



## This sponge

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®**  
**T-3 DIAGNOSTIC KIT**  
**ABBOTT LABORATORIES NORTH CHICAGO, ILL.**



## MEDICAL SCANNER MODEL CS 500

In nuclear medicine, the CS 500 Medical Scanner is a valuable clinical tool for organ or tumor visualization, providing a powerful adjunct to the diagnostic skills of the physician.

The CS 500 features photorecording on X-ray film and teledeltos paper recording to display the distribution and concentration of isotopic labeled compounds localized in selected organs and areas of the human body. Studies utilizing the most recent scanning techniques with newly developed radioactive compounds may be done accurately and quickly.

Truly significant differences are revealed, even at low count rates, by the electronic elimination of background, and the expansion of the remaining data photographically over the entire contrast curve.

Mechanically, the CS 500 is simple to operate. Either a unidirectional or a bi-directional mode may be used to direct the scanning movement of the probe in the horizontal plane. The height of this scanning plane above the subject is push-button controlled.

For *PENETRATING ANALYSIS*, the clinician can have confidence in the CS 500 Medical Scanner because of its proven performance in scores of leading medical institutions throughout North America. Service available through all Baird-Atomic sales offices, in the U.S. and abroad.

Write to the Atomic Instrument Department for brochure CS 500.

Scientists: Investigate challenging opportunities with Baird/Atomic. An Equal Opportunity Employer.

**BAIRD-ATOMIC, INC.**



33 University Road, Cambridge, Mass. 02138

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

Europe: B/A (Holland) N.V., 5A Hartogstraat, The Hague, Holland

# News...

from



**1. NCC acquires Volk Laboratories.** We have acquired the Chicago (Skokie) radiopharmaceutical laboratories of Volk Radiochemical Company — now we can offer direct shipment to Wisconsin, Minnesota, Iowa, Michigan, and other midwestern states. Plus several new products.

**2. NCC opens New York Laboratory.** We have opened a new laboratory in New York City, offering fast direct delivery to the entire East Coast.

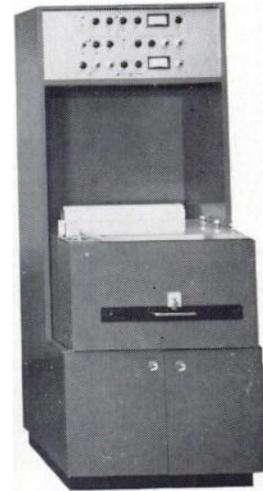
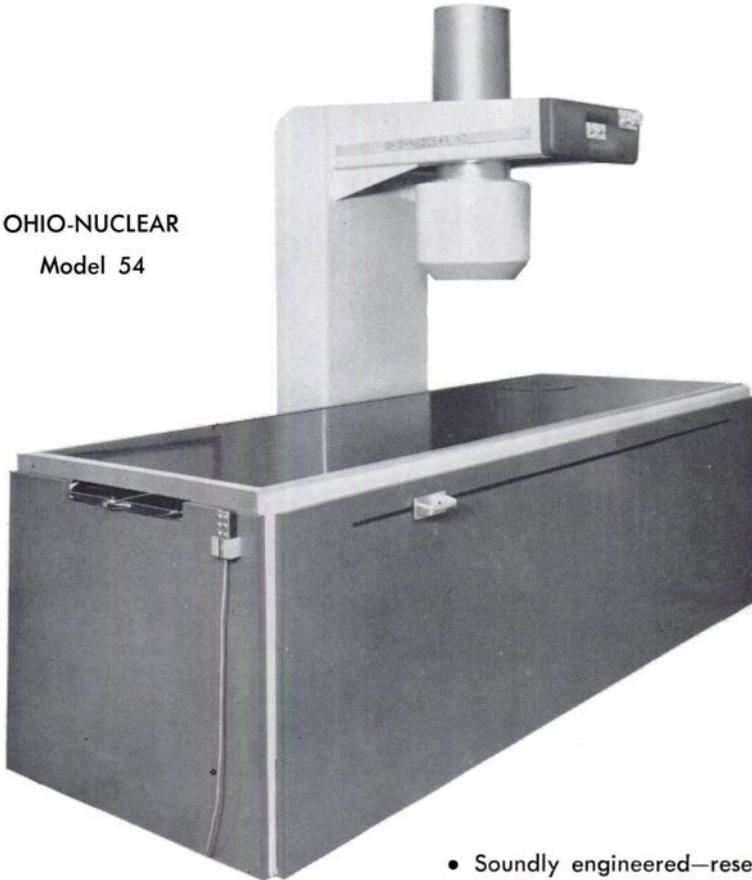
These expanded facilities mean additional laboratories and shipping points — more flexibility so we can meet your needs exactly. You'll get the product you want, delivered when you want it.

