



By eliminating the disadvantages of earlier methods, the Triosorb Sponge has achieved a real breakthrough in thyroid testing. It is an in vitro test **unmatched in accuracy, speed and convenience.**

**Accuracy:** Because factors such as red blood cells and exogenous iodine have been eliminated from consideration in the Triosorb Test, it is unmatched in accuracy.

**Speed:** With only 3 washes and no need for double pipettings, shakers, or incubators, the Triosorb Test can be

# revolutionized thyroid testing!

more rapidly performed than any other T-3 test.

**Convenience:** Triosorb is in a disposable kit ready for immediate use at room temperature, making it the simplest and most convenient thyroid function test to perform.

McAdams\* reported that "The resin sponge (Triosorb) technique is superior to the erythrocyte method for performing the  $I^{131}$  T3 test in terms of simplicity, convenience and elimination of errors characteristic of the erythrocyte procedure."

**Triosorb is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required. Because Triosorb will enable far more screenings to be performed, this procedure may soon become as standard as today's blood counts and urinalyses.**

501202



\*McAdams, G. B. and Reinfrank, R. F., *Jrnl. Nuclear Med.*, 5:112, Feb., 1964.

**TRIOSORB<sup>®</sup>**  
**T-3 DIAGNOSTIC KIT**  
**ABBOTT LABORATORIES NORTH CHICAGO, ILL.**



The Volk Radiochemical Company has been producing radiopharmaceuticals and radiochemicals for human and research use for the past ten years. This is our only business. Continued technological improvements and innovations have been constant goals as exemplified by our pioneering production of Iodine-125 as a useful medical isotope and our introduction of the "Silver Saddle" which removes free iodide from iodinated organic compounds such as Hippuran.

*Twenty separate individual isotopic dose products are available in standard and special potencies.*

**CONVENIENT**—to the world's busiest airport (Chicago's O'Hare) insures delivery tomorrow via Air Express to any one of 21,000 U. S. cities.

Collect call ordering  
to our  
Skokie, Illinois laboratory  
(area code 312 673-3760)



