cent of full scale. Total range is 0 to 100 percent; vernier-scale ranges cover 20-
percent portions of the total range. (Waters Corporation, Dept. S799)

**ROCKET MOTOR** furnishes 40 lb of thrust for 1 sec when it is fired in an environment approximating normal temperature and pressure. The motor weighs 0.6 lb and measures 1.5 in. in diameter by 4.75 in. long. Solid propellant is ignited electrically. The rockets are designed for experimental applications. (Atlantic Research Corp., Dept. S790)

**ANALOG COMPUTER** includes 30 stabilized amplifiers, 40 coefficient potentiometers, a stable reference supply, and associated circuitry, all housed within a desk-type console. Operational amplifiers have d-c gain greater than $3 \times 10^7$. Maximum offset when the unit is operated as a unity inverter is less than 200 $\mu$V; when the unit is operated as a unity integrator, drift is less than 100 mV in 15 min. Phase shift during operation as a unity inverter is less than 0.2 deg at 100 kHz. The stability of the reference amplifier is better than 0.1 percent. (Donner Scientific Company, Dept. S793)

**PRESSURE TRANSDUCER** uses a potentiometer to transduce the deflection of a Bourdon tube, in high ranges, or of a pressure capsule, in low ranges, to an electrical output. Ranges are available from 0-to-15 to 0-to-200 lb/in.$^2$ (gage). Resolution is from 0.33 to 0.5 percent. Hysteresis is 0.5 percent. Wear life of the resistance element is stated to be 1 million cycles. (International Resistance Co., Dept. S795)

**DIGITAL WEIGHING SYSTEM** combines a load cell of strain-gage type with a digital indicator. The indicator is a continuous-balance electronic potentiometer and servo-driven number wheel. Accuracy is 0.1 percent. Coded digital output for connection to computers is also available. (Performance Measurements Co., Dept. S802)

**X-RAY MICROSCOPE** employs an x-ray source approximately 1 $\mu$m in size to project enlarged images of specimens placed close to the radiating surface. The electron-optical system includes an electron gun, high-voltage source for electron acceleration, electromagnetic lenses, and targets. Total useful photographic magnification is 1500, magnifications up to 70 being obtained directly at the photographic plane. Resolution is 1.0 $\mu$m or better at 2 to 20 kv. Contrast control is provided to some extent by variation of accelerating potential and by changing target material. (Philips Electronics Inc., Dept. S800)

**DISTILLATION APPARATUS** for low-temperature analytical distillation of gaseous and volatile-liquid mixtures utilizes thermal conductivity to identify the distillate. Increased sensitivity and increased accuracy are said to result. Liquid hold-up by the thermocouple, amounting to 20 to 50 ml of vapor, is eliminated. Automatic control of the distillation rate is based on degree of separation accomplished in the upper section of the column. (Podbieliak, Inc., Dept. S798)

**DIGITAL VOLTMETER** covers the range from 0 to 120 v d-c. Accuracy is 0.1 percent of full scale. Readings are made at a rate of 60 per second, automatically or on command. The reading is displayed in illuminated decimal digits. A decoded output of each digit provides a signal source for operation of punches or other equipment. (Franklin Electronics, Inc., Dept. S797)

**PULSE GENERATOR** produces pulses over the range from 1 $\mu$s to 1 sec, singly, recurrently, in single pairs, in recurrent pairs, in single trains, and in recurrent trains. Output is 35 v into 50 ohms and is adjustable in polarity. Repetition rate is from 1 cy to 250 kcy/sec. (American Electronic Laboratories, Inc., Dept. S796)

**JOSHUA STERN**
National Bureau of Standards

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**PERSONNEL PLACEMENT**

**POSITIONS OPEN**

(a) **Assistant Director of Biochemistry, Ph.D. or M.D.;** 1000-bed teaching hospital; excellent facilities; duties include combining clinical and research activities related to biochemistry with scientific responsibilities in medical center, Midwest. (b) **Director of Market Research and Analysis, Research and Development;** person would be responsible for conducting market research on products which are now on the market; latter would be responsible for co-ordinating all product development activities as not as on the market; large city, Midwest. (c) **Organic Research Chemist, Ph.D. or M.Sc.;** research laboratory specializing in organic synthesis in medicinal chemistry; Pacific Coast. (d) **Assistant Professor in Pathology to develop depart-

**CHEMISTS AND MATHEMATICIANS:** Ph.D. preferred; teaching and research in ex-

**Electron Microscopist:** An electron microscopist is needed at the biological laboratories of Harv-

**Microbiologist:** Spelling error: should be Bumacome County Health Department, P.O. Box 7525, Asheville, North Carolina.

**Public Health Engineer:** $6000-$8000. Health Educator; $4000-$6000. Liberal expense allow-

**Women's Christian College, 36 Hill Street, Naugatuck, Conn.**

**PHYSICS AND MATHEMATICS:** M.S. degree or equivalent training preferred. Preferably recent Ph.D. from outstanding graduate school. Box 312, SCIENCE.

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