To place your order, call the nearest office, collect if you wish.



# Large Crystal Radioisotope Scanners

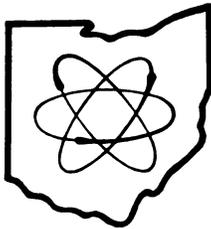
OHIO-NUCLEAR  
Model 54



## FEATURES:

- Soundly engineered—research proven in use.
- 200 inches (500 cm) per minute scanning speeds.
- Choice of above or beneath table scanning.
- Dual Scanner capability—now or later.
- Gammagraphic Photoscan & Dot-tapper.
- Prompt service by capable factory engineers.
- 5-inch crystal scanner price—\$16,750.
- 8-inch crystal scanner price—\$20,700.

*For Full Information* WRITE OR CALL US • WE BELIEVE YOU WILL BE GLAD YOU DID.

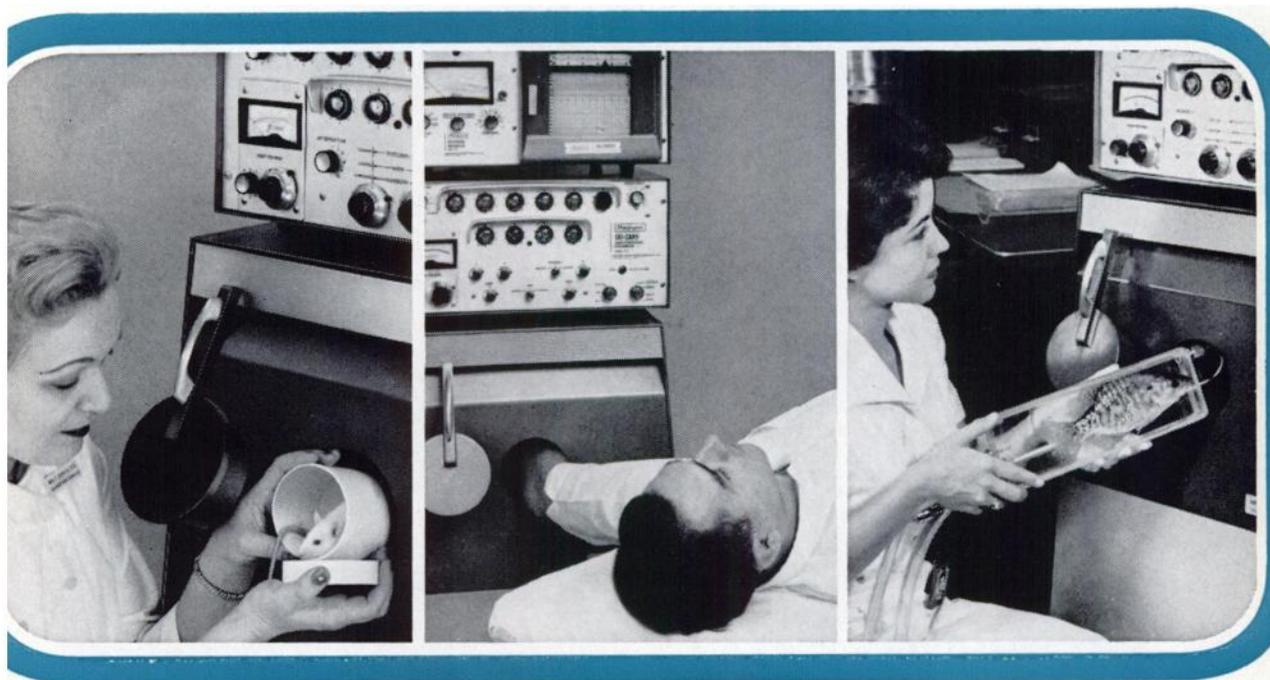


**OHIO-NUCLEAR, INC.**

1725 FALL AVENUE

CLEVELAND, OHIO

216 - 621-8477



## ARMAC<sup>®</sup> provides rapid, accurate measurement of radioactivity

The Armac Scintillation Detector is ideally suited for *in vivo* research using gamma-emitting tracers. Its 4- $\pi$  counting geometry and high counting efficiency require the administration of only small doses of radioactivity, yet assure significant measurements in short counting periods.

■ In biological research Armac can be used to count radioactivity in small laboratory animals in the study of retention and excretion of various gamma-emitting isotopes. Because only small doses of radioactivity are required, sacrificing is unnecessary and the animal acts as its own control for repeated experimentation.

■ In clinical research Armac is useful in nutritional