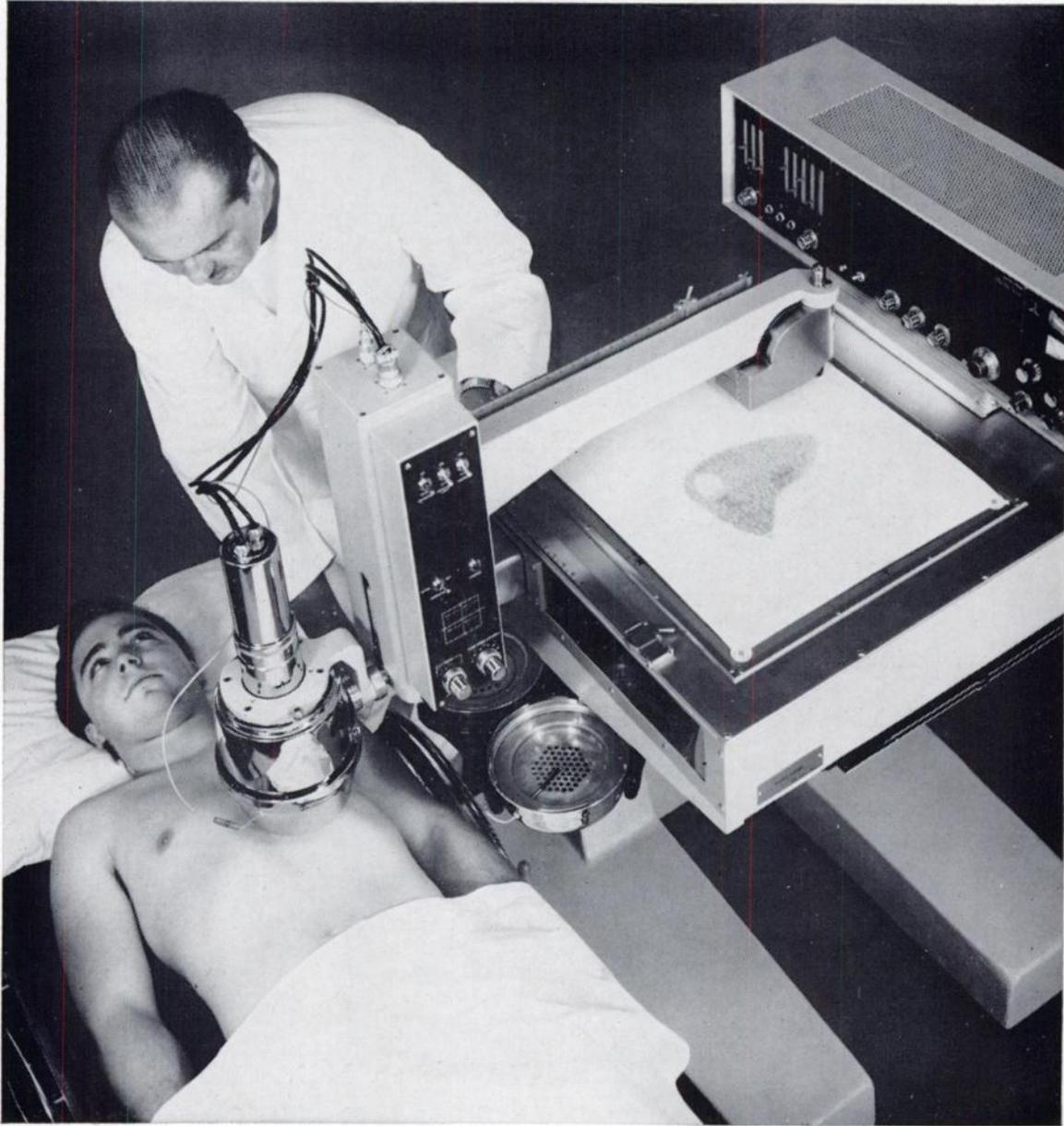
or Burbank, California  
laboratory  
(area code 213 849-6023)  
assures you that your orders  
are handled as specified.

*Write for the 1965 Volk Radiomedicines catalog.*

**Volk** **RADIOCHEMICAL COMPANY**



CHICAGO—8260 Elmwood Ave., Skokie, Ill.  
LOS ANGELES—803 N. Lake St., Burbank, Calif.  
WASHINGTON—P.O. Box 335, Silver Spring, Md.  
NEW YORK—P.O. Box 345, New York, N. Y.



NUC-D-4-243

## FIRST CHOICE

**ONE OUT OF TWO.** Proof of the accepted superiority of Nuclear-Chicago's Pho/Dot isotope scanner for clinical use—every second scanner sold today is a Pho/Dot.

**TWO FOR THE SHOW.** Pho/Dot's dual display of the location and concentration of isotope-labelled compounds within organs and areas of the body. On X-ray film by a photorecording system. On paper by a dot-recording system.

**SECOND TO NONE.** Human-engineered to eliminate operator error. Advanced design with a multitude of electromechanical improvements.

**ONE, TWO, THREE WAYS.** To make sure you know about Pho/Dot: see your Nuclear-Chicago sales engineer, ask your colleagues, or write us.



**NUCLEAR-CHICAGO**

A DIVISION OF NUCLEAR-CHICAGO CORPORATION

313 Howard, Des Plaines, Ill. 60018 U.S.A.

In Europe: Donker Curtiusstraat 7  
Amsterdam W, The Netherlands

ONLY \$2250.

