In PRECISION... SIMPLICITY... PRICE... here's an entirely NEW BLOOD CELL COUNTER ideal for both the large and small hospital

MODEL 75 SANBORN-FROMMER CELL COUNTER GIVES ACCURATE, DIRECT-READING COUNTS IN 25 SECONDS ... MAKES CELL COUNTING EXTREMELY SIMPLE ... PRICE $1800 F.O.B., WALTHAM, MASS.

Pour the sample — press the lever — within seconds read the cell count directly on the panel meter. This fast, simple procedure for accurate counting of red and white cells is now made possible by the new, economically priced Sanborn instrument of unique optical-electronic design.

Cell count is determined by the percent of time individual cells are present in a photoelectrically-observed portion of a “dark field” illuminated chamber. The large number of cells sampled reduces chance of statistical error. Direct read-out of cell count on the panel meter, without correction or conversion — and simple, positive instrument calibration — assure continuing efficiency and economy of operation.

For red or white cells, normal or abnormal blood specimens, the Model 75 is ideally suited for hospital admittance, clinical, research and similar laboratories where speed, accuracy and economy are essential. And this new Sanborn instrument has the same nationwide service facilities of 46 Branch Offices and Service Agencies offered all Sanborn owners. For complete details, contact your nearby Sanborn man or write the Inquiry Director in Waltham.

U.S. Pat. 2,775,159 Canadian Pat. 547,435 Other Patents Pending in U.S. and Foreign Countries

SANBORN COMPANY
175 Wyman Street Waltham 54, Massachusetts
This new narrow console version of the Packard AUTO-GAMMA Spectrometer System automatically counts and records data obtained from as many as 100 test tube samples. The completely transistorized instrument is only 2½ feet wide, conserving valuable laboratory space.

Automatic sample counting, as provided by this spectrometer system, is not only of great advantage where large numbers of samples are handled, but is equally advantageous when counting small numbers of low activity samples or a few samples of moderate activity. Blanks and standards can be included with samples for background checks and calibration. The complete series can then be counted a number of times for statistical accuracy. The sample number, time and scaler count are automatically recorded by a digital printer.

Where work being done does not justify the use of an automatic instrument, the manual AUTO-GAMMA spectrometer is available. It includes the same spectrometer and well-type scintillation detector, and should the need arise it can easily be converted to automatic operation.

For more information call your Packard representative—or write for descriptive literature.
Meeting Notes

A World Health Conference, on such international problems as nutrition, environmental health, mental health, communicable and infectious diseases, nursing care, and health education in underdeveloped countries, will be held at the University of California, Los Angeles, 6–7 October. (Department of Continuing Education in Medical and Health Sciences, UCLA Medical Center, Los Angeles 24)

A conference on the cervix, sponsored by the New York Academy of Sciences, will be held 7–9 December at the Barbizon-Plaza Hotel, New York.

An international symposium on tissue transplantation will be held in Santiago and Valparaiso, Chile, 30 August to 2 September. The symposium, sponsored by the University of Chile and the learned societies of Santiago and Valparaiso, will cover the genetical basis, immunological problems, present status, and prospective applications of tissue transplantation. (Alberto P. Cristoffanini, Organizing Committee, Symposium on Tissue Transplantation, Máximo Humbert 567, Santiago, Chile)

Grants, Fellowships, and Awards

Applications are being accepted for basic research fellowships in the field of central nervous system disorders. Deadline: 1 November. (National Neurological Research Foundation, 3255 N St., NW, Washington 7, D.C.)

A $1000 award is being offered for the best treatise concerning parapsychology and its relation to other scientific disciplines. A bibliography is available to applicants at nominal cost. Deadline: 15 December. (Administrative Secretary, Parapsychology Foundation, Inc., 29 W. 57th St., New York 19)

Mathematicians who plan to attend the International Congress of Mathematicians to be held in Stockholm, 15–22 August 1962, may apply for travel grants through the National Academy of Sciences–National Research Council. Deadline: 1 November. (Division of Mathematics, NAS–NRC, 2101 Constitution Ave., Washington 25, D.C.)