studies and other applications where changes in the amount of circulating radioactivity in the blood can be directly related to other body functions. These changes can be measured accurately and rapidly using the blood-rich portion of the patient's forearm positioned in the Armac's counting chamber.

■ In special studies Armac can be used to quickly and accurately determine the presence of low levels of radioactivity in bulk samples of meat, milk, water, blood, wastes, soil, or tissue with little or no sample preparation. The photograph at right, above, shows an Armac Detector counting radioactivity in a live fish in flowing stream water. (Courtesy Oak Ridge National Laboratory.)

A complete counting system includes the Model 446 Armac Scintillation Detector and any of several Packard Spectrometers, control units and ratemeters. There are more than ten Armac Detector Systems available to meet your specific counting requirements. Choose visual or recorded data output; digital or analog data presentation. Any system can be readily modified or expanded to meet changing research requirements. Special systems incorporating automatic sample changers are also available.

For detailed information contact your Packard Sales Engineer, or write for Bulletin 1024.

**Packard**

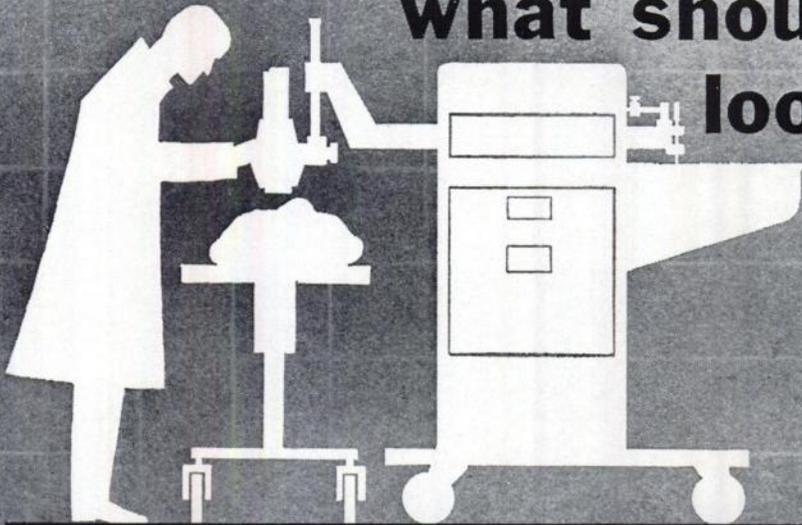
**PACKARD INSTRUMENT COMPANY, INC.**

2200 WARRENVILLE ROAD • DOWNERS GROVE, ILLINOIS 60515

TELEPHONE: 312/969-6000

when investing in a scintillation scanner

what should you  
look for?



among other things . . .