**NEW  
LOW  
COST!!**

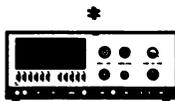


**SPECTROMETER\***

**FEATURES:**

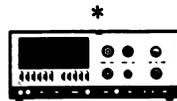
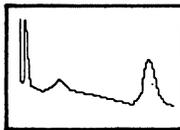
- Six Decade Scaler, 1 Microsecond Resolving Time
- Five Decade Timer, Minutes & Seconds
- All Decades Presettable from 0 to 9
- Current and Voltage Input Amplifier
- Amplifier Gain X1000 Voltage, 1  $\mu$ A Current
- Baseline and Window Variable Over 100% of Range
- Dual High Voltage Supply (1.5 KV and 3 KV) for Proportional & Scintillation Counting
- 5 ma Current (use with multiple detectors)
- Automatic Background Subtract
- Auto Recycle on Scaler Timer (Decay Studies)
- All Decades Wired for BCD 1-2-4-8 Print Out
- Auto Baseline Advance in 1% Increments
- Preset Count and Time Override

**APPLICATIONS:**



**WITH ANALOG OUTPUT**

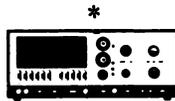
4 selectable ranges  
Up to 1 million counts per minute for automatic plotting  
Scintillation spectra in Histogram Form



**WITH AUTO PRINT OUT**

Print out sample number, count, and time

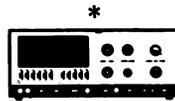
1	0	1	2	1	4	5	3	2	1	6
0	9	1	2	1	5	4	4	1	0	7
0	8	1	2	1	7	7	1	7	3	2
0	7	1	2	1	3	6	2	9	5	4
0	6	1	2	1	2	5	4	3	7	6
0	5	1	2	1	1	3	1	2	9	8
1	1	1	1	1	1	1	1	1	1	1



**WITH DUAL BASELINE**

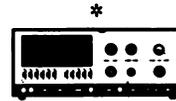
For counting two isotopes sequentially in one sample, manually or automatically

0	1	3	1	0	0	6	7	3	2	4	1
1	1	2	1	0	0	7	8	3	4	3	1
0	1	1	1	0	0	8	2	0	9	0	7
1	1	0	1	0	0	5	7	1	4	2	1
0	0	9	1	0	0	4	0	3	2	1	4
1	0	8	1	0	0	2	1	1	3	4	1
0	0	7	0	0	1	6	9	8	7	6	



**AUTOMATIC TEST TUBE CHANGER**

Used in Model 707 (without modification) 100 Sample Isomeric Test Tube Changer. Automatically count up to 100 test tubes and print out sample number, count, and time.



**AUTOMATIC PLANCHET CHANGER**

Used in Model 731 (without modification) 100 Sample Isomeric Planchet Changer. Automatically count up to 100 planchets and print out sample number, count, and time.



ATOMIC & LABORATORY INSTRUMENTS DIVISION

**BAIRD-ATOMIC, INC.**

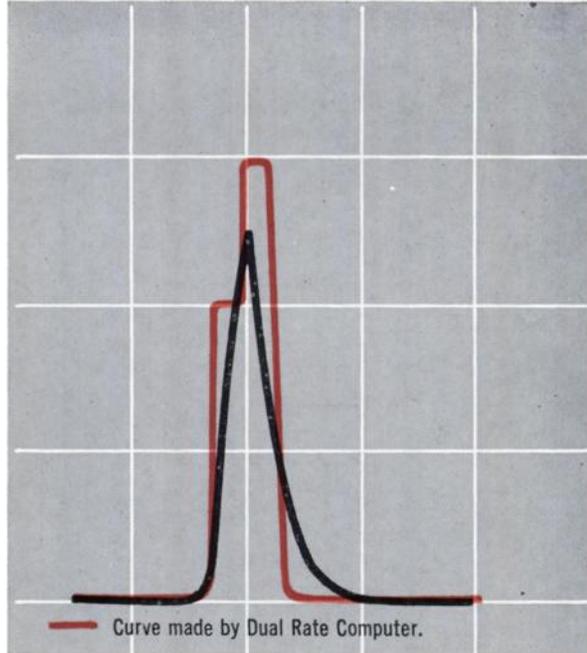
IN EUROPE: BAIRD-ATOMIC (EUROPE) N.V.  
26-27 VEENKADE, THE HAGUE, HOLLAND



Subsidiaries: Atomic Accessories, Inc., Valley Stream, N. Y.; Chemtrac, Inc., Cambridge, Mass.

