributed at 20 $\text{m}\mu$ intervals between 400 and 700 $\text{m}\mu$ and actual value is specified within $\pm 1 \text{ m}\mu$. When measuring samples of 10 candle power, sensitivity is ± 0.05 percent; when measuring samples of 0.5 candle power or lower, sensitivity is 0.5 percent.—J.S. (Instrument Development Laboratories, 67 Mechanic St., Attleboro, Mass.)

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Syringe pump is designed to deliver fluids at a uniform rate for infusion or other purposes. Four models are available—large constant speed, small constant speed, large variable speed, and small variable speed. The large units will handle syringes up to 100 ml and the small units will handle syringes up to 10 ml. The constant speed units are driven by a synchronous motor (yielding 0.1-percent accuracy) and are available in a range of speeds. These speeds may be changed over a small range by changing gears. Further variations in the pumping rate may be obtained by use of different syringes. The variable speed units are driven by d-c motors and come supplied with a control box for controlling motor speed. The small unit is adjustable over a flow range of 40 to 1 (the large, 48 to 1) with an accuracy of 0.5 percent of full scale over the entire range. The speed is set over a range of 16 to 1 by a three-digit digital knob (subdivided to a fifth of a digit). A further change of 2.5 to 1 for the small unit and 3 to 1 for the large is obtained by interchanging gears. All units will operate against back pressure as high as 1 atm without loss of accuracy. Units operate on 117-volt, 60-cy/sec electricity. The pump box has mounted on its top plate a syringe holder, which holds the syringe around its barrel in the manner in which it is held when used by hand. Coming through the top plate is the drive shaft and an idler shaft. On these shafts are placed a pair of gears which engage and rotate together. When a carriage which has rack on each of two opposite sides is placed on the gears so that the racks mate with the gears, the turning drive shaft

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

Robert L. Bowman (R.L.B.), with the assistance of Denis J. Prager (D.J.P.), 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 here is obtained from manufacturers and from other sources considered to be reliable. Neither *Science* nor the writers assume responsibility for the accuracy of the information. A Readers' Service card for use in mailing inquiries concerning the items listed is included on page 1307. Circle the department number of the items in which you are interested on this card.

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diFiore—An Atlas of Human Histology

By MARIANO S. H. diFIORE, Associate Professor of Histology and Embryology, Faculty of Medical Sciences, University of Buenos Aires and Head of the Laboratory of the Juan A. Fernandez Hospital. 224 pages, 7" x 10½". 103 original color plates. 160 figures. New 2nd edition. \$8.50.

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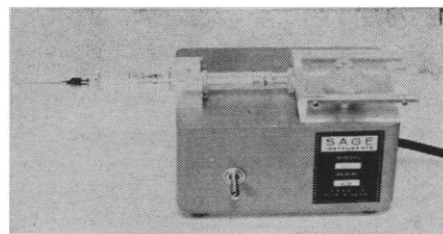
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drives the carriage toward the syringe and pushes the plunger to cause pumping action. Just before the plunger bottoms, the end of the carriage is reached and pumping ceases. The unit is readily reset for further pumping by lifting the carriage and repositioning it. The syringe holder is mounted with two screws and may be readily replaced with holders for other size syringes. Holders for use of two syringes simultaneously are available for 10 ml and smaller syringes.—R.L.B. (Sage Instruments, Inc., 2 Spring St., White Plains, N.Y.)

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Centrifuge (model 1039) is capable of accelerating from 0 to its maximum of 150g within 5 to 10 sec, depending on the test load. The unit provides a rise rate of 10 g/sec allowing for hydraulic fluid rolloff at the start and to the approach of steady-state conditions. It can be controlled by a primary remote control console or by a secondary control located at the centrifuge. Load capacity is up to 50 lb. Slip ring systems and other accessories can be provided to customer specifications. Speed range is 0 to 330 rev/min. Accuracy is said to be within ±0.25 percent at any speed setting from 1 to 150g over a 1-min period, excluding changes due to line variations. Vibration isolation is 0.1g. The speed indicator supplied mounted on the control console is accurate to ±1.25 percent of full scale.—J.S. (Genisco, Inc., 18435 Susana Rd., Compton, Calif.)

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Series MW laser metal working equipment is said to provide new capabilities for laboratory facilities. Micro perforating, micro machining, and welding are among the tasks that can be performed. The optical system consists of a light source of adjustable intensity, focused to a bright spot on the area being worked upon. Water filters are available to remove heat from the illuminating system in working on sensitive materials. The laser beam is focused through a lens system to a spot that can attain peak power

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Electrometer (model E-307) measures current over the range 10^{-8} to 10^{-13} amp with input signal voltage requirement more than ± 1 volt. Instrument response time ranges from 300 msec in the 10^{-12} and 10^{-13} range to 0.3 msec in the 10^{-8} to 10^{-9} range. Output of 50 mv is provided to a recorder; other outputs are available on special order. Accuracy is said to be within ± 2 percent except in the lowest two ranges, in which the accuracy is ± 3 percent. Output noise is less than 1 percent per day and drift less than 1 percent per day.—J.S. (Gyr Electronics Corp., Washington & Elm Sts., Box 184, La Grange, Ill.)

Circle 8 on Readers' Service card

Dual-beam oscilloscope (type 502A) features a basic sensitivity of 100 μ v/cm that can be varied to approximately 50 volt/cm. Sweep time range is continuously adjustable from 1 μ sec/cm to more than 12 sec/cm. Other features include differential input, x-y curve tracing at high sensitivity, single-sweep operation, and push-button beam finders. Common mode rejection is 40,000 to 1. Passband is d-c to 50 kcy/sec at 100 μ v/cm; d-c to 100 kcy/sec at 200 μ v/cm; increasing to d-c to 1 Mcy/sec at 0.2 volt/cm.—J.S. (Tektronix, Inc., Box 500, Beaverton, Ore.)

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X-ray spectrometer is a fixed-channel instrument that analyzes from one to six elements simultaneously, from titanium upward in the atomic scale. Precision of measurement is said to be ± 0.1 percent. A turntable provides for 12 sample holders than can handle solids, liquids, slurries, or powders. Standard sample cells accept specimens 3.15 cm in diameter. Design of the

