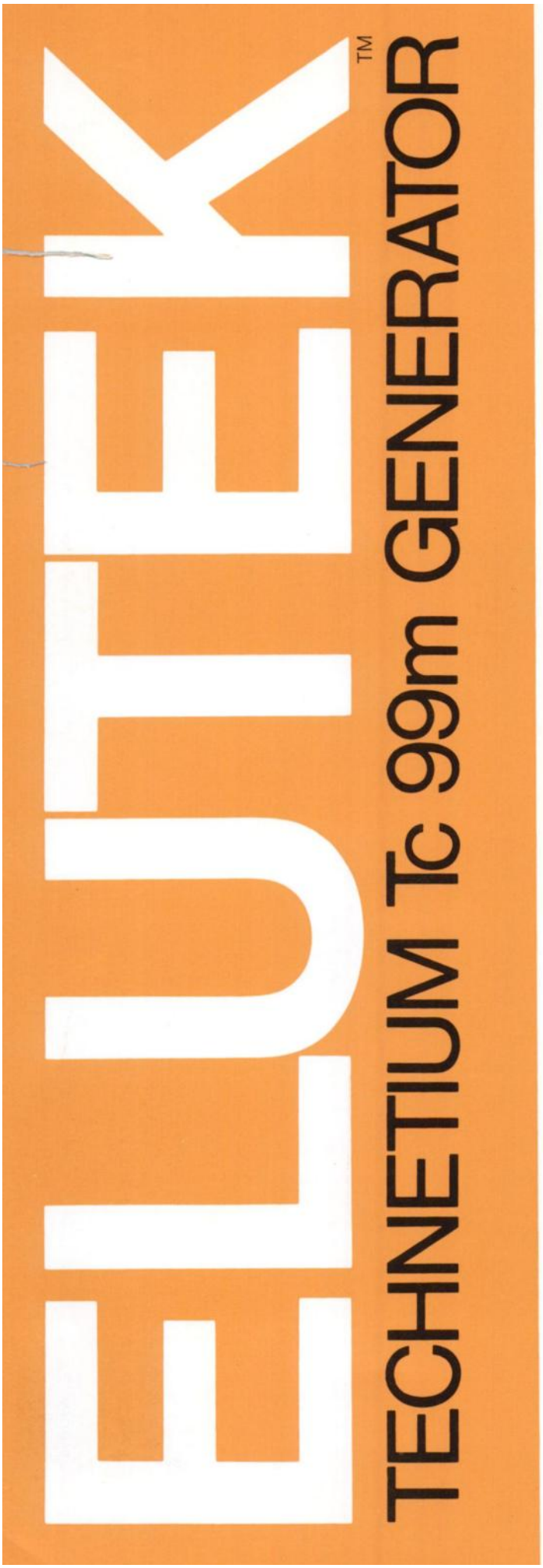

A New Addition to Abbott's Radio-Pharmaceutical Products Line

Performance

Built-in 500 ml. saline supply provides 15 to 16 milkings per week.

You have clear, clean eluate from first use. Highly concentrated serial elutions can be made daily.

Low aluminum levels. A special process reduces aluminum levels to make them all but undetectable by normal lab methods. Less trace impurities permit wide diagnostic usage.

Safety

At least 1½ inches of lead lines generator column. Quick milking time lessens exposure.

See-Thru Elution Shield further reduces radiation exposure and simplifies milking. Volume can be measured without lifting vial from elution shield. (Shield is available with first generator.)

Transparent Needle Guard protects fingers.

Convenience

Compact, pre-assembled, and ready to use. Attach needle and you're ready to elute. Saline solution is an integral part of the generator.

Storage compartment on top contains six 30-ml. elution vials, needles, labels, and instructions.

Self-align milking port. Place elution shield in port, and both needle and evacuated vial are automatically aligned.

Pushbutton Elution. Press down to open valve, and a slight turn locks it for automatic elution.

Automatic Disposal Service. Used generators are no longer a problem. Abbott's Elutek service program helps you dispose of them quickly and easily.

Molybdenum and Technetium-99 Decay tables are on front label—can be seen at a glance.

Carrying Handles add to convenience—help you avoid mishaps.

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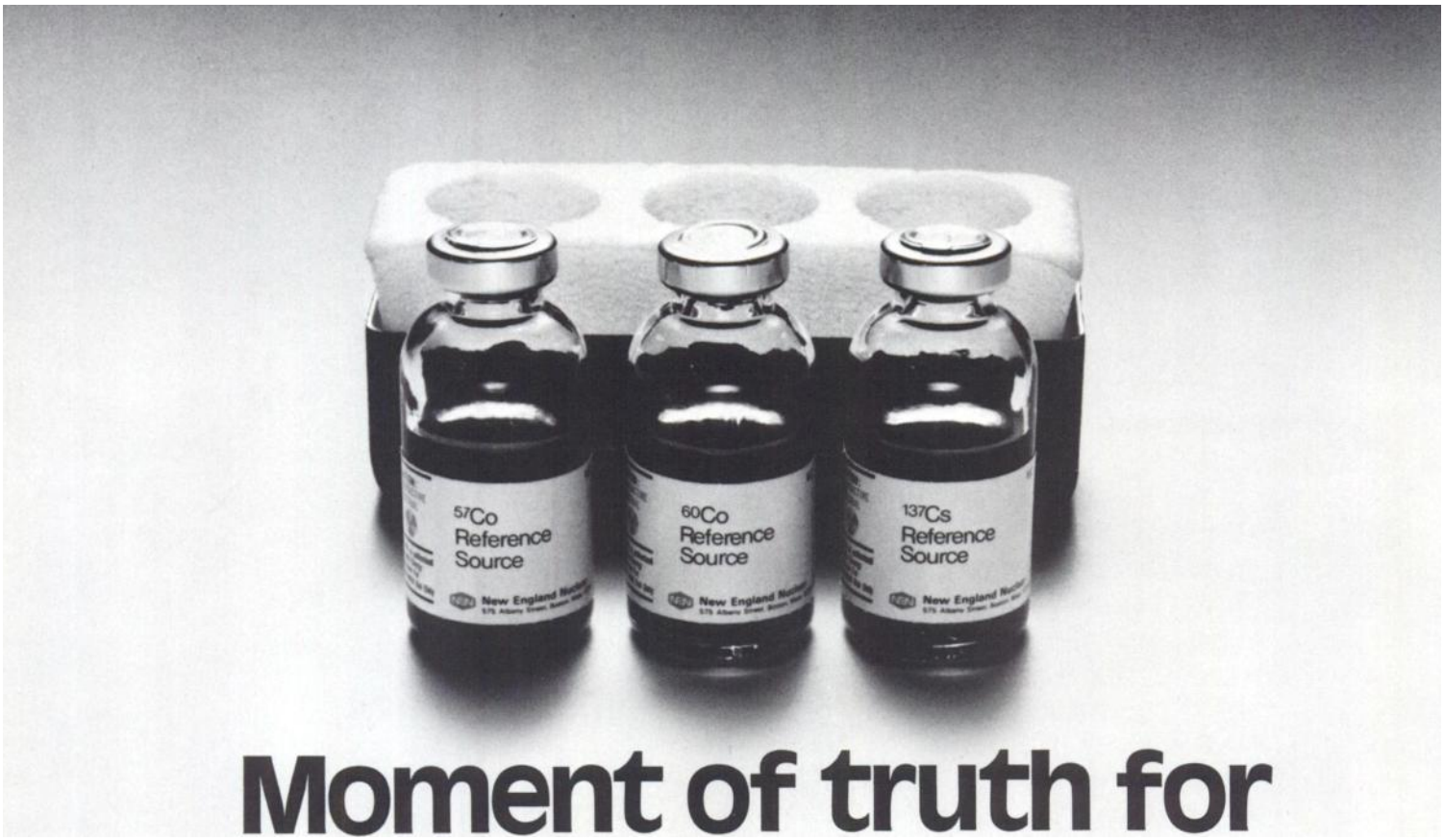

Moment of truth for ion chamber detectors

Ion chamber detectors may sometimes lie – when they drift out of calibration. New England Nuclear's gamma reference sources can keep them honest.

If the ion chamber detector is going to lie to you, find out before you select your dosage level. Check first with one of our gamma reference sources in a standard vial, so convenient that calibration can easily become a habit. Three sources for three energy ranges: ^{57}Co (low), ^{137}Cs (medium), and ^{60}Co (high). ^{133}Ba also available in a four-vial kit and all sources available individually.

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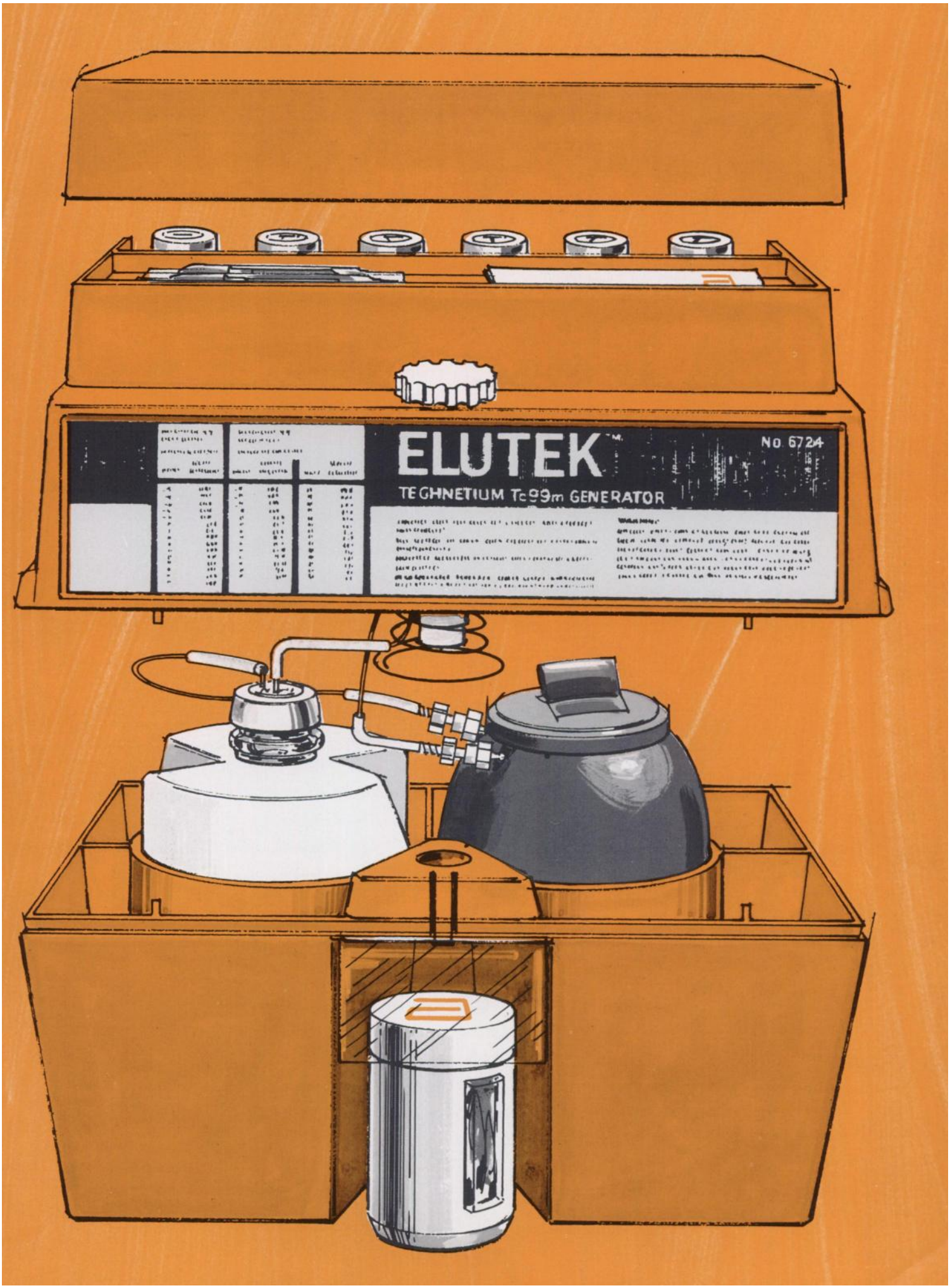
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TECHNETIUM Tc99m GENERATOR

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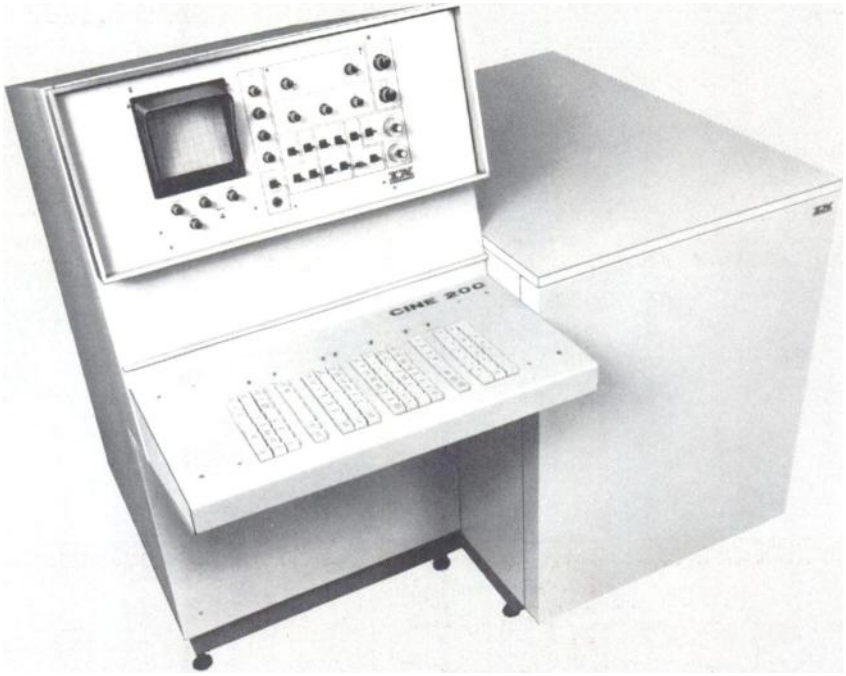

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There's more to the capability story of the CINE 200. Find out all the details of why it is one of the most versatile image-data processors ever developed—for cameras and scanners. CINE 200 from Intertechnique is sold and serviced in the U.S. exclusively by Raytheon Company. For information, contact Raytheon Company, Medical Electronics, 40 Second Avenue, Waltham, Mass. 02154 (617) 890-3240.