33 University Road, Cambridge, Mass. 02138

SCIENTISTS: INVESTIGATE CHALLENGING OPPORTUNITIES WITH  
BAIRD-ATOMIC. AN EQUAL OPPORTUNITY EMPLOYER.

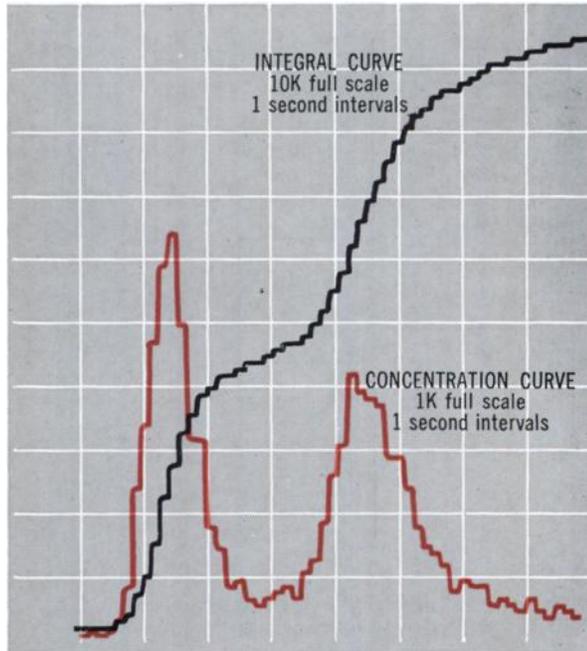


— Curve of same event made by ratemeter with ratemeter time constant equal to integration time of computer.

**record dynamic function *without equilibrium lag***

The Picker DUAL RATE COMPUTER gives you histogram curves without ratemeter distortion and lag. It can also print digital data at rates up to ten times per second.

