Forthcoming Events

January

6–8. Northeastern Weed Control Conf., 14th annual, New York, N.Y. (M. G. Wiltse, Chairman, Public Relations Committee, Dow Chemical Co., 916 Shoreham Bldg., 15 and H Sts., NW, Washington 5, D.C.)

7–10. Radioactive Isotopes, 4th intern. symp., Bad Gastein, Austria. (R. Hofer, Isotopen-Laboratorium, II. Medizinische Universitäts Klinik, 13, Garnisongasse, Vienna 9, Austria.)

8–11. Sanitary Engineering Conf., ASCE, Cincinnati, Ohio. (E. S. Kirkpatrick, ASCE, 33 W. 39 St., New York 18.)

11–13. American Acad. of Allergy, Hollywood-by-the-Sea, Fla. (J. O. Kelley, 756 N. Milwaukee St., Milwaukee 2, Wisc.)

11–13. Arctic Geology, 1st intern. symp. Calgary, Alberta, Canada. (D. W. R. Wilson, Arctic Symposium Committee, P.O. Box 100, Calgary, Alberta, Canada.)

11–13. Reliability and Quality Control, natl. symp., Washington, D.C. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

11–15. Society of Automotive Engineers, annual, Detroit, Mich. (R. W. Crory, Meetings Operation Dept., SAE, 485 Lexington Ave., New York 17.)

11–25. Effects of Atomic Radiation, New York, N.Y. (R. Appleyard, Scientific Committee on the Effects of Radiation, United Nations, New York 17.)

12–15. Society of Plastics Engineers, 16th annual conf., Chicago, Ill. (T. A. Bissell, SPE, 65 Prospect St., Stamford, Conn.)

14–18. American Inst. of Mining, Metallurgical, and Petroleum Engineers, annual, New York, N.Y. (E. O. Kirkendall, AIMMPE, 29 W. 39 St., New York 18.)

17–30. Bahamas Medical Serendipity Conf., 2nd, Nassau. (B. L. Frank, P.O. Box 4037, Fort Lauderdale, Fla.)

18–21. American Astronautical Soc., 6th annual, New York, N.Y. (A. P. Mayernik, AAS, 6708 53 Rd., Maspeth 78, N.Y.)

19–21. American Meteorological Soc., 40th annual, Boston, Mass. (K. C. Spengler, 3 Joy St., Boston.)

19–21. Congenital Malformations, CIBA symp. (by invitation only), London, England. (G. E. W. Wolstenholme, 41 Portland Pl., London, W.1.)

21–23. American College of Surgeons, Louisville, Ky. (H. P. Saunders, 40 E. Erie St., Chicago 11, Ill.)

23–28. American Acad. of Orthopedic Surgeons, Chicago, Ill. (J. K. Hart, 116 S. Michigan, Chicago 3.)

24–29. American Rocket Soc., Princeton, N.J. (J. J. Harford, ARS, 500 Fifth Ave., New York 36.)

25–28. Institute of the Aeronautical Sciences, 28th annual, New York, N.Y. (IAS, 2 E. 64 St., New York 21.)

25–28. Plant Maintenance and Engineering Show, Philadelphia, Pa. (R. S. Wolcott, Clapp & Poliak, 341 Madison Ave., New York 17.)

25-29. Stress Measurement Methods, symp., Tempe, Ariz. (P. K. Stein, Strain Gage Readings, 5602 East Monte Rosa, Phoenix, Ariz.)

(See issue of 13 November 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.*

■ MAGNETIC-TAPE CONVERTER makes possible direct use of digital magnetic tape as input to automatic graphical plotters. Solid-state switching circuitry is used with patchboard programing. Provision is included for omitting records that contain specified characters. (Benson-Lehner Corp., Dept. Sci254, 11930 West Olympic Blvd., Los Angeles 64, Calif.)

■ RATIO STANDARD combines a d-c divider and a ratio transformer. Model 1001 handles a-c input voltages of 0.35 times the frequency from 50 to 10,000 cy/sec. Model 1002 handles inputs of 2.5 times frequency from 30 to 1000 cy/sec. Input resistance of the d-c section is 10,000 ohms, and power rating is 5 watts. Linearity is said to be 0.0001 percent for a-c and 0.001 percent for d-c. (Gertsch Products, Inc., Dept. Sci-255, 3211 South La Cienezo Blvd., Los Angeles 16, Calif.)