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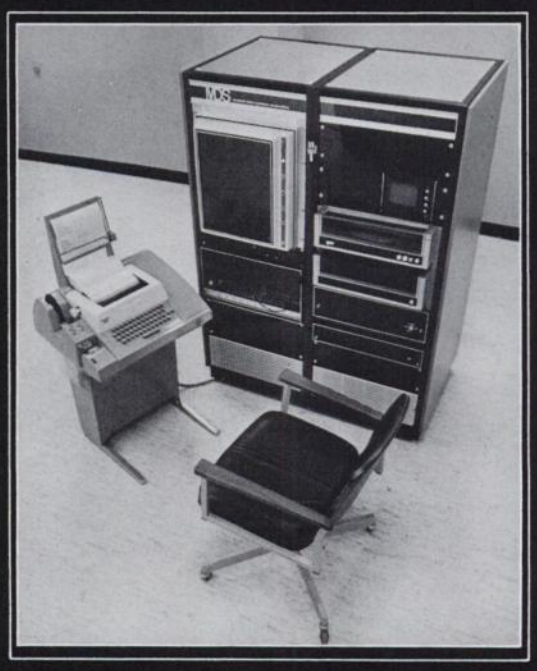

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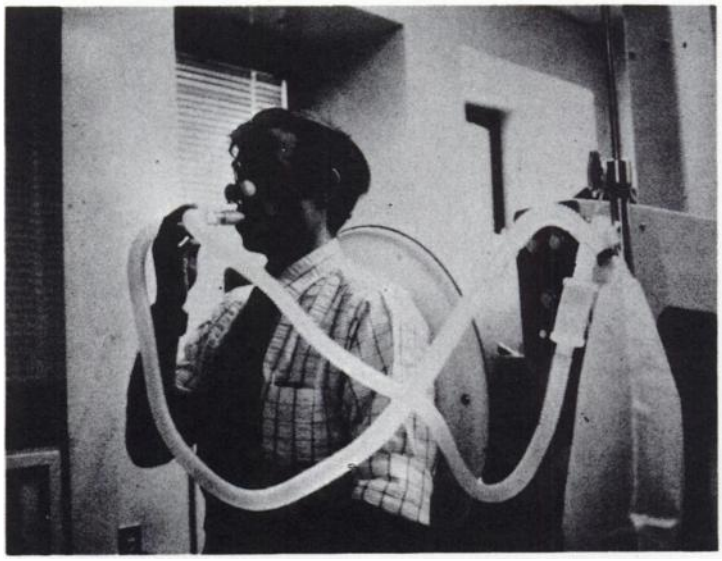

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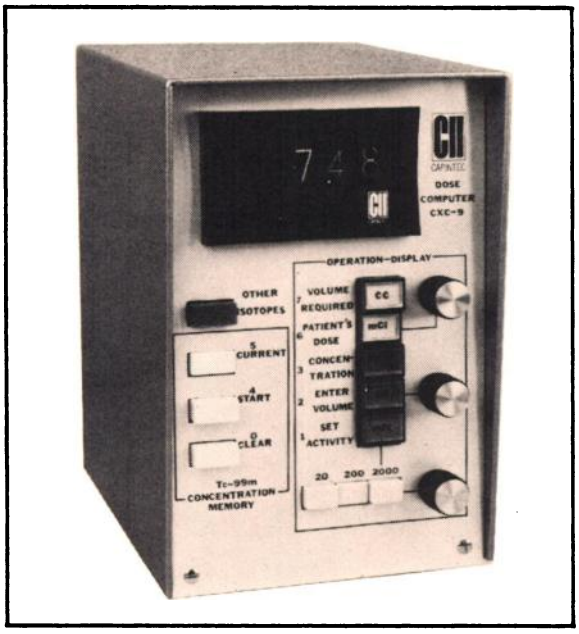

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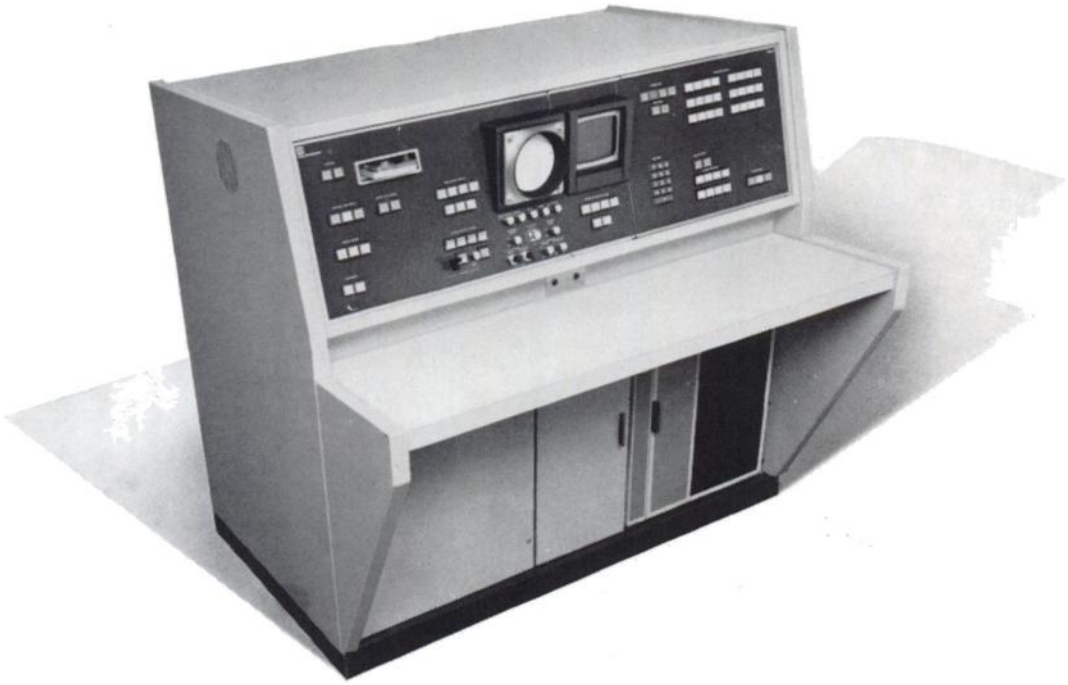

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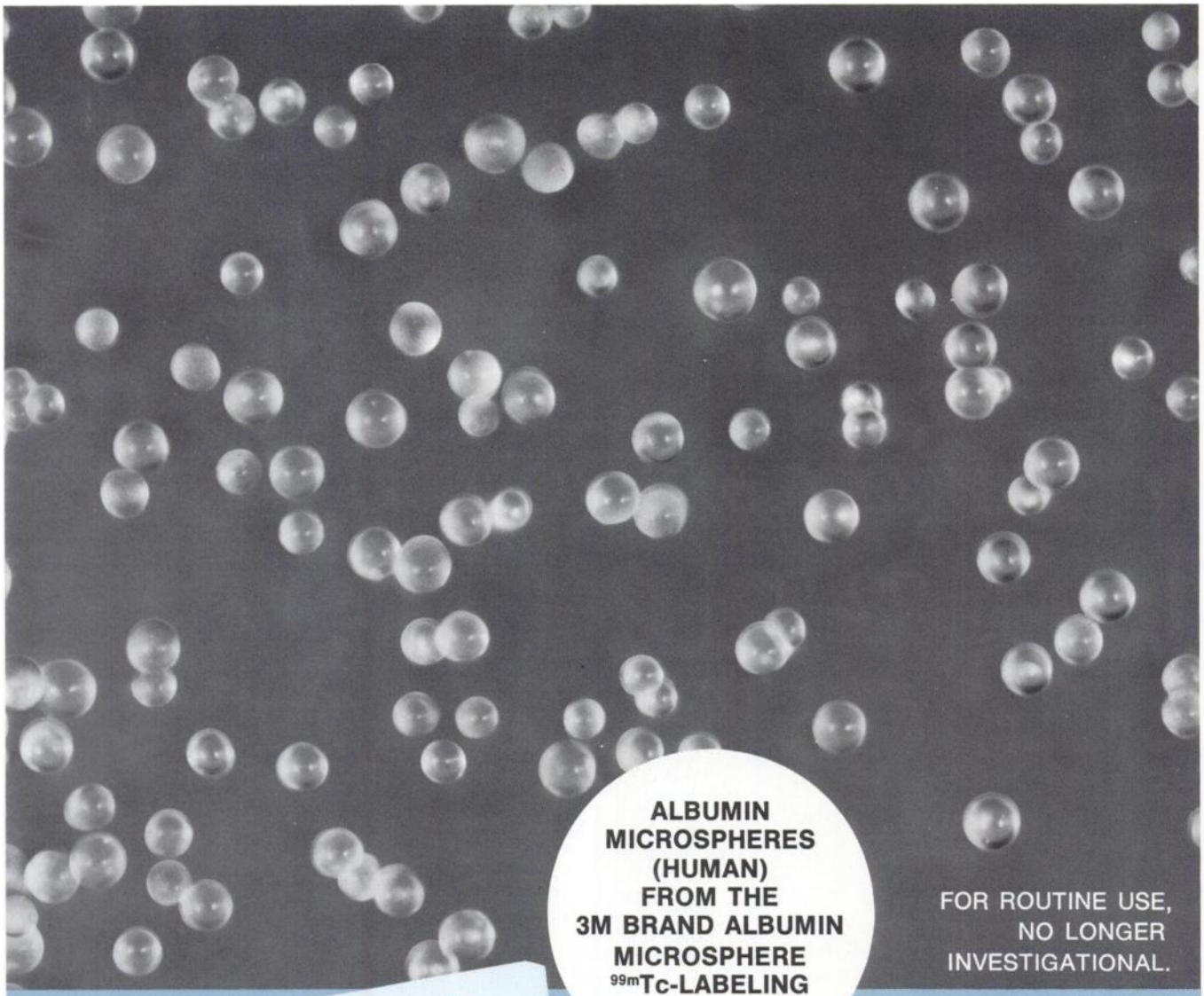

ALBUMIN MICROSPHERES (HUMAN) FROM THE 3M BRAND ALBUMIN MICROSPHERE ^{99m}Tc-LABELING KIT

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USE ^{99m}Tc ALBUMIN MICROSPHERES

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Each Albumin Microsphere is a single homogeneous sphere of albumin — they won't disintegrate in the vial or syringe. Yet, microspheres readily clear from the lung. Pulmonary clearance half-times are long enough for multiple view imaging but are still short enough to allow daily imaging, if required. Microscopic analysis of lung tissue in the mouse showed 99 percent of the administered microspheres were gone after 29 hours.[1]

1. Data on file at the 3M Company and the Bureau of Biologics.

- **Eliminate Interference from "Free" Technetium**
"Free" isotope need no longer interfere with the scan. The unique filter construction of the Microsphere Labeling Vial allows the free isotope to be removed, leaving just labeled microspheres for suspension.

- **Stable Kit**
Currently the expiration date of each kit is *6 months* after the date of manufacture. You can stock the kit and have it available for immediate use. Even a department doing a moderate amount of lung imaging can take advantage of quantity discounts.

- **Each Lot FDA Approved**
Thoroughly tested by 3M, each lot is checked by the Bureau of Biologics, FDA, and approved for shipment. This provides a double-check of sterility, lack of pyrogens, and all the important performance parameters of the kit.

INDICATIONS Scintillation imaging of the lungs with ^{99m}Tc-Labeled Albumin Microspheres is indicated as an adjunct to other diagnostic procedures whenever information about pulmonary circulation is desired.

CONTRAINDICATIONS The safety of Albumin Microspheres in patients with a known right-to-left cardiac shunt has not been established and its use in such patients is contraindicated.

SIDE EFFECTS Although no anaphylactoid reactions have been reported in patients following the administration of Albumin Microspheres, the possibility should be considered that hypersensitivity reactions may occur rarely in patients who receive additional doses of the Microspheres.

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For detailed information about Microspheres and the 3M Brand Albumin Microsphere ^{99m}Tc-Labeling Kit, write: **Nuclear Products for Medicine,** 3M Company, 3M Center, St. Paul, Minnesota 55101, or phone TOLL FREE (800) 328-1671.

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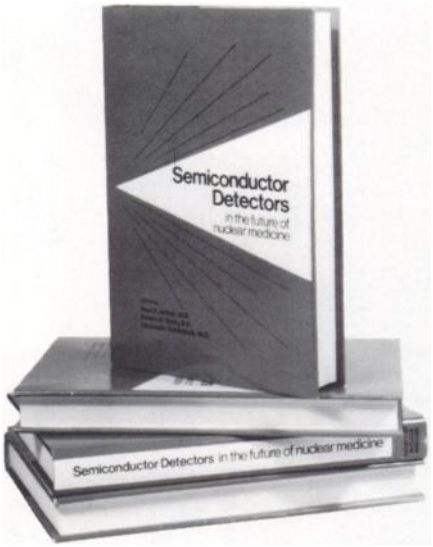

SEMICONDUCTOR DETECTORS IN THE FUTURE OF NUCLEAR MEDICINE

edited by Paul B. Hoffer, Robert N. Beck, and Alexander Gottschalk

Here is a book that brings together for the first time information on the advantages and uses of semiconductor detectors for nuclear medicine—information that has been scattered throughout the journals of physicists, electronic engineers, and physicians. The result is a convenient starting place for the interested physician who would like to use semiconductor detectors.