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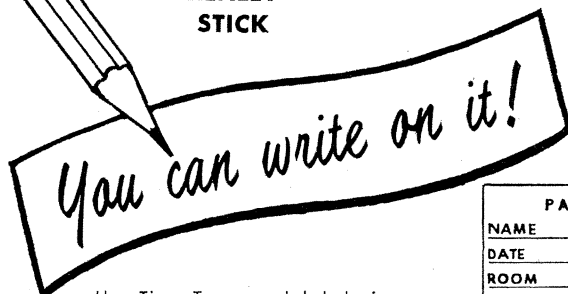
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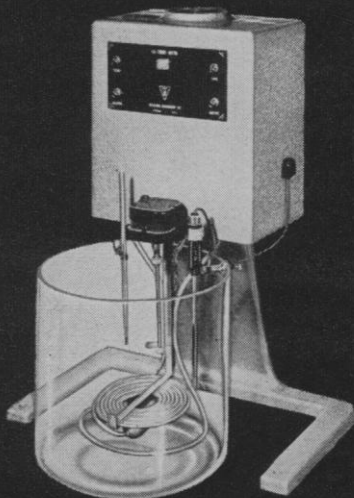
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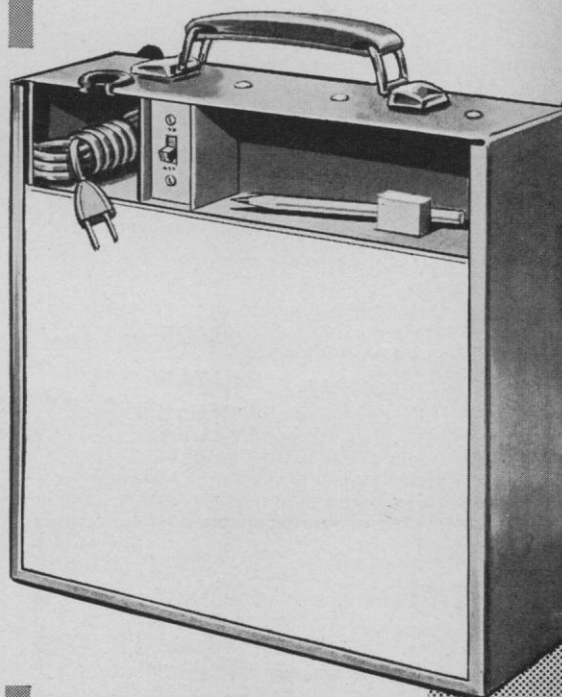
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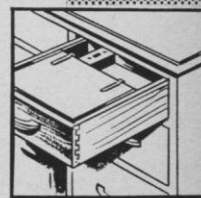
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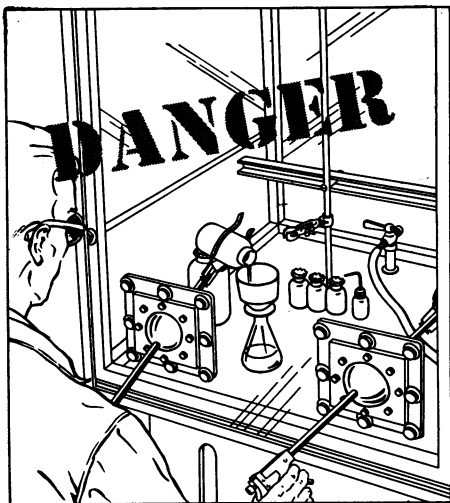
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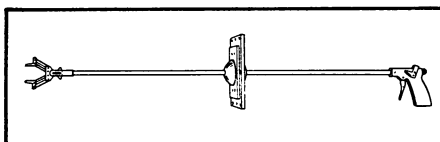
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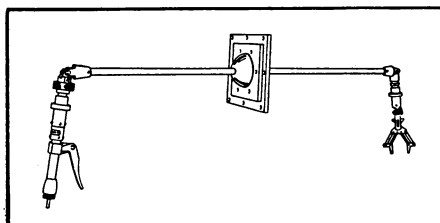
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holder uses standard Whatman filter paper and protects the sample until it is ready for analysis. The sampler is attached to the user's belt or pocket and is connected by a tube to the filter-holder fastened to the user's lapel. The filter-holder cover is removed before the motor is turned on. When sampling is completed, the cover is replaced so that other contaminants cannot come in contact with the filter paper prior to analysis.—R.L.B. (Atomic Accessories, Inc., 811 West Merrick Rd., Valley Stream, N.Y.)

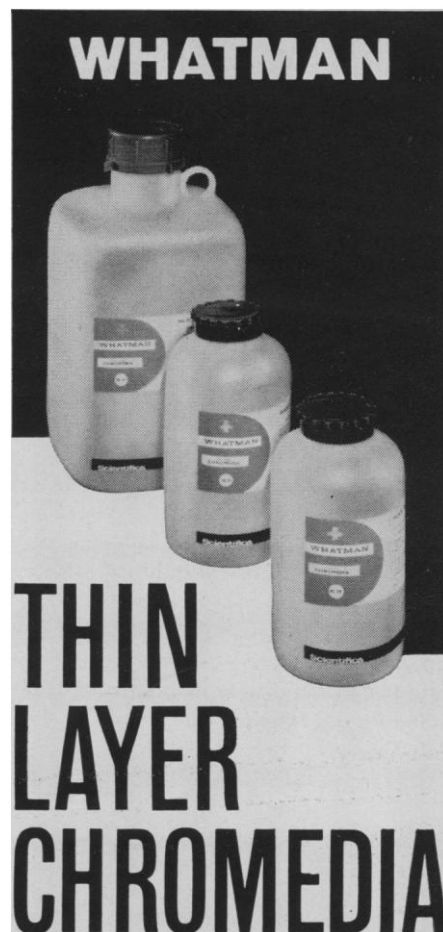
Circle 15 on Readers' Service card

Surface emission electron microscope, manufactured by Trub, Tauber & Co., of Zurich, Switzerland, is designed for metallurgical and ceramic research. The emission microscope permits observation of surfaces by means of secondary electrons produced by ion bombardment of the surface. The electron-optical image produced is said to have great depth of focus. The usefulness of the instrument derives from the ease with which high specimen temperatures are attained, the rapidity with which these temperatures may be varied, the ability to differentiate clearly between materials, and the facility for influencing the specimen mechanically, chemically, and thermally. Magnification range of the instrument is 500 to 5000, temperature range is 20° to 1600°C, and resolution is said to be better than 250 Å.—J.S. (Hardco Scientific Corp., 5710 Wooster Pike, Cincinnati 27, Ohio)

Circle 16 on Readers' Service card

Pulse generator (model 300) is designed to be accurate enough for use in direct calibration of pulse height analyzers, discriminators, and window amplifiers, without the need for pre-amplification. Output pulses are provided from 10 mv to 100 volts into a 93-ohm termination with accuracy said to be better than 1 percent. In operation, a capacitor is switched by a mercury relay to a pulse-forming network that can be described mathematically as the difference of two exponentials. Rise time, between 10 and 90 percent, of 0.03 and 0.3 μ sec are selectable by a switch. In both cases fall time is 5 μ sec. A ten-turn potentiometer provides continuous control of the pulse height by adjusting the voltage applied to the capacitor. Repetition rate is 60 per second.—J.S. (Watts Associates, Box 1743, Santa Fe, N.M.)

