

14-16. Inter-Society Cytology Council, annual scientific, Augusta, Ga. (P. F. Fletcher, 634 N. Grand Ave., St. Louis 3, Mo.)

17-22. Radiological Soc. of North America, annual, Chicago, Ill. (D. S. Childs, 713 E. Genesee St., Syracuse, N.Y.)

18-21. Magnetism and Magnetic Materials Conf., Washington, D.C. (L. R. Maxwell, U.S. Naval Ordnance Lab., White Oak, Silver Spring, Md.)

18-22. American Soc. of Agronomy, annual, Atlanta, Ga. (L. G. Monthey, ASA, 2702 Monroe St., Madison, Wis.)

18-22. Citrus Virus Diseases Conf., Riverside, Calif. (J. M. Wallace, Dept. of Plant Pathology, Univ. of California, Riverside.)

18-9. Pacific Science Cong., 9th, Bangkok, Thailand. (Pacific Science Board, National Research Council, 2101 Constitution Ave., NW, Washington 25.)

20-24. National Assoc. for Mental Health, annual, Atlantic City, N.J. (NAMH, 10 Columbus Circle, New York 19.)

22. Ultraviolet Scanning Microscopy Symp., Philadelphia, Pa. (H. K. Schlegelmilch, RCA Victor TV Div., Bldg. 204-2, Section 219, Cherry Hill, Camden 8, N.J.)

25-27. American Acad. for Cerebral Palsy, 11th annual, New Orleans, La. (R. R. Rembolt, Iowa Hospital-School State University of Iowa, Iowa City.)

25-27. Physics and Dynamics of Fluids, APS, Bethlehem, Pa. (F. N. Frenkiel,

Applied Physics Lab., Johns Hopkins Univ., Silver Spring, Md.)

26-28. Central Assoc. of Science and Mathematics Teachers, 57th annual, Chicago, Ill. (L. Panush, Henry Ford High School, Detroit 19, Michigan.)

28-29. American Physical Soc., St. Louis, Mo. (K. K. Darrow, Columbia Univ., New York 27.)

29-30. American Soc. of Animal Production, annual, Chicago, Ill. (H. H. Stonaker, Animal Husbandry Dept., Colorado State Univ., Fort Collins.)

#### December

1-6. American Soc. of Mechanical Engineers, annual, New York, N.Y. (C. E. Davies, ASME, 29 W. 39 St., New York 18.)

1-15. Bahamas Medical Conf., 4th, Nassau, Bahamas. (B. L. Frank, 1290 Pine Ave., West, Montreal, Que., Canada.)

2-5. Entomological Soc. of America, annual, Memphis, Tenn. (R. H. Nelson, ESA, 1530 P St., NW, Washington 5.)

4-8. American Psychoanalytic Assoc., New York, N.Y. (J. N. McVeigh, APA, 36 W. 44 St., New York 36.)

4-10. American Acad. of Optometry, annual, Chicago, Ill. (C. C. Koch, 1506-1508 Foshay Tower, Minneapolis 2, Minn.)

5-7. Texas Acad. of Science, annual, Dallas. (G. C. Parker, Education Dept., Texas A&M College, College Station.)

(See issue of 20 September for comprehensive list)

## EQUIPMENT NEWS

*The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).*

■ REMOTE-CONTROL MICROSCOPE for nuclear metallography is based on designs of the Atomic Energy Research Establishment, Harwell, England. The inverted microscope is provided with tubular optical devices, called "transport optics," one for illumination and another for visual microscopy or photomicrography at a distance of 30 in. Several light sources are available. These are mounted outside the shielding. An objective changer, for six objectives and a micro hardness tester, is remotely controlled. The optical bench on the viewing side will accommodate a reflex camera, a cine camera, or a television camera. (Shandon Scientific Co., Ltd., Dept. S614)

■ DENSITY-MEASURING INSTRUMENT consists of a Pyrex pipe, a Pyrex plummet contained within the pipe, and a calibrating chain weight of platinum or tantalum. Liquid to be measured is passed continuously through the pipe. Temperature and zero-set adjustments are provided. A model for use at temperatures to 220°C is available with ranges as small as 0.01 and as large as 0.5 specific gravity; it can be used at pressures up to 125 lb/in<sup>2</sup>. (Precision Thermometer and Instrument Co., Dept. S615)

■ CRYSTAL FILTERS provide sharp-rejection band pass at high frequencies. The filters use several wafers of quartz, usually two, four, or eight, arranged in a bridge network configuration. The filters are said to be useful at frequencies beyond the range of LC or mechanical filters. (Hycon Manufacturing Company, Dept. S618)

