

## EQUIPMENT NEWS

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■ **FREQUENCY CONVERTER** furnishes 75 w of 1200- or 2400-cy/sec power. Input power is 95 w at 400 cy/sec, three-phase. Frequency multiplication of the 400-cy input provides synchronization of the output wave. The device is transistorized for compactness and lightness. Weight is 2.5 lb. Regulation is 3 percent from no load to full load. Rise time is 5  $\mu$ sec. (Robertshaw-Fulton Controls Co., Dept. S818)

■ **INTEGRATOR** for gas and vapor-phase chromatography is available as part of original equipment or for use with a separate recorder. Integration is performed electrically. Indication is made by means of pen strokes at the margin of the chart. Three line lengths indicate units, tens, and hundreds. At full-scale deflection, 40 lines are recorded per second. (Burrell Corporation, Dept. S826)

■ **AMPLIFIER SYSTEM** is a seven-channel a-c voltage preamplifier for piezoelectric transducers. Voltage gains are 1.0 and 10.0. Input impedance is 100 megohm with bandwidth 0.4 to 200,000 cy/sec. Each channel has its own isolated power supply. (Dynamics Instrumentation Co., Dept. S833)

■ **FLOW SWITCH** will detect flows in the range from  $\frac{1}{4}$  to  $\frac{1}{2}$  gal/min and provide circuit closure for indication or control. The transducer will operate in any attitude. Normal temperature operating range is  $-85^{\circ}$  to  $+550^{\circ}$ F. Reverse flow can also be detected. The instrument is supplied in aluminum, stainless steel, bronze, nickel, Monel, Inconel, or other metals. (Potter Aeronautical Corp., Dept. S839)

■ **WATER DETECTOR** for crude oil can be used also to detect and control other constituents which affect the dielectric constant of a process material. The fixed dielectric-constant capacitor probe is sensitive to variations of 0.1 percent. Water content is indicated by pilot lights, and signals are transmitted to a control unit which actuates valves to re-route contaminated material. Time delays may be set so that momentary variations are ignored. (Instruments, Inc., Dept. S830)

■ **IONIZATION GAGE** of the Bayard-Alpert type is linear through a range from  $5 \times 10^{-4}$  to  $10^{-12}$  mm-Hg. A double filament is used for long tube life, and the grid can be outgassed by electron bombardment. The collector, a single wire enclosed in a spiral grid, is small enough to be outgassed by radiant heat. The Nonex-glass envelope has a half-inch-diameter tubulation provided with a graded Nonex-to-Pyrex seal. (Consolidated Electroynamics Corp., Dept. S832)

■ **KERR-CELL SHUTTER**, designed to be mounted on a camera, has an aperture 1.25 by 2.0 in. Speeds are as great as 0.1  $\mu$ sec, and triggering can be synchronized to within 2  $\mu$ -sec. Electronic controls are contained in a modulator unit which can be remotely located and connected by flexible leads. The triggering pulse can be as low as 50 v. (Electro-Optical Instruments, Inc., Dept. S829)

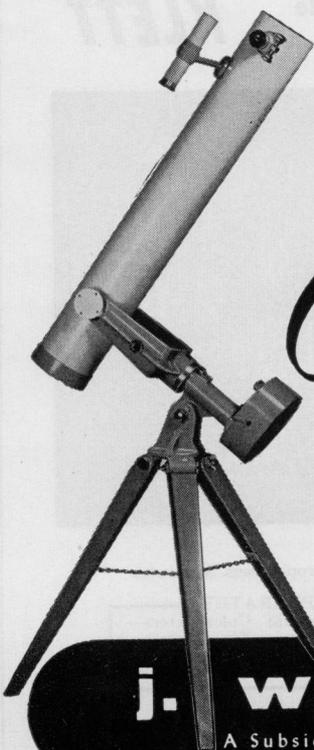
■ **RANDOM-SIGNAL VOLTMETER** provides root-mean-square measurements of random voltage signals. Accurate long-time-average measurements are made in the presence of low-frequency components. A panel switch selects a 0.1-sec integration time for quick estimates or a 10-sec interval for exact measurement. Accuracy is  $\pm 2$  percent on 18 full-scale ranges from 500  $\mu$ v to 250 kv r.m.s. Bandwidth is 2 to 250,000 cy/sec within  $\pm 0.2$  db. (Flow Corporation, Dept. S836)

■ **ACTIVATED CARBON** is available in molded shapes formed from powdered, highly adsorbent carbon bonded with an organic resin. The shapes are treated to be dust free. Two sizes of wafers are presently standard; one 3 mm thick by 33 mm in diameter, the other 9 by 38 mm. (National Carbon Company, Dept. S831)

■ **VIBRATOR** employs a hydraulic-mechanical system to produce forces up to 20,000 lb at frequencies up to 600 cy/sec. Acceleration levels up to 50 g are reached. The vibrator consists of a vibration head, a hydraulic pump unit, and a variable-speed-drive motor. The force piston is designed to carry loads up to 100 lb directly. Larger loads are independently suspended. (L. A. Corporation, Dept. S843)

■ **TIME-CODE GENERATOR** supplies a 16-bit, 24-hour binary code to hours, minutes, and seconds. Time can be read directly to 0.01 sec and interpolated to 0.001 sec. In addition to binary codes, continuous pulse trains of 100, 10, and 5 pulses/sec are produced. The time source is a temperature-controlled crystal with long-term accuracy of 1 in  $10^8$ . Coding is done by transistor-driven magnetic cores.

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