

## 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).

■ **MULTIPLE-SOURCE SCHLIEREN SYSTEM** permits observation of density gradients in any predetermined single plane perpendicular to the axis of light. The system consists of a high-intensity light source, a specially shaped reflector, an 18-in.  $f/0.8$  Schmidt focusing system, photographic and television cameras, external source plate, and cut-off plate. The primary light source is a xenon high-pressure lamp. (Task Corporation, Dept. S775)

■ **EVENT RECORDER** records up to 150 channels of on-off information. Sixteen fixed chart speeds, ranging from 10 in./sec to 10 in./day are accurate to 0.25 percent of line frequency. Writing response time is less than 100  $\mu$ sec. Event recording can be combined with analog recording on the same chart through use of the manufacturer's magnetic pen motors. (Clevite Corp., Dept. S776)

■ **ULTRAMAGNIFIER KIT** for the EMU-3 electron microscope increases direct magnification from 50,000 to 200,000. Photoenlargement capability is correspondingly extended to 1 million times specimen size. The kit comprises a newly developed intermediate-lens pole piece and an electronic unit, the latter designed for installation in the existing control panel. (Radio Corporation of America, Dept. S781)

■ **ANGULAR OSCILLATING TABLE** has adjustable excursions up to  $\pm 15$  deg and frequency ranges of 0.02 to 3 cy/sec and 0.2 to 30 cy/sec. Motion conforms to a theoretical sinusoidal waveform within 0.1 percent to  $\pm 2$  deg, 0.5 percent to  $\pm 10$  deg, and 1 percent to  $\pm 15$  deg. Dead-weight payload is 100 lb, and dynamic payload limit is 750 in.-lb. (Genisco, Inc., Dept. S789)

■ **NITROGEN GAS ANALYZER** uses a filter-photocell system to detect excitation of the nitrogen spectrum. The gas sample to be analyzed is flowed at low pressure through a quartz discharge tube in which a radio-frequency field excites a glow discharge. The intensity of the glow as measured by the filter-photocell combination is read directly as percentage of nitrogen. Response time is 0.03 sec within the instrument. Accuracy is 1 per-

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## Work-horse of the Laboratory

"The 'Universal' really carries our load  
... it's working all day ...  
and turns out more and better work  
than any other instrument we have."

That's what many chemists say about the Coleman Universal Spectrophotometer.

It's fast, versatile and exact, with an extremely wide range of sample volumes ... able to handle routine or special analyses with ease and convenience unmatched by any similar instrument. ... It will pay to consider a Universal for your laboratory.

Ask for "Coleman Tools for Science," contains discussion of analysis with light, plus complete description of all Coleman Instruments

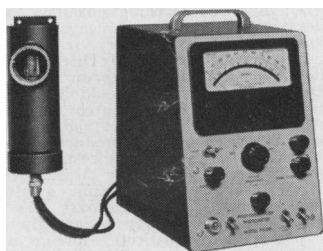


## Coleman Universal Spectrophotometer

Dept. A. Coleman Instruments, Inc., Maywood, Ill.

## New UNIVERSAL PHOTOMETER

For Low Level Light Measurements



WITH THE MODEL PH 200

- \* **Luminous Sensitivity:**  $> 10^{-10}$  Lumens
- \* **Amplifier Stability:** Better than 0.1% Full Scale after warmup
- \* **Reliability:** Signal circuitry involves only one vacuum tube
- \* **Range:** Density - 0 to 6  
Transmittance -  $10^{-6}$  to 1.0

The Model PH 200 Photomultiplier Photometer uses the latest circuit techniques to provide the most reliable and flexible photometer commercially available. The instrument is designed to operate with all types of photomultiplier or phototubes and includes an adjustable high voltage supply. An output jack is provided on the rear chassis for driving an oscilloscope or recorder.

Price: \$495.00 including detector and photomultiplier tube type 931A.

Write for complete technical information.  
Address Dept. S 12 3

## Eldorado Electronics

1401 MIDDLE HARBOR ROAD • OAKLAND, CALIF.

If you are in favor of a reinterpretation of problems of human life on a naturalistic, humanitarian basis freed of dogmatic ideologies,

you may wish to become acquainted with **THE HUMANIST**, a bi-monthly journal regularly 50¢ a copy.

A special subscription offer of 6 months (3 issues) for \$1.00 is being extended to you by the **Humanist Advance Committee**,

including **H. J. Muller**, Chairman; **G. Brock Chisholm**, Vice Chairman; **C. Judson Herrick**, **Julian Huxley**, **Chauncey D. Leake**, **Bertrand Russell**, **Gerald Wendt**, and others.