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The relatively new field of tomography in nuclear medicine makes possible the retrieval and presentation of information from the third dimension as well as the usual two-dimensional portrayal. This book reviews recent advances using a variety of ingenious methods ranging from simple attachments to existing equipment all the way up to complex expensive computer-oriented, uni-purpose systems.

AND COMING IN THE FALL:

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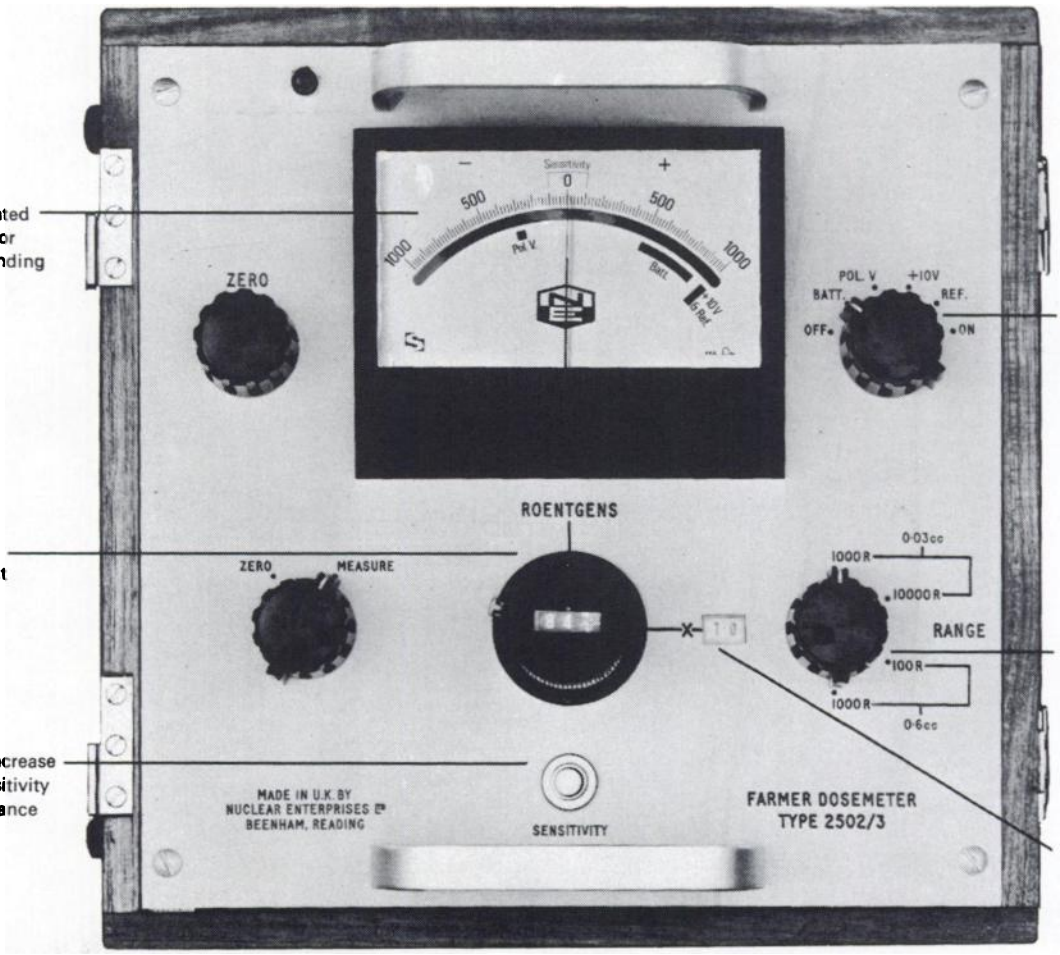

The new Farmer Dosemeter 2502/3 has been developed from the world-renowned Mark 2 for precision dosimetry of X- and gamma radiation and electrons over the entire therapy range. It is elegantly redesigned and incorporates many improvements. A "chamber select/range change" switch enables either the standard 0.6cc chamber or the 0.03cc soft X-ray chamber to be used. Ranges of 0-100/0-1000 and 0-1000/0-10,000 Röntgens respectively are also available. Plug-in chambers and phantoms can be supplied for extending the range of measured dose for special purpose measurements. The NE 2502/3 is all solid state and operates on flashlight D2 batteries. For full details request Bulletin No. 71

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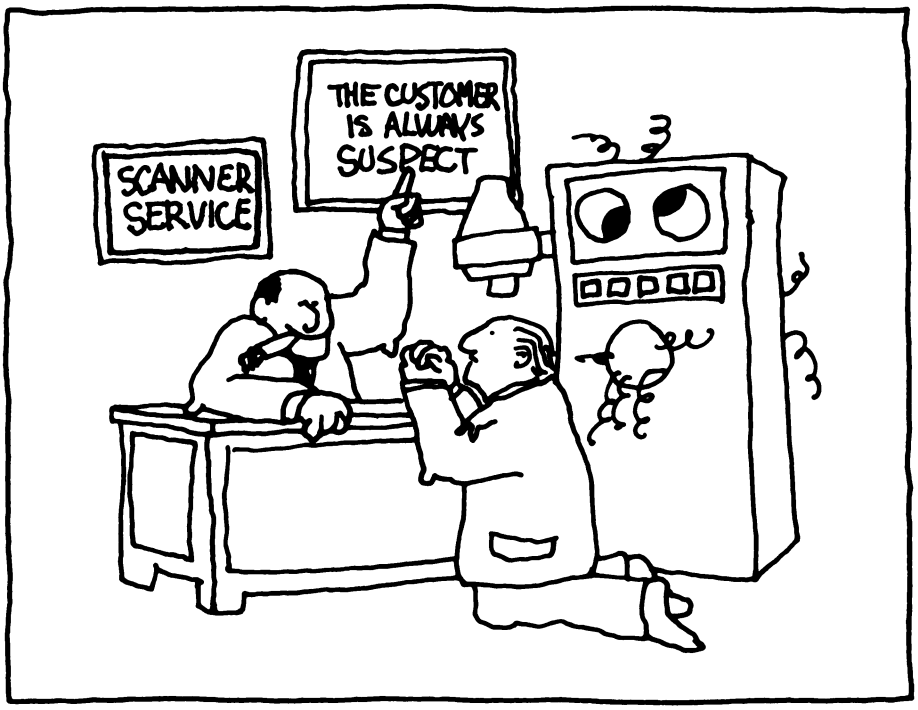

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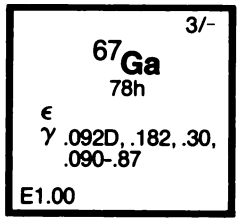

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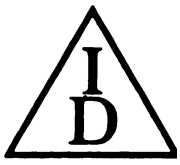

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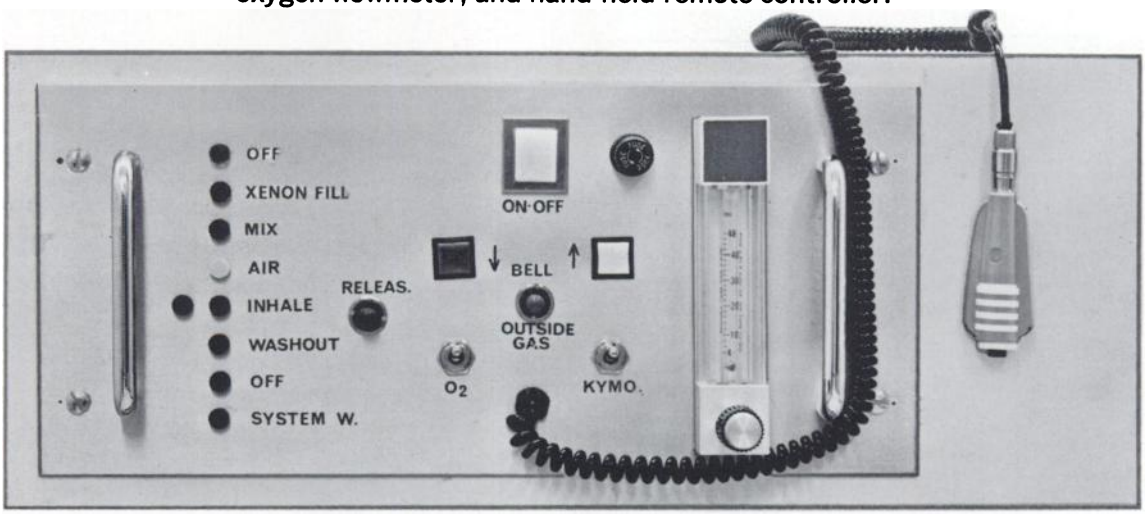

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IC-1 INTENSITY COMPUTER

Assures the Right Exposure "Every Time" on your Gamma Camera— Regardless of Electronic Drift

The new Model IC-1 Intensity Computer removes the guesswork from exposing your Gamma camera. It assures that the exposure will be Right —the first time and every time after that—even if the camera itself experiences electronic drift. The IC-1 is ideal for Flow Studies since consistently proper exposure eliminates the probability of repeat scans—thereby saving both valuable time and money—not to mention patient inconvenience.

Typical IC-1 benefits include:

- Right exposure every time
- Independent of input power variations
- Eliminates repeat scans
- Eliminates need for 3-lens camera
- Permits 3X-4X larger image on single lens Polaroid
- Simplified, pushbutton operation
- Eliminates need to reset focus
- Eliminates astigmatism on Gamma camera
- Reduces costs of operation

The IC-1 Intensity Computer is virtually foolproof. Even a new operator can get the exposure right the very first time. The operator merely depresses a few plainly-marked pushbuttons to select: Type of Organ to be studied . . . Number of Counts to be accumulated . . . Relative Size of the patient . . . Type of Film to be used (Polaroid, X-Ray, 35mm) . . . and the number of pictures to be taken (if the unit is used in conjunction with the Model RSI-36 Rapid Sequence Imager*). That's it! Efficient. Easy to use. The right exposure each each time.

**Ask about our Package Offer including the Intensity Computer, Camera and Rapid Sequence Imager.*

To learn more about the Intensity Computer, or to arrange a demonstration, please write or call:

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A simpler, safer way to treat Uterine and Cervical Cancer

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- Decreased radiation exposure to the therapist during source insertion.
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- Greater source positioning accuracy than ever before.
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MICRAD has also led to the creation of afterloading applicators which can be inserted through the cervix without dilation or general anesthesia.

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Bedside Shields and Work Stations

*Miniaturized Intracavitary Cesium-137 Source for Radiotherapy Afterloading Devices.
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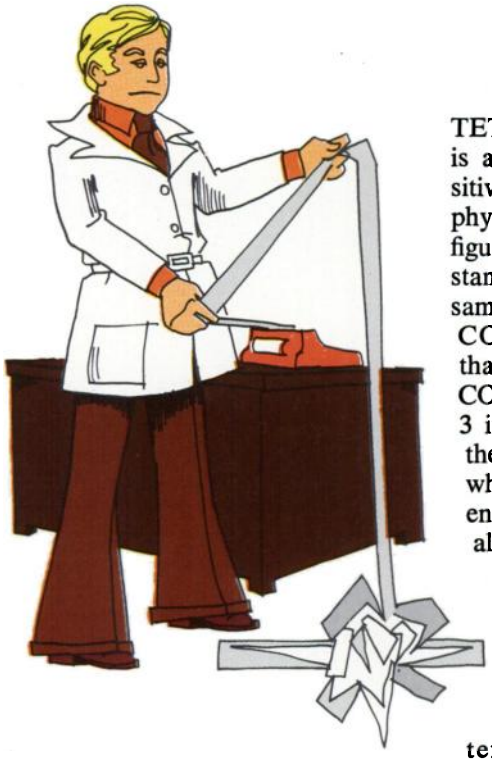
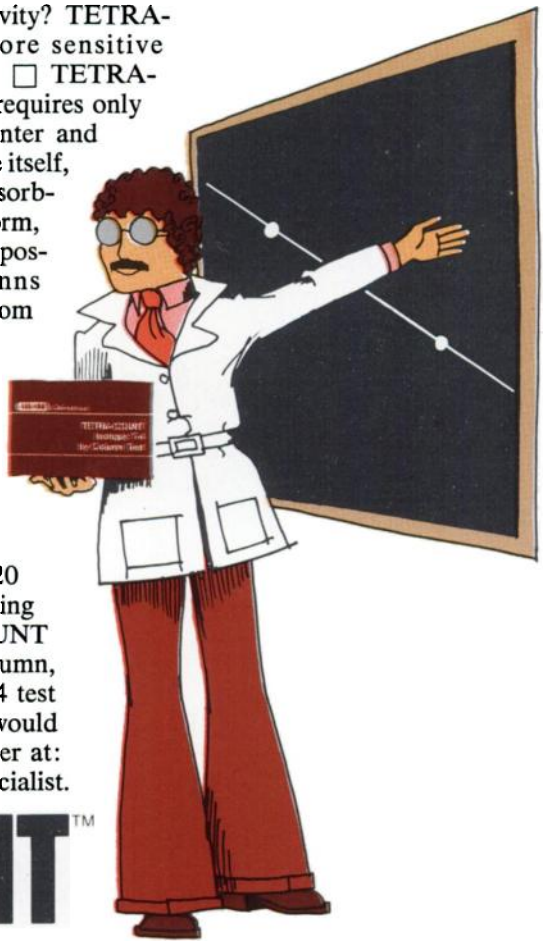
USING A NON-LINEAR T-4 TEST?



TETRA-COUNT is a linear T-4 by CPB test. It is also uncomplicated, rapid and highly sensitive. ☐ TETRA-COUNT is linear over the physiological range. There are no ratios to figure and no math involved. Just plot the standards, draw the straight line then read sample values directly. Sensitivity? TETRA-COUNT is significantly more sensitive than other isotopic T-4 tests. ☐ TETRA-COUNT is uncomplicated. It requires only 3 items — a centrifuge. a counter and the TETRA-COUNT package itself, which includes a thyroxine adsorbent in convenient tablet form, all necessary reagents and disposable ion exchange columns for separating bound from unbound thyroxine. TETRA-COUNT has only 3 steps. None involve critical timing, temperature control or alcohol extraction. ☐ Speed! Using TETRA-COUNT, a single test can be run in just 20 minutes, 65 tests in less than 3 hours, 120 tests in less than 5 hours. ☐ Automating the counting step? With TETRA-COUNT you count the column eluate, not the column, not a sponge. ☐ Weigh your present T-4 test against TETRA-COUNT, and, if you would like more information, call Howard Willner at: (415) 234-4130. He's Bio-Rad's T-4 specialist.



