

EQUIPMENT NEWS

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■ **MILLIVOLT RECORDER** has sensitivity as high as full scale for 1 mv. A high-gain, chopper-type amplifier feeds a standard 5 ma d-c measuring mechanism with less than 1 μ a drain on the measured circuit. Response time for full-scale deflection is $\frac{3}{4}$ sec. Synchronous-motor chart drive or 60-day spring-motor drives are available. Four ranges, 1, 2, 5, or 10 mv, are selectable by change of a plug-in resistor. (General Electric Co., Dept. S549)

■ **TRANSISTOR POWER SUPPLY** furnishes d-c power variable from 0.5 to 7.0 v. A maximum current of 300 ma is furnished. Ripple is less than 1 mv at full load. Regulation is 50 mv over the input range 105 to 125 v a-c. Internal impedance is 0.5 ohm. (Kay Electric Co., Dept. S532)

■ **RADIO-FREQUENCY PROBE** is transistorized. Gain is unity, stabilized by a feedback amplifier. Frequency response is 1 db down at 50 cy/sec and 12 Mcy/sec, 3 db down at 20 cy/sec and 15 Mcy/sec. Input impedance is 4 μ f and 100 kohm. Output impedance is 50 ohm. (Kay Electric Co., Dept. S553)

■ **FREQUENCY INDICATOR** counts events during 0.1-, 1-, or 10-sec intervals. Maximum count rate is 100,000/sec. Glow transfer tubes are used for counting and for display. The indication may be recorded on standard printer tape. Input sensitivity is 50 mv. Automatic-recycle or single-reading modes of operation are available. (Electro-Pulse Inc., Dept. S534)

■ **VACUUM DISTILLATION UNIT** has a capacity of up to 200 lb/hr. The equipment is designed for push-button operation. A film-type preheater-degasser is a feature of the still. All instruments necessary for operation are incorporated in a control panel. (Arthur F. Smith Co., Dept. S503)

■ **HELICAL RECORDER** records analog data in the range from direct current to 35 cy/sec. Heat-sensitive paper is used for the record, a sheet 38 by 11 $\frac{7}{8}$ in. accommodating a spiral record up to 1360

ft long. Paper speed and trace separation can be varied. Two-thirds of the record is visible at any time. (Geotechnical Corporation, Dept. S504)

■ **PRESSURE TRANSDUCER** converts a 3- to 15-lb/in.² signal to a proportional a-c signal. Motion of a pressure capsule is sensed by a differential transformer. Accuracy is said to be ± 0.25 percent of full scale. (Fischer and Porter Co., Dept. S517)

■ **DIGITAL OHMMETER** permits measurement of resistance from 10 mohm to 10 Mohm with a single instrument. Accuracy ranges from ± 0.1 to 0.01 percent depending on the range of resistance being measured. Readout time is approximately 1 sec. The instrument is based on a switching unit containing three arms of a Wheatstone bridge. (Electro Instruments Inc., Dept. S521)

■ **IGNITION APPARATUS** is suitable for determination of ignition temperatures of plastics and other solids and for evaluation and classification of combustible materials. (Custom Scientific Instruments, Inc., Dept. S522)

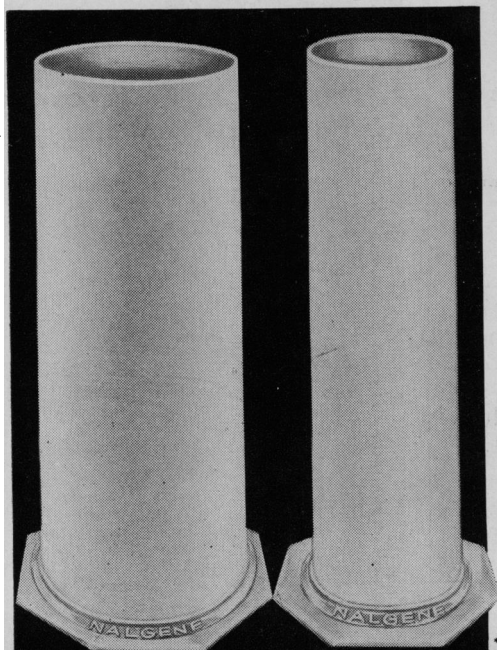
■ **NEUTRON COUNTER** features a subminiature preamplifier constructed into a BF₃ detector tube to allow the detector assembly to be operated 50 ft or more from the equipment into which it feeds. Fast neutron response is constant from 100 kev to 5 Mev. Sensitivity is 5600 count/min per neutron, per second, per square centimeter for a Po-Be source. (Tullamore Electronics Laboratory, Dept. S524)

■ **LEAK DETECTOR** of the helium-mass spectrometer type can detect a leak rate of 1×10^{-10} standard cubic centimeters of air per second. Response time may be as low as 2 sec. The instrument has been specifically designed for simplicity in use and maintenance. The mass-spectrometer tube can be removed and replaced without shutting down the vacuum system. (General Electric Co., Dept. S531)

■ **HARDNESS TESTER** reduces operator fatigue by motorization of the major load. Elimination of human variability in application of load is also said to contribute improved accuracy. Standard models have 8- and 12-in. vertical capacity. Special models with 4- and 16-in. capacity are available. (Torsion Balance Co., Dept. S523)