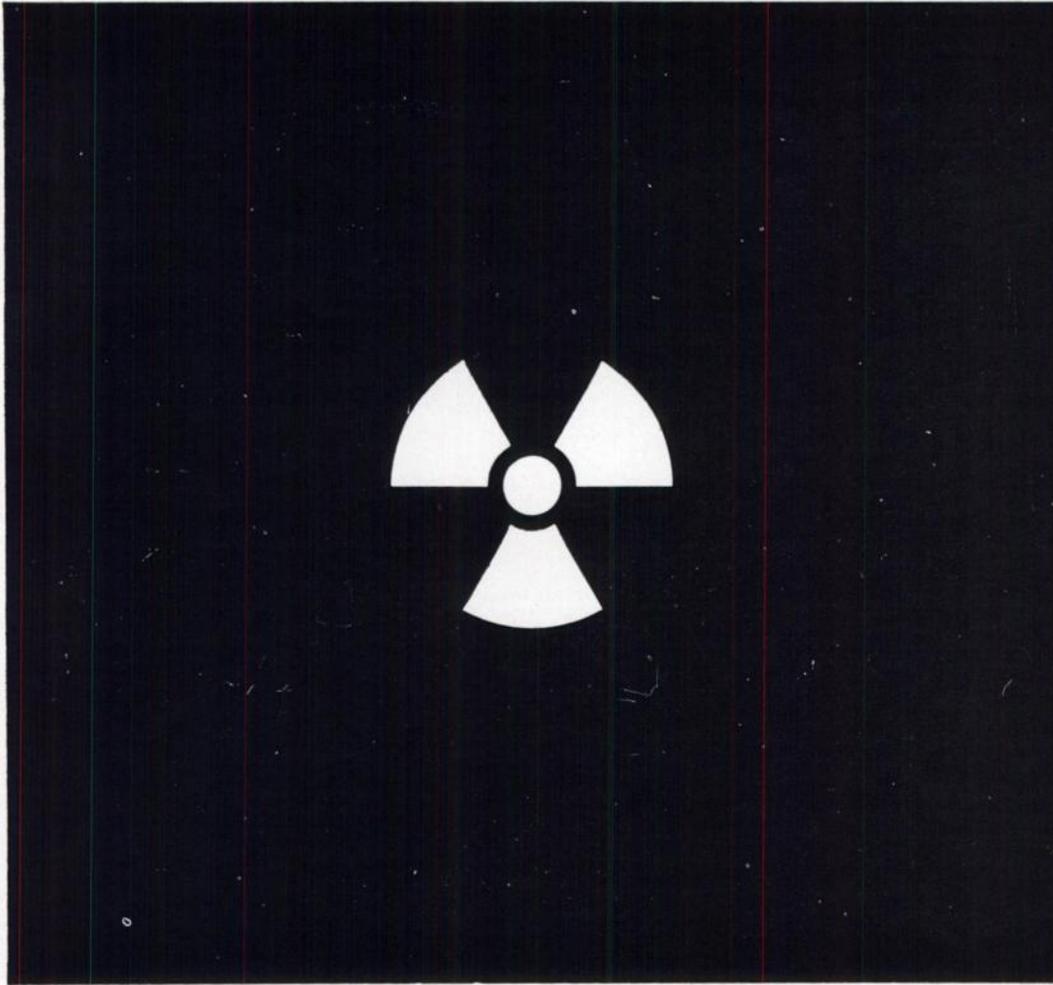
30	00185	04855
29	00122	04670
28	00104	04548
27	00069	04444
26	00083	04375
25	00070	04292
24	00068	04222
23	00054	04154
22	00060	04100
21	00093	04040
20	00083	03947
19	00141	03864
18	00172	03723
17	00313	03551
		03238
		03000



Each channel can serve one detector, or one channel can record the integral of data displayed by the other.

PICKER-NUCLEAR  
 Division/PICKER X-RAY CORPORATION  
 White Plains, New York





 **MEDOTOPES<sup>®</sup>**  
**SQUIBB RADIOPHARMACEUTICALS**

Medotopes reflect the latest developments in nuclear medicine. All provide the utmost in safety and convenience. All have unique packaging safeguards so that direct contact is never required. Exclusive lead shield enclosures are fitted with bottle caps that unscrew automatically. Saf-Tag<sup>®</sup> vials and bottles are carefully encased and double protected by transparent, shatterproof plastic coatings, and shipping cartons have convenient "pull-tab" openers. And, each preparation is custom-handled, each delivery custom-routed by Squibb Traffic Service. Access to three major airports expedites shipment.

Squibb Radiopharmaceuticals are available to the AEC-licensed physician. For full information, write to Professional Service Dept., Squibb, 745 Fifth Avenue, New York 22, N. Y.

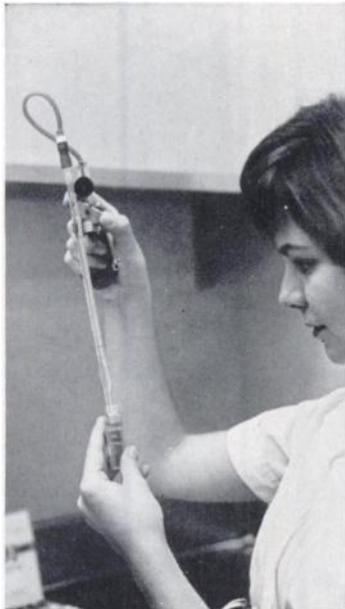
**SQUIBB**  
Squibb Quality—the Priceless Ingredient  
SQUIBB DIVISION **Olin**