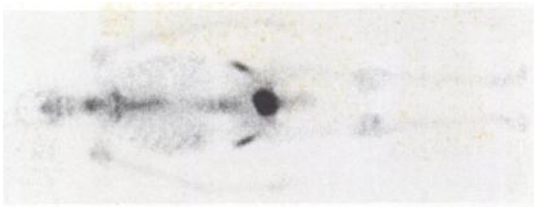
TRY TETRA-COUNT™

BIO-RAD Laboratories

BIO-RAD Laboratories, 32nd & Griffin Avenue, Richmond, CA 94804. Phone (415) 234-4130.
Also in: Rockville Centre, N. Y.; London, England; Milan, Italy; Munich, Germany.

Maxiscan asks: what scan information do you need?

Then delivers it.



Whole body scans? Single organ studies? Scan minification? Multiple scans on one film? Vertex views? A choice of image display; including video, for viewing scans in black and white or color?

General Electric's Maxiscan™ two-probe whole body scanner is answering these diagnostic demands, and more, with in-hospital performance. Performance that combines more usable information with reduced procedural set-up time and less chance of technic error.

Maxiscan permits skeletal surveys within a range of 2 feet wide and 6 feet 8 inches long. The image, minified to fit 14 x 17 inch film, permits location and diagnosis of bone metastases, without a series of small area scans.

For any single organ, select full size view or minifications of 2:1, 3:1, 4:1, or 5:1. Up to four scans may be displayed on one film, with precise quadrant placement and no image overlap.

During any scanning procedure, Maxiscan minimizes patient movement. Two probes, top and bottom, cover the required isoresponse of the body without turning the patient. The patient table smoothly rolls out to permit changing of the lower probe collimator. The upper probe angulates through 270°, locks in place for safe, convenient collimator interchange. Upper or lower collimators take only seconds to change. The unit's optional vertical plane scanning permits studies with patients seated upright, as well as vertex views of the brain with patients reclining normally.

All scans may be viewed with a choice of image display: standard film photorecording or GE's optional Videodisplay unit.

Videodisplay Processor
To view and quantify patient count information in black and white or fully functional color, Maxiscan can be combined with GE's Videodisplay and Processing Unit. Images are displayed on a video monitor; count data is stored in the unit's electronic memory, and can be manipulated to enhance desired details and to aid interpretation and diagnosis. Enhanced VDP data may be played back to Maxiscan and recorded on 14 x 17 inch film. Scans can also be recorded on cassette tape for off-line playback and teaching purposes. Count information, obtained from any scanner or camera, can be transmitted from one VDP to another over regular telephone lines.

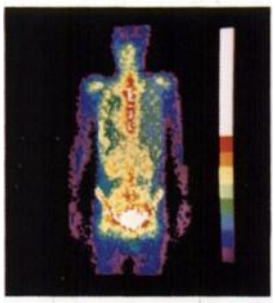
GENERAL ELECTRIC

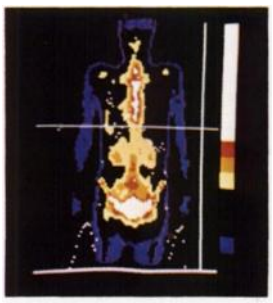
Here's the information hospitals are getting with Maxiscan...

Hospitals report scanning performance like this from the Maxiscan system:

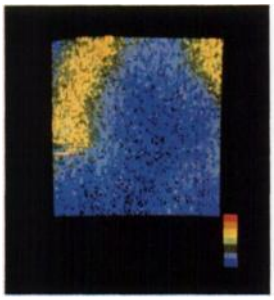
These reproductions of scans, from clinical examinations, illustrate the range of diagnostic information possible with Maxiscan and the Videodisplay Processor.

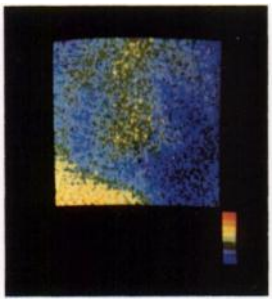
A GE motion picture demonstrates the full capability of both units. Ask your GE representative to schedule a desk top showing, at your convenience.

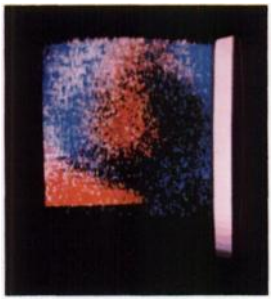




These three images, from a single whole body scan, demonstrate how manipulation of data stored in the VDP electronic memory can enhance desired details and aid diagnosis. The isotope used was ^{99m}Tc Polyphosphate. At left, an anterior view displays raw, unmanipulated data from the memory. At right, smoothed data is shown with a Y axis electronic slice through the area of suspicion. The count profile superimposed over this image and shown separately, center, confirms greater uptake on the right side. The photorecorded image showed only a suspicion of greater isotope uptake.







In a case of suspected pericardial effusion, a transmission scan (left) of the chest was obtained using an Iodine 131 source. An emission scan (center) of the same region was simultaneously obtained with the same probe, 15 minutes after an intravenous injection of ^{99m}Tc labeled albumin. The heart and liver are outlined. Note how the intracardiac activity (central area of center scan) fails to fill the large mediastinal shadow (central blue area of left scan). This discrepancy, between heart size and that of the mediastinum, is more easily seen when these two scans are superimposed (right); a technic easily accomplished on the VDP. The resulting diagnosis, a large pericardial effusion which appears to be predominantly left-sided, was confirmed by the aspiration of 1800 ml. of fluid from an encysted pericardial effusion.

Scans courtesy of Dr. M. J. Chamberlain, University Hospital, London, Ontario.

General Electric Medical Systems, Milwaukee and Toronto.
In Europe, Elscint GmbH, Wiesbaden; Elscint France SARL, Buc.

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- Eliminates tube handling by using standard MSI racks.
- 588-tube capacity.
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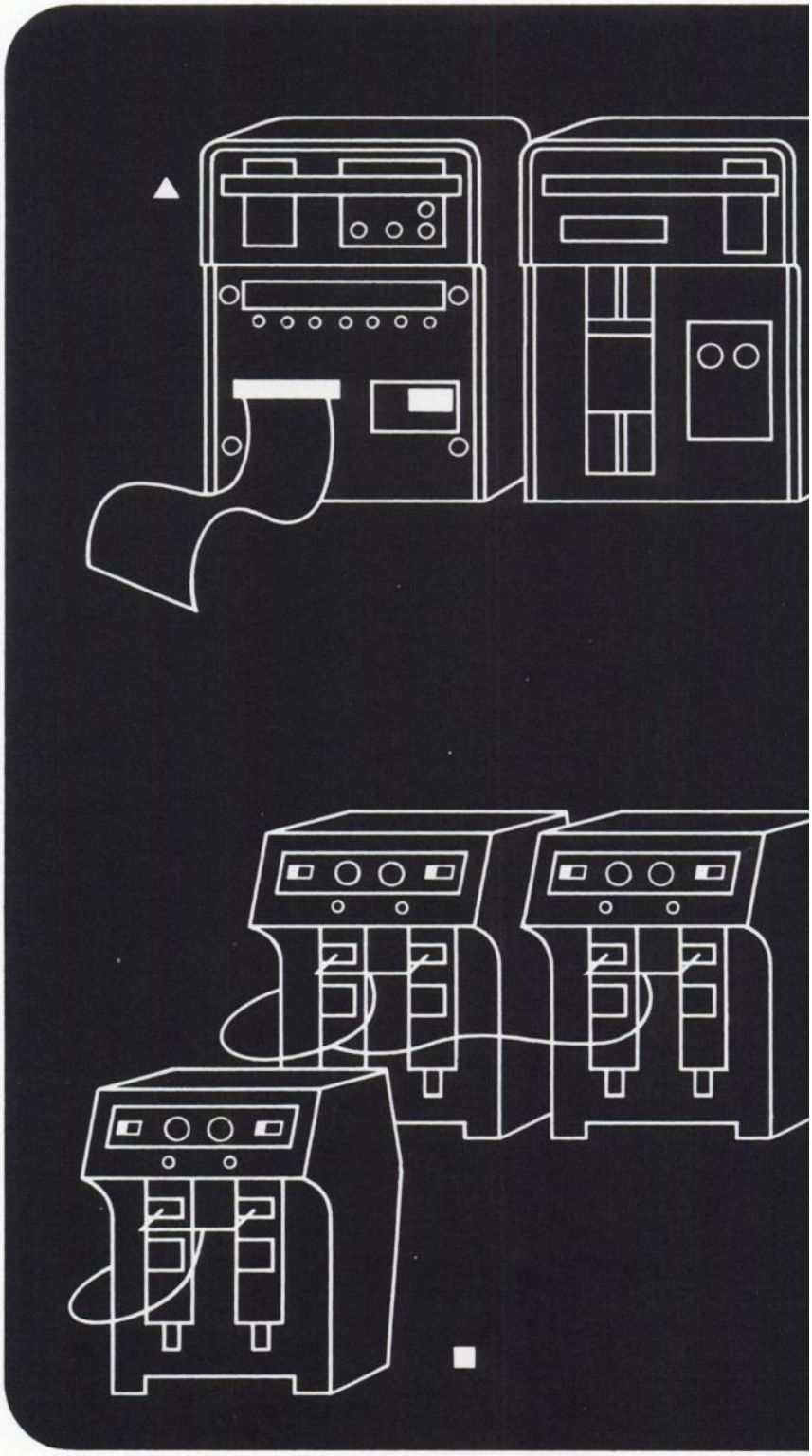

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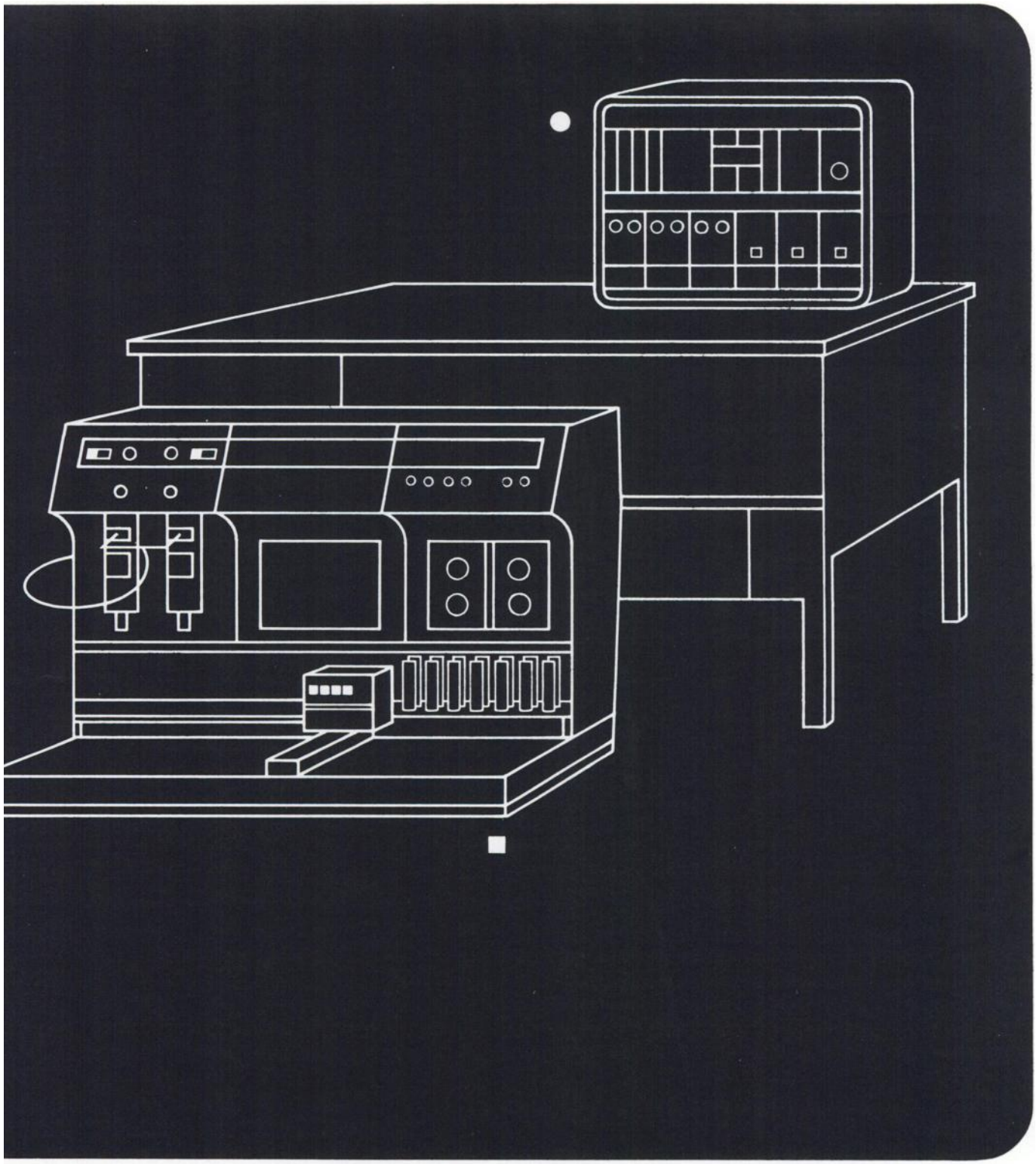

