

## 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).

■ **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  $\mu$ 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  $\mu$ 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.<sup>2</sup> signal to a proportional a-c signal. Motion of a pressure capsule is sensed by a differential transformer. Accuracy is said to be  $\pm 0.25$  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  $\pm 0.1$  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)

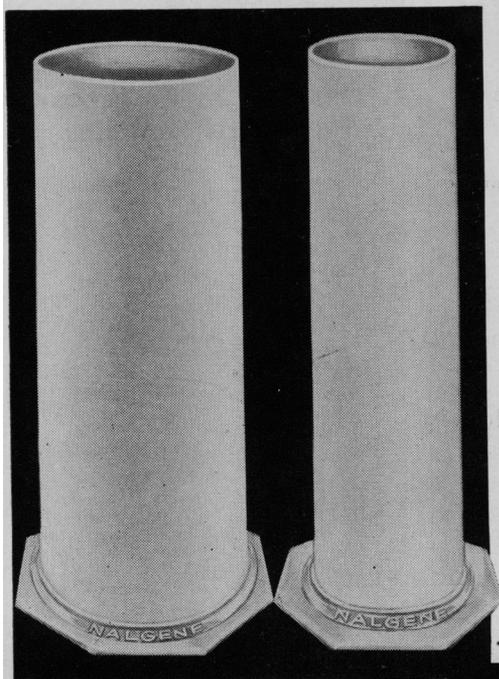
■ **NEUTRON COUNTER** features a subminiature preamplifier constructed into a BF<sub>3</sub> detector tube to allow the detector assembly to be operated 50 ft or more from the equipment into which it feeds. Fast neutron response is constant from 100 kev to 5 Mev. Sensitivity is 5600 count/min per neutron, 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  $1 \times 10^{-10}$  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

First choice for washing and soaking pipets . . . glassware!



### NALGENE\* PIPET JARS with NEW NON-TIP BASES

The resiliency of Nalgene\* Polyethylene sharply reduces breakage and the new base design practically eliminates tipping accidents. New non-tip base is molded into jar (not welded) and assures steadier, longer life with perfect bond. NALGENE PIPET JARS come in standard sizes as listed below; special lengths made on order.

Ask your dealer for catalog E-956

\*Brand Name for Nalge Polyethylene ware.

SIZE	A	B	C	D	E	F
Dim. Inches Nominal	5x8	6 $\frac{1}{2}$ x9	5x18	6 $\frac{1}{2}$ x18	6 $\frac{1}{2}$ x27	6 $\frac{1}{2}$ x36
No. in Case	12	12	6	6	6	6
Each	9.50	10.50	11.50	13.50	17.50	20.50

Discount: Less 10% in case lots.

the **NALGE CO. Inc.**  
ROCHESTER 2, NEW YORK

WORLD'S LARGEST PRODUCER OF POLYETHYLENE LABORATORY WARE!

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  $\pm 0.1$  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  $\pm 0.5$  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  $\pm 0.1$  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  $\mu\text{v}$  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  $-100^\circ$  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)

JOSHUA STERN  
National Bureau of Standards

*Your key to a new world of enjoyment*



An incomparable portable telescope by America's leading manufacturer of astronomical instruments. Although it weighs only 45 pounds its sturdy construction, fork-type mounting and integral electric drive mark it as an instrument of professional quality.

**Celestar** ★

Complete with Electric Drive, Slow Motions, Right Ascension and Declination Circles, Heavy Duty Tripod and Finder Telescope.  
Magnifications of 35X, 70X, 105X and 210X.

ONLY \$198.50 f.o.b. Pittsburgh, Pa.

**j. w. fecker, inc.**  
A Subsidiary of AMERICAN OPTICAL COMPANY

6592 HAMILTON AVENUE • PITTSBURGH 6, PA.

Downloaded from <http://science.sciencemag.org/> on October 21, 2018

# Science

## EQUIPMENT NEWS

JOSHUA STERN

*Science* **126** (3268), 320-322.  
DOI: 10.1126/science.126.3268.320

### ARTICLE TOOLS

<http://science.sciencemag.org/content/126/3268/320.citation>

### PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

---

*Science* (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.