Circle 17 on Readers' Service card



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Photorepeater (type 1080) is designed for production of precise photomasks for semiconductor integrated circuits. Original glass plate masks are produced with guaranteed accuracy said to be ± 50 μ inch for all pattern elements. The instrument is equipped with a continuously moving plate-exposure system. A row of as many as 99 programmed exposures may be completed in 25 sec and a final original mask comprising rows of complex patterns on a standard-size high-resolution plate may be completed in 30 min. The type 1080 repeater consists of a type-829C two-coordinate comparator, a special microscope used as a microreduction printer, a photoelectric indexing system, and a newly designed counter controller that provides selection of spacing between exposures from 10 mils up, in 1-mil increments, as well as the number of exposures in each row.—J.S. (Geophysics Corp. of America, Lincoln, Mass.)

Circle 18 on Readers' Service card

Electron microscope image intensifier increases image brightness of an electron microscope by 1000 times. The system is an accessory to the Hitachi Perkin-Elmer model HU-11-A electron microscope. Present electron microscopes focus a beam of electrons through the specimen. An enlarged image is then formed on a viewing screen which fluoresces visible light upon electron impact. Very great magnifications and resolution are obtained when sufficient brightness and contrast are available. In some cases, such as thick specimens or heat and radiation sensitive materials, insufficient brightness is obtained for useful work. The new attachment provides more sensitive detection of electrons and electronic amplification of the image, which is presented on a standard TV receiver. Its fast response also allows motion within the specimen to be observed, enhancing electron microscope performance and flexibility. The system is ideally suited for classroom work or for group study, since it permits remote viewing of the specimen. In addition, kinescope movie cameras allow kinetic changes to be recorded up to 25 frames per second for analysis and review. The image intensifier system consists of the electron microscope, special pick-up system, electronic control system, and television picture monitor. The pick-up is mounted under the normal viewing screen of the electron microscope in vacuum. This

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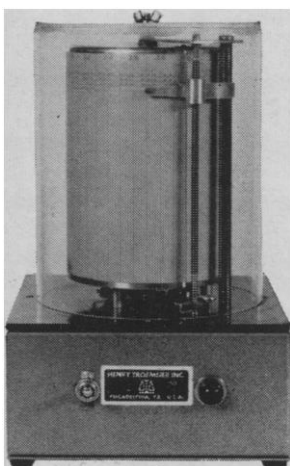
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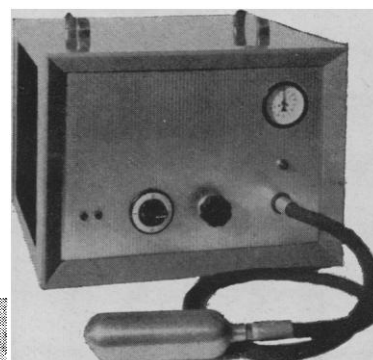
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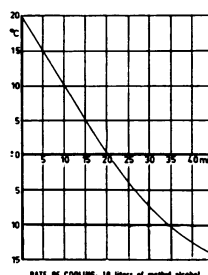
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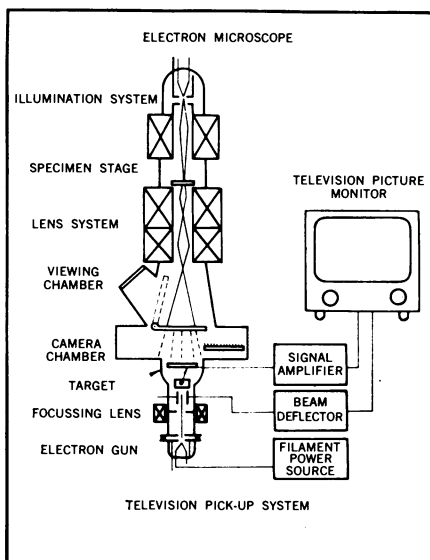
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unit includes an image converter and scanning device utilizing low-speed electrons. The image converter consists of a thin supporting membrane, signal plate electrodes, and a layer which is sensitive to electron bombardment. The system works on the principle of electron bombardment induced conductivity. The image converter is bombarded directly with the electron beam of the electron microscope. It is the relationship between the conduction current gain versus the current density of the electron beam that permits the image intensifier to turn a faint image into a bright one, minimizing damage to the specimen under observation.—R.L.B. (Perkin-Elmer Corp., Main Ave., Norwalk, Conn.)

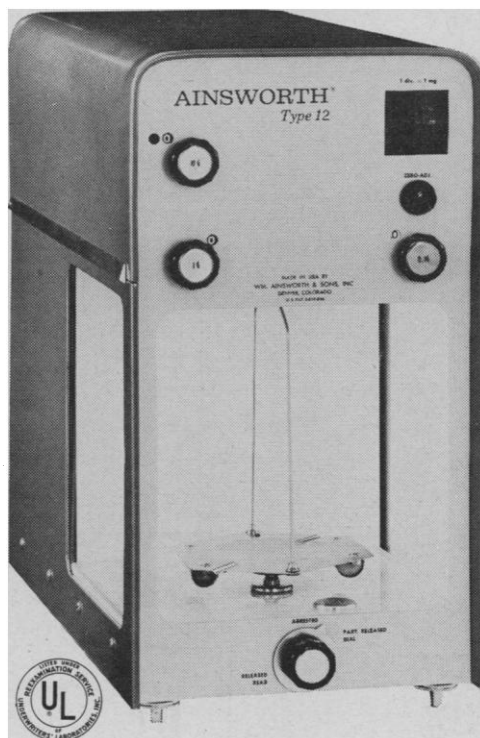
Circle 19 on Readers' Service card

Frequency comparator (model 102) is said to be capable of resolution of 10^{-12} for observation time of 1 sec. Applications suggested by the manufacturer include: measurement of stability of frequency sources; alignment of frequency sources; evaluation of phase and frequency noise characteristics of four-terminal networks. Inputs of 1, 2.5, or 5 Mcy/sec are accepted by the comparator without switching. The frequency difference is processed at an effective multiplication of 10, 100, or 1000 referred to 1 Mcy/sec. Outputs are provided for a variety of indicating and recording devices. Two phase-detector outputs, 90-deg out of phase, produce a circular pattern of an oscilloscope or x-y recorder. The pattern furnishes complete information of phase and frequency characteristics, both short- and long-term, at a maximum resolution of 0.3 deg, according to the manufacturer. The direction of

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the rotation of the pattern corresponds to the sign of the difference. A linear phase detector output permits examination as a function of time at higher resolution than is possible with the circular pattern. Weighting networks are provided to average the detector outputs over common time intervals. —J.S. (Parzen Research, Inc., 48 Urban Ave., Westbury, L.I., N.Y.)

Circle 20 on Readers' Service card

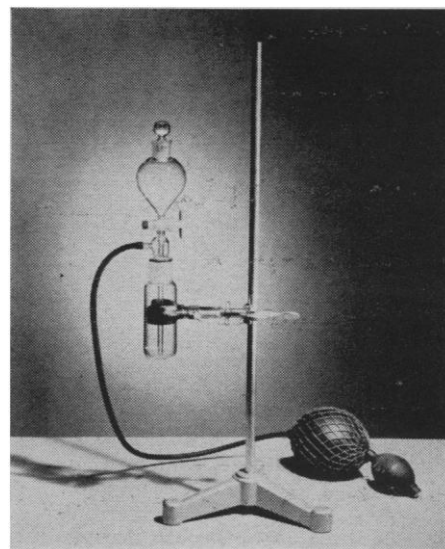
Microfocus x-ray tube features interchangeability of a wide selection of targets and cathode guns permitting the use of various spot shapes, sizes, and orientation. The tube is said to deliver from 9 to 13 times the intensity of conventional sealed-vacuum tubes because of greater electron bombardment of the target. The replaceable targets last from 600 to 1000 hours and are said to be inexpensive. —J.S. (Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.)