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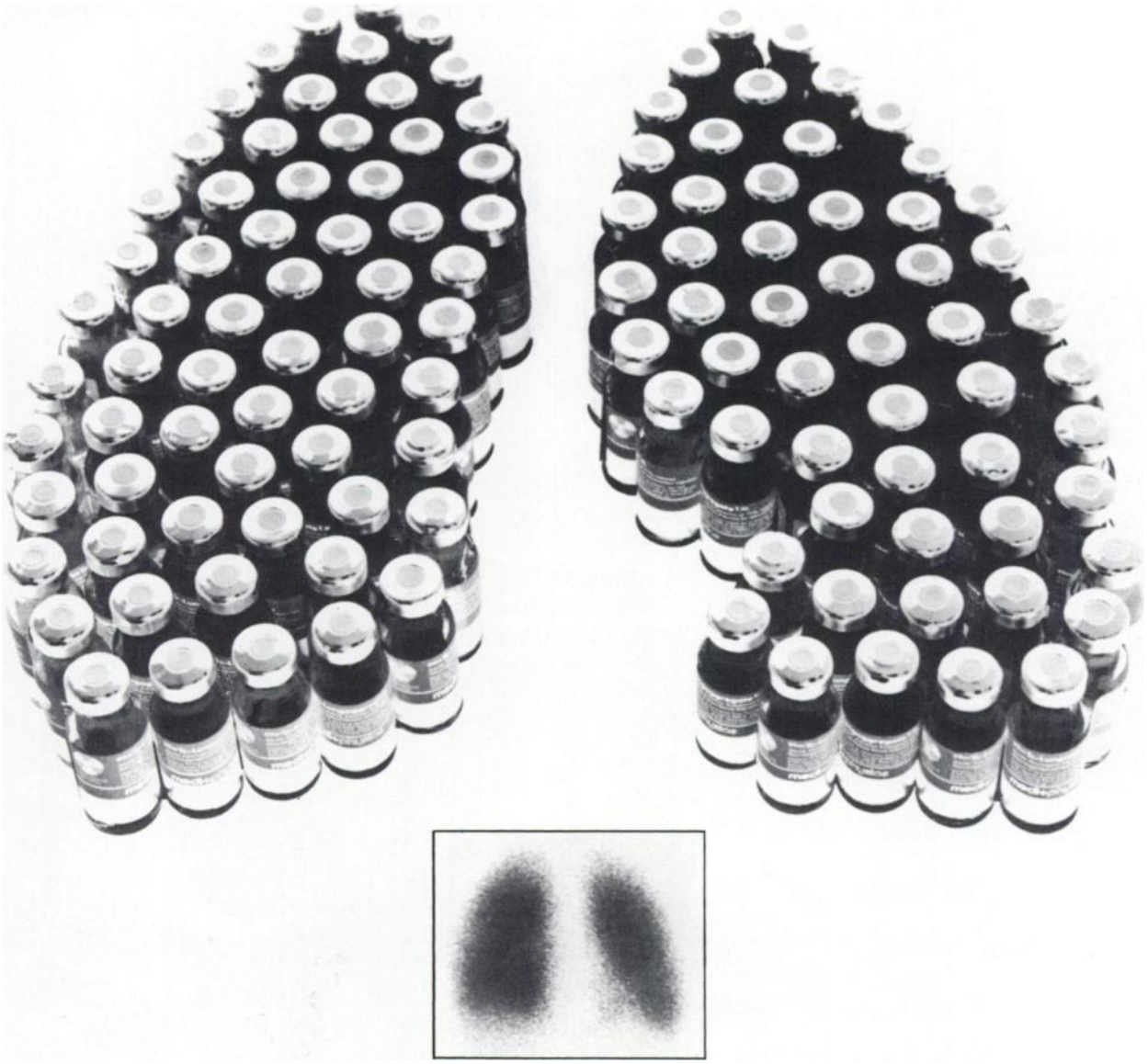
Instant Lungaggregate™ Reagent for Lung Perfusion Imaging



Medi+Physics' Lungaggregate™ Reagent is a preparation of macroaggregated human serum albumin for labeling with ^{99m}Tc-Pertechnetate for lung perfusion studies.

It's easy to prepare. Add $^{99m}TcO_4^-$ and shake! No ultrasonic agitation, rinsing or heating.

If you are interested in a reliable ^{99m}Tc-MAA preparation for pulmonary scintigraphy in your clinic, give Medi+Physics a call toll free at (800) 227-0483 or in California at (800) 772-2446.

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Xenon-Kow

A safe, economical method of storing, dispensing and controlling radioactive gas. It utilizes the most inexpensive form of ^{133}Xe presently available—a 1 curie, 5cc glass ampoule. The system is contained in two free-standing consoles.

The Radx Xenon-Kow transfers high specific activity gas to a clinically useful dose—either gas or gas/saline solution. For ventilation studies ^{133}Xe gas can be transferred directly to the Radx Ventil-Con.


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The Ventil-Con console dispenses controlled gas to the patient for pulmonary investigations. A system designed for the convenience of the technologist, the physician and the patient.

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TRI-GAMMA
RADIOIMMUNOASSAY Counting System

Unprecedented 600-sample gamma counting system. The answer to Today's and Tomorrow's Radioimmunoassay (RIA) needs.

To match the performance of TRI-GAMMA, it would take three competitive gamma counting systems side by side. TRI-GAMMA is three systems in one. Three independently programmable drawers of 200 samples, each for up to three isotopes, permitting complicated dual testing in the three separate drawers. Its MULTI-USER capability allows separate users to be changing samples or reprogramming any two of the three drawers while TRI-GAMMA is counting the other. To insure daily reliability, TRI-GAMMA has an automatic calibration mode where all spectrometer channels are automatically calibrated for their respective isotopes — in seconds.

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TRI-GAMMA frees you from the restrictions of the conventional conveyor and its limited "waiting line" configuration. TRI-GAMMA offers you the utmost in sample isotope variety, test tube size, and data output — three of the things you need most. The fourth, reliability, is assured through the use of IC electronics and the elimination of microswitches.

Write now for information about TRI-GAMMA — the system that can routinely process a hefty 600 samples OVERNIGHT.

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Nuclear Division, 125 Middlesex Turnpike, Bedford, Ma. 01730, 617/276-6000, Telex: 923491, Cable BAIRDCOBFRD

If you're performing or should be performing four or more ventilation studies per week— consult with Cambridge Nuclear.

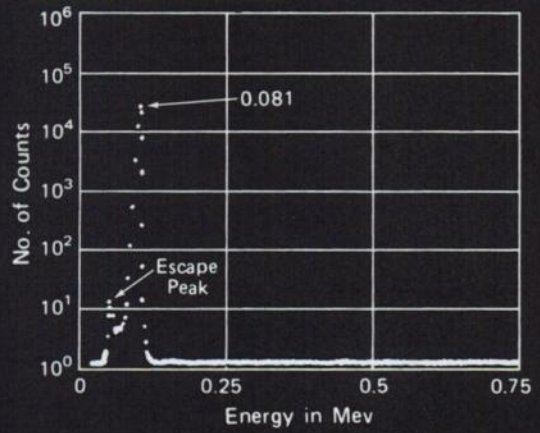
If you want the simplest and most economical Xenon-133 system available— order from Cambridge Nuclear.

GENERAL PROPERTIES AND CHARACTERISTICS RADIATION EMITTED

DECAY ($\beta-$)		GAMMA (γ)		INTERNAL CONVERSION
ENERGY (Mev)	%	ENERGY (Mev)	%	%
0.35	100	0.081	100	—

T' $\left(\frac{r/hr}{mCi/cm^2}\right)$	Kβ $\left(\frac{gm\text{-}rad}{\mu Ci}\right)$
0.3	0.0041

GAMMA SPECTRUM



The Cambridge Nuclear Xenon-133 System can be an enormous help in measuring regional ventilation. And when combined with conventional lung scanning, it aids in the differential diagnosis of pulmonary embolism and obstructive pulmonary disease.

There are many advantages in using this system. Xenon-133 is not used or produced by the body. It diffuses easily through cell membranes and freely exchanges through blood and tissue. And it's physiologically inactive when inhaled in small doses and also is readily excreted by the lungs

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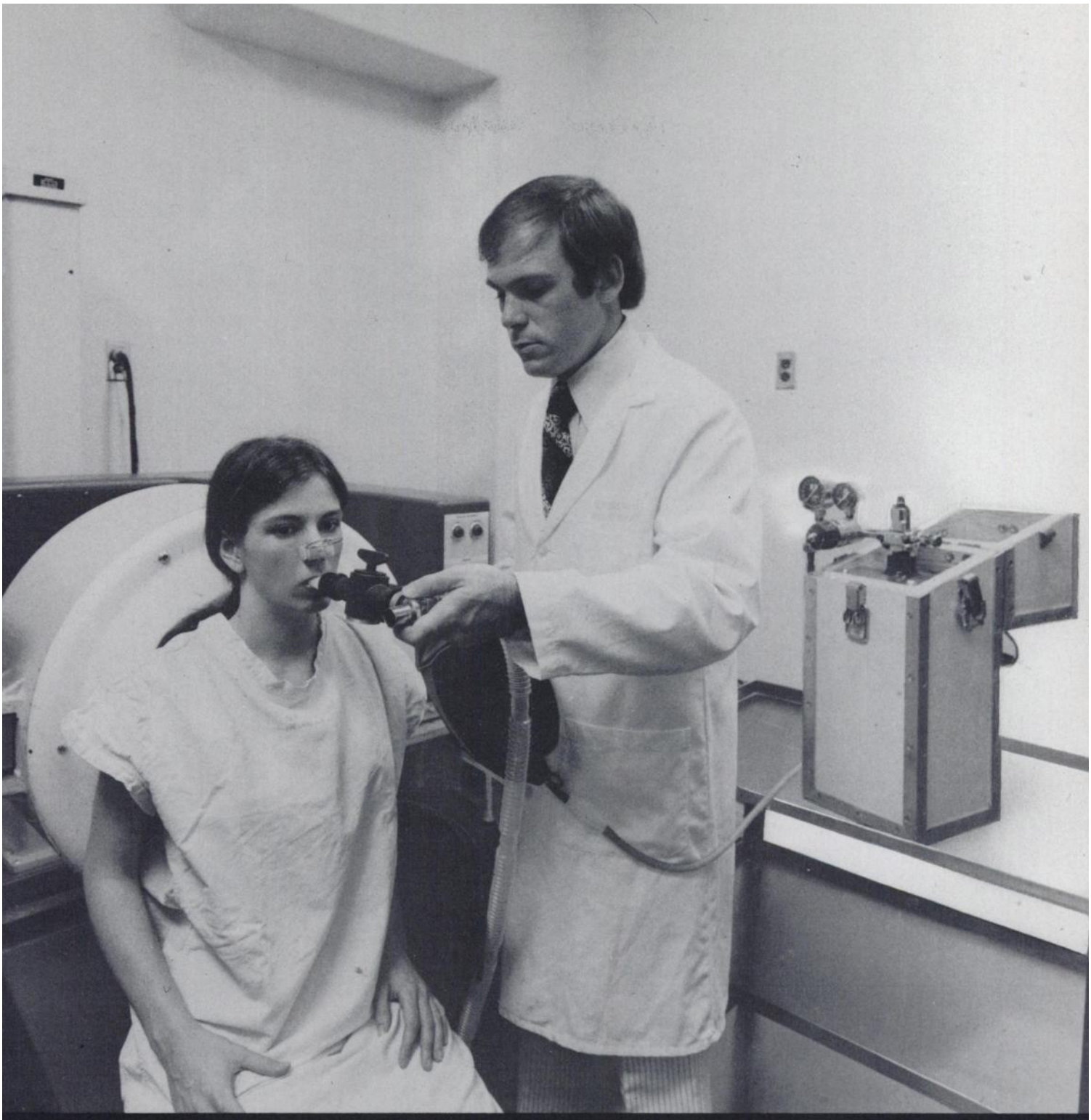
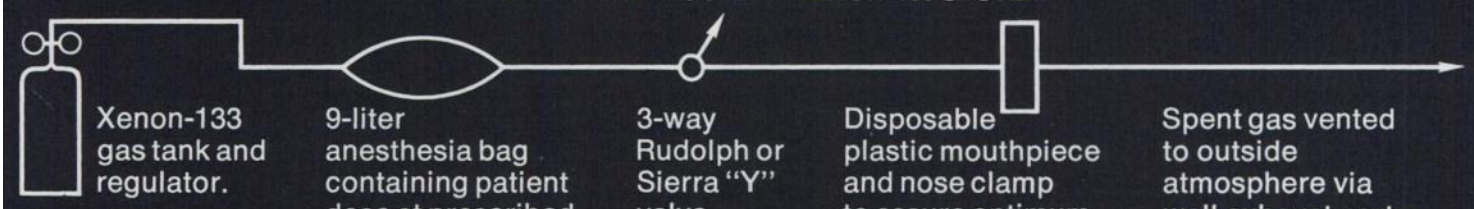


THE CAMBRIDGE NUCLEAR XENON-133 SYSTEM



Xenon-133 gas tank and regulator.

9-liter anesthesia bag containing patient dose at prescribed radioactivity.

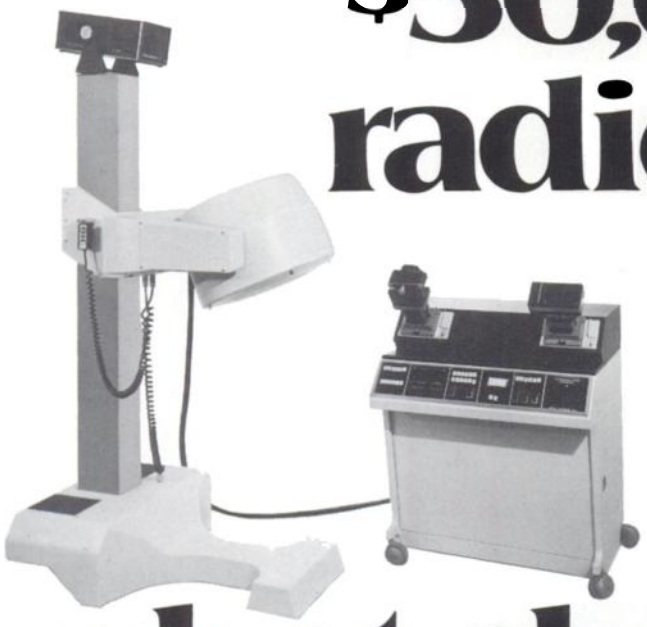
3-way Rudolph or Sierra "Y" valve.