***dependable local service***



No matter how good your scanner may be, it's no good to you at all if it's out of commission. Your busy schedule simply can't tolerate the disruptions growing out of equipment "downtime".

Across the United States, there are over 400 Picker-employed servicemen working out of 112 Service Centers and backed up by over 40 service specialists. This service force is substantially larger than that of all other nuclear instrument manufacturers *put together*.

**PICKER**  
nuclear

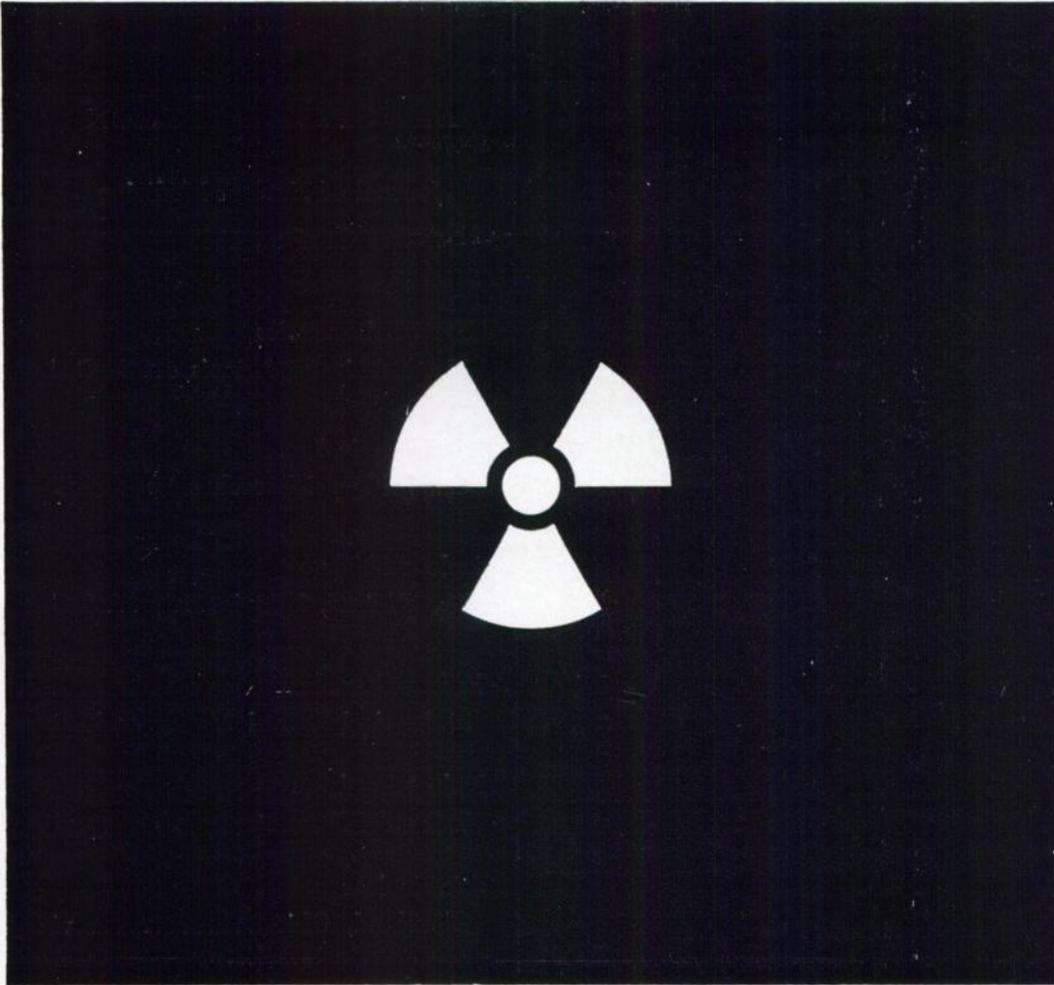
**Magna Scanner**

the *versatile* scanner / the *proven* scanner

PICKER NUCLEAR

DIVISION

PICKER X-RAY CORPORATION  
WHITE PLAINS, NEW YORK



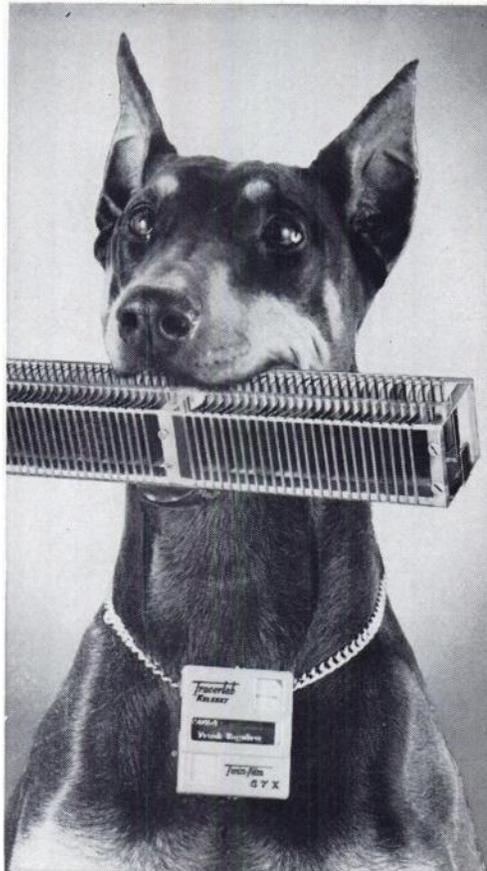
 **MEDOTOPES®**  
**SQUIBB RADIOPHARMACEUTICALS**

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® 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**





**the Tracerlab watchdog  
stands guard over  
more film badges than  
any other monitoring service**

Every day of the week, every week of the year, the Tracerlab film badge service handles more dosimetry badges than any other service. Two reasons: complete customer confidence, computer-processing for sure-fire, super-fast returns. Turn to Tracerlab Twin-film badge service for exposure measurement of beta, gamma, neutron, x-ray or mixed radiation. They wrote the book.

And the Tracerlab watchdog sniffs out the data you may need in health physics: bioassay • environmental analysis • fission and corrosion products analysis • activation analysis • neutron absorption measurement • radioisotope applications • radiation warning labels, tapes and signs.

