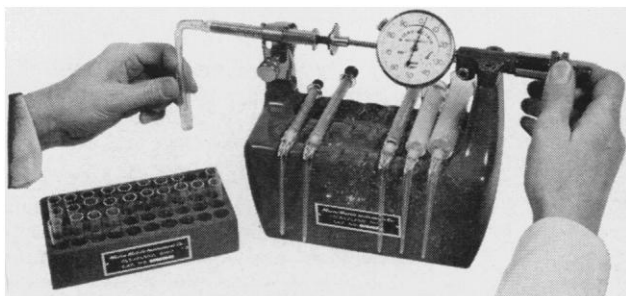


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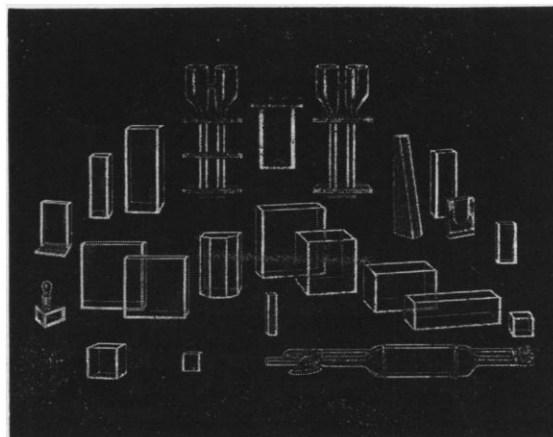
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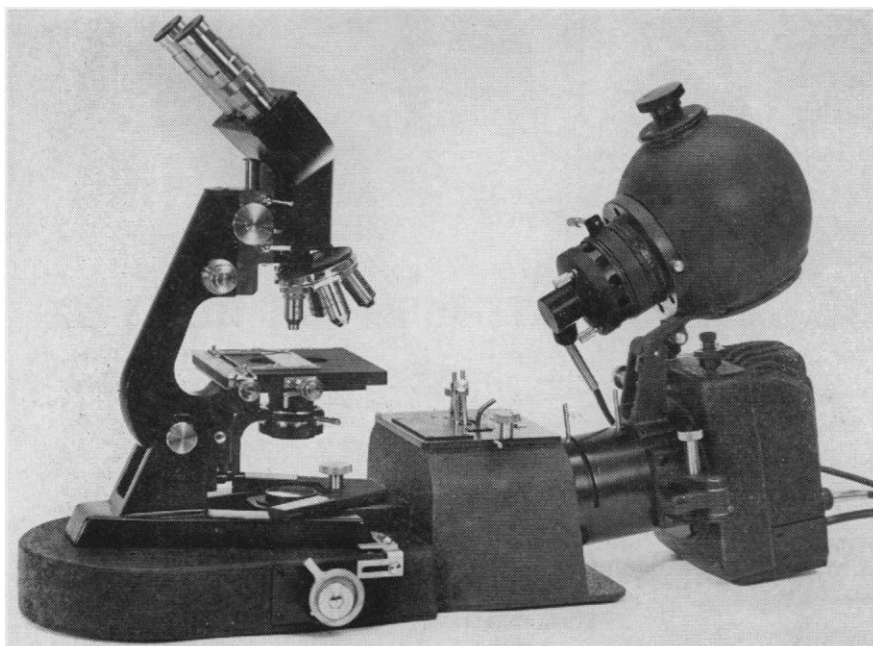
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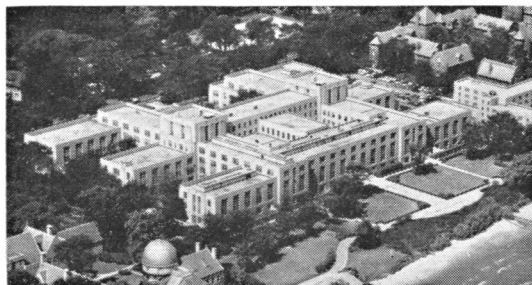
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AAAS Symposium Volume No. 44

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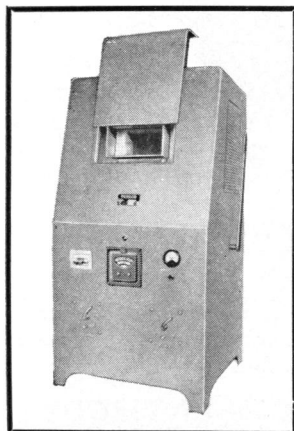
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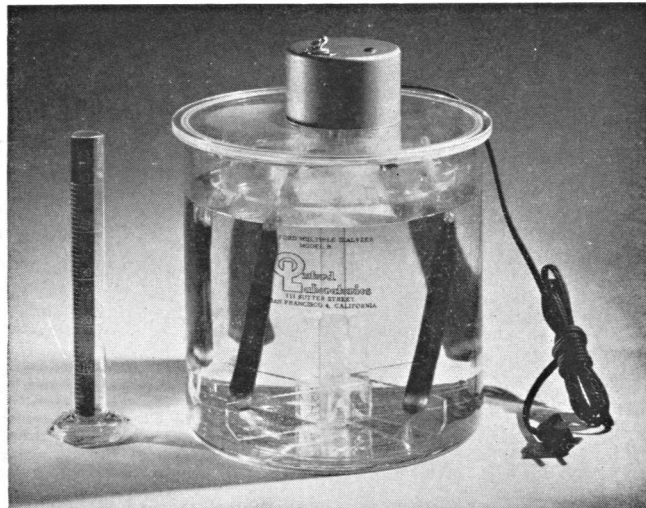
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EQUIPMENT NEWS