Disposable plastic mouthpiece and nose clamp to assure optimum inhalation.

Spent gas vented to outside atmosphere via wall exhaust port.

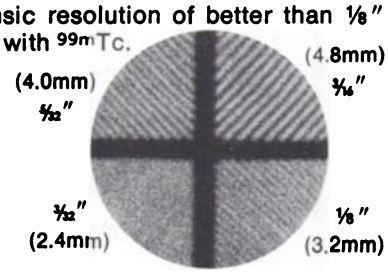
Typical cost to hospital of equipment required for patient administration system (Exclusive of gas tank and regulator): $110.

When you spend $50,000 for a radioisotope camera,



what should you be getting?

Resolution. Ohio-Nuclear's Series 100 has an intrinsic resolution of better than 1/8" (3.2mm) with ^{99m}Tc.



Scintiphoto (above) taken using 1/8" (3.2mm) thick bar phantom. No collimator. 500,000 counts ^{99m}Tc.

Uniformity. Typical Series 100 flood field made with ^{99m}Tc — 500,000 counts.

Speed. Maximum output count rate of 100K counts/sec. Performs standard studies more rapidly. Helps make fast dynamic studies a standard practice.

Ease of operation. Fast setup with two speed—conventional and express—detector motion. Manual or pushbutton isotope selection. Entire study conducted from hand control without leaving patient's side.

Economy. Reduced set up time. Reduced study time. Photomultiplier tube gains balanced by your technologist, eliminating need for serviceman.

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Far safer than strontium agents, our PYROPHOSPHATE is technetium labeled. It exhibits rapid urinary clearance, low blood levels and it isn't picked up by the liver or intestines. It exhibits 90% labeling compared to the 50% to 70% labeling of polyphosphate.

B. Bock, R. Perez, C. Panneciere and R. DiPaola *J. Nuclear Med.* 14, 380 (1973); R. M. Hopkins, J. M. Creighton and D. R. VanDeripe *Ibid* 409; F. Hosain, P. Hosain, H. N. Wagner, G. L. Dunson and J. S. Stevenson *Ibid* 410; R. Marty and J. D. Denney *Ibid* 423; M. R. McKamey, E. J. Artis and D. D. Hansen *Ibid* 426.

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Multi-imager system for

The complete sequence imaging system with built in physiological trigger functions.

study: Tc 99m pertechnetate renal flow
exposure: 0.8 seconds/frame
mode: 16 frame dynamic recorded on sheet of 11" x 14" X-ray film

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scintillation cameras.

- **Up to 36 frames of dynamic flow study recorded on 11″ x 14″ X-ray film**
- **Physiological trigger options permitting imaging of predetermined multiple phases of the respiratory or cardiac cycles in separate frames.**
- **Electronic frame advance without any moving mechanical components.**
- **Electronic frame advance dead time of less than 1/1,000th of a second.**
- **Variable automatic exposure time per frame of 0.1 second to 10 minutes.**
- **Compatible with all scintillation cameras.**

Introduction

The Multi-Imager System is designed for use with scintillation cameras to provide dynamic flow, static, and physiological function synchronized studies. The system operates by altering the CRT deflection signals, changing the size, location, and duration of the image on the display scope. Frame advance is achieved electronically, yielding sequential exposures with essentially no data loss.

Dynamic flow study applications

The Multi-Imager System allows selection of 4, 16, or 36 frame format dynamic flow studies. The three formats vary in the size of the image being recorded and the maximum number of available frames:

frame format	maximum number of frames	frame size 11″ x 14″ X-ray film
4	4	3.5″ diameter
16	16	2.0″ diameter
36	36	1.3″ diameter

The exposure time per frame is adjustable from 0.1 second to 10 minutes. The frame advance dead time of the system is less than 1/1,000th of a second. A remote foot operated start switch is also available.

Static study applications

A one frame format allows recording of a life size 10″ diameter image on 11″ x 14″ X-ray film. In addition, the dynamic flow study frame formats can be operated manually, advancing the frame after each view is recorded. In the 4 frame format four static views can be recorded on a single sheet of 11″ x 14″ X-ray film, each view image having a diameter of 3.5″. In the 16 frame format a sixteen view bone study can be recorded on a single sheet of 11″ x 14″ X-ray film, each view image in the correct anatomical orientation, with a diameter of 2.0″.

Physiological trigger accessories

Unlike a motorized camera, the Multi-Imager System can not only advance frames, but also return to re-expose frames. Physiological trigger accessories are available that allow synchronization of recorded data with the patient's cardiac or respiratory cycle. The cardiac function system records the systolic image data in one frame and the diastolic image data in a second frame, alternating exposures between the two frames synchronous with the patient's cardiac cycle. The respiratory function system is useful to minimize respiration motion artifacts in liver and lung studies. Through use of a chest expansion transducer, one frame records the inspiration plateau image data, the second frame records the expiration plateau image data, and the third frame records the image data between the two plateaus. The exposures are cycled through the three frames synchronous with the patient's respiratory cycle. With both physiological trigger accessories, all the available image data is recorded, separated into frames corresponding to phases of the cardiac or respiratory cycle.

Photographic recording options

An 11″ x 14″ format X-ray film camera and a 4″ x 5″ format scope camera are available for use with the Multi-Imager System.

TRY IT FOR TWO WEEKS WITHOUT ANY OBLIGATION

call or write to obtain information about our unconditional two week evaluation offer

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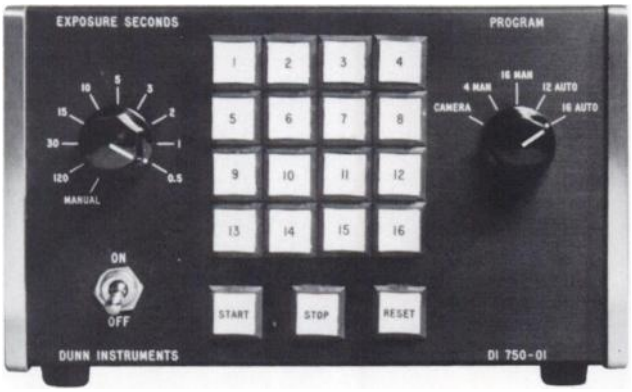
the means

THIS REALLY DOESN'T LOOK LIKE AN OSCILLOSCOPE CAMERA!



IT ISN'T!

It's the 750-01 Electronic Programmer, one-half of the radically new 750 Multi-Format Camera System. The half that makes our system the only oscilloscope camera appropriate for all your needs. Our Programmer electronically minifies the image displayed on the CRT. It manipulates the image in size, location, duration and number. Select 1 through 16 frames per film, manually or electronically advanced on the CRT. The size can range from full display, (full use of the CRT diameter), to 1/16th. Because our system moves the image on the CRT and not the film, there are no moving parts. Hence, the 750 is highly reliable and easy to operate.

Dunn Instruments

1280 Columbus
San Francisco, Ca. 94133
(415) 776-7033

THIS IS THE OTHER HALF OF THE 750 MULTI-FORMAT SYSTEM. THE 750-02 X-RAY FILM CAMERA.

It optically enlarges the image onto 11″ x 14″ X-ray film. By combining the Programmer and the X-ray Camera, the 750 allows you multiple choice: the choice of image size and the choice of X-ray film. X-ray film has a proven acceptance for organ imaging. It's available in a wide range of contrasts and grey scale latitudes. The large film is easy to view, especially by large groups, and is inexpensive and easy to store. If you already have an X-ray film camera, such as the Nuclear Chicago Photoscope, all you need now is the Electronic Programmer. The two part 750 System will cost you less than $3,000. And it will pay for itself in six months in film cost savings. Write or call collect for "Economic Justification" and complete details.

the end

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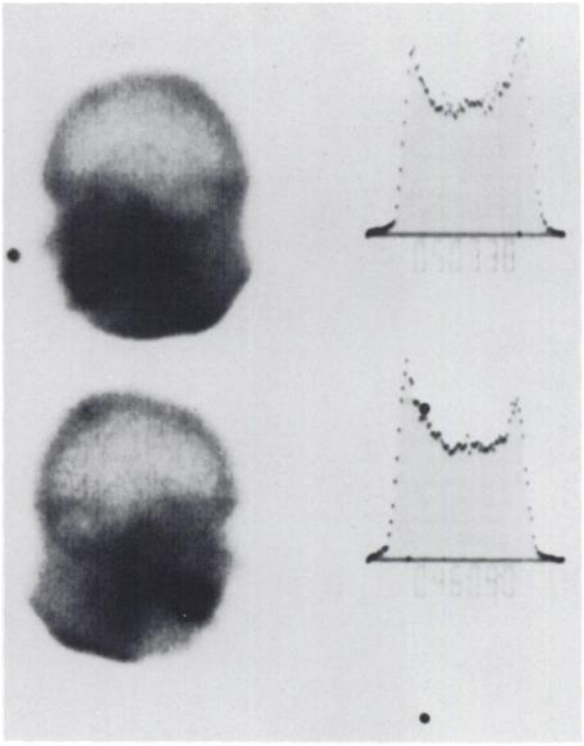
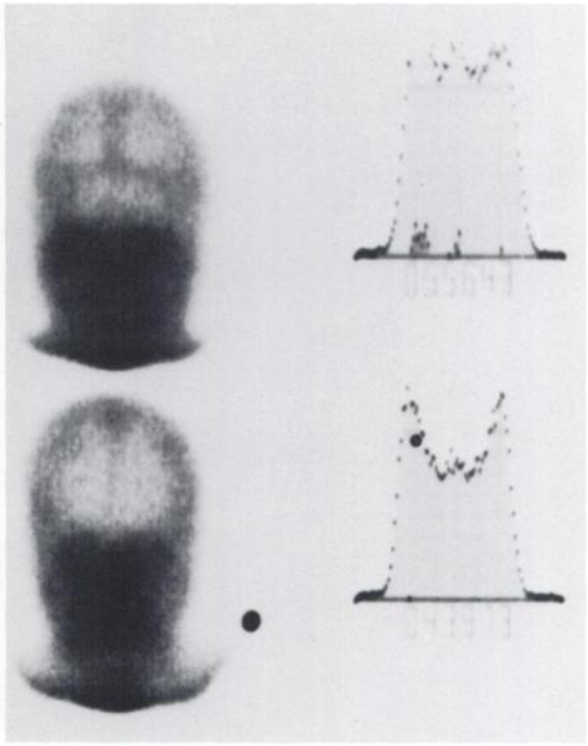
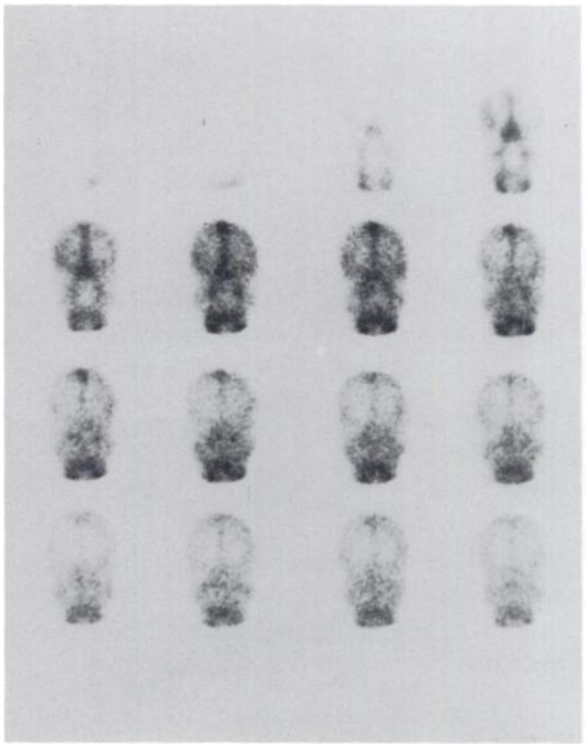
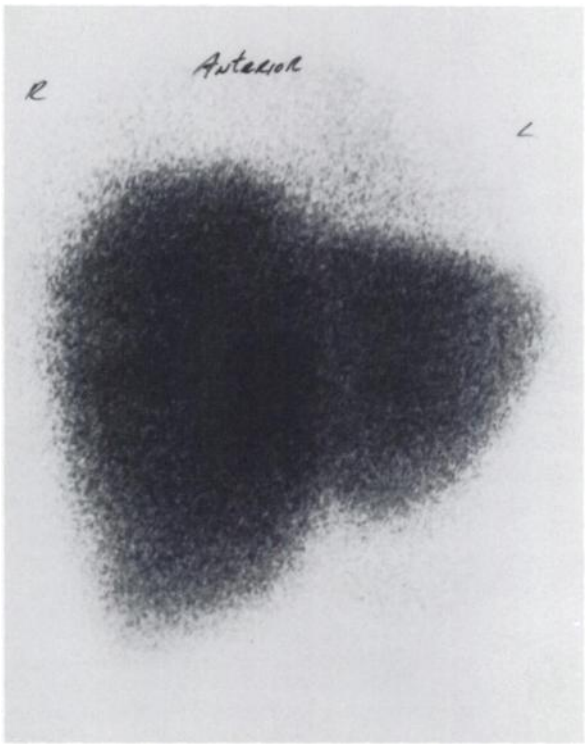




Static Brain Views—
750-01 Program: 4 manual. Dynacamera 2C, Digital Mode, with profiles.