# LESS TECHNICIAN TIME

*Than Any Other T-3 Test*

## TBI KIT 265T



Pipette Serum



Rotate Vials



Count Aliquot Once

- Easiest, most reliable\* *in vitro* thyroid function test. New buffer produces exceptional stability and reproducibility.
- Unmatched accuracy for hypo-, eu-, or hyperthyroid evaluation. Eliminates variables due to problems of serum handling.
- Takes less technician time than any other T-3 test . . . almost half.
- Time and temperature are not critical.
- Count patient serum only once in well counter.
- TBI test kits cost less, too. Permits use as a screening test.

\*In tests performed on over 2200 patients, the TBI test was reported in agreement with final clinical diagnosis in over 90% of the cases. Ref: Scholer, J.F., J. of Nuclear Med., May '63, p. 192.

*Write for full information and complimentary kit*



6501

**NUCLEAR CONSULTANTS  
CORPORATION**

Box 6172 Lambert Field, St. Louis, Missouri 63145

Chicago  
Cleveland  
Houston  
Los Angeles  
New York  
San Francisco  
Washington, D.C.

EXCLUSIVE FEATURES IN  
**AUTO-GAMMA<sup>®</sup>**  
**SPECTROMETER SYSTEMS**  
MAKE THE BIG DIFFERENCE



**Packard**

**PACKARD INSTRUMENT COMPANY, INC.**

2200 WARRENVILLE ROAD • DOWNERS GROVE, ILLINOIS 60515

AREA CODE 312 • 969-6000

The exclusive features incorporated in Packard Auto-Gamma Spectrometer Systems permit any medical, biological, or chemical research laboratory to increase gamma counting capability, while reducing the time and effort required to achieve definitive results. These compact, completely automatic systems embody the outstanding new Packard 3000 Series Spectrometer (with one, two, or three channels of pulse height analysis), the patented 100 sample constant background Auto-Gamma Sample Changer, and a data printer.

Each channel of 3000 Series Spectrometers operates in narrow window, wide window or integral modes, and a selector switch in each channel provides optimum performance with either liquid or crystal detectors. A heavily shielded well-type detector houses either a 2-inch or 3-inch crystal.

An extremely useful standard feature of Auto-Gamma Spectrometer Systems is built-in *Automatic Background Subtraction*. Another important feature is *Low-Activity Sample Reject* which automatically checks and rejects samples with less than a preselected activity level.

Manual systems consisting of the 3000 Series Spectrometer and well-type detector are also available to users with modest gamma counting requirements.

Your Packard Sales Engineer can provide complete details on Packard gamma counting systems, or write for Bulletins.

*Don't Forget*

**12th Annual Meeting**

**Americana Hotel**

**Bal Harbour, Florida**

**June 17-19, 1965**

**International Organization for Medical Physics**

The First International Conference of IOMP will be held September 8-10, 1965 at Harrogate, England. This will be followed by visits to hospitals and research centers in the north of Great Britain on September 13, and the south, excluding the London area, on the 15th. The London area will be toured the 17th.

The main topics under consideration will be:

Physics in Medicine and Surgery  
Physics Applied to Physiology  
Physics in Radiology

There will also be a technical exhibition at Harrogate and scientific exhibits at the centers visited. All of those interested in the applications of physics to medicine and physiology are invited to this Conference, organized by the United Kingdom National Committee for Medical Physics.

For further information contact:

Secretary  
United Kingdom National Committee for Medical Physics  
45/47 Little Britain  
London, E.C.1.



**watchdog:**  
**Tracerlab Twin-film  
 badge service**

**plus many other nuclear services . . .  
 scores of reliable radioactive sources**

Here's the perfected film badge service — the unique Twin-film badge from Tracerlab. For complete laboratory peace of mind, for full detection of beta, gamma, neutron, x-ray and mixed radiation — the Twin-film badge assures health-guarding dosimetry. And computers speed results to you!