Scientists in the News

George Nevitt, regional dental consultant with the U.S. Department of Health, Education, and Welfare, has been named director of the department’s new National Dental Health Center established on the grounds of the Public Health Service Hospital, San Francisco. The center will provide facilities for applied research in the prevention and control of dental diseases, and for training dental public health workers in the application of research findings.

Raymund L. Zwemer, former assistant science adviser of the Department of State, has been appointed associate editor of the American Journal of Physiology and the Journal of Applied Physiology, publications of the American Physiological Society.

George Schmidt, associate professor of physics at Stevens Institute of Technology, has been named head of the institute’s new theoretical plasma research program, established with a $17,000 contract awarded by the Atomic Energy Commission.

Recent staff appointments at the Biologics Testing Laboratory, Worcester, Massachusetts:

Harris Rosenkrantz, research associate at the Worcester Foundation for Experimental Biology, has become director of biochemistry.

Zarah Haddian, liaison officer with the Office of Naval Research in London, has become director of pharmacology and toxicology. Haddian has been on leave of his duties as assistant professor of pharmacology at Tufts University School of Medicine since 1958.

Edward W. Strong, professor of philosophy at the University of California, has been named chancellor of the Berkeley campus, effective 1 July.

G. W. H. Schepers, pathologist for E. I. du Pont de Nemours and Company, Wilmington, Del., has received the 1961 Industrial Medicine Association merit in authorship award for his contributions to industrial medicine.

Ernest C. Faust, emeritus professor of parasitology at Tulane University School of Medicine, has received the Colombian decoration of the Order of San Carlos for his service under the Tulane-ICA-Colombia program in medical education. Faust served as resident consultant for the seven medical schools in Colombia.

Ernest Knobil, Richard Beatty Mellon professor of physiology and chairman of the department at the University of Pittsburgh, has received the 1961 Ciba award of the Endocrine Society.

Moses S. Strock, assistant professor of oral surgery at Tufts University School of Dental Medicine, has been appointed associate clinical professor of dental medicine at Harvard School of Dental Medicine.

Recently appointed professors at the Rockefeller Institute:

George E. Uhlenbeck, formerly Henry Smith Carhart university professor of physics at the University of Michigan;

Theodore H. Berlin, former professor of physics at Johns Hopkins University;

Mark Kac, former professor of mathematics at Cornell University.

Clinton C. Powell, deputy chief of the National Institutes of Health’s division of research grants, has been appointed assistant director of the National Institute of Allergy and Infectious Diseases.

Max K. Horwitt, associate professor of biological chemistry at the University of Illinois, has received the 1961 Osborne and Mendel award of the American Institute of Nutrition.

Recent Deaths

K. A. Allen, 36; chemical technologist at Oak Ridge National Laboratory; 14 June.

Walter L. Biering, 92; retired Iowa State health director and former president of the American Medical Association; 24 June.

Herbert G. Dorsey, 85; physicist and inventor in oceanography, radio, and telephones; chief of the research section, U.S. Coast and Geodetic Survey, from 1926 until his retirement in 1948; 24 June.

Albert Deutsch, 55; journalist specializing in psychiatry; 18 June.

Francis Pottinger, 91; authority on chest diseases, and past president of the American College of Physicians; 10 June.
Meetings

Forthcoming Events

July

31–4. American Crystallographic Assoc., Boulder, Colo. (W. M. MacIntyre, Univ. of Colorado, Boulder)

31–4. Biophysics, 1st intern. congr., Stockholm, Sweden. (B. Lindström, Dept. of Medical Physics, Karolinska Institute, Stockholm 60)


August


1–26. Functional Analysis, 8th American Mathematical Soc. summer institute, Stanford, Calif. (P. D. Lax, AMS, 190 Hope St., Providence 6, R.I.)