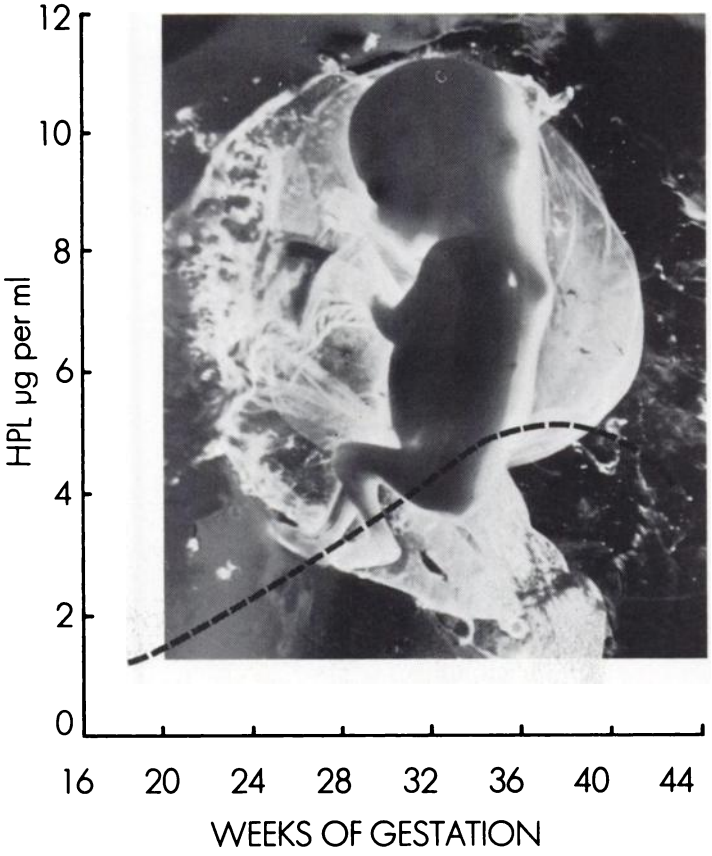


Cerebral Flow—
750-01 Program: 16 auto.—2 secs. per view. Pho/Gamma H.P.



Liver, Anterior View
750-01 Program: Camera ("full size")—Pho/Gamma H.P.

Distress signals?



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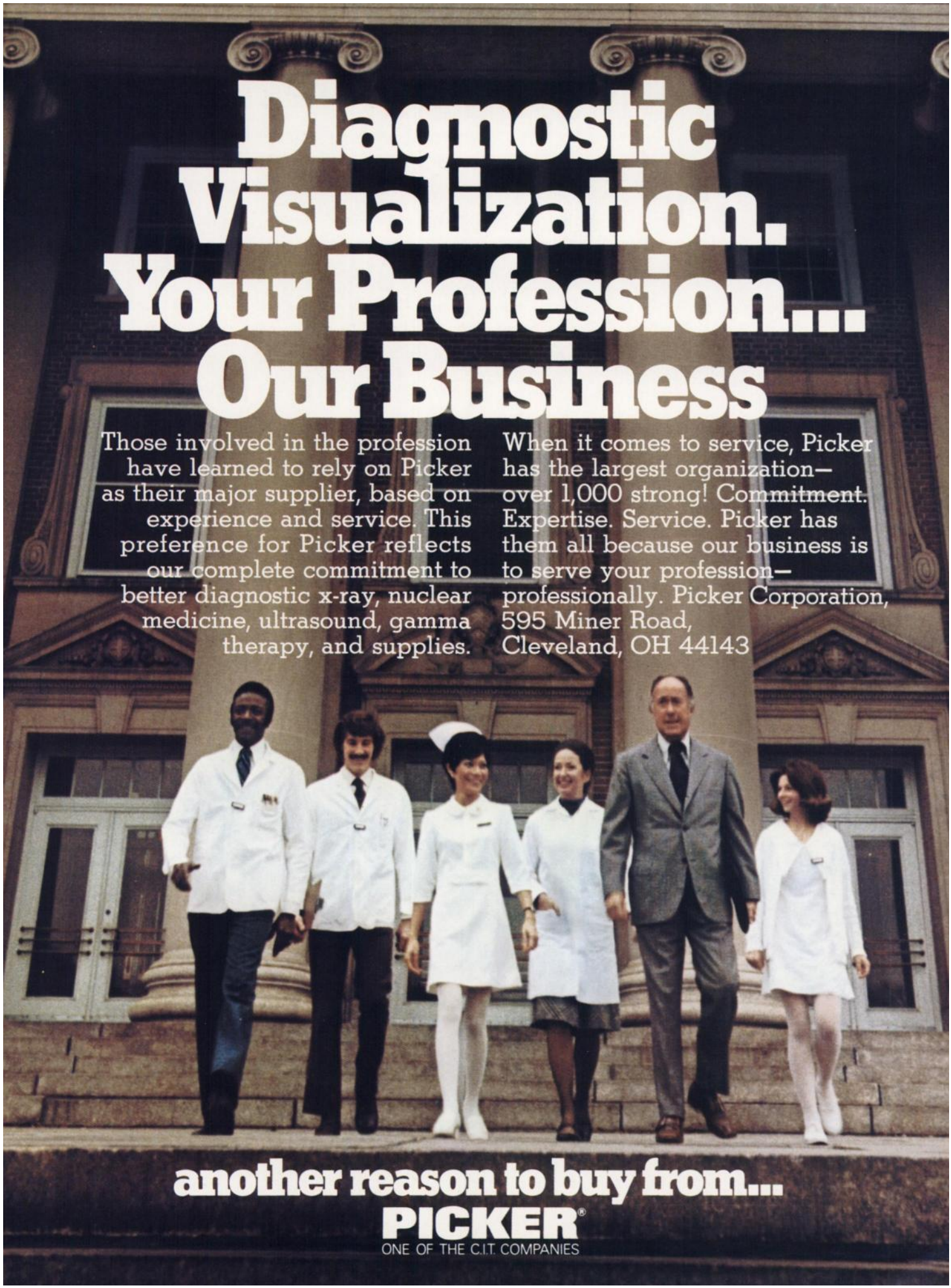
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NUCLEAR MEDICINE TECHNOLOgist. Staff position for experienced, registered Nuclear Medicine technologist. College degree desirable but not mandatory. Salary commensurate with experience and qualifications. Many fringe benefits and scheduled salary increases. Contact: Personnel Office, Southern California Permanente Medical Group, 4900 Sunset Blvd., Los Angeles, California 90027. Tel. (213) 667-4193.

RADIOLOGIST WANTED, CERTIFIED in nuclear medicine, with one year of nuclear medicine fellowship. For further information contact John V. Reardon, M.D., Director of Radiology, The Valley Hospital, Ridgewood, N.J. 07451. Tel. (201) 455-4900.

POSITIONS WANTED

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RADIOLOGIST, CERTIFIED BY AMERican Board of Nuclear Medicine and American Board of Radiology. Experience in clinical nuclear medicine and radiology. Desires full-time position in nuclear medicine. Will consider sharing radiology duties part-time, but full-time nuclear medicine position preferred. Interest in teaching. Box 902, Society of Nuclear Medicine, 305 East 45th Street, New York, N.Y. 10017.

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February 18-22, 1974

Sessions will be five days each, Monday through Friday. Subject materials will be intermixed and cumulative.

For further information and registration forms, contact:

D. Bruce Sodee, M.D., Director
Nuclear Medicine Institute
6760 Mayfield Road
Cleveland, Ohio 44124

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Sub-Department of Nuclear Medicine
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THE SOCIETY OF NUCLEAR MEDICINE

FALL MEETING

October 25-27, 1973

Atkinson Hotel, Indianapolis, Indiana

ANNOUNCEMENT AND CALL FOR ABSTRACTS FOR SCIENTIFIC PROGRAM

Approximately one-half of the program will consist of invited speakers discussing specific topics on "Controversy in Nuclear Medicine." The remainder of the meeting will include a technologist program and simultaneous presentations of submitted papers.

Abstracts are now being accepted for the scientific program of the Central Chapter, SNM Fall meeting. Original contributions in any aspect of nuclear medicine will be welcomed.

Submitted abstracts should be 300 or less typewritten words. Each abstract must contain the name(s) of the author(s), the institution(s), and the mailing address of the author presenting the paper. Underline the name of the author presenting the paper.

DEADLINE FOR ABSTRACT SUBMISSION IS SEPT. 1, 1973

Send the abstract to:

Henry N. Wellman, M.D.
Chairman, Program Committee
Nuclear Medicine Division
Indiana University Medical Center
Indianapolis, Indiana 46202

NEW ENGLAND CHAPTER
of the
SOCIETY OF NUCLEAR MEDICINE
ANNUAL MEETING

October 26, 1973 **Copley Plaza Hotel**
Boston, Massachusetts

The Scientific Program for the 1973 Annual Meeting will include a series of mini-symposia on:

Bone Scanning—a Critical Appraisal
Tumor Localization with Radionuclides
Workshop on the Use of Absorbed Fraction Method (MIRD) for Clinical Dosimetry

The guest faculty will include Gould A. Andrews, M.D., Chairman of the Medical Division, Oak Ridge Associated Universities.

For registration and program information contact:

B. Leonard Holman, M.D.
Department of Radiology
Peter Bent Brigham Hospital
721 Huntington Avenue
Boston, Massachusetts 02115

CAMBRIDGE NUCLEAR RADIOPHARMACEUTICAL CORPORATION 5th ANNUAL SYMPOSIUM IN CLINICAL NUCLEAR MEDICINE.

Saturday, October 20, 1973
Playboy Club Hotel at Great Gorge, Mc Afee, N.J.

Faculty:

Henry M. Wagner, Jr., M.D.
Richard C. Reba, M.D.
Richard A. Holmes, M.D.
James K. Langan, R.T.N.M.
Michael M. Cianci, R.T.N.M.
William Eckelman, Ph. D.

Registration fee: $25.

Convention Room Rates: $29. Single; $33. Double.

Charter buses available from Baltimore, Washington, Philadelphia and Boston.

For further information, contact Cambridge Nuclear Radiopharmaceutical Corporation in New Jersey at 609/799-1133, or in Massachusetts at 617/935-4050

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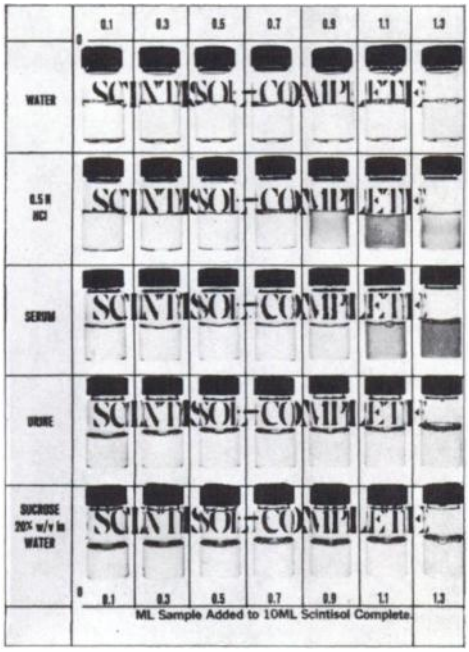

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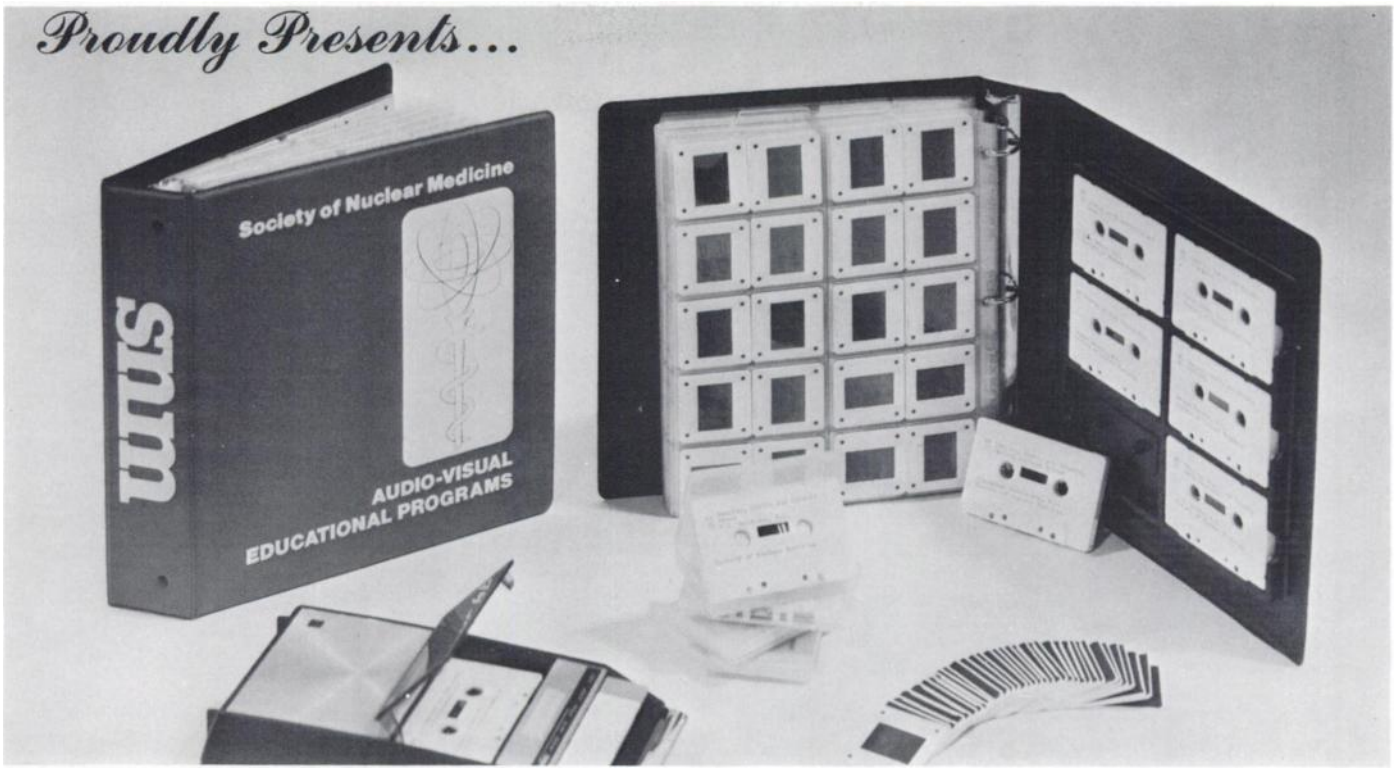

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(And if you think that's trivial, you have a surprise coming.)