**Tracerlab provides a wide range of health physics services:** bioassay • environmental analysis • fission and corrosion products analysis • activation analysis • neutron absorption measurement • radioisotope applications.

**Radioactive sources?** Tracerlab provides the safest, most reliable sources in the field. Stock or custom-made. For further information on a full range of sources and services for the nuclear field, contact Tracerlab.

**LFE** | **T R A C E R L A B**  
 A DIVISION OF LABORATORY FOR ELECTRONICS, INC.  
 WALTHAM 54, MASSACHUSETTS

- Film Badge Service • Health Physics • Bioassays • Sources
- Nuclear Instrumentation • Radiochemicals • Radioactive Waste Disposal
- Radiation Monitoring Instrumentation • Isotope Applications

---

**ADVERTISING INDEX**

**Journal of Nuclear Medicine  
 April, 1965**

<b>Abbott Laboratories</b>	
North Chicago, Illinois	IFC, i
<b>American Collimator</b>	
Oklahoma City, Oklahoma	xvii
<b>Baird-Atomic</b>	
Cambridge, Massachusetts	ix
<b>Nuclear-Chicago</b>	
Des Plaines, Illinois	BC, vii
<b>Nuclear Consultants</b>	
St. Louis, Missouri	xiv
<b>Ohio-Nuclear</b>	
Cleveland, Ohio	iii
<b>Packard Instruments</b>	
Downers Grove, Illinois	xv
<b>Picker-X-Ray Corporation</b>	
White Plains, New York	x
<b>Squibb, E. R. &amp; Sons</b>	
New York, New York	xi
<b>Technical Measurements</b>	
North Haven, Connecticut	IBC
<b>Tracerlab</b>	
Waltham, Massachusetts	xix
<b>Volk Radiochemical Company</b>	
Chicago, Illinois	v

---

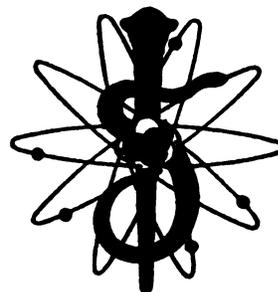
**A Valuable Addition To Your Professional Library**

*Journal of*

**NUCLEAR**



*Official Publication  
Society of Nuclear Medicine*



**AN IMPORTANT NEW JOURNAL**

*featuring*

Original articles in clinical medicine, basic and clinical medical research, physics and chemistry dealing with the use of isotopes in humans, and articles on related subjects. The latter includes dosimetry, instrumentation, protection, techniques, biologic effects contributing to the use or effects of isotopes in clinical medicine or the clinical effects of ionizing radiation.

George E. Thoma, M.D., St. Louis—*Editor*

G. O. Broun, Jr., M.D., St. Louis, Titus C. Evans, Ph.D., Iowa City,

Neil Wald, M.D., Pittsburgh, Eugene L. Saenger, M.D., Cincinnati—*Associate Editors*

**The Journal of NUCLEAR MEDICINE**

333 North Michigan Avenue, Chicago, Illinois 60601

\$20.00 per year, U.S.    \$21.00 Foreign

Name.....

Address.....

City..... State..... Zip Code.....

