

oscillator which can be swept to cover any part or all of the frequency range. Approximate frequency is indicated by a panel meter. Adjustments are provided for frequency, FM sweep rate, FM deviation, and AM square-wave frequency. (Wave/Particle Corporation, Dept. 325)

■ **SENSITOMETER** for testing of photosensitive materials is essentially a contact printer with an electronic xenon-filled flash tube as the exposing light. Three capacitor circuits provide exposure times of 1/100, 1/1000, and 1/10,000 sec, selected by a pushbutton. A standard step negative is printed to make the measurement. Filters permit change of the light-source color from daylight to incandescent. (Edgerton, Germeshausen & Grier, Inc., Dept. 327)

■ **OPTICAL PROJECTOR** for inspection of contours makes it possible to inspect objects covering a field of 6 in. at a magnification of 10. The instrument's transparent screen is 60 in. wide by 40 in. high. (Optical Gaging Products, Inc., Dept. 328)

■ **LIQUID-NITROGEN GENERATOR**, a self-contained unit, is fully automatic in operation, producing pure liquid nitrogen from atmospheric air. Production rate is approximately 4 qt/hr. Floor space required is 20 by 72 in. (Philips Electronics Inc., Dept. 334)

■ **MINIATURE SYRINGE** permits direct reading of fractions of a microliter. The smallest model has a capacity of 10 μ l and a dead volume of 0.5 μ l. The needle is 0.018 in. in diameter and 2 in. long. (Hamilton Co., Dept. 335)

■ **GLOSSMETER** measures 20°, 60°, and 85° ASTM gloss of materials. Gloss readings are indicated on a 7.5-in. meter. A single standard suffices for calibration of complete ranges at all angles. Standardization can be accomplished in 30 sec. Substitute aperture plates permit estimation of the sharpness of source image. (Manufacturers Engineering & Equipment Co., Dept. 337)

■ **GAGING HEAD** features a constant measuring pressure and has graduations of 20 μ in. and a dial range of ± 0.001 in. Measuring accuracy is stated to be ± 10 μ in. over the entire range. The sapphire-tipped contact point is lifted and lowered by a cable release to avoid effects of heat from the operator's hand. Instrument size is 2½ by 3¾ in. (George Scherr Co., Dept. 339)

■ **RATIO COMPUTER** accepts two independent d-c signals as low as 1-mv full-scale per channel and computes their ratio with ± 1 -percent accuracy. The computer contains two d-c differential chopper pre-

amplifiers, a power supply, and a servo divider. Response time is 1 sec. (Magnetic Instruments Co., Dept. 338)

■ **WARBURG APPARATUS** is a bench model designed for use where space is limited; diameter is 16 in., weight 63 lb. Four pairs of operating manometers and one thermobarometer are accommodated. Rotation of the manometer table is unlimited in either direction. Temperature range is ambient to 50°C. (American Instrument Co., Inc., Dept. 336)

■ **VACUUM-TUBE VOLTMETER** for a-c uses a vacuum thermocouple as its detector. Measurements are made by comparing the unknown voltage with an accurately calibrated 1000-cy/sec signal. Accuracy is ± 0.5 percent from 50 cy to 5 kcy/sec, and ± 2 percent from 10 cy to 500 kcy/sec. Voltage range is 300 μ v to 1 kv. (Millivac Instruments, Dept. 318)

■ **ULTRASONIC CLEANERS** are available in ¼- and ¾-gal capacity. Ultrasonic generators are furnished with or without timers. Power output to transducers is 35 w (average), and 140 w (pulse) at 90 kcy/sec. The cleaners operate on 115 v, 60-cy/sec power. They weigh 10 lb. (Narda Ultrasonics Corp., Dept. 343)

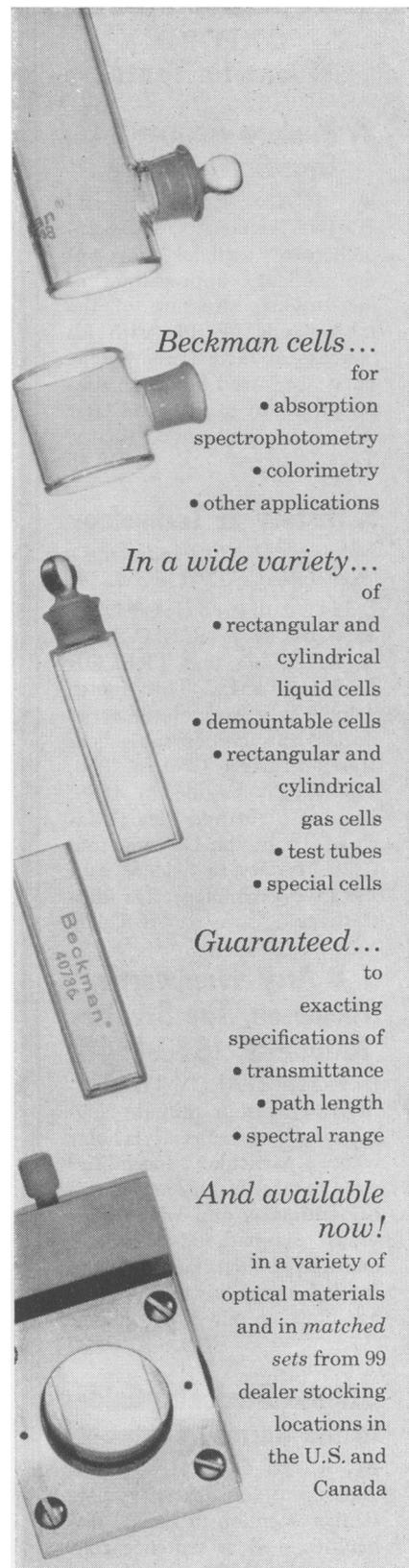
■ **DISPLACEMENT TRANSDUCER** is a spring-loaded cable reel operating a precision potentiometer to produce a signal voltage output proportional to cable extension. Tension throughout the instrument's 10-ft range is maintained constant by a constant-torque spring. Linearity is ± 1 percent of displacement. Response is constant for frequencies up to 0.5 cy/sec. A bridge null detector is available for interpretation of the transducer output. (Research Incorporated, Dept. 333)

■ **FOUR-GUN OSCILLOSCOPE** incorporates interchangeable amplifier and sweep-generator modules. Available modules include a single-input low-frequency amplifier; differential low-frequency amplifier; high-frequency amplifier; horizontal-vertical amplifier; and a combination sweep generator and horizontal amplifier. The instrument is 21 in. high and may be mounted in a 19-in. rack. (Advanced Electronics Manufacturing Corp., Dept. 340)

■ **POWER SUPPLIES** for high-voltage testing of dielectrics are available in 19 models with output voltage ranges from 0-to-25 to 0-to-150 kv and power outputs from 5 to 100 kv/amp. The supplies are furnished with panel indicating instruments of ± 5 -percent accuracy. Protective features prevent damage to the instrument or to personnel. (Beta Electric, Dept. 331)

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