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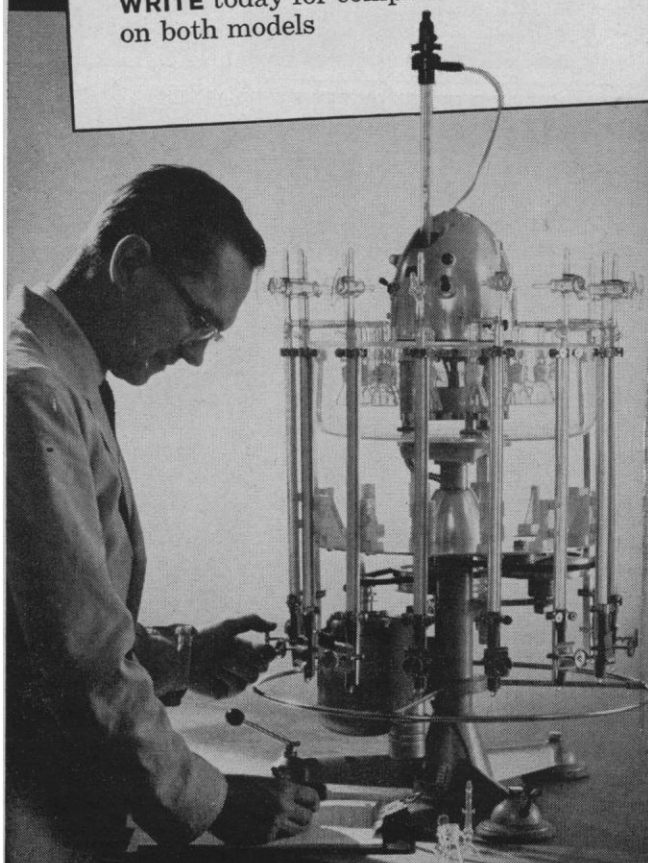
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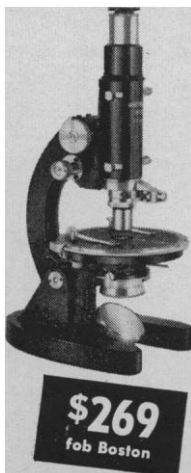
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## New Products

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**Electronic counter** (model 5243L) measures frequency, period, multiple period average, ratio, and multiples of ratio. Time reference is provided by a proportional oven-controlled crystal with stability said to be  $\pm 3$  parts in  $10^9$  per day. The basic counter, without plug-ins, offers a maximum counting rate greater than 20 Mcy/sec with 8-digit resolution. Plug-in units extend frequency measurements to greater than 500 Mcy/sec. Display storage permits continuous display of the most recently measured quantity even while counting; the display changes only if the measured count changes. Sample rate is adjustable independently of gate time. Operating temperature range of the completely solid-state instrument is  $-20^\circ$  to  $+65^\circ C$ . Time base and function controls are remotely programmable.—J.S. (Hewlett-Packard Co., Dept. S537, 1501 Page Mill Rd., Palo Alto, Calif.)

The material in this section is prepared by the following contributing writers:

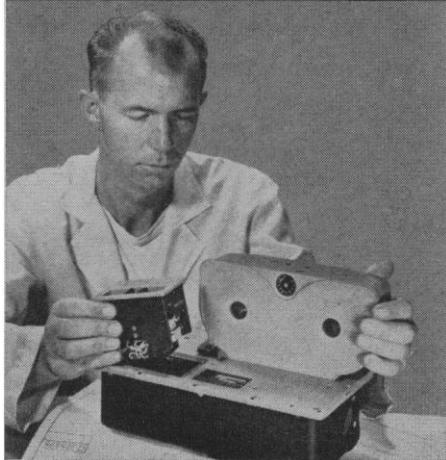
Robert L. Bowman (R.L.B.), Laboratory of Technical Development, National Heart Institute, Bethesda 14, Md. (medical electronics and biomedical laboratory equipment).

Joshua Stern (J.S.), Basic Instrumentation Section, National Bureau of Standards, Washington 25, D.C. (physics, computing, electronics, and nuclear equipment).

The information reported is obtained from manufacturers and other sources considered reliable. Neither *Science* nor any of the writers assumes responsibility for the accuracy of the information.

Address inquiries to the manufacturer, mentioning *Science* and the department number.

## SYSTEMS PROGRESS



### RADARSCOPE RECORDING SYSTEM IN ONE-FIFTH CUBIC FOOT

The Electro-Optical Department of CSC has developed a Radarscope Recording Camera System that simultaneously photographs radar images and records such data as time, range and directional orientation. CSC assumed responsibility for the design and production of this system from Bell & Howell Company about midway through the program.

Weighing less than 13 pounds, the system uses a negative lens to photograph a radarscope through a port at the rear of the cathode ray tube. A data chamber produces time-correlated information, reflected through a lens by two mirrors, for recording on the same frame of 35 mm film. Careful design for field use allows calibration and service without special tools. Assemblies can be removed easily and replaced quickly.