■ ELECTRODELESS CONDUCTIVITY METER, for use with liquids that would clog conventional cells, utilizes input and output toroid coils that are coupled by the liquid flowing through them. The input coil is excited by audio-frequency current. The voltage developed in the output coil is read as a measure of the conductivity of the liquid. (Industrial Instruments Inc., Dept. S619)

■ VAPOR CHROMATOGRAPH is designed to take three rough cuts of a total sample, without pre separation, and make three simultaneous analyses of the cuts. Three stages operate in series, unresolved components being fed into the following

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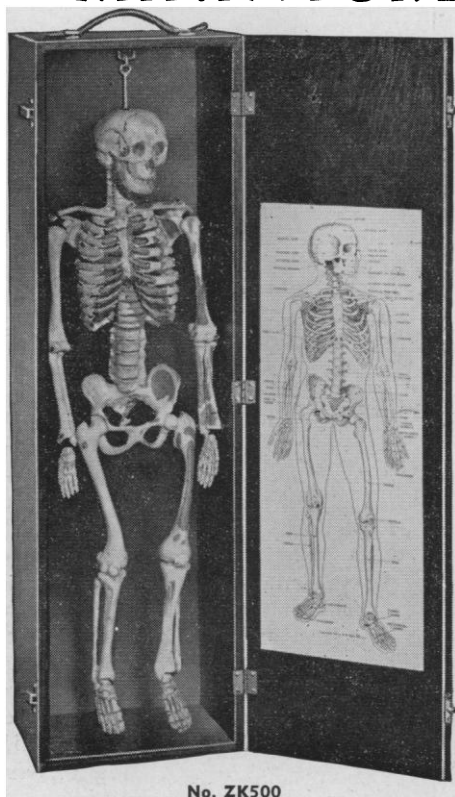
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stage. Separate recorders indicate separated bands. Series operation, or operation of each column separately, is optional. One unit is designed to operate from ambient temperature to 300°C, a second from ambient to 225°C, and the third is modified for use with refrigerated baths. (Perkin-Elmer Corporation, Dept. S638)

■ **CONVERTER** for deriving a direct-current signal proportional to input frequency in the range 250 to 2500 cy/sec is capable of two-thirds of full-scale response in 1 msec. Output voltage into 30 ohm is 0.6 v. Frequency range can be expanded to 25 to 10,000 cy/sec. (Potter Aeronautical Corp., Dept. S622)

■ **CATHODE-RAY OSCILLOGRAPH** is transistorized and battery operated. Although only an experimental instrument has been made, the feasibility of commercial models has been demonstrated. The entire instrument consumes less than 5 w. Frequency response from 20 cy/sec to 150 kcy/sec is within 3 db down. Sensitivity is 200 mv/in. through a high-impedance input and 500 mv/in. through a low-impedance input. Rise time is less than 2  $\mu$ sec, and writing rate is variable from 3 to 100,000  $\mu$ sec/in. (Allen B. DuMont Laboratories, Inc., Dept. S629)

■ **PULSE GENERATOR** furnishes two pulses, both at repetition rates from 10 cy/sec to 1 Mcy/sec. Each of the pulse trains

may be independently delayed from 0 to 10,000  $\mu$ sec with respect to a common synchronizing pulse. Width of the pulses may also be varied independently from 0.08 to 10,000  $\mu$ sec. The pulses are available separately or mixed at the output. (Rutherford Electronics Co., Dept. S624)

■ **TEAR TESTER** may be mounted on a microscope to permit observation of tearing and drawing properties of paper, yarn, and other materials. The jaws that hold the specimen are driven on ways by a reversible synchronous motor. Rate of separation of jaws may be selected by means of change gears. Maximum tension is 50 lb. Maximum separation is 8 in. (Custom Scientific Instruments, Inc., Dept. S626)

■ **AMPLIFIER** is designed to match piezoelectric transducers or other high-impedance sources to galvanometers and meters. Input impedance is selectable as 1000 Mohm or 22 Mohm. Output may be a 25-ohm load or to 2500 ohm or higher. Three channels are provided; gains are 1, 3, or 10. (Endevco Corp., Dept. S627)

■ **VACUUM FREEZE-DRYER** is designed especially for research and development. The material to be dried is first frozen on two lower shelves chilled to -40°F; it is then transferred to the upper shelves, where it is dried under high vacuum. Total drying area is 4 ft<sup>2</sup>. The unit, which measures 63 by 24 by 35 in., is completely self-contained. (F. J. Stokes Corp., Dept. S628)

■ **NONLINEAR FUNCTION GENERATOR** provides an output voltage that is an arbitrary function of two independently varying input voltages. The function surface is defined at 36 points adjustable between  $\pm 50$  v. Input range for  $x$  and  $y$  is 0 to 50 v at less than 1-ohm impedance. Output is -50 to +50 v with minimum load impedance 30 kohm. (George A. Philbrick Researcher, Inc., Dept. S623)