The Humanist Advance Committee  
Box 227, Dept. A — Yellow Springs, Ohio

cent of full scale. Total range is 0 to 100 percent; vernier-scale ranges cover 20-percent portions of the total range. (Waters Corporation, Dept. S799)

■ **ROCKET MOTOR** furnishes 40 lb of thrust for 1 sec when it is fired in an environment approximating normal temperature and pressure. The motor weighs 0.6 lb and measures 1.5 in. in diameter by 4.75 in. long. Solid propellant is ignited electrically. The rockets are designed for experimental applications. (Atlantic Research Corp., Dept. S790)

■ **ANALOG COMPUTER** includes 30 stabilized amplifiers, 40 coefficient potentiometers, a stable reference supply, and associated circuitry, all housed within a desk-type console. Operational amplifiers have d-c gain greater than  $3 \times 10^7$ . Maximum offset when the unit is operated as a unity inverter is less than 200  $\mu$ v; when the unit is operated as a unity integrator, drift is less than 100 mv in 15 min. Phase shift during operation as a unity inverter is less than 0.2 deg at 1000 cy/sec. The stability of the reference voltage is better than 0.1 percent. (Donner Scientific Company, Dept. S793)

■ **PRESSURE TRANSDUCER** uses a potentiometer to transduce the deflection of a Bourdon tube, in high ranges, or of a

pressure capsule, in low ranges, to an electrical output. Ranges are available from 0-to-15 to 0-to-200 lb/in.<sup>2</sup> (gage). Resolution is from 0.33 to 0.5 percent. Hysteresis is 0.5 percent. Wear life of the resistance element is stated to be 1 million cycles. (International Resistance Co., Dept. S795)

■ **DIGITAL WEIGHING SYSTEM** combines a load cell of strain-gage type with a digital indicator. The indicator is a continuous-balance electronic potentiometer and servo-driven number wheel. Accuracy is 0.1 percent. Coded digital output for connection to computers is also available. (Performance Measurements Co., Dept. S802)

■ **X-RAY MICROSCOPE** employs an x-ray source approximately 1  $\mu$  in size to project enlarged images of specimens placed close to the radiating surface. The electron-optical system includes an electron gun, high-voltage source for electron acceleration, electromagnetic lenses, and targets. Total useful photographic magnification is 1500, magnifications up to 70 being obtained directly at the photographic plate. Resolution is 1.0  $\mu$  or better at 2 to 20 kv. Contrast control is provided to some extent by variation of accelerating potential and by changing target material. (Philips Electronics Inc., Dept. S800)

■ **DISTILLATION APPARATUS** for low-temperature analytical distillation of gaseous and volatile-liquid mixtures utilizes thermal conductivity to identify the distillate. Increased sensitivity and increased accuracy are said to result. Liquid hold-up by the thermocouple, amounting to 20 to 50 ml of vapor, is eliminated. Automatic control of the distillation rate is based on degree of separation accomplished in the upper section of the column. (Podbielniak, Inc., Dept. S798)

■ **DIGITAL VOLTMETER** covers the range from 0 to 120 v d-c. Accuracy is 0.1 percent of full scale. Readings are made at a rate of 60 per second, automatically or on command. The reading is displayed in illuminated decimal digits. A coded output of each digit provides a signal source for operation of punches or other equipment. (Franklin Electronics, Inc., Dept. S797)

■ **PULSE GENERATOR** produces pulses over the range from 1  $\mu$ sec to 1 sec, singly, recurrently, in single pairs, in recurrent pairs, in single trains, and in recurrent trains. Output is 35 v into 50 ohms and is reversible in polarity. Repetition rate is from 1 cy to 250 kcy/sec. (American Electronic Laboratories, Inc., Dept. S796)

JOSHUA STERN

National Bureau of Standards

## PERSONNEL PLACEMENT

**CLASSIFIED:** 18¢ per word, minimum charge \$3.60. As of 1 January 1958, 25¢ per word, minimum charge \$4.25. Use of Box Number counts as 10 additional words. Payment in advance is required.

**COPY** for classified ads must reach SCIENCE 2 weeks before date of issue (Friday of every week)

**DISPLAY:** Rates listed below — no charge for Box number. As of 1 January 1958, single insertion will be \$26 per inch. Monthly invoices will be sent on a charge account basis — provided that satisfactory credit is established.