*Please remit by check or money order.*

**Published  
Monthly**



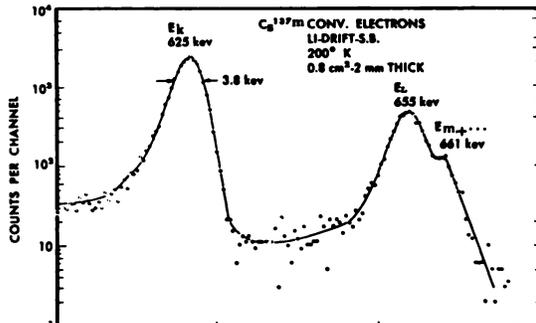


**Interested  
in the highest detector  
resolution obtainable?**

... at room temperature

THICKNESS mm	SENSITIVE AREA — mm <sup>2</sup>					ELECTRON RESOLUTION FWHM in KeV
	80	110	200	300	500	
1	16	20	22	30	35	
2	17	21	25	32	40	
3	23	27	40	50	70	
4	40	60	80	100	140	
5						

... when cooled



An example of high resolution that can be obtained using TMC Lithium Drift Detectors under controlled conditions. The FWHM on the K conversion line is 3.8 keV or 0.6%.

TMC offers transmission type detectors for stacked arrays and dE/dx measurements. Detectors can be stacked to form dE/dx by E system, or onto one another to create a stacked assembly of greater depletion depth than can be obtained with a single detector. Stacked assemblies of transmission type detectors are available. Depletion depths of more than 20 mm possible.



**TECHNICAL MEASUREMENT CORPORATION**  
441 Washington Avenue, North Haven, Conn.

Send more semiconductor detector data to

Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 Address \_\_\_\_\_  
 Zip Code \_\_\_\_\_

# Gammascope II<sup>®</sup>

100-Channel pulse height analyzer



**WITH 4 OPERATING MODES**

- 100 channel pulse height analysis
- Simultaneous single-channel pulse height analysis
- Multiscaling
- Mössbauer analysis

Now a smaller, more versatile version of the low cost GAMMASCOPE Model 101 100-channel pulse height analyzer, with 4 operating modes. New outputs for virtually all digital and analog readout equipment. Gammascope II is ideal for classroom demonstration or exacting experiments.

### Operating Modes

**100-channel p.h. analysis** — high resolution spectrum analysis . . . digital scale expansion resolution equivalent to 800 channels for selected portion of spectrum.

**Single channel p.h. analysis** — select energy range of interest, count pulses in that range on external scaler. Also used in multiscaling and for sampling velocity signal in Mössbauer studies.

**Multiscaling** — up to 100 channels . . . 8 dwell times from 0.1 to 1000 milliseconds.

**Mössbauer analysis** — includes input for analog signal. Detector pulses, selected by the window, are used by the ADC to sample the velocity signal, providing a count in each channel related to instantaneous velocity. First low-cost, multi-channel analyzer with built-in Mössbauer capability.

For specifications and operating data send coupon.



**TECHNICAL MEASUREMENT CORPORATION**  
441 Washington Avenue, North Haven, Conn.

Send Gammascope II details to:

Name . . . . . Title . . . . .  
 Company . . . . .  
 Address . . . . .  
 City . . . . . State . . . . . Zip . . . . .



**Wherever it's worn,  
it says dependable  
instrument service.  
And it's worn  
everywhere.**

We believe that every purchaser of a Nuclear-Chicago instrument deserves reliable service when and where it's needed. That's what this "smile" symbol means: dependable service, everywhere.



SM

This kind of service depends on the man who answers your call. So our "smile" says people, too. Experienced, qualified people—ready to handle an emergency repair or a routine calibration. People you can talk to about an instrument modification or conversion. People who see to it that you get what you want in parts and accessories.

We've put men of this caliber into a nation-wide network of service centers—17 service offices, 24 franchised service agents, and 22 authorized service representatives. All this to make sure Nuclear-Chicago service is where you are.

Further, we offer two types of service contracts: one covers all

service costs; the other provides maintenance and system assurance tests.

Get the full story on dependable instrument service. Call your Nuclear-Chicago sales engineer or your nearest service office. Or write for our service brochure.

NUC: B-9-217



**NUCLEAR-CHICAGO  
CORPORATION**

333 Howard, Des Plaines, Illinois 60018 U. S. A.

In Europe: Donker Curtiusstraat 7  
Amsterdam W, The Netherlands