



## 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).*

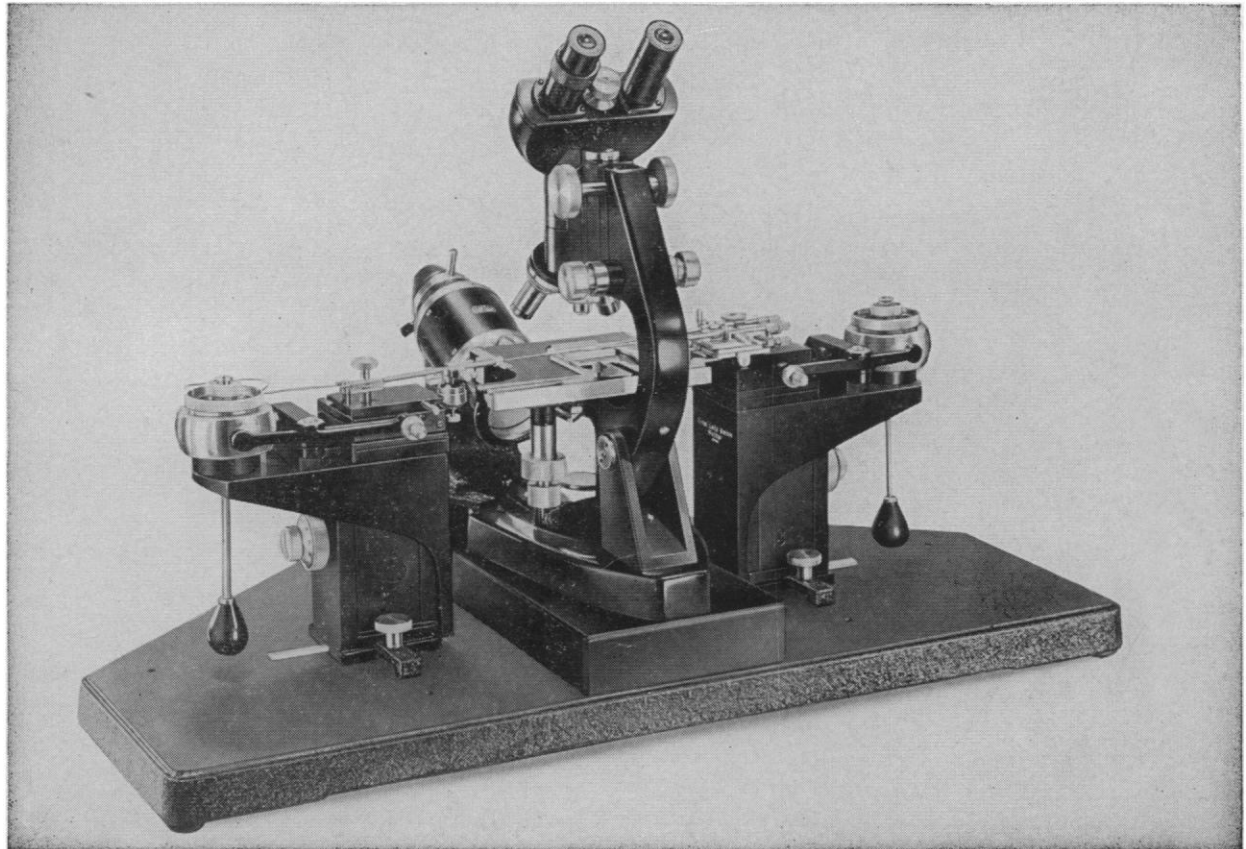
- **ELECTROPHORESIS CELL** permits the continuous separation of protein fractions—for example gamma globulin from blood. The cell is constructed of plastic and semipermeable membranes. In operation, the cell, immersed in buffer solution, is subjected to a direct current and fed continuously with the protein solution to be fractionated. Products of the separation are continuously withdrawn. (Perkin-Elmer Corp., Dept. S418)
- **MICROPHONES** for audible and ultrasonic frequencies permit acoustic measurements to be made to levels exceeding 200 db above 0.0002  $\mu$ bar. The microphones show linear response to extremely high magnitudes; thus, they are suitable for the measurement of blast pressures and shock waves as well as for conventional sound pressure levels. Models are available for frequencies up to 120 kcy/sec. (Massa Laboratories Inc., Dept. S-419)
- **RANGE FINDER**, with a 6-in. base length, measures distances from 8 to 100 ft with accuracy said to be  $\pm 2$  percent. Operation is based on coincidence of two images, one seen in natural color and the other in a contrasted gold color. The instrument is adjusted to cause the two images to coincide, and the distance is read on the adjustment dial. (Edmund Scientific Co., Dept. S428)
- **REFRACTORY CEMENT** which will hold metal to metal, glass, or ceramics will withstand temperatures between  $-420^\circ$  and  $+1000^\circ$ F. The adhesive is dielectric and will not crack, craze, or check even on flexing surfaces or when it is used to join materials of unequal thermal expansivity. It is also waterproof and non-hygroscopic; it is not affected by most reagents. The upper temperature limit of its usefulness can be extended to  $1500^\circ$ F by modification of composition. (Charles Engelhard Inc., Dept. S433)
- **SINGLE-CHANNEL PULSE-HEIGHT ANALYZER** is combined with a nonoverload pulse amplifier for use in scintillation spectroscopy and proportional-counter pulse analysis. The two parts are combined in a single chassis. Overloads as large as a factor of 100 are handled. (Hammer Electronics Co., Inc., Dept. S283)
- **NEUTRONS** at multicurie level are provided by polonium-beryllium sources. Outputs up to  $10^8$  neutrons/sec are available. (Isotopes Specialties Co., Inc., Dept. S414)