The Tracerlab watchdog stands for security. Count on him.

**TRACERLAB**  
A Division of Laboratory For Electronics, Inc.  
WALTHAM, MASSACHUSETTS 02154

Richmond, California • Houston, Texas • Malines, Belgium • Sales Offices in Principal Cities  
Film Badge Service • Health Physics • Bioassays • Sources • Nuclear Instrumentation • Radiochemicals  
Radioactive Waste Disposal • Radiation Monitoring Instrumentation • Isotope Applications

## Advertising Index

Journal of Nuclear Medicine

October, 1965

Abbott Laboratories

North Chicago, Illinois . . . . IFC, i

Baird-Atomic, Inc.

Cambridge, Massachusetts . . . . iii

Nuclear-Chicago

Des Plaines, Illinois . . . . . BC

Nuclear Consultants

St. Louis, Missouri . . . . . v, IBC

Nuclear Products

St. Paul, Minnesota . . . . . xi

Ohio-Nuclear

Cleveland, Ohio . . . . . vi

Packard Instruments

Downers Grove, Illinois . . . . . vii

Picker-X-Ray Corporation

White Plains, New York . . . . . viii

Squibb, E. R. & Sons

New York, New York . . . . . ix

Technical Measurement Corporation

North Haven, Connecticut . . . . . xiv

Tracerlab

Waltham, Massachusetts . . . . . x, xvi

ALL RIGHT, 3M, SO TELL ME ALL ABOUT  
**RADIATION SOURCES**  
 THAT OUTLAST RADIUM AND Co-60—  
 OFFER GREATER SAFETY AND ECONOMY!



Mail to Nuclear Products, 3M Company,  
 Dept. BRB-105, St. Paul, Minn. 55119.

TELL ME MORE about 3M Brand Medical Radiation  
 Sources.