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■ **ANALOG-TO-DIGITAL CONVERTER** accepts electric signals in ranges from 1 mv to several volts full scale and converts them into angular displacement by means of a servomechanism. Angular displacement is then converted to digital code representation in the form of contact closures by interchangeable drums coded with contact pins arranged in up to 16 rows. Each row has 200 quantizing positions. (Union Thermoelectric Corp., Dept. S458)

■ **PROGRAMED POWER SUPPLY** supplies d-c voltages in 1-volt steps from -300 to +300 v and at currents from 0 to 200 ma. Programing is furnished by punched tape or by any system which supplies binary-coded decimal signals. Voltages are selected by applying pulses to a group of relays. These operate in conjunction with precision-made, wire-wound, voltage-dividing resistors. Response time is 200 msec. (Dressen-Barnes Corp., Dept. S471)

■ **PULSE-HEIGHT ANALYZER** is available in capacities from 10 to 50 channels in increments of 10 channels. A maximum of 99,999 counts may be accumulated in each channel at counting rates up to 15,000 count/min. Readout is accomplished by a scale-of-ten glow transfer tube followed by a four-digit register. Double-pulse resolution time is 4 μ sec. Discriminator window width is fixed at 2.0 v, stable within ± 1 percent. (El Dorado Electronics Co., Dept. S474)

■ **PORTABLE OSCILLOSCOPE** has a pass band from direct current to 10 Mc/sec. Vertical amplification is variable from 0.01 to 50 v per division in 12 steps. The time base provides 22 calibrated steps from 0.2 μ sec to 2 sec per division. A 3-in. cathode-ray tube with an accelerating potential of 1.85 kv is used. The power supply is electronically regulated. (Tektronix Inc., Dept. S488)

■ **ULTRARAPID FLASHER** provides flash repetition rates to 20,000/sec. Flash duration is of the order of 1 μ sec. Energy per flash can be varied from 0.3 to 5 watt seconds. At flashing rates up to 1000/sec, continuous operation is possible. The light source is a demountable spark chamber. (Frank Fruengel Inc., Dept. S511)

■ **PHOTOELECTRIC REFRACTOMETER** compares the refractive index of a reference fluid to that of a process fluid. A self-nulling optical servo system provides a linear output signal suitable for actuation of recording and data-processing equipment. (Phoenix Precision Instrument Co., Dept. S480)

■ **METAL DETECTOR** has a maximum range of 7 feet for large objects. The instrument is battery operated, and the search coil is designed for underwater use. Proximity of metallic objects is indicated by meter deflection and by headphone sounds. (Gardiner Electronics Co., Dept. S499)

■ **PULSE CALIBRATOR** measures amplitude, duration, and rise time of current and voltage pulses. The instrument permits visual display of two signals. One of these, the signal to be measured, can be alternating current, direct current, or a pulse of either polarity. The other is a known reference voltage which is used as a measuring standard. The reference voltage is variable by means of a helical attenuator. Accuracy of calibrating voltage is ± 0.1 percent. A mercury cell is used as the standard to set the reference voltage. (Burroughs Corp., Dept. S481)

■ **DIGITAL VOLTMETER** measures low-level voltages obtained from thermocouples, strain gages and other transducers. The instrument uses stepping switches, operating in oil, to effect balance. Range is ± 0.001 to ± 9.999 mv with sensitivity of 3 to 5 μ v and accuracy ± 0.1 percent of full scale. Provision is made for operation of a Clary printer and IBM summary punch from the voltmeter output. (Non Linear Systems, Inc., Dept. S482)

■ **MASS SPECTROMETER** is a portable instrument for the mass range from 2 to 80. Resolving power is adequate for separation of adjacent peaks up to about mass 35. The scanning operation of the spectrometer causes mass numbers to appear uniformly spaced on a time base. A manual override permits rapid setting to any mass number. (Consolidated Electro-dynamics Corp., Dept. S476)

■ **IMPEDANCE BRIDGE** measures capacitance, inductance, and resistance. For d-c resistance measurements, a built-in generator furnishes either 10 or 300 v to the bridge. Bridge null is detected by a light-beam galvanometer. For a-c measurements, a 0- to 15-v supply, operable from 100 cy through 10 kcy/sec, is used. Bridge null for alternating current is