- **SYNCHRONOUS CONVERTER SWITCH** is designed to eliminate capacitive coupling between contact and coil leads by providing electrostatic shielding. Peak-to-peak noise levels are said to be less than 100  $\mu$ v across 1 Mohm impedance. The chopper is offered with single-pole, double-throw switch action and with contact ratings up to 10 v at 1 ma. (Bristol Co., Dept. S415)
- **OZONE DETECTOR** actuates an alarm when ozone concentration is as low as 10 parts in 100 million. Iodine released by ozone is detected electrically. The electric signal controls the addition of titrant to remove iodine corresponding to a preset alarm concentration from 10 to 500 parts per 100 million. Excess iodine produces the alarm signal. Response time is 1 min at the lowest concentration. (G. F. Bush Associates, Dept. S408)
- **RELAY-OPERATED VOLTAGE DIVIDER** consists of five decades, binary-decimal coded. Models are available with accuracies of  $\pm 0.01$  or  $\pm 0.001$  percent. Resolution is 1 ohm. Operating time of relays is less than 10 msec. Thermally induced transient effects are less than 0.0005 percent of full scale at rated current of 2 ma. Resistors are hermetically sealed in a metal case. Accessories are available for automatic actuation or read-out. (Julie Research Laboratories, Dept. S411)
- **PRINTED CIRCUIT BOARDS** of photosensitive glass withstand a continuous operating temperature of  $500^\circ$ C. Since the etching ratio is 15 times higher than that of conventional glasses, small holes with close center-to-center distances can be produced. The boards are available in thicknesses from 0.05 to 0.235 in. and up to 12 by 18 in. in size. (Corning Glass Works, Dept. S410)
- **GALVANOMETER RECORDER** uses a linkage to produce true rectilinear recording over a chart width of 4.5 in. Current range is 1 ma full scale. Input resistance is 1500 ohm, and source resistance for critical damping is 20,000 ohm. Response time is 0.25 sec for full-scale deflection. Accuracy is  $\pm 1$  percent of full scale. Ten chart speeds are provided. (Houston Technical Laboratories, Dept. S280)
- **HIGH-RESISTIVITY ALLOY** is composed of palladium, gold, and iron. It has a resistivity of 1100 ohms per circular mil ft and a temperature coefficient of  $-2.8 \times 10^{-4}$  ohm/ohm  $^\circ$ C between  $0^\circ$  and  $100^\circ$ C. (Baker and Co., Dept. S392)
- **COATING MATERIAL** is said to be unusually resistant to abrasion, weathering, and chemical agents. Marketed under the trade name "Maintz," the coating is based on Du Pont chlorosulfonated polyethylene in combination with silicone and other resins. Continuous service in the temperature range from  $-50^\circ$  to  $+120^\circ$ C is recommended by the manufacturer. (Westchester Chemical Co., Dept. S251)