3–5. Canadian Chemical Conf. and Exhibition, 44th, Montreal. (Chemical Inst. of Canada, 48 Rideau St., Ottawa 2, Ont.)

4–5. Pennsylvania Acad. of Science, 36th summer, Grove City. (J. J. McDermott, Franklin and Marshall College, Lancaster, Pa.)


6–10. Occupational Medicine and Toxicology, 3rd Inter-American conf., Miami, Fla. (W. B. Deichmann, School of Medicine, Univ. of Miami, Coral Gables, Fla.)

6–12. Atmospheric Ozone and General Circulation, symp., Arosa, Switzerland. (H. U. Duetsch, 20 Carl Spittelerstrasse, Zürich 53, Switzerland)


6–12. International Congr. of Pure and Applied Chemistry, 18th, Montreal, Canada. (L. Marion, Natl. Research Council, Ottawa 2, Canada)


7–9. International Committee of Electro-Chemical Thermodynamics and Kinetics, 13th meeting, Montreal, Canada. (N. Ibl, Eidg. Technische Hochschule, Laborator-rium für Physikalische und Elektrochemie, Universitätstrasse 6, Zürich 6, Switzerland)


7–11. High Temperature Chemistry and Thermodynamics, symp., Montreal, Canada. (L. Brewer, Dept. of Chemistry, Univ. of California, Berkeley)


8–16. Society of Protozoologists, Prague, Czechoslovakia. (N. D. Levine, College of Veterinary Medicine, Univ. of Illinois, Urbana)


12–19. Fast Reactions, summer school, Cambridge, England. (Secretary of the Summer School, Dept. of Physical Chemistry, Lensfield Road, Cambridge)

13–18. Microchemical Techniques, intern. symp., University Park, Pa. (H. J. Francis, Jr., Pennsalt Chemical Corp., P.O. Box 4388, Chestnut Hill Post Office, Philadelphia 18, Pa.)

13–18. Theoretical Aspects of Magnetohydrodynamics, seminar, University Park, Pa. (Conference Center, Pennsylvania State Univ., University Park)

13–19. International Assoc. of Applied Psychology, 14th congr., Copenhagen, Denmark. (Congress Secretariat, 19 Sankt Pederstraede, Copenhagen K.)


14–19. International Medical Conf. on Mental Retardation, 2nd, Vienna, Austria. (Miss E. Langer, Div. of Maternal and Child Health, State House, Augusta, Maine)

14–19. Symposium on Radiation, Vienna, Austria. (World Meteorological Organization, 1 Avenue de la Paix, Geneva, Switzerland)

14–25. Israel Medical Assoc., 5th world assembly, Jerusalem, Israel. (Beth-Harofeh, 1 Hefeman St., Tel-Aviv, Israel)

14–26. Plant Pathology, conf., Lafayette, Ind. (J. F. Schafer, Dept. of Botany and Plant Pathology, Purdue Univ., Lafayette)

14–26. World Eucalyptus Conf., 2nd, São Paulo, Brazil. (Intern. Agency Liaison Branch, Office of the Director General, Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome, Italy)

Kodak reports on:
what can be done with a puree... special plates, backyard telescopes, and the infrared... x-ray film like tape

Light as air

Millions of Americans now facing a biological problem without significant precedent in all human history may well sit up and take notice of this picture. Theirs is the problem of avoiding more calories than their doctors say are good for them while enjoying the primal delight of good eating to which evolution has attuned the nervous system.

Both beakers contain the same quantity of applesauce. The one on the right contains only two additional ingredients: 1% of Myverol Distilled Monoglycerides, Type 18-00 and 1000% of air. Both of these added ingredients are recognized by competent authorities to be as harmless as applesauce itself. One adds the monoglyceride, warms, and whips warm or cold. An ordinary kitchen mixer will do. If the result is a bit too airy for the common taste, one can either use more strongly flavored applesauce, freeze while mixing (as in making ice cream), or both. Even unfrozen, the fruit-fluff is every bit as stiff as it looks in the picture and stays so for several hours. If you want more time, you can dry it down to a powder, package it, ship it to a store, and let a customer whip it after reconstituting with hot water.