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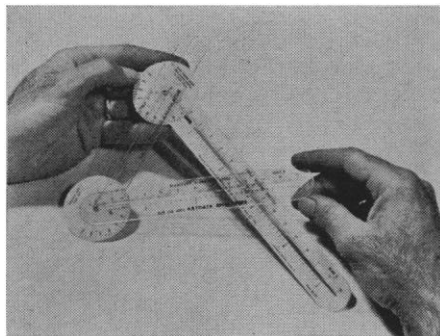
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14 DECEMBER 1962

**Electron spin resonance spectrometer** (model AL340SY) includes a master oscillator-detector-amplifier with regulated power supply, a 6-inch electromagnet, a regulated magnet power supply, magnetic sweep unit, magnetic field modulation units, and graphic recorder. Operation is set in the neighborhood of 340 Mcy/sec but frequency may be adjusted between 320 and 350 Mcy/sec. Sample size is 7 mm in diameter and 10 mm long. Sensitivity is  $10^{14}$  spins per gauss line width. Resolution is 1 part in  $10^5$ . Magnetic field modulation frequency is 100 kcy/sec and the lock-in detector also operates at 100 kcy/sec. An auxiliary magnetic field modulator at 60 cy/sec is also provided for oscilloscope presentation of the ESR signals. The system is designed for operation on a sturdy desk surface measuring 30 by 60 inches. All units are air cooled. Operating temperature range is  $0.3^\circ$  to  $450^\circ\text{K}$ .—J.s. (Alpha Scientific Laboratories, Inc., Dept. S538, P.O. Box 333, Berkeley, Calif.)

**Balance vector calculator** simulates and solves vector problems with slide-rule techniques. Angular differences as well as proportional moment values are readily visualized without plotting.



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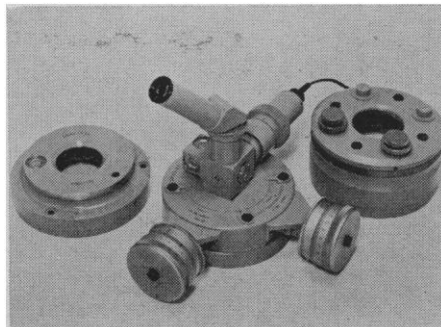
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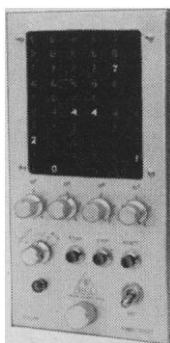
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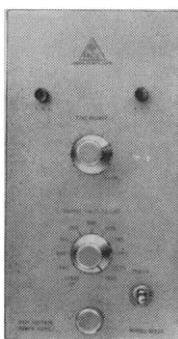
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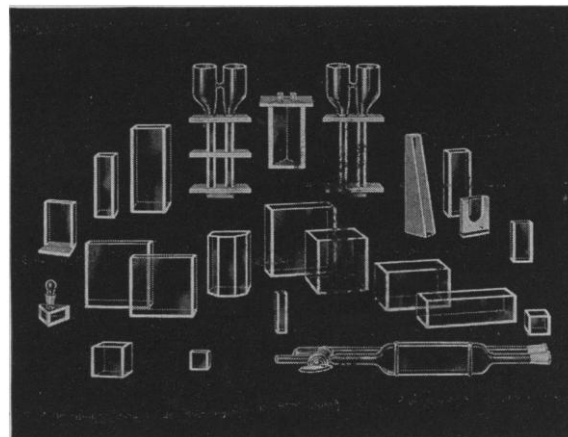
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**POSTDOCTORAL TRAINEESHIPS in ENZYME CHEMISTRY** are available for 1963-64 at the **University of Wisconsin, Institute for Enzyme Research**, in Madison. Applications may be submitted at any time and are invited from candidates who have completed or will shortly complete the requirements for either the Ph.D. or M.D. degree and who are U.S. citizens. The period of traineeship is 12 months (including 1 month's vacation) and may be renewed for additional years. Stipends are \$6000 per year and, in most cases, partially tax-exempt. A travel allowance is provided the trainee from his present institution (if within continental U.S.) to Madison. Application forms and information may be obtained by writing to **Dr. David E. Green**, Program Director. 12/14