■ **PULSE DELAY UNIT** allows delays of 5, 10, 15, 20, 50 and 100  $\mu$ sec and combinations of these. Rise-time for a step-function input is less than 1  $\mu$ sec for delay of 25  $\mu$ sec or less, and less than 5  $\mu$ sec for a 100- $\mu$ sec delay. (Electrical and Physical Instrument Corp., Dept. S632)

■ **ULTRASONIC TESTING INSTRUMENT** is a portable unit designed to measure thickness from one side. The instrument is battery operated. Three crystals are used to cover the range of thickness from 0.025 to 5.00 in. Accuracy is  $\pm 2$  percent. (Magnaflux Corporation, Dept. S642)

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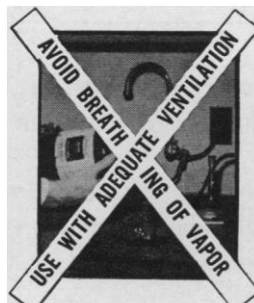
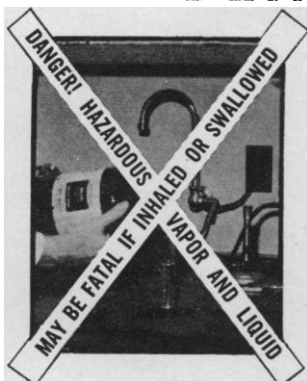
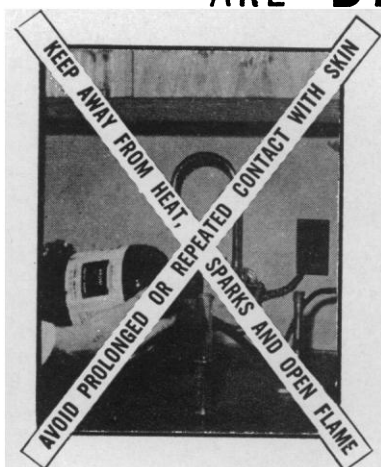
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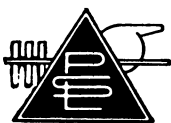
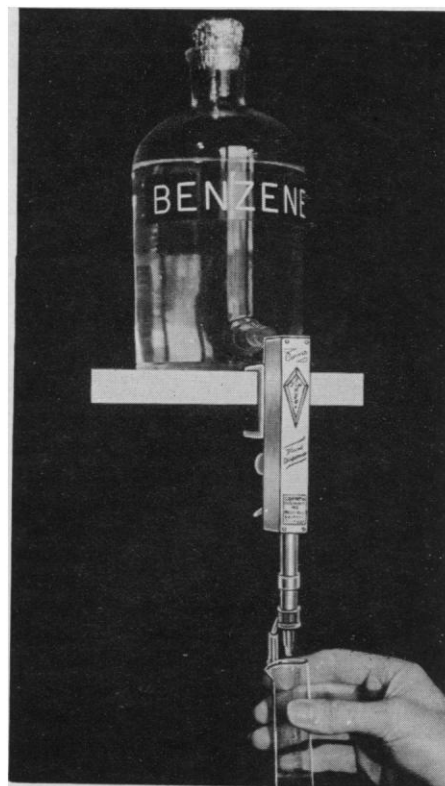
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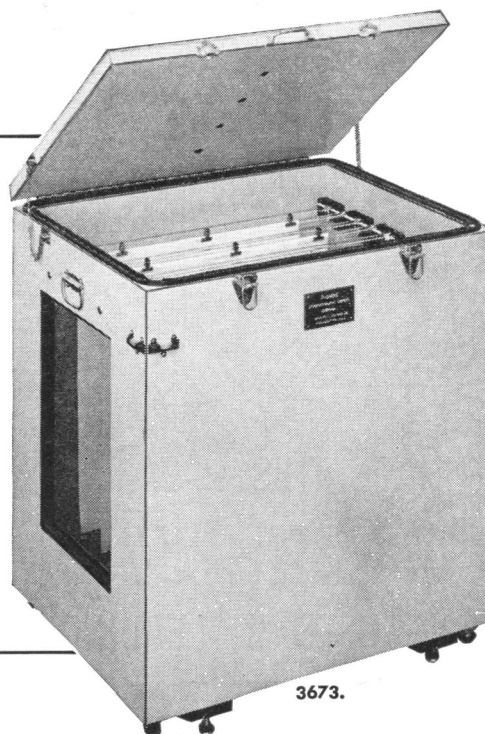
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