It doesn't have to be applesauce, either. We have made the idea work just as well with pears, bananas, peaches, tomato juice, grape juice, and sweet potatoes. We don't see why it wouldn't work with any other strained or pureed fruit or vegetables, or even with puree-like materials for purposes other than food.

We don't sell applesauce or any other purees. We don't even sell Myverol Distilled Monoglycerides in family-size quantities. We love to sell them, though, in processor-size quantities and love to talk to processors about them. The address is Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company).

Our connections with the heavens

We have three connections with the heavens:

1. Years ago we threw our weight on the side of the angels by a Good Deed. We went to work for the astronomers, a group noted for the slimmness of their budgets. We made them the special photographic plates needed for all the projects that have seemed pressing to them, like measuring the angular momentum of galaxies. This work has netted us a medal or two but no wealth. That's all right. Questions about these plates are answered by Eastman Kodak Company, Special Sensitized Products Division, Rochester 4, N. Y. Professional astronomers know that address very well.

2. Amateur astronomers are among the most numerous of scientific-type hobbyists. Many thousands of persons who have to deal all day with tiresome human affairs like to reach out toward the ultimate verities through a backyard telescope. But, being human themselves, they hanker for tangible trophies of the sport. These photography can provide. To guide, we provide a free booklet, "Astrophotography with Your Camera," from the same address the professionals know. The amateur astronomers far outnumber the professionals and buy standard Kodak films at popular prices.

3. A protostar evolving from clouds of dust a million light-years away and an ICBM a thousand miles from the U. S. border have a certain resemblance in the infrared. At Ohio State University we have some astronomers working for us on an astronomical job which lacks of suitable equipment has long delayed—preparation of an atlas of infrared emitters on the celestial sphere to 13.5 microns. We made them the missing equipment. We need the atlas. We have our reasons. The equipment includes a drift-free homodyne amplifier which takes a signal from our liquid-helium-cooled copper-doped germanium detector on the 69-inch Perkins Observatory telescope. It can cramp down to a .0011 cycle/sec scanning bandwidth so that in 20 minutes it can distinguish the emission of a single star from intergalactic infrared noise. Those who have need and funds for such up-to-date infrared systems should get in touch with Eastman Kodak Company, Apparatus and Optical Division, Rochester 4, N. Y.

Why snap in the dark?

The "cultural lag" they talk about in sociology serves in simple ways to restrain technology from advancing too fast.

X-rays were discovered through their effect on the photographic emulsion. Photographic emulsion comes on photographic film. Photographic film is mostly used to take pictures by visible light. Visible light won't pass through paper. Paper therefore protects from light. The converse yields the principle that a sheet of film must be extracted from its paper protection before use. This principle seems sort of fundamental to photography. Though modern radiography employs a different kind of film and even omits a camera, the principle of transferring the film from its package to a separate exposure holder before use has been respectfully preserved (except by dentists who seem, in this respect at least, a little brighter than the rest of us).

The chains that bind have now been sundered. Kodak Industrial X-ray Film in sheets has been available for some little time now in a Ready Pack form, enclosed in individual lighttight packets. Now one can also buy a 200-foot roll of 70mm, 35mm, or 16mm x-ray film with a paper skin on it. One cuts off what one needs, seals the end with opaque tape, and strips off the paper just before processing.

You can get Kodak Industrial X-ray Film, Type AA and Type M this way. (Type M is the one that trades speed for maximum resolution.) Eastman Kodak Company, X-ray Division, Rochester 4, N. Y. can supply the name of the nearest dealer.

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

7 JULY 1961
19–30. Agricultural Economists, 11th intern. conf., Cuernavaca, Mexico (J. Ackerman, Farm Foundation, 600 S. Michigan Ave., Chicago, Ill.)