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

The coupon will bring you full information on cells and needles made with 3M Brand Cs-137 Radiating Microspheres. They offer isodose contours similar to radium and Co-60, with these advantages . . .

The 3M devices outlast their Co-60 counterparts by 6 times, retain 85% of initial activity for over 7 years and cost less in the long run. They cost only a fifth as much as radium devices. Outlast them, too, because there's no radon emission to impair service life.

And the 3M sources are *safer!* No internal build-up of toxic gases that can cause rupture during sterilization or

therapy. *Safer* because the actual isotope is confined in 3M Radiating Microspheres that render it chemically and physiologically inert. *Safer*, too, because the 3M cesium sources offer a softer, easier-to-confine gamma radiation than radium or Co-60, thus need less shielding.

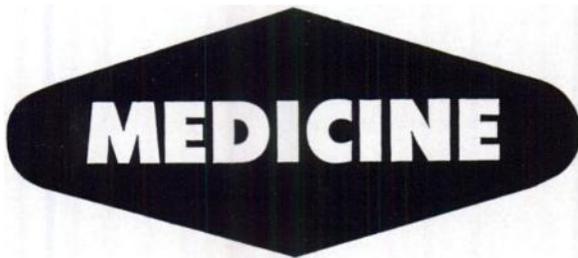
Available in a variety of sizes and levels of radioactivity so you can use these devices with established dosage tables and applicators. Send us the coupon for full information.

**Nuclear Products** 

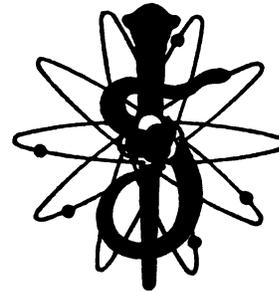
# A Valuable Addition To Your Professional Library

*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**



**Society of Nuclear Medicine  
First Call For The  
SCIENTIFIC EXHIBITS  
13th Annual Meeting, Philadelphia, Pennsylvania**

**June 23-25, 1966**

The Program Committee is now selecting Scientific Exhibits for the 13th Annual Meeting. The Committee solicits both large and small scientific exhibits from both members and organizations. To plan space, the program committee must have an abstract of each exhibit including the following.

Exhibitor's name: Underline the responsible exhibitor

Title of Exhibit: Maximum of 10 words

Abstract: Maximum of 100 words

Indicate the minimum number of front feet required to precisely display exhibit. The abstracts will be edited by the program committee and published in the final program.

Send abstracts on or before February 1, 1966 to:

William Nelp, M. D.  
Department of Nuclear Medicine  
University Hospitals  
Seattle 5, Washington

**Society of Nuclear Medicine  
First Call For Papers for the  
13th Annual Meeting, Philadelphia, Pennsylvania**

**June 23-25, 1966**

On February 15, 1966, the Scientific Program Committee will begin to select approximately 100 original papers for presentation at this meeting. Abstracts must be received by February 1, 1966.

All Abstracts Should Be Submitted in *Duplicate* With:

Author's name: Underline the author presenting the paper

Title: Maximum of 10 words

Abstract: Maximum of 300 words

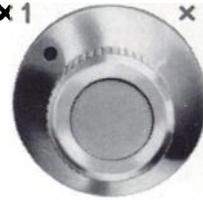
Send Abstracts to:

Henry N. Wagner, Jr., M. D.  
Department of Radiological Science  
Johns Hopkins Medical Institutions  
Baltimore, Maryland 21205

EXPANSION  
x2 x4  
x1 x8

**this one knob**

**can justify the entire  
cost of this new  
Gammascopes II<sup>®</sup>**



*Digital scale expansion provides resolution equivalent to that of an 800-channel analyzer in any selected region of a spectrum.*

It isn't easy to put a price tag on just one function of an instrument. But if you've ever wanted to conduct a particular experiment and found that the equipment you own doesn't have that capability, you know what we're driving at. That's why TMC crams so much versatility into every piece of equipment it produces. We want to cover your present needs, *plus* the inevitable expansion.