Circle 21 on Readers' Service card

Magnetic-field probes are designed to increase the sensitivity of the manufacturer's gaussmeters by a factor of 100. The probes utilize Hall-effect elements in a flux-concentrator construction. They are said to permit measurement of 0.001 gauss full scale and to resolve 10^{-5} gauss. They can be used for analysis of magnetic noise and interference fields. The probes are designed for use in large low-gradient fields and will measure the magnitude and determine the direction of very small fields. When used with the manufacturer's model 350 a-c gaussmeter, small a-c fields from 10 cy to 5 kcy/sec may be measured and analyzed into frequency components. Four models are available for use with various gaussmeters. Accuracy of all is said to be ± 2 percent, plus accuracy of the calibration field, or ± 5 percent with the self-calibration feature of the gaussmeters. —J.S. (F. W. Bell, Inc., 1356 Norton Ave., Columbus, Ohio)

Circle 22 on Readers' Service card

Liquid separator provides a means of rapidly removing the lower phase of centrifugally separated extractions. A pressure bulb supplies air pressure to the borosilicate centrifuge tubes to force the lower phase through a stopcock into a separatory funnel bulb. The liquid separator consists of two parts: (i) the extraction vessel, a thick-walled test tube with ground outer joint, suitable for centrifuging at high



speed, and provided with a stopper for use during the extraction procedure; and (ii) a pear-shaped bulb equipped with a Gyco stopcock with Teflon "Tite-Seal" plug which controls the delivery to the "head" through the long stem that extends the full length of the test tube. The "head" is also equipped with a side arm plus a high vacuum seal ground joint. Three sizes are available, with test tube capacities of 60, 100, and 250 ml. —R.L.B. (Scientific Glass Apparatus Co., Bloomfield, N.J.)

Circle 23 on Readers' Service card

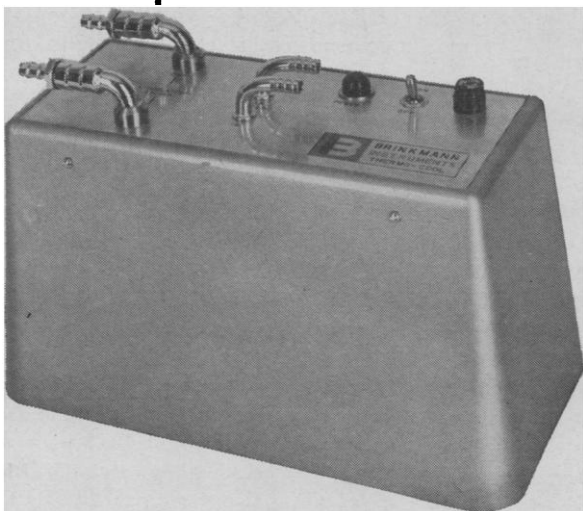
Photoelectric card and tape reading assemblies are glass-encapsulated solar cells mounted in compact plastic units arranged to sense the presence or absence of light to detect perforations in punched cards or punched tape. The HSRA-9 unit is a 9-position readout head assembly for 1-inch (2.54-cm) paper tape. The HSRA-10 unit is a 10-position readout head assembly for punched cards with 0.087-inch (0.22-cm) center-to-center spacing of holes. Up to eight of the units can be assembled for 80-hole-card readout. The HSRA-12 unit is a 12-position readout head assembly for punched cards with 0.25-inch (0.64-cm) spacing. The sensors are said to have infinite lifetime and to require no maintenance. —J.S. (Hoffman Electronics Corp., 3761 S. Hill St., Los Angeles, Calif.)

Circle 24 on Readers' Service card

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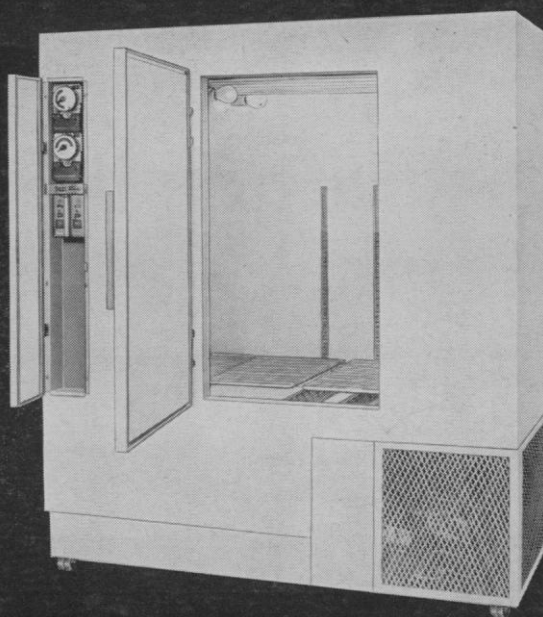
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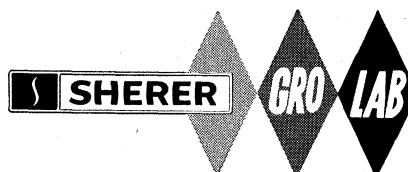
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port plate to the ring stand support rod. Removal and replacement of Dewars containing freezing mixture can thus be performed without adjusting and positioning the vessel each time—R.L.B. (Scientific Products, 1210 Leon Pl., Evanston, Ill.)

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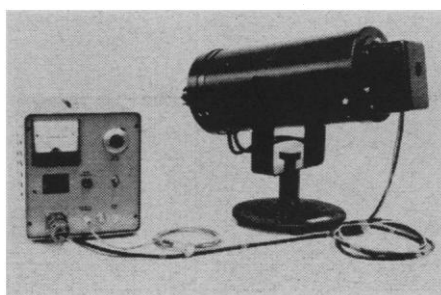
Teflon plug, polypropylene stopcocks are suitable for most chemicals and are made with end connections to a standard taper, ball joint, and hose. No lubricant is required to maintain leak-proof vacuum and pressure seals.—R.L.B. (Nalge Co., 75 Panorama Creek Dr., Rochester 25, N.Y.)

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Circle 27 on Readers' Service card

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ment with the crystal axis. Controls are provided that vary the rotational speed of the prism that constitutes the external reflector and for synchronizing flash lamp pumping with prism alignment. Laser rods up to $\frac{1}{2}$ inch in diameter may be used. The Q spoiler is also available separately.—J.S. (Electro Powerpacs, Inc., 5 Hadley St., Cambridge 40, Mass.)

