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The Model 150 Scaler-Ratemeter is intended for general purpose laboratory work with both organic and halogen-quenched Geiger-Mueller counters. Beta or gamma activity is indicated in three ways—as a decimal scaler count, as a count ratemeter reading and as an audible sound.

The scaler utilizes five glow-transfer counting tubes to give an all-electronic decimal scale of $10^5$. No mechanical register is used so that maximum reliability is achieved. Resolving time of the scaler is better than 200 microseconds for pulse pairs. The electric timer used with the scaler is a true odometer type, reading in hundredths of a minute to 1000 minutes. A single knob resets both scaler and timer.

The linear ratemeter has three ranges: 500, 5,000 and 50,000 counts per minute. Two time constants, 1 and 16 seconds, may be selected by a front panel switch. An audio output from a 4-inch speaker is variable up to 10 watts.

The high voltage is continuously variable from 400 to 1500 volts positive. After initial warm-up, high voltage variation will not exceed five volts at any setting.

Line voltage variations of 5 volts, in the range of 95 to 125 volts, will result in high voltage changes of less than 0.2% of setting. Load regulation is better than 5% from 0 to 50 microamperes. Ripple is less than 50 millivolts (rms).

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Model 150 Scaler-Ratemeter . . . . . . $495
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SCIENCE, VOL. 132
Kodak reports on:
new dimensional stability in recording film...ting the stream

He has always thought a pick was the tool with which the Erie Canal was dug.

Dr. F. W. Spangler (left) meets R. C. Hilton, senior geophysicist in charge of geophysical data processing for Shell Oil Company, Houston. Purpose of the visit is to familiarize Dr. Spangler directly with the ideal characteristics which Shell desires in a polyester recording film for use in the Reynolds Plotter. Dr. Spangler is an assistant superintendent of Kodak's Film Emulsion Division.

With the switch to thin, rugged Estar Base that eliminates troublesome dimensional change, Fred Spangler had to decide what inherent maximum density to give the new Kodak Linagraph Recording Film. Dick Hilton needs more from a film than that it shouldn't be troublesome. He doesn't talk Fred's "D Max" language. He seeks a certain appearance to which his perceptual process best responds in picking a "pick" from the corrected cross-section of the deep geological formation which the Plotter puts on the film. Spangler learned plenty from him and from others with other instrumentation and other perceptual patterns of translating photographic images into technical intelligence.

Eastman Kodak Company, Photorecording Methods Division, Rochester 4, N. Y., will be glad to write you a letter answering practical questions about the new Kodak Linagraph Recording Film (Estar Base), such as who sells it and how to handle it, but we see no purpose in spilling a lot more words about it when all you have to do, if you are interested, is get some and see whether it suits you.

Dye for the heart
We make a dye that has an absorption peak where the absorption curves cross for oxygenated and reduced hemoglobin. The strange consequence of this bit of trivia is that lives are being saved. Bad hearts are rebuilt.

Though the art of heart surgery is hard to teach through advertising columns, we hope some unforeseeable good might come from mentioning the dye to a wider scientific circle than knows it now.

Its molecule was constructed like this

by an interesting man who admires cats, writes warmly and well of the music of Brahms, and has supervised the synthesis of an average of one new dye a day during the 30-odd years we have enjoyed the good fortune to retain him in our employ.

When a certain distinguished medical investigator asked for a dye that peaks sharply at 8000A in the infrared, our man went to work and produced indocyanine green.

Before these heart men undertake a repair job, they must know what's wrong with the way the blood streams. Dyes are sometimes used to trace underground streams of water. Blood is already colored. Moreover its color depends on where it has been last. To add another color at a given point in the circuit, to measure this color automatically at some other point, and to calculate blood volume from the dilution of the color require the heart men to back their incredibly talented fingers with a little optical physics and adult habits of mathematical thought. It was clever to simplify the equations and raise sensitivity by centering dye absorption and photocell response at a wavelength where arterial and venous blood absorb light equally and weakly—cleverer even than the previous choice of Evans Blue, which just looks different from blood.

Things happen fast. A quick shot of indocyanine green at safe dilution goes in. A few seconds later the 8000A absorption, as a galvanometer plots it on photorecording paper, changes for a few more seconds. The shape of the plot tells the story to a man who has learned how to figure it out.

No toxic penalties have been noted. The patient does not change color. The dye appears to be rapidly and completely bound to blood albumin. It is quickly taken up by the healthy liver and all excreted in bile. The unhealthy liver takes significantly longer. Therefore there is a prospect of eventually using it to detect unhealthy livers.

Under the trademark "Cardio-Green" our indocyanine green is prepared for medical use and distributed by the pharmaceutical house of Hynson, Westcott & Dunning, Inc., Baltimore 1, Md. If you ask us anything more, we shall just pass your inquiry on to them, so you might as well write direct.