■ **PRESSURE PICKUP** is capable of operating continuously at 500°F. The pickup is based on the unbonded-strain-gage principle, whereby displacement of a diaphragm is sensed by strain-gage resistors arranged in a bridge circuit. Compensation for wide variations of ambient

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temperature is provided by locating the two inactive arms of the bridge in close proximity to the active windings. (Consolidated Electrodynamics Corp., Dept. S551)

■ **POWER SUPPLY**, fully transistorized, supplies 100 to 150 v at 0 to 1.5 amp, regulated to better than ± 0.1 percent against either line or load changes. Ripple is less than 1.0 mv. The supply dissipates less than 50 w to deliver 225 w. (NJE Corp., Dept. S505)

■ **ELECTRONIC FIBER-FINENESS INDICATOR** scans a sample of fibers on a slide, measuring fiber diameter and computing an average. The image cast by each fiber as it passes through a light beam is presented to a multiplier phototube which produces an electric signal starting at the time the leading edge is seen and persisting until the trailing edge passes. The duration of the signal is a measure of diameter. The signal durations are counted for 1000 fibers, providing an average diameter. (National Research Corporation, Dept. S552)

■ **THERMAL WIRE STRIPPER** is designed for use with Teflon insulated wire. Interchangeable electrodes are available to handle wire from A.W.G. Nos. 14 to 32. Operation is on 15-v alternating current. (Contact, Inc., Dept. S555)

■ **SILICON MONOMER**, pentamethyldisiloxanemethylmethacrylate, can be copolymerized with acrylonitrile, styrene, vinyl acetate, and methyl methacrylate to yield plastics with unusual properties. A 30-percent copolymer with methylmethacrylate, for example, exhibits a coefficient of friction against steel of 0.03 as compared with 0.05 for polytetrafluoroethylene. (Dow Corning Corporation, Dept. S533)

■ **TAPE READER** will read ten transverse rows of eight holes each in a perforated tape. Standard 1-in. tape with holes on 0.1-in. centers is accommodated. The reader will operate continuously at a rate of 6 frames per second. (California Technical Industries, Dept. S554)

■ **RECORDING POTENTIOMETER** features two pens, each writing margin-to-margin on a single 5-in. strip chart. Accuracy is ± 0.5 percent, and sensitivity 0.14 percent, of scale span. Input impedance is 1000 ohm/mv. (Westronics, Inc., Dept. S556)

■ **AMPLIFIER** for low-level signals from thermocouples, strain-gage bridges, and resistance-bridge transducers features floating input. Gain is variable from 5 to 100. Linearity is 0.05 percent, and long-term stability is $\pm 5 \mu\text{v}$. Input impedance is greater than 1.5 Mohm. (Neff Instrument Corp., Dept. S557)

■ **PEAK VOLTAGE COMPARATOR** measures the ratio of two peak voltages at frequencies up to 1000 cy/sec regardless of phase, frequency, or polarity. The ratio is displayed on a direct-reading dial with accuracy of ± 0.1 percent. (Cal-Tronics Corp., Dept. S536)

■ **WINDOWLESS CHROMATOGRAM SCANNER** employs a small flow counter with low background. In combination with a scaler, it can count odd-shaped, low-activity samples up to 1 in. in diameter. Operation can be either in the Geiger or the proportional region. (Forro Scientific Co., Dept. S565)

■ **ISOLATION AMPLIFIER** has selectable bandwidths from 2 cy/sec to 1.7 Mcy/sec. Gain is selectable in decades from 0.1 to 1000. Input impedance is 400 Mohm and $3 \mu\text{mf}$. Noise is below 10 μv with 150 kcy/sec response. (Keithley Instruments, Inc., Dept. S563)

■ **DYNAMOMETER** is used as an accessory for determination of power required for mixing non-Newtonian fluids and gas-liquids. The accessory, used with an experimental agitator, transmits motor torque to the pan of a laboratory scale. (Chemineer, Inc., Dept. S541)

■ **SIGNAL GENERATOR** incorporates a backward-wave oscillator which can be electronically swept to cover the frequency range from 1 to 15 kMcy/sec. Each unit includes modulating circuits, power supplies, and a microwave oscillator. Operation is on 117-v alternating current. (Wave Particle Corp., Dept. S550)

■ **DENSITOMETER** reads optical density linearly from 0 to 4.0. Color filters, with separate zero adjustments for each filter, permit measurement of colored material. Both reflection and transmission measurements are made. (Macbeth Instrument Corp., Dept. S547)

■ **GLASS OBSERVATION WINDOW** assembly, of multiple, dry-air insulating construction, is capable of withstanding temperature cycles from -100° to $+500^\circ\text{F}$. The units are said to be effective at high altitude and in vacuum. Sizes range from 13 by 13 to 40 by 40 in. (Duo-Pane Corp., Dept. S495)

■ **ALTIMETER** for altitudes from 75,000 to 225,000 ft is based on the thermocouple vacuum-gage principle. The thermopile elements of the instruments are compensated for ambient temperature and for rate of change of temperature. Response time is a few hundredths of a second. Output is a d-c voltage. Operation is on 115 v a-c. (Hastings Raydist, Inc., Dept. S477)

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