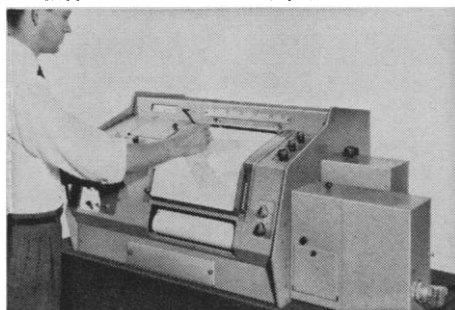
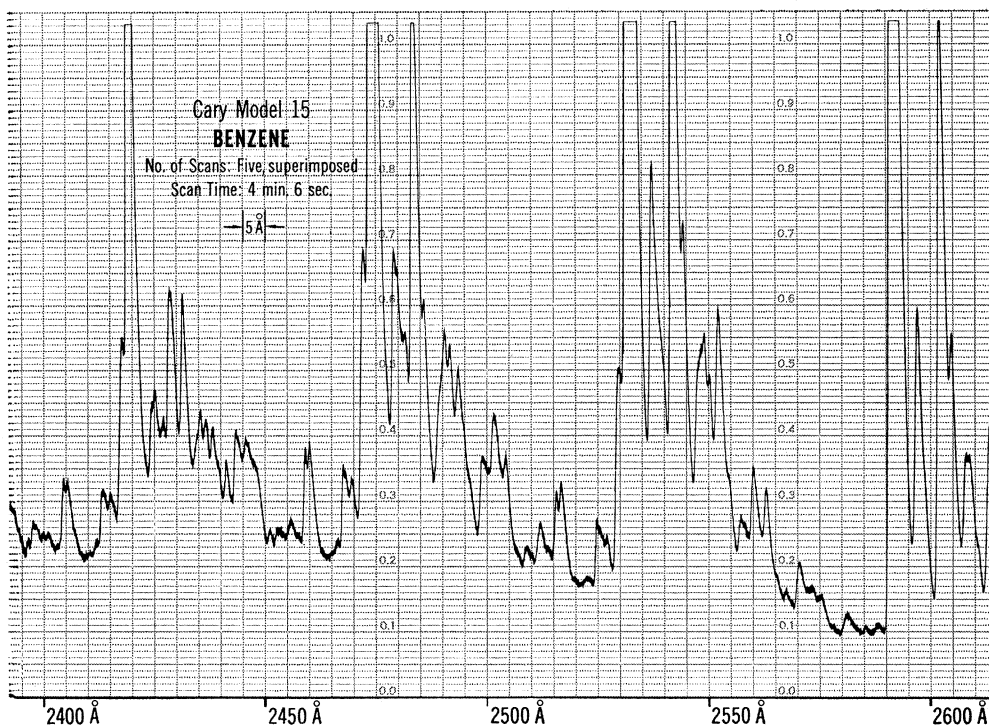
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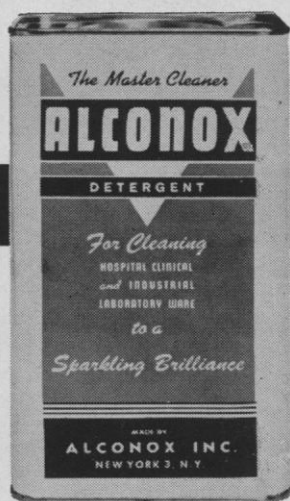
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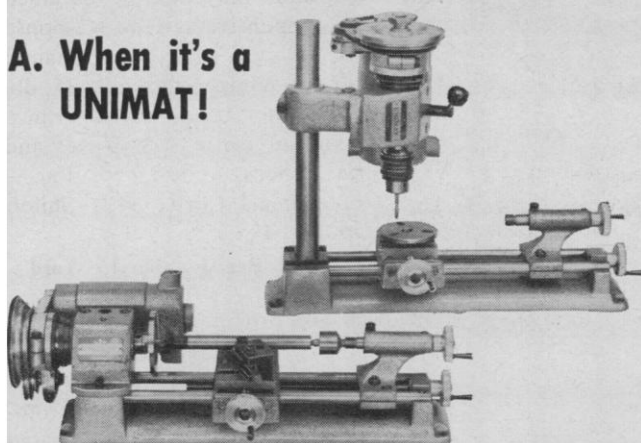
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Data-point scanner (series 5700) is designed to sample inputs and to provide address information to printers or similar output devices. The instrument uses cross-bar switching driven by mercury-wetted relays to provide scanning of up to 60 two-wire or 40 three-wire analog voltage data points. Flexible controls allow a selection of modes to permit efficient integration into a variety of systems. Continuous scan, single-cycle scan, or single step may be selected from front-panel controls or by remote control. Maximum switching speed is 30 points per second. The instrument includes 2-digit readout of address plus electrical outputs for remote channel position readout.—J.S. (Electronic Associates Inc., Long Branch, N.J.)

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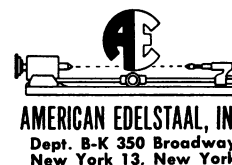


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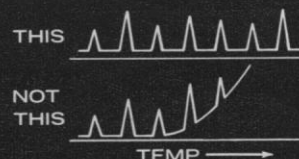


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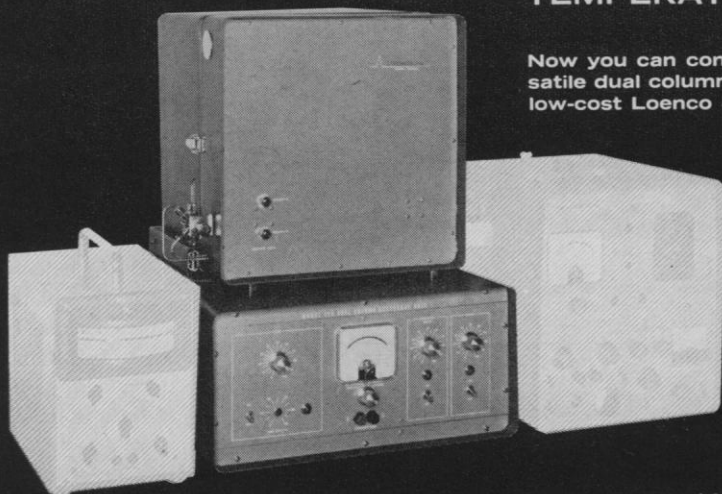
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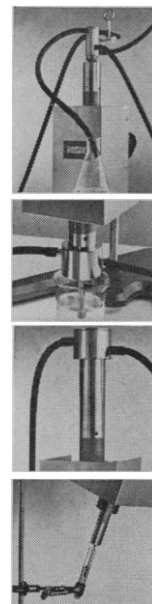
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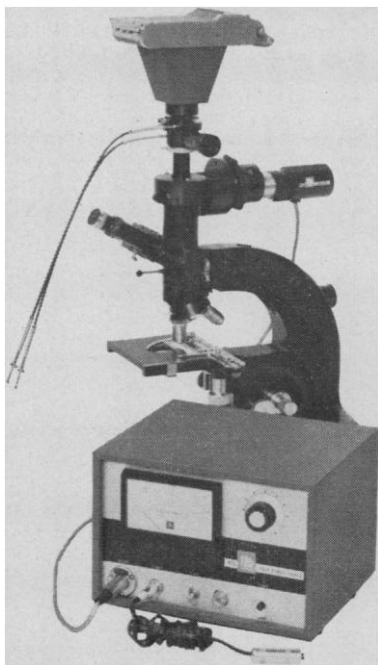
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AAAS Symposium
Volume No. 57