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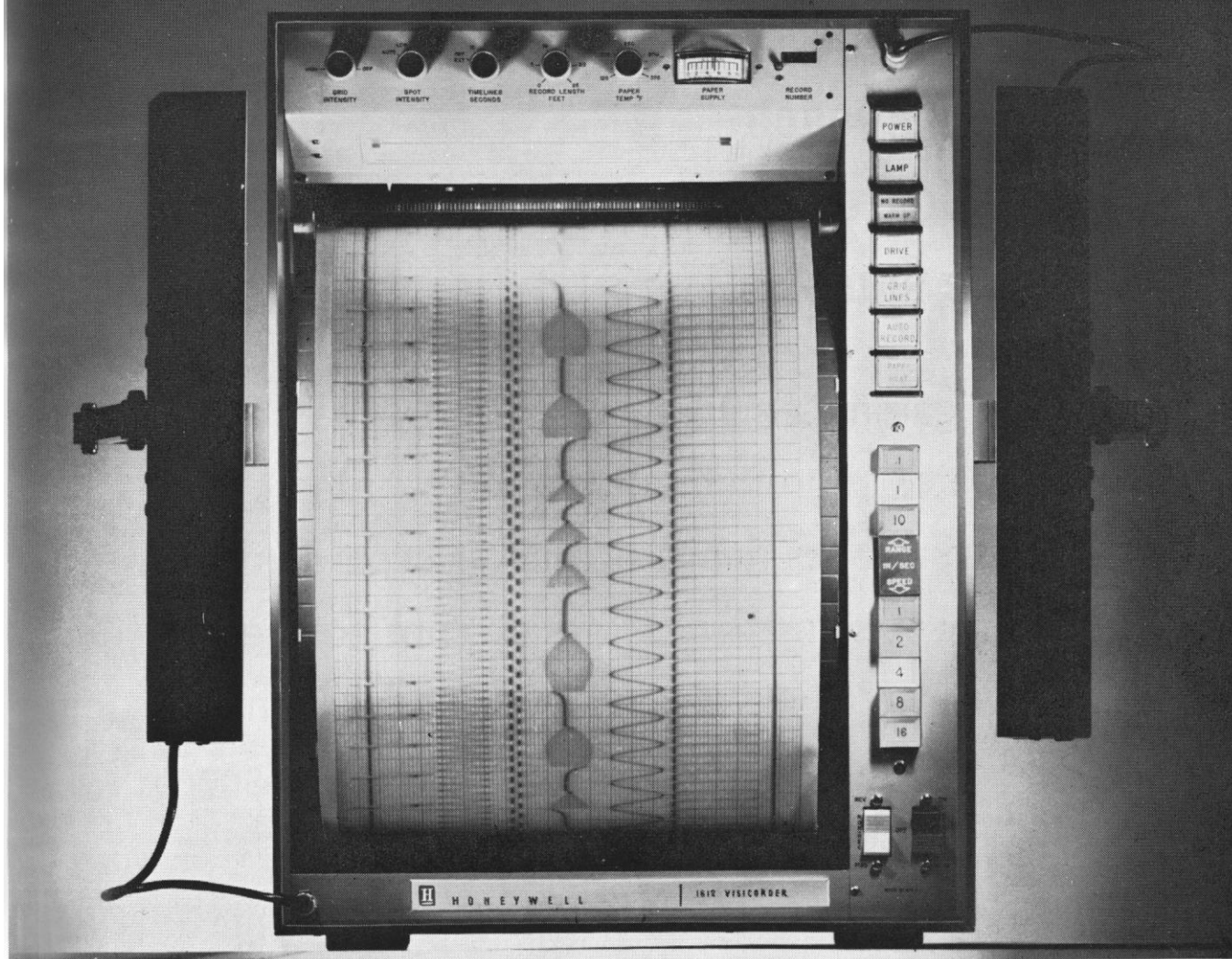
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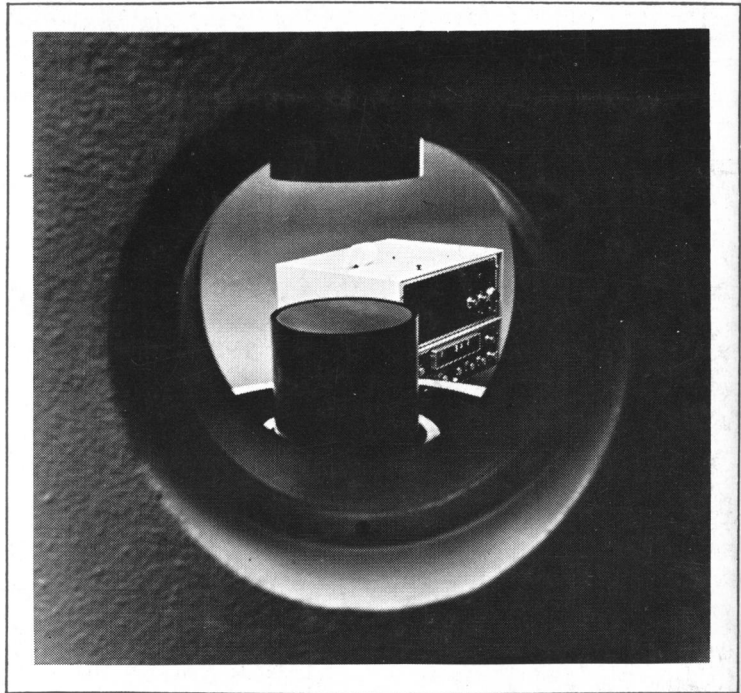
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