20–23. American Veterinary Medical Assoc., Detroit, Mich. (H. E. Kingman, AVMA, 600 S. Michigan Ave., Chicago 5, Ill.)

21–23. International Hypersonics Conf., Cambridge, Mass. (F. Ridell, Avco Research Laboratory, 301 Lowell St., Wilmington, Mass.)

21–24. Biological Photographic Assoc., Chicago, Ill. (Mrs. J. W. Crouch, Box 1668, Grand Central P.O., New York 17)

21–24. International Conf. on Photoconductivity, Ithaca, N.Y. (E. Burstein, Dept. of Physics, Univ. of Pennsylvania, Philadelphia)


21–2. International Congr. of Practical Medicine, Merano, Italy. (Bundesärztekammer, I Hädenkampstrasse, Cologne, Germany)

21–6. Pacific Science Congr., 10th, Honolulu, Hawaii. (Secretary General, 10th Pacific Science Congr., Bishop Museum, Honolulu)


22–30. International Conf. on Protozoology, Prague, Czechoslovakia. (N. D. Levine, College of Veterinary Medicine, Univ. of Illinois, Urbana)


23–26. Institute of Management Sciences, 8th annual intern., Brussels, Belgium. (W. Smith, Inst. of Science and Technology, Univ. of Michigan, Ann Arbor)


27–1. American Congr. of Physical
Medicine and Rehabilitation, Cleveland, Ohio. (D. C. Augustin, 30 N. Michigan Ave., Chicago 2, III.)


28-30. Mathematical Assoc. of America, Stillwater, Okla. (H. L. Alder, MAA, Univ. of California, Davis)

28-30. Oak Ridge Inst. of Nuclear Studies, 8th annual summer symp., Gatlinburg, Tenn. (Symposium Office, University Relations Division, Oak Ridge Inst. of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.)

28-30. Scandinavian Symp. on Fat Rancidity, 3rd, Sandefjord, Norway. (E. Törnudd, Gaustadallen 30, Blindern, Norway)


28-31. Botanical Soc. of America, Lafayette, Ind. (B. L. Turner, Dept. of Botany, Univ. of Texas, Austin 12)


28-1. Ionization Phenomena in Gases, 5th intern. conf., Munich, Germany. (Secretariat, Oskar von Miller Ring 18, P.O. 463, Munich 1)


28-2. European Soc. of Haematology, 9th congr., Vienna, Austria. (H. Fleischhaecker, Frankgasse 8, Billrothhaus, Vienna 9)

28-2. International Assoc. of Medical Laboratory Technologists, general assembly, Stockholm, Sweden. (Miss M. Westernin, Statens Bakteriologiska Laboratoriet, Box 764, Stockholm 1)

28-2. Detonation Waves, intern. colloquium, Gif-sur-Yvette, France. (G. M. Ribaud, Centre National de la Recherche Scientifique, 13 Quai Anatole France, Paris 7, France)


(See issue of 16 June for comprehensive list)

Another fine instrument in the Cary tradition of highest quality is the new Model 15 Recording Spectrophotometer. Significant design advancements contribute to its outstanding, versatile performance. Instrument operating limits, 1750-8000 Å, extend precision usefulness over a broader range. Reduced beam size (1.0 x 0.3 cm) assures maximum reliability with minimum samples. Coupled scan and chart drive affords extreme operating simplicity with single variable speed control. For complete technical information on the Model 15, ask for Data File E28-71.
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.