This is another advertisement where Eastman Kodak Company probes at random for mutual interests and occasionally a little revenue from those whose work has something to do with science.

5 AUGUST 1960
GET YOUR ADVANCE COPY
of the General Program of the
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The General Program of the 127th Meeting of the AAAS in New York, 26–31 December 1960, will be available to you, at cost, within the first week in December—whether you can attend the Meeting or not.

Program Content


2. The “Challenge to Science” evening with Sir Charles P. Snow, Theodore M. Hesburgh, and W. O. Baker; Warren Weaver, presiding.

3. On “AAAS Day,” the three broad, interdisciplinary symposia—Plasma: Fourth State of Matter; Life under Extreme Conditions; and Urban Renewal and Development, arranged by AAAS Sections jointly.

4. The Special Sessions: AAAS Presidential Address and Reception; Joint Address of Sigma Xi and Phi Beta Kappa by Polykarp Kusch; the Tau Beta Pi Address; National Geographic Society Illustrated Lecture; and the first George Sarton Memorial Address by René Dubos.

5. The programs of all 18 AAAS Sections (specialized symposia and contributed papers).


8. The four-session program of the Conference on Scientific Communication: The Sciences in Communist China, cosponsored by the AAAS, NSF, and ten societies.


10. The sessions of the AAAS Cooperative Committee on the Teaching of Science and Mathematics, and of the AAAS Committee on Science in the Promotion of Human Welfare.

11. Titles of the latest foreign and domestic scientific films to be shown in the AAAS Science Theatre.


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Advance registration has these decided advantages: (1) You avoid delay at the Registration Center upon arrival; (2) You receive the General Program in ample time to decide, unhurriedly, which events and sessions you particularly wish to attend; (3) Your name is posted in the Visible Directory as the Meeting opens.

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1b. ☐ Enclosed is $2.50 for only the General Program. (It is understood that, if I should attend the Meeting later, the Badge—necessary for the privileges of the Meeting—will be secured for $1.00 more.)

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5 AUGUST 1960
d'Histologie, 20, rue de Pitteurs, Liege, Belgium.)
4–9. Laurentian Hormone Conf., Mont Tremblant, Quebec, Canada. (Arrangements Committee, Laurentian Hormone Conf., 222 Maple St., Shrewsbury, Mass.)
4–10. World Cong. of Anaesthesiologists, Toronto, Canada. (R. A. Gordon, 516 Medical Arts Bldg., Toronto 5)
5–7. Society for Biological Rhythm, 7th conf., Siena, Italy. (A. Sollberger, Dept. of Anatomy, Caroline Inst., Stockholm 60)
5–9. Chemical Engineering (Czechoslovak Chemical Soc.), Prague, Czechoslovakia. (Technická 1905, Prague-Dejvice, Czechoslovakia)
6–7. Some Fundamental Aspects of Atomic Physics, 1st conf., symp., Montreal, Canada. (J. C. Polanyi, Dept. of Chemistry, Univ. of Toronto, Toronto 5, Canada)
6–17. Use of Radioactive Isotopes in the Physical Sciences and Industry, conf., Copenhagen, Denmark. (International Atomic Energy Agency, 11 Kärntner Ring, Vienna 1, Austria)
(See issue of 29 July for comprehensive list)

New Products

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.

- TRACKING ACCURACY CONTROL ACCESsory for the manufacturer's infrared spectrophotometer provides automatic speed control and automatic period control. The speed control comes into operation ½ sec after the appearance of a photometric signal and slows the scanning to a speed proportional to the absorption down to a minimum 1/10 that of normal scanning speed. The period control adjusts the period in response to photometric signals beyond preselected limits, thus producing a quiet curve in the transparent regions while preserving short-period response in the high-absorption bands. (Beckman Instruments, Dept. Sci678, 2500 Fullerton Rd., Fullerton, Calif.)

- PROJECTOR PRINTER is capable of producing prints up to 34 by 48 in. An electrostatic process is used to provide a finished print in 40 sec. The semiconductor-coated paper is electrostatically charged by means of a corona bar that travels back and forth across the paper. Exposure to light discharges the illuminated areas following which toning powders are attracted to the image areas. The print is fixed by heat. (Keuffel and Esser Co., Dept. Sci681, Hoboken, N.J.)

- VACUUM GAGE series comprises four ionization gage models, two with range from 10⁻⁴ to 10⁻⁵ mm-Hg and two with range 10⁻⁶ to 10⁻⁷ mm-Hg. The gages employ electrometer-type amplifiers with negative feedback. Zero drift is said to be less than ±2 percent in 24 hours. A protective circuit operates a relay that opens the filament circuit when pressure rises above a present value adjustable from 20 to 150 percent of full scale. (F. J. Stokes Corp., Dept. Sci684, 5500 Tabor Rd., Philadelphia, Pa.)

