

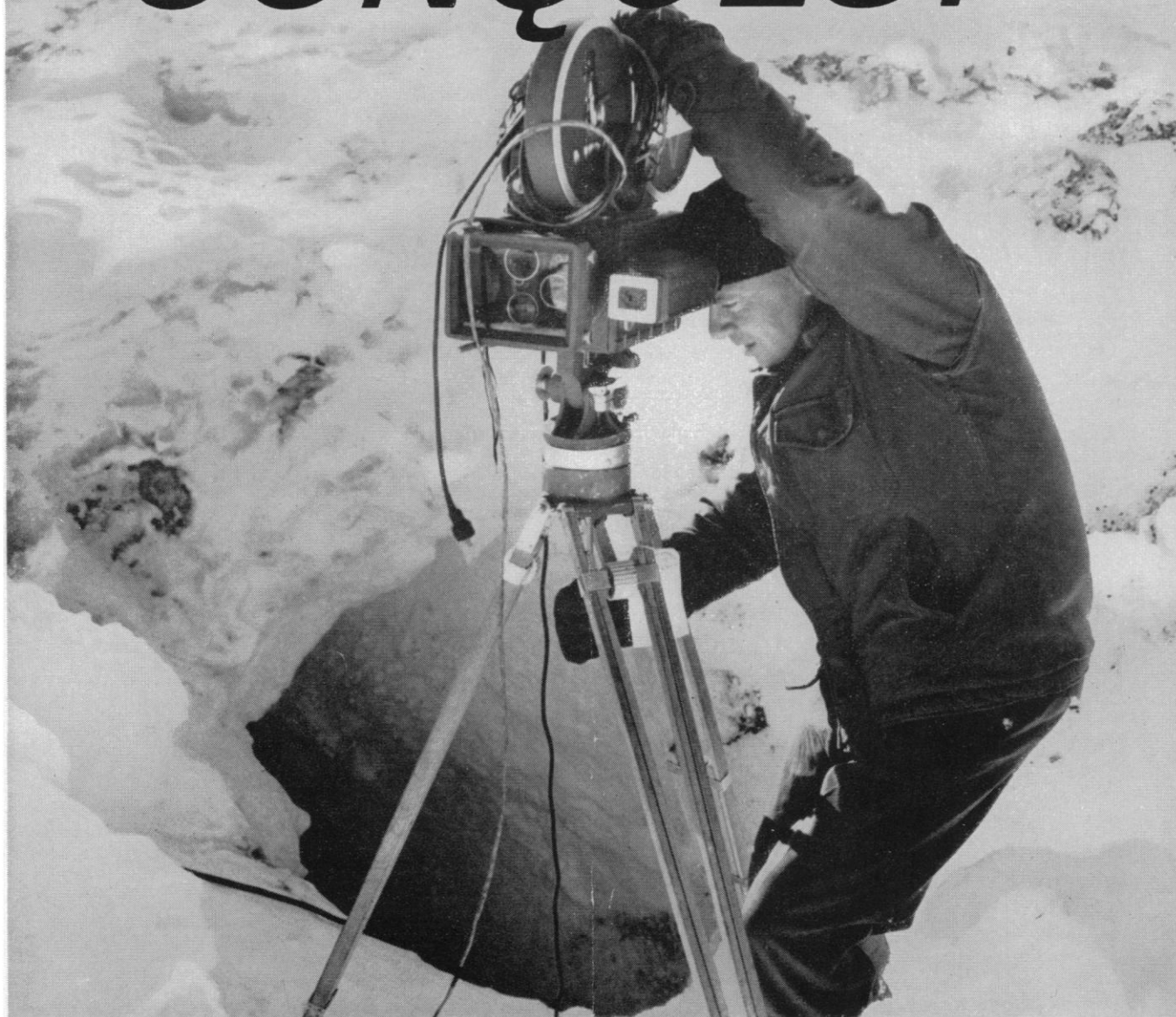
SCIENCE

28 February 1958
Volume 127, Number 3296

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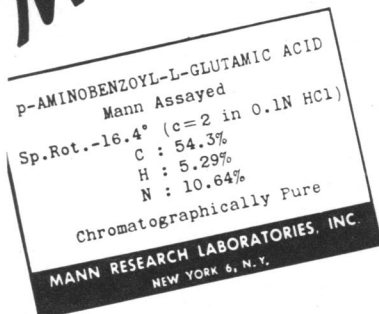
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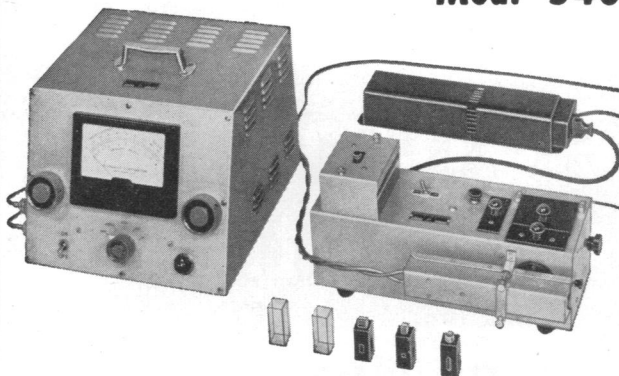
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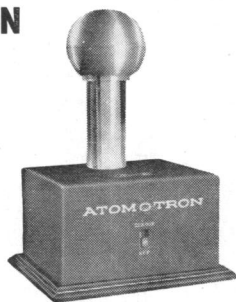
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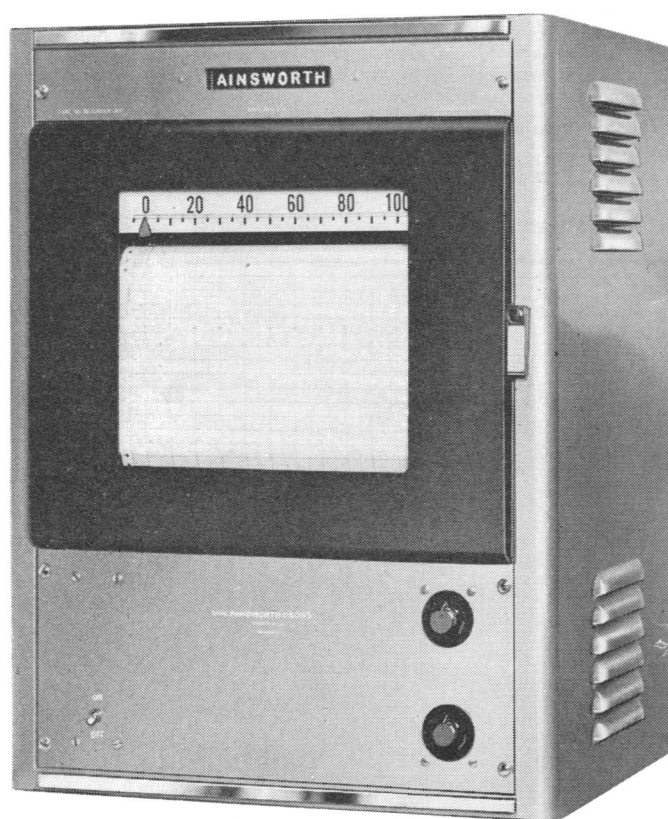
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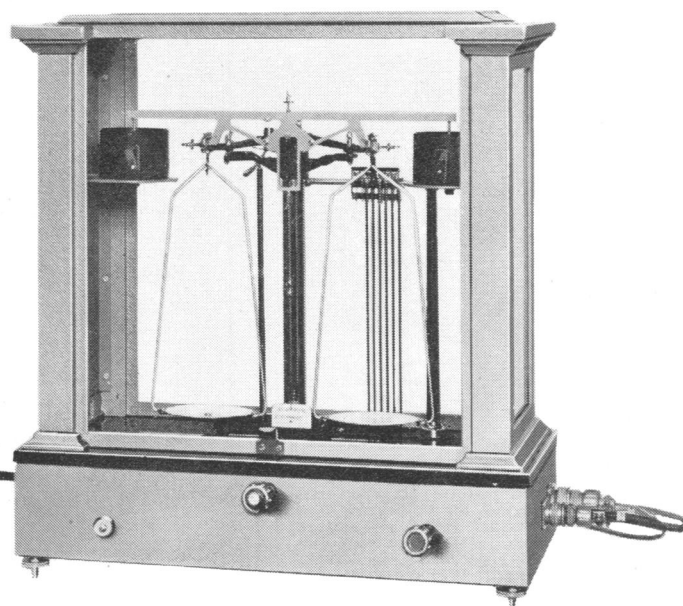


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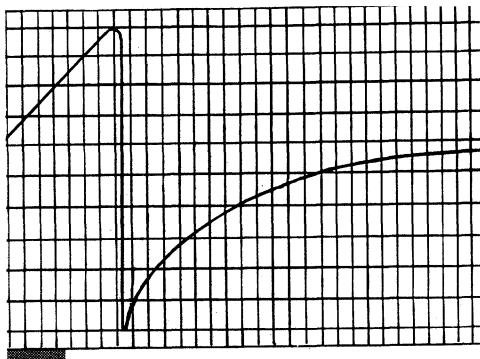


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EQUIPMENT NEWS

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■ **AUTOMATIC RECORDING REFLECTOMETER** measures reflectance as the ratio of light in a test beam relative to that in a comparison beam. The instrument is capable of measuring whiteness, degree of yellowness, flashing and fading, amount of blueing, and other factors. (Gardner Laboratory, Inc., Dept. S915)