SYSTEMS OF UNITS— NATIONAL AND INTERNATIONAL ASPECTS

Editor: Carl F. Kayan
6 x 9 inches, 308 pages, Index
Presented by 33 American and European authors at the Washington Meeting, AAAS, December 1958
Price \$6.75. AAAS members' cash order price \$5.75
Published November 1959

The purpose of the volume is primarily to focus attention on the growing problems of international usages and goals in terms of the different systems employed, as contrasted to those of our own national operations tied to established practices. The purpose of this volume is to alert the technologists on the general confused situation, the clamors, the needs, and the proposals to ameliorate the confusion.

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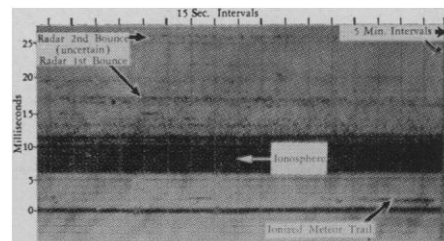
New technical bulletin on thin-layer radiochromatography summarizes the use of radioisotopes with thin-layer chromatography. It describes the many unique characteristics of this rapidly growing analytical method, in addition to presenting detailed preparative and radioactivity detection techniques. Also included are details on the analytical applications of the method and a well-rounded reference bibliography. Technical Bulletin No. 16, as well as the earlier Technical Bulletins on radioactivity, are available on request to Nuclear-Chicago Corp., 4505 W. North Ave., Melrose Park, Ill.—R.L.B. (Nuclear-Chicago Corp., 359 E. Howard Ave., Des Plaines, Ill.)

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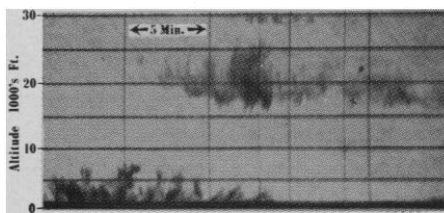
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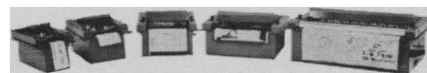