Single insertion	\$22.00 per inch
13 times in 1 year	21.00 per inch
26 times in 1 year	20.00 per inch
52 times in 1 year	19.00 per inch

**For PROOFS on display ads,** copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

**Replies to blind ads** should be addressed as follows:

Box (give number)  
Science  
1515 Massachusetts Ave., NW  
Washington 5, D.C.

### POSITIONS OPEN

**Chemist, male,** with B.S. or M.S. degree in organic chemistry, to participate in analytical biochemical research in mental illness in hospital near Philadelphia. Write stating age, education, experience, and salary desired to P.O. Box 8507, Philadelphia 1, Pa. 12/20, 27; 1/3, 10

**Plant Physiologist.** Assistant professor to teach and pursue independent research program at leading midwestern university, preferably recent Ph.D. from outstanding graduate school. Box 312, SCIENCE. X

### POSITIONS OPEN

(a) Assistant Director of Biochemistry, Ph.D., or M.D.; 1000-bed teaching hospital; excellent facilities; duties combine clinical and research biochemistry with supervisory responsibilities; medical center, Midwest. (b) Director of Market Research and, also, Director of Research and Development; former would be responsible for conducting market research on products which are now on the market; latter would be responsible for research on products not as yet on the market; large city, Midwest. (c) Organic Research Chemist, Ph.D. or M.Sc.; research laboratory specializing in organic synthesis in medicinal chemistry; Pacific Coast. (d) Assistant Professor in Pathology to develop department, postgraduate institute, foreign medical school; 2-year contract. S12-2 Medical Bureau, Burneice Larson, Director, 900 North Michigan, Chicago. X

**CHEMISTS AND MATHEMATICIANS;** Ph.D. preferred; teaching and research in expanding departments; salary dependent on experience and other qualifications. Inquiries should be addressed to Chairman, Division of the Natural Sciences, Dillard University, New Orleans 22, Louisiana. 12/20, 27; 1/3, 10, 17

**Electron Microscopist.** An electron microscopist is needed at the biological laboratories of Harvard University, Cambridge 38, Mass., to collaborate in research with members of the department. Salary to depend upon experience and other qualifications. Inquiries should be addressed to the Chairman, Electron Microscope Committee, at the above address. 11/29; 12/6, 13

**Microbiologist,** fine opening in industrial control work with suburban New York City firm. M.S. degree or equivalent training preferred. Some industrial experience in food field desirable. Permanent position in established, progressive company. Ideal advancement and supervisory opportunities. Liberal salary and complete benefit program. Write in confidence, giving full details. Box 309, SCIENCE. X

### POSITIONS OPEN

**Microbiologist.** Ph.D., recent graduate with experience or training in tissue culture and virology. Responsible research position with rapidly expanding veterinary biological and pharmaceutical manufacturer located in Midwest. Fine working conditions, liberal employee benefits, including a profit-sharing program, and excellent opportunity for advancement. Please send complete résumé, including approximate salary requirements, references, and date available in first letter. Our employees know of this ad and all inquiries will be held in strict confidence. Box 306, SCIENCE. 12/13, 20, 27

(a) **Pharmacologist;** M.D. to direct basic, clinical, market research; supervise eight-person group, all Ph.D.'s; midwestern pharmaceutical company. (b) **Biochemist;** B.S., year experience; research on respiratory, biochemical problems; large general hospital; to \$5400; Southeast. (c) **Bacteriologist;** M.S., Ph.D. to direct department, 500-bed general hospital; work with excellent, certified pathologist; \$7500-\$8400; Midwest. (d) **Biochemist;** B.S., M.S. with clinical experience; approved 250-bed general hospital; to \$6000; East. Woodward Medical Bureau, Ann Woodward, Director, 185 N. Wabash Avenue, Chicago. X

**Public Health Engineer;** \$6000-\$8000. Health Educator; \$4000-\$6000. Liberal expense allowances, excellent working conditions. Reply stating education and experience to: Buncombe County Health Department, P.O. Box 7525, Asheville, North Carolina. X

(a) **Woman Physics Teacher** for 2 years, (b) **Woman Mathematics Teacher** for at least 3 years (both starting work late June 1958 in India). Advanced degree in the subject required, and 4 years experience in teaching the subject in college or university. State in detail experience and full academic vitae. Give references. Write M. E. Wells, Associate Board, Women's Christian College, 36 Hill Street, Naugatuck, Conn. X

# Science

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