- **TEMPERATURE CONTROLLER** is thermistor operated to provide temperature constancy to  $0.1^\circ$ F. Several temperature ranges from  $-100^\circ$  to  $+500^\circ$ F are available. Thermistor probes in ten types can be supplied. (Yellow Springs Instrument Co., Inc., Dept. S291)
- **TWO-CHANNEL OSCILLOSCOPE** has a frequency range from direct current to 15 Mcy/sec. Frequency range of horizontal amplifiers is from direct current to 2 Mcy/sec with deflection sensitivity of 1 v/cm. Two variable sweep generators have ranges from 0.1  $\mu$ sec/cm to 1 sec/cm. Time bases of the two channels may be either separate or common. Triggering may be internal or external. (Electronic Tube Corporation, Dept. S421)
- **LENGTH-MEASURING MACHINE** is available in two types. The first, for 80- to 120-in. lengths, consists of a measuring head and a master scale. A high-power microscope sets the measuring head to the master scale's 4-in. graduations. The measuring head contains a 4-in. scale with projector reading directly to  $5 \times 10^{-5}$  in. and repeating to a setting precision of  $10^{-5}$  in. The second type, for measuring to  $10^{-4}$  in. at 30 ft, employs a sectional bed and a steel master tape under constant tension. Otherwise it is similar to the first type. (Engis Equipment Co., Dept. S420)
- **ELECTRONIC POTENTIOMETER SERVO-MECHANISM** is furnished without a case for building into the user's equipment. The unit is available as a potentiometer or as an alternating-current bridge. Dial indicator speeds of 1, 2, and 4.5 sec are offered. (Bristol Company, Dept. S380)
- **VOLTMETER** covers the frequency range from 0.2 to 500 Mcy/sec and is useful to higher frequencies with reduced accuracy. Signals of amplitude as low as 400  $\mu$ v are said to be detectable. Two probes are furnished, one for high-impedance work and the other, a 50-ohm probe, for high-frequency coaxial systems. Each probe contains a full-wave diode detector approaching root-mean-square response at levels below 0.1 v. (Boonton Electronics Corp., Dept. S423)

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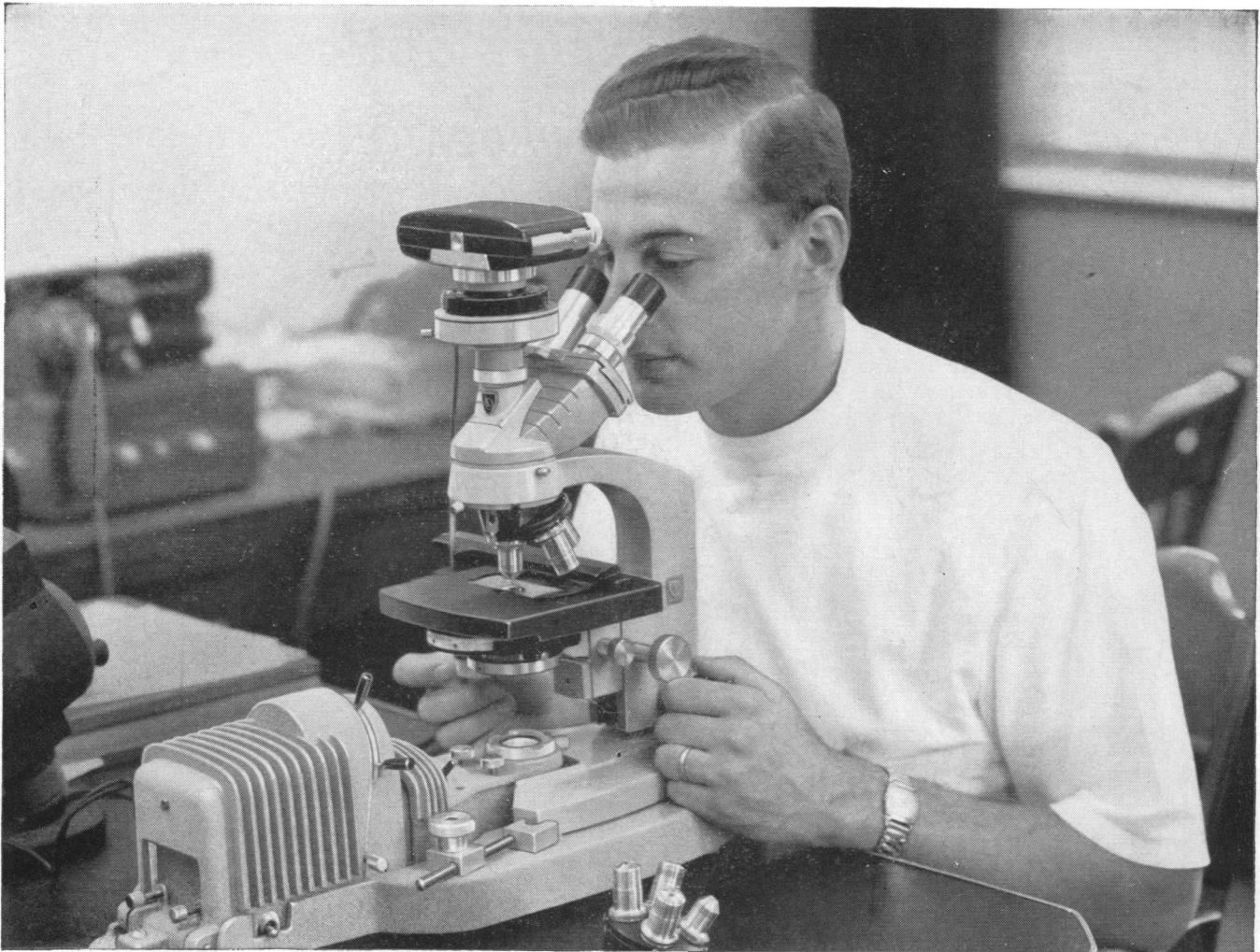
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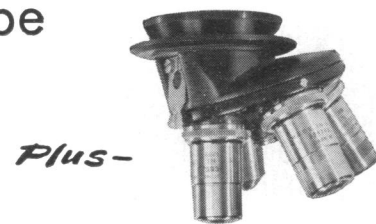
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