■ **PULSE GENERATOR** provides repetition rates from 1 cy/sec to 10 Mcy/sec. Pulse durations are variable from 0.02 μ sec to 12.5 μ sec. Rise time is 8 μ sec. Positive and negative pulses of 40-v amplitude are simultaneously available. Internal impedance is 185 ohm. (Rutherford Electronics Co., Dept. S920)

■ **MECHANICAL VACUUM PUMP** is designed for portability. Vertical design eliminates the usual belt-and-pulley drive and makes the pump leakproof. Free-air displacement is 50 lit/min with a guaranteed absolute pressure of 0.1 μ . (Arthur F. Smith Co., Dept. S921)

■ **MULTIPLIER PHOTOTUBE** is sensitive to red and near-infrared radiation. The spectral response covers the range 4200 to 11,000 Å; maximum response is at about 8000 Å. The tube uses a semi-transparent cathode of 1.24-in. minimum diameter on the inner surface of the face end of the bulb. Time resolution is such that an input pulse having a duration of 1 μ sec or less will produce an anode pulse of about 5- μ sec spread, measured at 50 percent of maximum pulse height. The transit-time spread can be reduced to 2 μ sec by restricting the sensitive area. (Radio Corporation of America, Dept. S922)

■ **ELECTRIC THERMOMETER**, manufactured by Elektrolaboratoriet, Copenhagen, Denmark, operates on the thermocouple principle. Automatic compensation for ambient temperature eliminates the necessity for temperature control of a reference thermocouple. A variety of applicators adapt the instrument to a wide range of physiological temperature measurements. All applicators are adjusted so that they are ready to use and are standardized for replacement. The galvanometer-indicator scale length is 250 mm. Standard temperature range is 16° to 46°C, divided into intervals of 0.1°C. (Chemical and Pharmaceutical Industry Co., Inc., Dept. S923)

■ **PHOTOGRAPHIC SENSITOMETER** provides a gray-scale exposure for test of photosensitive materials. Pushbuttons select exposure times of 0.01, 0.001 and 0.0001 sec. Repeatability from flash to flash is within ± 5 percent, and uniformity of

light across the exposure plane is within ± 2 percent. Color quality is that of daylight. Filters can be added to approximate a tungsten source. (Edgerton, Germeshausen and Greer, Inc., Dept. S924)

■ **RESISTANCE WELDER** permits welding of components directly to printed or etched wiring boards. Series-type welds, two simultaneous welds from one side of the work, can be made. The twin upper electrode arms are electrically independent and are continuously adjustable for pressure settings up to 25 lb. The equipment is self-contained. (Weldmatic, Dept. S919)

■ **PITCH-YAW INDICATOR** provides potentiometer output linear with angles of pitch and yaw. Ranges up to 27.5 deg are available with indicating accuracy of 0.1 deg. High-temperature components are used to permit operation at high Mach numbers. (Edcliff Instruments, Dept. S918)

■ **ACCELERATION AND VELOCITY TRANSDUCERS** of peak-reading type measure the plastic deformation of a metal sphere caused by a movable-piston mass. Available ranges are from 0 to 2000 and 0 to 50,000 g. Accuracy is ± 5 percent over most of the range. (Avionic Products Engineering Corp., Dept. S916)

■ **TACTILE COMMUNICATION SYSTEM**, the "Teletac," is offered to provide the deaf with additional means of instant communication. The basic system consists of a single apparatus whereby the five fingers of the "speaker" press vibration-sending piano-type keys and the five fingers of the listener rest on corresponding sensitive receiving diaphragms. The speaker portion measures 6 by 10 by 2 in., the listener portion 8 by 9 by 2 in. The problem of optimum coding for use with the device remains to be solved. (Ramo Wooldridge Corp., Dept. S927)

■ **BALANCE** of semiautomatic, single-pan type may be used for weights from 0.1 mg to 200 g. The unit is of two-beam design; initial rough weighing is done on one beam, and over- or under-weight is indicated by signal light; final weighing adjustments are made automatically on a fine-weighing beam. Wear of the knife-edge is said to be reduced as a result. The optical-lever optical system used for indication projects an image of 10,000 divisions, each representing 0.1 mg. (Torsion Balance Co., Dept. S929)

■ **COMPUTING INDICATOR** displays two independent variables and a third variable which is a function of the two. Two direct-current reflecting galvanometers project lines extending across the screen of the indicator. One, a horizontal line, moves vertically in proportion to current, the other, vertical line, moves horizontally. The screen carries a family of curves representing a function which is read from the intersection of the two lines. (Aero Electronics Co., Dept. S933)

JOSHUA STERN
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