- PHOTOGRAPHIC PROCESSOR for 35-mm film measures 3½ by 14½ by 36½ in. and weighs 120 lb without solutions or film. Operation is completely automatic and loading can be performed in daylight. All tanks are stainless steel. A thermostatic control provides controlled temperatures adjustable between 68° and 150°F constant to ±1°F. Processing rate is continuously variable from 0.5 to 6 ft/min. Up to 400 ft of film may be processed without replenishing solutions. (Fairchild Camera and Instruments Corp., Dept. Sci685, 300 Robbins Lane, Syosset, N.Y.)
VOLTAGE MONITORING SYSTEM contains a switch-type magnetic amplifier for each of eight sensing channels, a d-c voltage reference unit and a resistor assembly. Indication is provided by the instrument when a deviation from nominal voltage is greater than a preset value; the indication is held until the voltage being sensed has become less than that value. Operating power is 120 volts, 400 cy/sec. (Magnetic Controls Co., Dept Sci687, 405 Cambridge St., Minneapolis 26, Minn.)

ALARM SCANNER for millivolt and higher-level signals is said to be capable of scanning from 1000 to 20,000 points per second with provision for adjustment of setting and tolerance on each input. Signals are accepted from thermocouples, strain gages, or resistances. Minimum common-mode rejection at 60 cy/sec is 130 db. Input for each point consists of a winding on a magnetic amplifier. Scanning is effected by switching carrier power to each amplifier in turn by means of a solid-state matrix. Visible and audible alarms can be provided with alarm-point identification and memory. (San Diego Scientific Corp., Dept. Sci689, 3434 Midway Drive, San Diego 10, Calif.)

CAPACITANCE BRIDGE measures from 0.002 to 1.000 pf with accuracy said to be ±0.2 percent. Operation of the completely self-contained instrument is based on a transformer ratio-arm bridge operating at 1 kcy/sec. The technique requires only one capacitive and resistive standard. (Marconi Instruments, Dept. Sci686, 111 Cedar Lane, Englewood, N.J.)

FRACTION COLLECTOR transfers fractions from the carrier gas of a gas chromatograph directly into an ultra micro cavity type infrared absorption cell. The fraction collector consists of a glass condenser, the bottom end of which opens into the neck of the infrared cell. In operation the lower portion of the collector is placed in a coolant such as solid CO₂ and acetone. The unit is designed to fit directly into standard 15/16 in. centrifuge tubes to permit small samples to be moved from the condenser to the cell. (Connecticut Instrument Corp., Dept. Sci691, Wilton, Conn.)

MICROMINIATURE ELECTRIC LIGHT BULB is an incandescent lamp 0.015 in. in diameter and 0.062 in. long. The bulb is furnished with axial platinum leads 0.003 in. in diameter. Operation is on 1.5 volts with current of 15 ma. (Kay Electric Co., Dept. Sci680, 14 Maple Ave., Pine Brook, N.J.)

JOSHUA STERN
National Bureau of Standards, Washington, D.C.

Letters

"Of Mice and Mangun"

About two years ago I set up a small laboratory and animal husbandry room in my barn in Mendham Township, New Jersey. It is back from a dirt road in a farming and residential area on an 18-acre farm. On a complaint from one neighbor, I was found guilty of "hiring employees and raising animals for the purpose of doing research." The area is also zoned to permit builders, contractors, physicians, surgeons, engineers, carpenters, hairdressers, and plumbers to conduct their offices and usual accessory activities.

I applied for a variance following the limited interpretation of the zoning ordinance, and it was rejected despite the fact that only one of the 12 neighbors within 500 feet of my property lines was opposed, and despite the fact that a petition for a variance or a change in the wording of the ordinance was signed by 150 township property owners while an opposing petition received only eight signatures.

At this point I decided to move elsewhere, and soon after I announced my decision, children began calling for free mice. Word spread, and a growing stream of children appeared. On Friday, 13 May, a reporter called. The conversation was quite short and in essence went as follows:

Reporter (convulsed with laughter): Dr. Mangun, is it true you are giving away white mice?

G.H.M.: Yes, about 20 kids have come around and picked up a couple of hundred mice.

Reporter: And is it true you are doing this for revenge against the township because they forced you to close your lab?

G.H.M.: Not at all. I've given away lots of mice before and helped the kids set up feeding and growth experiments in the hope of stimulating their interest in biology, science, and medicine. Some of the children have spent many hours in my laboratory helping to care for the animals and watching or assisting with experiments. I did once jokingly remark that it would be a jolly sight as I drove my trail herd down main street on my way West, and just maybe a few of the critters might get lost.

Reporter: Then is it definitely not true that you are doing this for revenge?

G.H.M.: Of course not! [Then, after contemplating the situation in this new light] My only "revenge" will be to turn their children into biologists so they will amount to more than this generation.

Reporter: Very good, Dr. Mangun. Goodbye.

The resulting story went critical the
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