**TEMPERATURE-CONTROL SYSTEM** is said to maintain temperature within ±0.2°C up to 1200°C. A platinum resistance thermometer, sealed to avoid contamination by gases, is used with an electronic controller to operate a saturable reactor that varies power input to the furnace windings. The electronic controller uses a slide-wire potentiometer that can be set with repetitability said to be one part in 4600. A 1-percent change in absolute temperature produces full-scale variation of control current. The same controller is used for furnaces of various capacities. Compensation for line voltage variation is provided. (Atkins Technical Inc., Dept. Sci212, 1276 W. 3rd St., Cleveland 13, Ohio)

**MAGNETOMETER** is said to be suitable for detecting magnetic anomalies of 0.1 gamma or less, and relays data in analog or digital form. In the digital mode, data are presented as a-c potentials varying in frequency with the polarity and magnitude of an ambient magnetic field. Sensitivity, in terms of deviation from center operating frequency, is typically 2.5 parts in 10⁶ per gamma with an effective dynamic range of ±0.3 gauss. Analog data are presented as a-c signals varying in phase as the ambient magnetic field varies. Sensitivity is ±4 deg/gamma over a dynamic range of up to 20 gammas. Operating range may be increased with a corresponding reduction in sensitivity. The instrument is 7 in. long and 3 in. in diameter, and consumes 0.8 watt at 200 ma from a 4-volt d-c source. (Arnoux Corp., Dept. Sci208, 11924 W. Washington Blvd., Los Angeles 66, Calif.)

**MICROSCOPES**, featuring a completely integrated zoom optical system, provide a magnification range extending from 17.5 to 1940. The zoom optical system provides any magnification between 1 and 2 continuously. Six interchangeable objectives are available in the microscope series, including three monoculars, a binocular, a photo binocular, and a photomonomocular. Focusing motion is applied to the stage so that the eye level remains constant. All bodies can be rotated through 360 deg on a common arm bracket. Eyepiece tubes are inclined. Cemented reflecting prisms are replaced by aluminum mirrors with protective coating. Attachments are available for 35-mm Polaroid Land cameras. These are focused through visual eyepiece tubes. A closed-type base accommodates interchangeably a variety of light sources. (Baush and Lomb Inc., Dept. Sci215, Rochester 2, N.Y.)

**HYDROGEN PURIFIERS** produce pure hydrogen in milliliters per minute or cubic feet per hour quantities. In operation, an impure source gas containing free hydrogen flows under pressure into a stainless-steel jacket and over a bundle of palladium-silver alloy tubes. The tubes permit hydrogen to pass through their walls but bar other gases. The alloy, unlike pure palladium, is said to exhibit no distortion when subjected to repeated heating and cooling cycles. Standard models for small volumes have capacities of 40 and 100 ml/min. The units operate on 115-volt a-c. (Milton Roy Co., Dept. Sci236, 1300 E. Mermaid Lane, Philadelphia 18, Pa.)

**OXYGEN SENSOR** operating on the polargraphic principle measures partial pressure of oxygen from 0 to 760 mm-Hg with an absolute range of 250 to 1000 mm-Hg. Full-scale response time is said to be less than 10 sec at 70°F; operating temperature range is 40° to 150°F. The sensor is designed to be used with the manufacturer's airborne high-impedance amplifier. Custom-built units can be produced to order for use with microameters or conventional recorders. (Beckman Instruments, Inc., Dept. Sci234, 2500 Harbor Blvd., Fullerton, Calif.)

**TEMPERATURE CONTROLLER**, designed for controlling the temperature of living specimens in medical and biological laboratories, uses a glass enclosed thermometer of small mass to achieve rapid response. According to the manufacturer, any desired temperature between 28° to 50°C can be reproduced and indefinitely maintained within a few hundredths of a degree. Use to provide desired temperature environments for microscopic specimens during observation is suggested. (Oxford Laboratories, Dept. Sci238, 961 Woodside Rd., Redwood City, Calif.)

**POWER SUPPLY** provides an output range up to 350 kv and is designed for applications such as dielectric testing of cables and klystron apparatus. The unit is oil insulated. A continuous current of 8 ma is provided at any output voltage setting within the range of the equipment. Ripple is 2 percent (r.m.s.). Auxiliary filters are available to reduce ripple to 0.01 percent. (Sorensen & Co., Dept. Sci213, Richards Ave., South Norwalk, Conn.)

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