Take TMC's new Gammascopes II, for instance. The basic concept of the original Gammascopes . . . that of a low-cost, self-contained, 100-channel pulse height analyzer . . . has been retained. But into the compact new Gammascopes II has gone new output circuitry to

provide you with readout on virtually every type of analog and digital equipment . . . new input circuitry for multiscaling capability and analog sampling . . . and, of course, the digital scale expansion knob shown above. But still that's only part of the story.

Coincidence and anti-coincidence capabilities, a dependent or independent single-channel analyzer and a linear CRT display (live or static) are all built-in features. Front panel threshold, upper level, baseline and gain controls are also included. Count up all the knobs on a Gammascopes II, and the capability they represent, and we know you'll be convinced that it's one of the soundest instrument investments you can make today. For complete details, contact the nearest TMC office, or write: Nuclear Division, Technical Measurement Corporation, 441 Washington Avenue, North Haven, Connecticut.





## Gamma/Guard really covers the ground

Gamma/Guard is a complete, extremely flexible automatic sample counting system, including detector, shielding and sample changer, utilizing printed circuit boards and transistor circuitry throughout for high reliability. Field-proven, constant-background sample changer cycles from 1 to 100 samples individually, in batches, or continuously. The 999,999-count decade scaler, with 17 preset counts, includes a 22-preset-time line-frequency-locked timer, and features consecutive digital readout of sample number, count or time

or "auto cycle" on six long-life "nixie" tubes; data printout of sample number, count and time (listing mode), plus count rate in computing mode. Other features: 3000-vdc power supply with 0.0015% regulation, 250-nanosecond rise time amplifier, spectrometer with 128:1 gain variation; splash guards and 3-inch side shielding are standard. All this adds up to a truly advanced, convenient Gamma/Guard sample counting system — from the first family in nuclear instrumentation.



**TRACERLAB**

A Division of Laboratory For Electronics, Inc.  
WALTHAM, MASSACHUSETTS 02154

Richmond, California • Houston, Texas • Malines, Belgium • Sales Offices in Principal Cities  
Film Badge Service • Health Physics • Bioassays • Sources • Nuclear Instrumentation • Radiochemicals  
Radioactive Waste Disposal • Radiation Monitoring Instrumentation • Isotope Applications

*Demonstrated Leadership from the specialist*

## The TECHNEKOW® Shielded Dispenser

### A NEW COMPACT "HOT LAB"

by NCC

A Shielded Self-Contained System  
for Producing Sterile Technetium  
from the TechneKow Source Generator



Completely lead shielded, the new E-1810 Dispenser provides a semi-automatic system for producing a sterile solution of sodium pertechnetate with minimum radiation exposure. It eliminates the need for awkward shielding and handling devices, and enables the smaller laboratory to use technetium on a daily basis.

Insert generator into shielded upper chamber of Dispenser, where it may be stored for daily use. Each day the internal disposable processing parts are replaced with a fresh sterile set.

#### Operate The TechneKow Shielded Dispenser In 3 Easy Steps

1 □ Pour eluting solution into generator and replace shielded cap.

2 □ When solution has passed through the TechneKow, open dispenser door, reach in and lift up processing unit to activate operation. The solution automatically passes through a sterilizing filter and is injected into a sterile, pyrogen-free bottle.

3 □ Remove bottle with its shielded jacket. Solution is ready for calibration.

The NCC TechneKow Shielded Dispenser is of heavy welded construction with polished chrome plating. A two-inch thick lead shield surrounds the TechneKow source generator. Lead shielding on the walls and door of the lower processing chamber keeps radiation at a minimum. Disposable processing parts are available in kit form.