■ FREQUENCY CALIBRATOR furnishes standard frequencies from 10 kcy/sec to 1000 Mcy/sec with short time stability of $1/10^7$. The instrument also provides timing markers at decade intervals from 0.1 to 100 μsec. An internal crystal oscillator is coupled to a 2-to-1 multiplier followed by a 10 Mcy/sec buffer that drives a series of multivibrators with fundamentals of 1 Mcy/sec and 100 and 10 kcy/sec. (General Radio Co., Dept. Sci259, West Concord, Mass.)

■ RESISTORS of radial-lead and axial-lead encapsulated types are said to be available with absolute accuracies from ±0.005 to ±0.1 percent and stability ±0.003 percent per year. Accuracy over the temperature range —30° to +85°C is said to be ±0.02 percent, and matched sets which track within ±0.005 percent from — 45° to + 85° can be provided. Resistances from 1 ohm to 4 megahom are available. (Julie Research Laboratories, Dept. Sci260, 556 W. 168 St., New York 32, N.Y.)

■ AIR MONITORING SYSTEM is said to eliminate interference of natural radon with measurement of long-half-life emitters by measuring the ratio of beta-gamma to alpha activity. Change in this ratio, essentially constant in natural radron-thoron progeny, indicates presence of other than normal background. Ratio rise indicates long-half-life predominantly beta activity; ratio fall, predominantly alpha activity. The system records alpha activity, beta-plus-gamma activity, and ratio of beta-gamma to alpha. (Nuclear Measurements Corp., Dept. Sci263, 2460 N. Arlington Ave., Indianapolis 18, Ind.)

■ FUEL-GAGE TESTER contains a pair of three-terminal air capacitors, one to simulate the jet fuel compensator, the other, in conjunction with fixed capacitors, to simulate the main sensing capacitor of a fuel gage. Capacitor scale length is 19.2 ft, and settings are accurate to 1 in 25,000. Capacitors are enclosed, with a removable desiccant cartridge. (General Radio Co., Dept. Sci262, West Concord, Mass.)

■ TUBE-TRANSISTOR BRIDGE with amplification factor range of 0.001 to 10,000 can be used to measure low-frequency dynamic coefficients of transistors and tubes over wide ranges of values. The bridge is designed to operate in the 270 to 400 or 1000 cy/sec range. Vacuum-tube measurements can be made on forward and reverse amplification factor, resistance, and transconductance. In transistor applications the bridge can be used to determine short-circuit conductance parameters and the forward- and reverse-voltage ratios. Dynamic-plate-resistance range is 50 ohm to 20 megohm. Transconductance range is 0.02 to 50,000 μmho. Maximum plate current is 400 ma; maximum voltage is 1500 v. (General Radio Co., Dept. Sci265, West Concord, Mass.)

■ IONIZATION DETECTOR for gas and vapor chromatography is nonradioactive. Electrons for ionization are supplied by emission, and ionizing energy is controllable. The detector is suitable for use with either capillary or packed columns. Helium and argon are the preferred carrier gases. Small changes in temperature or pressure are said to have no adverse effect on operation. Flow is held constant during an analysis. (Burrel Corp., Dept. Sci268, 2223 5th Ave., Pittsburgh 19, Pa.)

■ SYNCHRONOUS MOTOR runs at 72 rev/min without gear reduction with 60 cy/sec input. Clockwise or counterclockwise rotation with rapid reversing is possible. Start or stop time is less than 0.025 second, or 5 deg of shaft rotation. Torque is 150 oz/in. Starting current and running current are nearly identical. The motor may also be used as a d-c stepping motor for incremental positioning with either 200 or 400 increments for one shaft rotation. Rated torque is maintained for all stepping positions. (Superior Electric Co., Dept. Sci270, 83 Laurel St., Bristol, Conn.)

JOSHUA STERN

National Bureau of Standards, Washington, D.C.