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■ **AUTOMATIC BLOOD ANALYZER** determines urea and sugar in blood and calcium in serum. The samples to be analyzed are picked up by a tube from a rotating sample plate. Reagents are added by a proportioning pump. Diffusible constituents are removed by a dialyzer. Measurements are made by a photoelectric colorimeter and recorded graphically. (Technicon Company, Dept. S468)

■ **PULSE TRANSFORMER KIT** consists of 5 subminiature, metal-cased, hermetically sealed pulse transformers. The transformers measure $\frac{1}{2}$ in. in diameter by $\frac{3}{8}$ in. in length. Ferrite toroidal cores are used. (CBS Electronics Co., Inc., Dept. S478)

■ **SAMPLING SWITCH** has two poles and 30 contacts per pole, providing 60 channels in make-before-break operation. A filtered 27.5-v d-c motor rotates the switch at 2.5 rev/sec. (Applied Science Corp. of Princeton, Dept. S479)

■ **LOW-PASS FILTERS** are available for standard cutoff frequencies of 7, 20 and 40 kcy/sec. Attenuation is 1 db at the cutoff frequency and 12 db per octave at higher frequencies. Input impedance is 500 ohm, output impedance 4000 ohm. (Flow Corporation, Dept. S494)

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■ **DIFFERENTIAL TRANSFORMER KIT** consists of seven differential transformers having linear displacement ranges from ± 0.01 to ± 2.5 in., a flexure plate and clamp for positioning coils, and a demodulator which converts the a-c output of the transformer into d-c voltage. (Automatic Temperature Control Co., Dept. S498)

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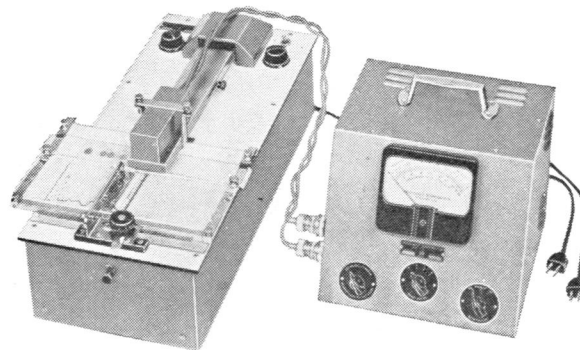
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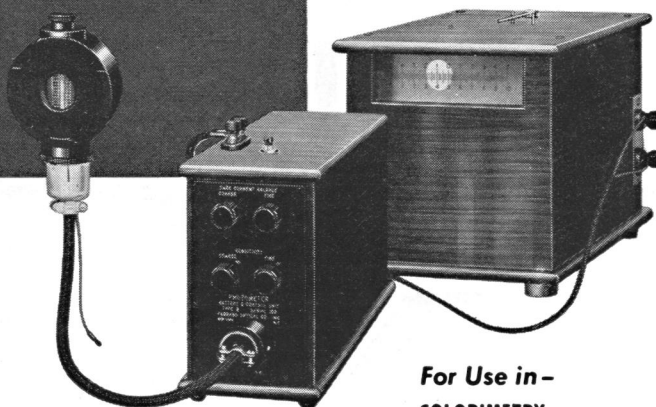
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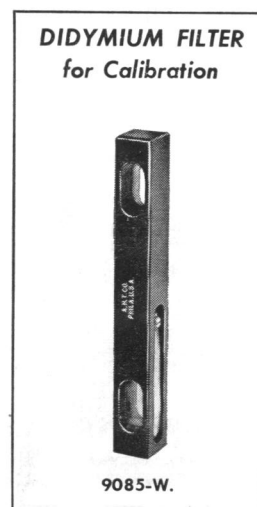
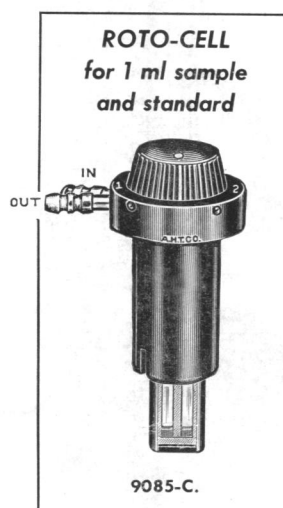
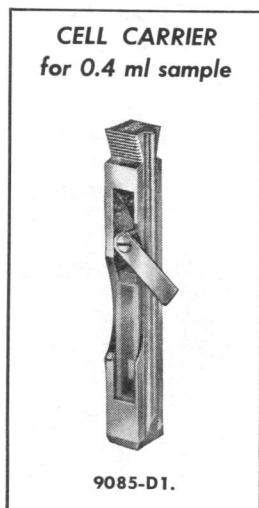
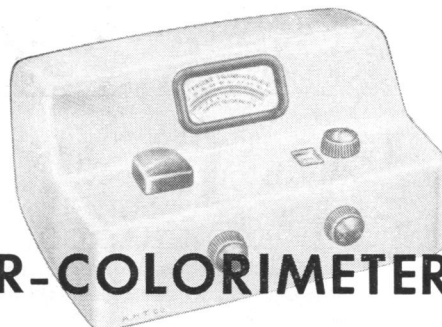
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