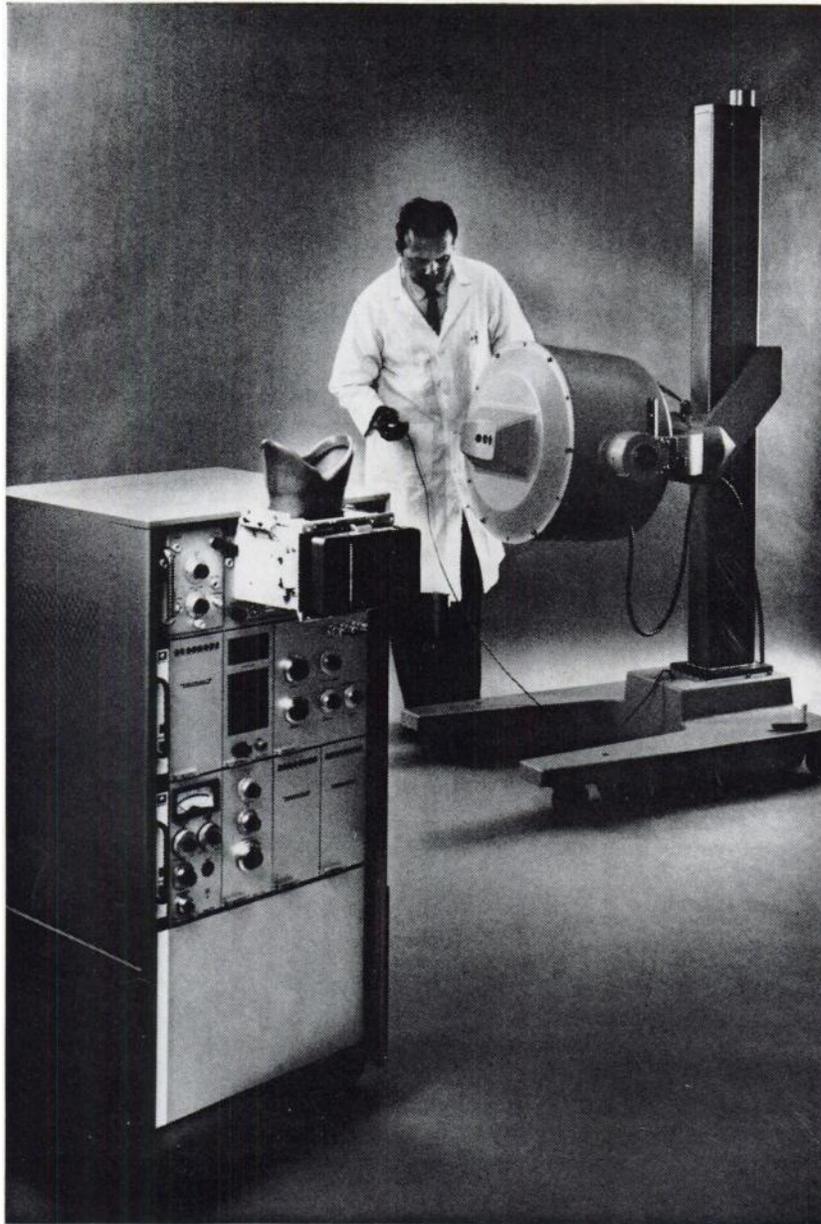
*Write today for further information.*



**NUCLEAR CONSULTANTS  
CORPORATION**

Box 6172, Lambert Field • St. Louis, Mo. 63145 • 314 PErshing 9-8927

CHICAGO  
CLEVELAND  
HOUSTON  
LOS ANGELES  
NEW YORK  
SAN FRANCISCO  
WASHINGTON, D.C.



NUC-D-4-244

## IMAGE-MAKER

**A REALITY.** Rapid visualization and location of gamma-emitting isotopes in organs and areas of the body—Pho/Gamma Scintillation Camera from Nuclear-Chicago. Thoroughly field-tested, proved reliable.

**SPEED WITH SENSITIVITY.** Up to ten times faster than a photomechanical scanner—even our own Pho/Dot—in producing and recording gamma images.

**NEW INSIGHTS.** Rapid-sequence, stop-motion pictures to depict dynamic processes, such as the flow of labelled compounds into and out of an organ.

MORE INFORMATION? From your Nuclear-Chicago sales engineer. 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