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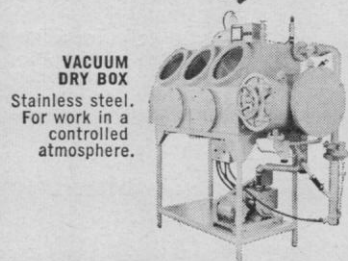
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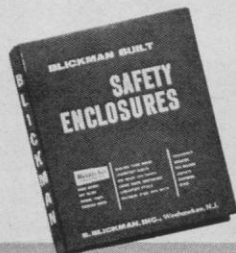
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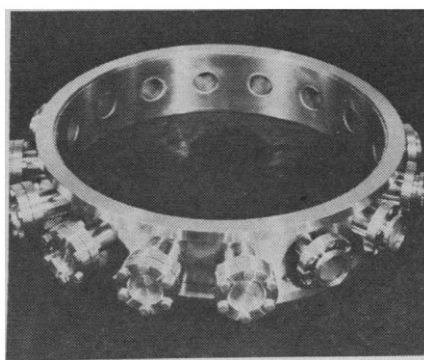
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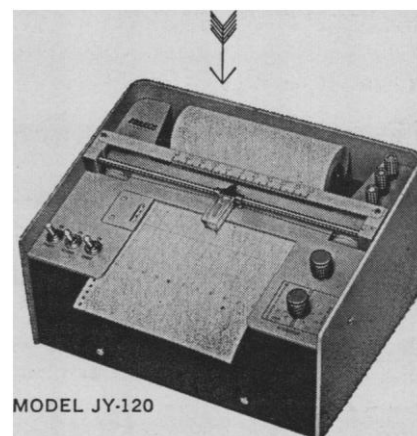
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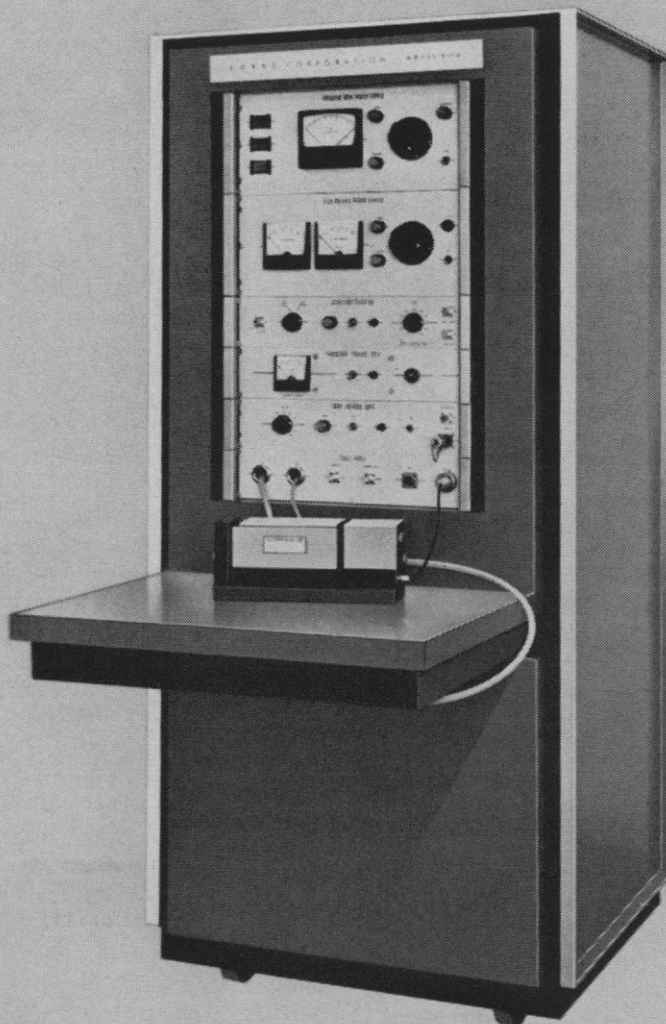
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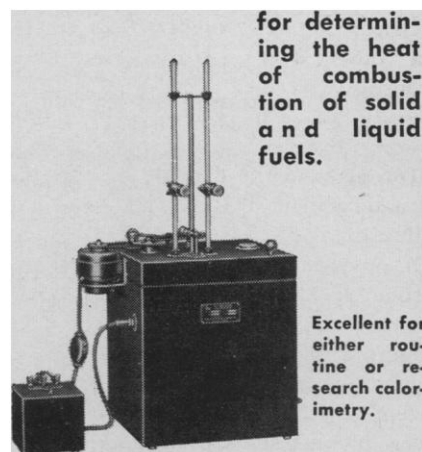
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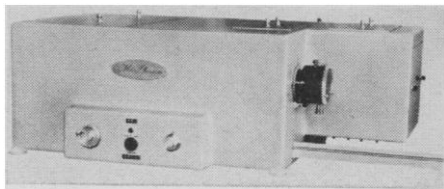
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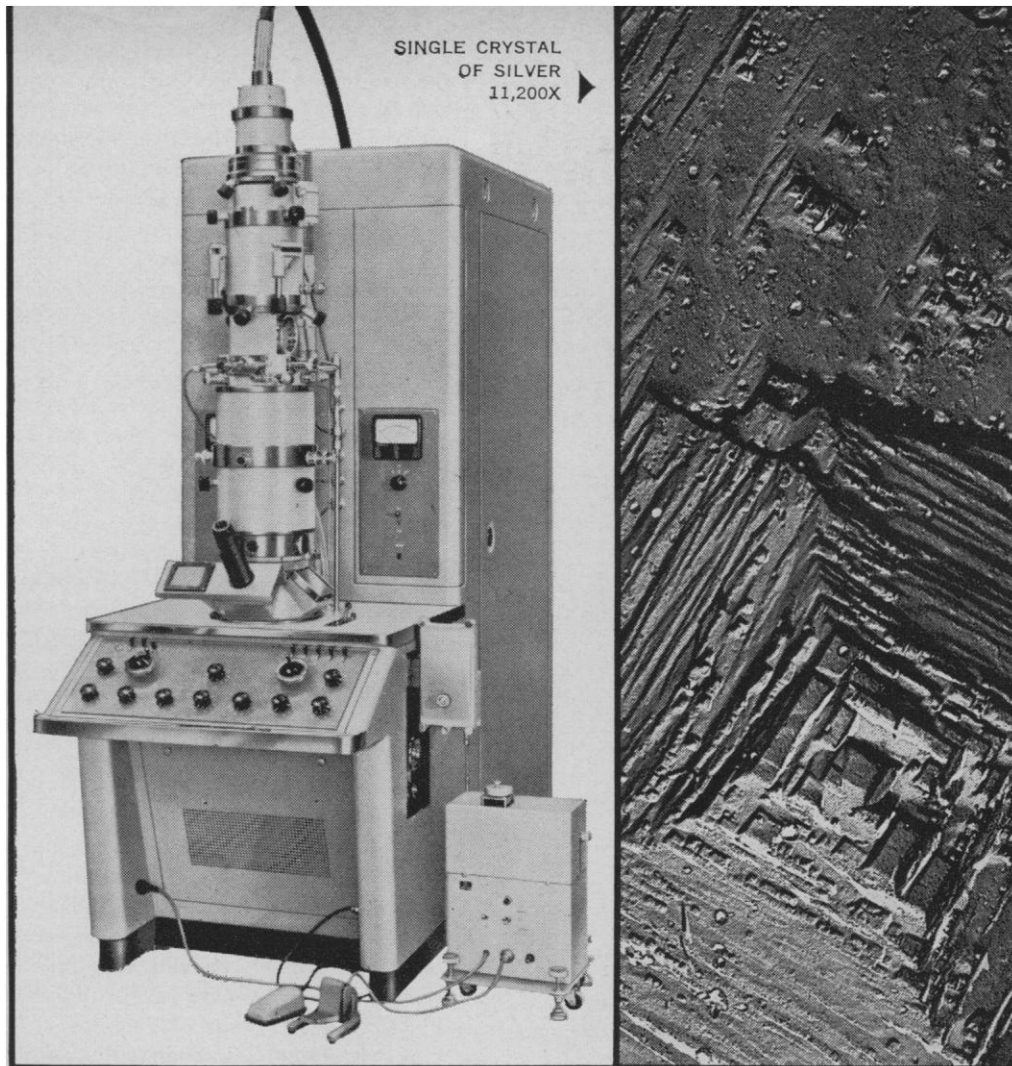
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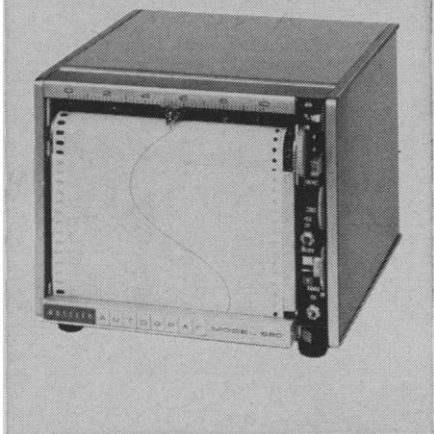


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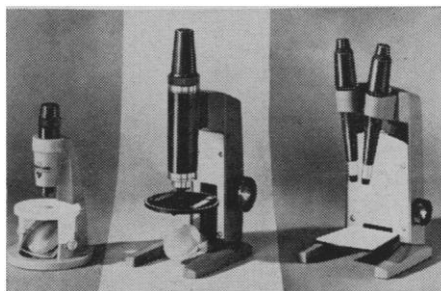
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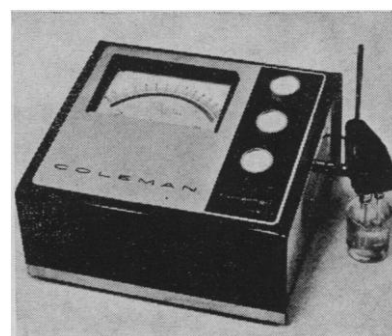
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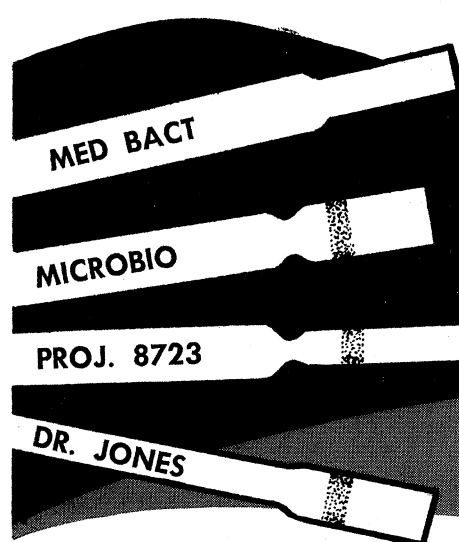
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Nat. Sc. Biology Asst. Professor (Ph.D.). 10 years' experience, wishes to relocate; preferably non-sectarian; teaching and research. Current syllabus available on request. Box 267, *SCIENCE*. 12/13