NUCLEAR REVIEWS

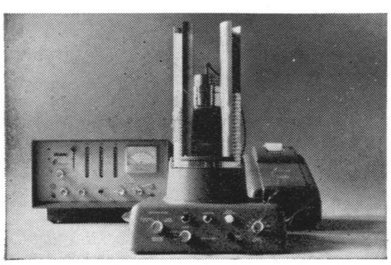
from

NUCLEAR-CHICAGO

RADIATION AUTOMATION

Many busy laboratories working with radioisotopes have found an ideal way to eliminate the time and cost consuming procedure of manually counting beta-emitting samples. They use Nuclear-Chicago's Automatic Sample Changer System, which must provide a notable procedural improvement because it has become the most widely used System of its kind in the world today.

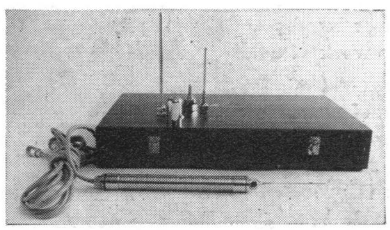
Where a large number of samples must be counted this System drastically cuts the technician's time for routine radioassay work and makes it available for the more productive phases of research. Up to 35 samples may be counted without attention and, with the human element eliminated, more accurate and more reproducible results are obtained than with manual counting techniques. As pictured here the System consists of our C-110B Automatic Sample Counter, scaler and newly-improved printer-timer. Normally used with the D-47



Gas Flow Counter, windowless or with "Micromil"® window, the automatic changer will also operate efficiently with mica window or beta scintillation detectors. If you have a volume sample counting problem, may we suggest you write us for full information on this world's most popular automatic sample counter system.

HYPERTHYROID RABBITS???

Biologists and clinical researchers faced with the problem of taking measurements of the radioactivity concentrated in the thyroid gland or in any organ in a small animal no longer need be frustrated because radiation detectors are often larger than the animal itself and "see" practically all the radiation in the animal.



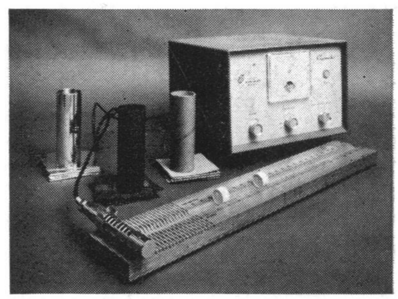
A new scintillation detector originally developed by Nuclear-Chicago for brain tumor localization has such tiny beta-gamma sensitive crystals that measurements of thyroid uptake of radioiodine-131 in a rabbit or mouse become easy. One of the interchangeable probe tips is even supplied with a collimator shield to increase directional sensitivity. If you're interested in detecting and measuring radioactivity in animals, humans, or anywhere where there's little room to work, you'll be interested in the new Nuclear-Chicago DS8-1 scintillation detector set. We'll be pleased to send full information.

GRANTS TO SCHOOLS

Financial grants from AEC for equipment have been an important factor in setting up nuclear training programs in educational institutions. There is an interesting angle to this, however, that was recently brought to light. It seems that 98% of all AEC equipment grants have gone to institutions with more than 1,000 enrollment and less than 2% to the smaller schools. The reason is that qualifications for such grants are based on the ability of the requesting institution to put the proposed equipment to maximum good use.

No one questions the fact that students in all schools should have the opportunity to study nuclear techniques, but the smaller school, with its limited budgets, may lack the trained personnel required to meet AEC qualifications. Here at Nuclear-Chicago we have been conscious of this need and have spent a lot of effort in developing reliable low cost equipment which will enable the smaller school to acquire the necessary familiarity with nuclear techniques.

For instance, our basic nuclear demonstration unit The



Classmaster®, pictured here, is available for only $194.50. It includes a ratemeter, Geiger tube, absorption and scatter shields, calibrated experiment board, and a detailed experiment manual. The system was designed specifically for student use. We will be happy to give you detailed information on this training unit which explains fully how it can be used by your present staff in chemistry, physics, and biology classes. Just ask for the Classmaster brochure.

nuclear-chicago
® CORPORATION
349 HOWARD AVENUE • DES PLAINES, ILLINOIS