POSITIONS WANTED

(a) **Ph.D. Cytogeneticist**, strong background teaching, research (selection index studies, geriatrics, developmental genetics); prefers graduate school teaching/research. (b) **Ph.D. Mycologist** (genetics, botany minors); June graduate; prefers teaching/research. (c) **Ph.D. Zoologist**, experienced teaching, research (protozoa cytology and cytochemistry), departmental chairman; prefers teaching with research/administration. (Please write for information regarding these and other scientists, senior and junior, in all fields.) Science Division, The Medical Bureau, Inc., Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago 11, Illinois. X

Ph.D. Physiologist-Biologist. Experience: human physiology, anatomy, G.I. tract, endocrinology, physiological rhythms. Publications, grants. Desires teaching/research. Box 266, *SCIENCE*. X

Physicist, B.A., 6 years' experience in design of electronic, optical, and mechanical equipment for nuclear physics desires position utilizing this background in medical, biological, or marine research. Would also be interested in scientific communication or writing. Box 263, *SCIENCE*. 12/6

Physiologist-Pharmacologist (biochemist), senior temporarily available. Box 269, *SCIENCE*. X

Research Administration—M.A., biological and behavioral sciences, languages, 20 years of administrative, literature, research, and teaching experience. New York City. Box 256, *SCIENCE*. 11/29; 12/6

Zoologist (Ecologist), Ph.D., 5 years of teaching experience, desires teaching position with research opportunities. Available September 1964. Box 271, *SCIENCE*. X

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(a) **Ph.D. Pharmacologist/Physiologist**, electronic equipment experience; small laboratory oriented to basic drug problems; opportunity for scientific growth, publications; international eastern pharmaceutical firm. (b) **Food Research Scientist**, Ph.D. or equivalent; biochemistry training; East. (c) **Unit Leader Bacteriologist**, Ph.D., experience in experimental chemotherapy; eastern drug house; to \$12,000. (d) **Analytical Chemist**, M.S./B.S., food and drug fermentation experience; East; to \$9000. (e) **Enzymology Research Assistant**, M.S./B.S.; Central institute; (f) **Research Technicians; Bio-Mechanics**; chemical engineering, surgical, clinical experience desirable; Central pharmaceutical laboratory. (g) **Bacteriologist**, some virology training; western university; *Faculty Appointments*: (h) **Ph.D. Physiologist**, cellular, comparative physiology courses; \$8000 up; Central university. (i) **Ph.D. Plant Physiologist**, radiation research training, Central university. (j) **Ph.D. Physics/Mathematics** research; eastern university. (k) **Ph.D. Ecologist** animal; small mid-eastern college. (m) **M.S. Physical Scientist**, some experience; eastern college. Many other opportunities available for both junior and senior scientists. Please write to Science Division, **The Medical Bureau, Inc., Burnice Larson, Chairman**, 900 North Michigan Avenue, Chicago 11, Illinois. X

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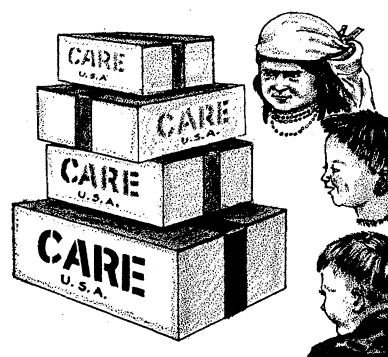
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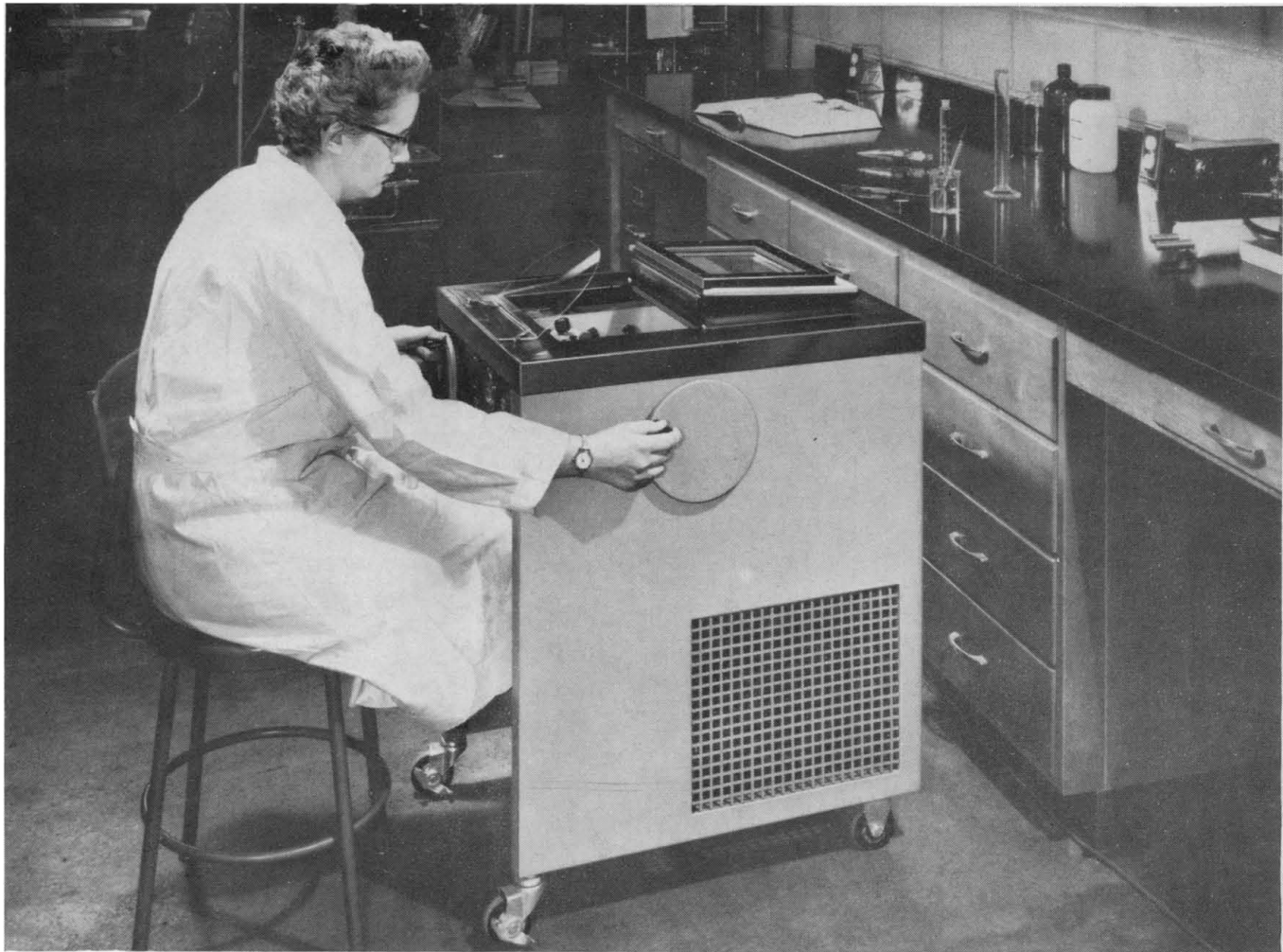


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