Now why in the world would anyone ask you to focus your attention on gross weight (of all things!) when considering a piece of sophisticated instrumentation like a scintillation camera?

Because, as we hope you'll soon come to agree, low weight tells you something. As a matter of fact, it really tells you a great deal because technologic progress almost always leads to a dimunition of both size and weight (e.g., from vacuum tubes to transistors to integrated circuits). Thus, the functionally equivalent instrument that weighs substantially less than others, bespeaks a newer design. And so it is with the Nuclear Data Radicamera.™ This quite remarkable camera weighs about 1300 lbs. less than the other two fine competitive instruments. (Mind you, only 1300 lbs. as compared to 2600 lbs.—a 50% weight reduction!)

Ah, but what did we leave out? Functionally, nothing. We simply designed out the older technology, both electronic and mechanical, that tends to weigh more and bulk larger. And the newer technology, with its lesser weight and size, is often more reliable. And *that's* a nice bonus.

What else does Radicamera offer? A full capability camera with resolution as good as the best (really), and operating ease that defies comparison. You can actually position it with one finger and, with the appropriate accessory, move it easily to the patient that can't be moved easily. The innovative design yields a more compact unit that occupies less of your ever-evaporating space. In toto, a superbly designed instrument that is easy to live with and yields diagnostic data second to none.

Finally, we should also mention the following: newer technology not only tends to diminish size and weight. It shrinks cost (and hence, price) too. Check it out.

So, if you're looking at cameras, consider this: we want you to speak to Radicamera users because you really ought to hear our story from someone else, too. Contact us for names and for Radicamera literature.

A word about Med II ™

Very revealing fact: Med II is the world's best selling image processing system. And although we're happiest when its coupled to our Radicamera, candor forces us to reveal that it also functions beautifully with those other cameras. This very flexible system does everything a computerized image processing system should do. Things like correcting for non-uniformities, curve smoothing and fitting for cardiac output studies, ejection fraction and xenon ventilation/perfusion computations, acquiring and storing dynamic data from 12 regions of interest to produce 12 curves simultaneously, and much more. And its ready-to-use, conversational and upgradeable software makes it ideal for both routine and investigative dynamic function work. Once again, we invite discussion with current Med II users.

Radicamera: the lightweight that really isn't.

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Clearly the digitalis glycosides have been a mixed blessing. Their potential for good is inevitably coupled with the possibility of harmful effects due to inadequately low or toxically high blood levels. And then, as if the narrow margin of safety weren't enough, we also began to realize that there are variations in bioavailability of these glycosides. From glycoside to glycoside. From company to company. From one route of administration to another. From dosage form to dosage form. Sometimes even from lot to lot.

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Insulin Kit An accurate, sensitive, reproducible radioimmunoassay. For insulin concentrations in small volumes of serum or plasma of diabetics. Kit for 400 tubes—$58.30.

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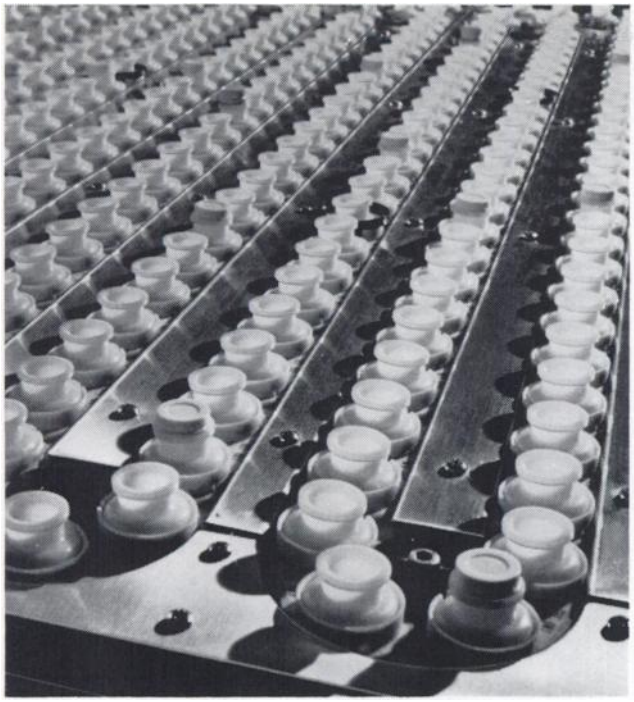

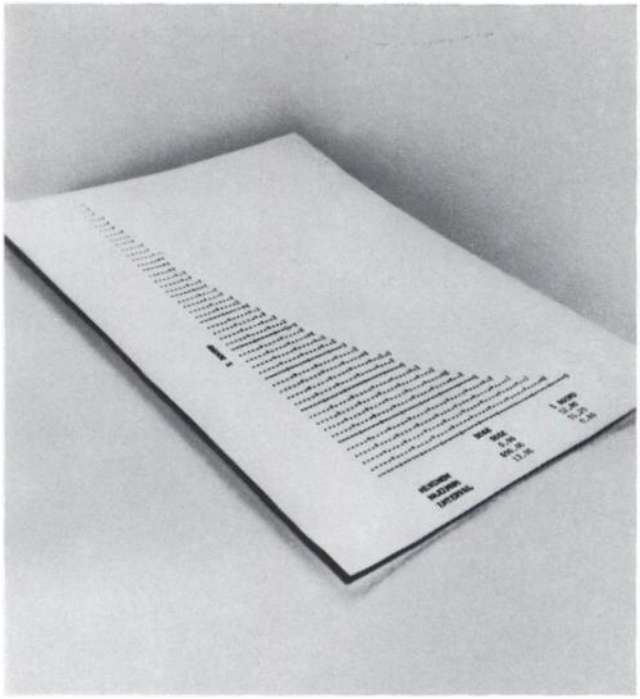

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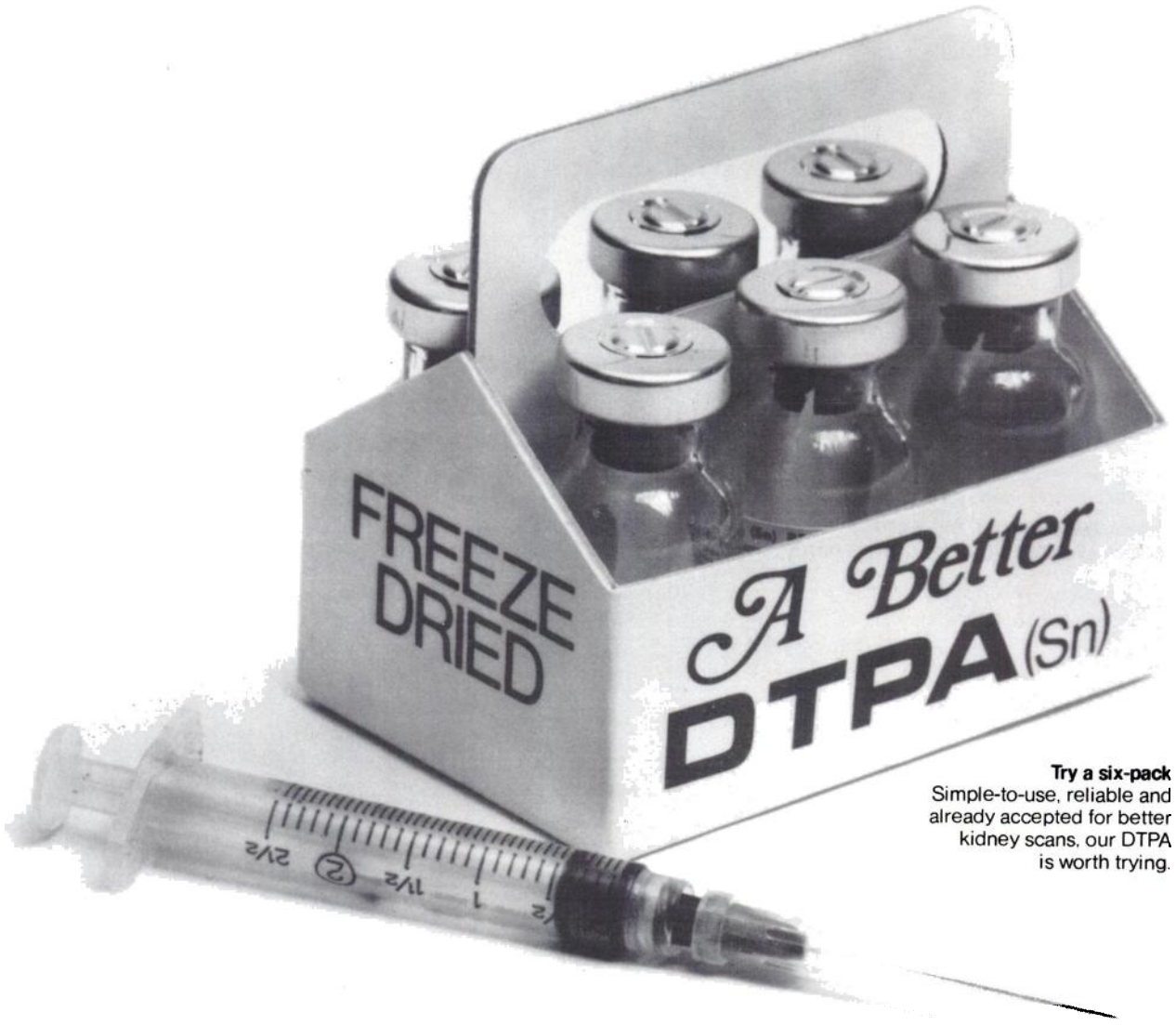

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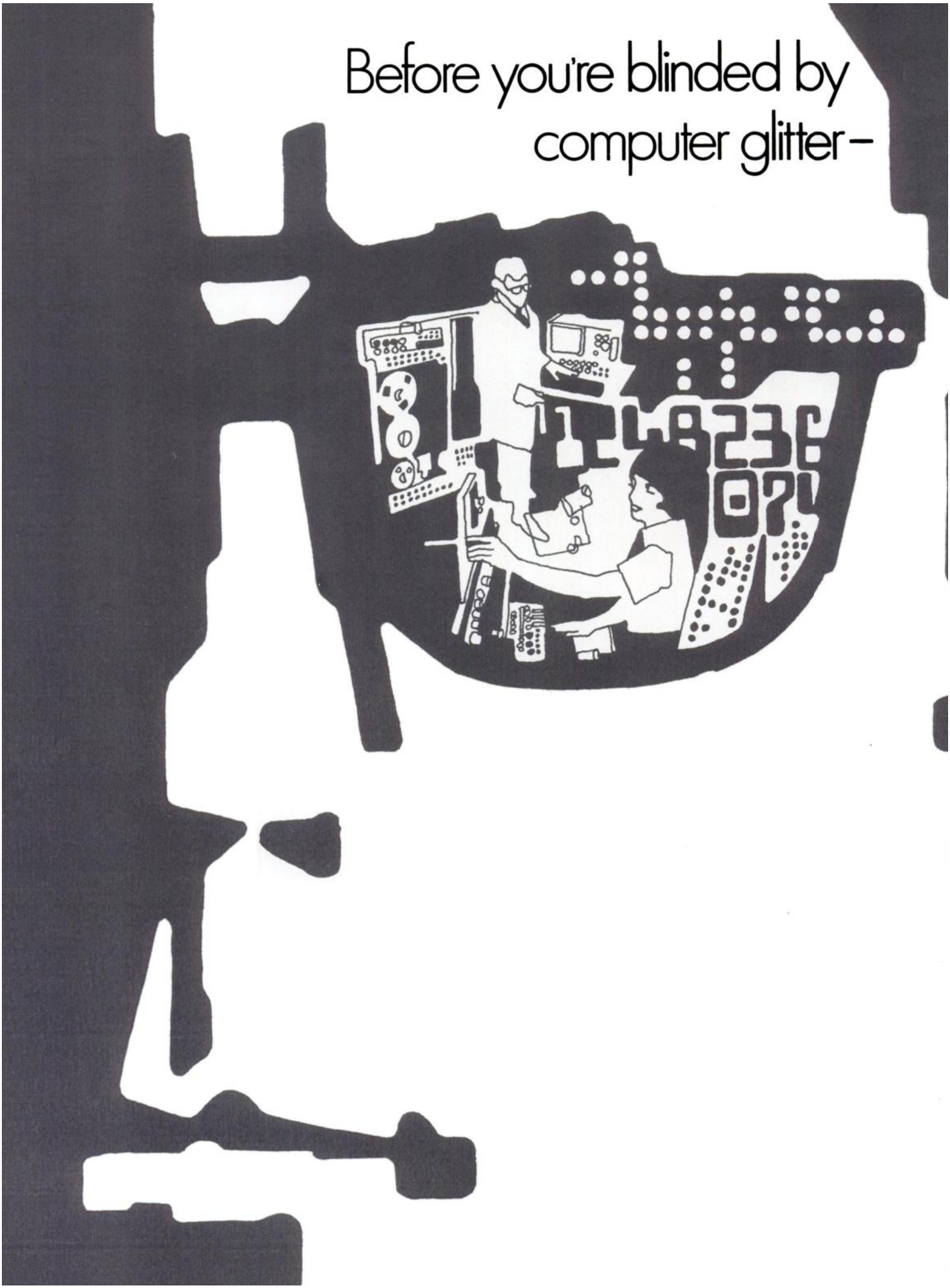

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A full range of Scintigraphic systems to choose from further increases convenience and diagnostic flexibility. One model, for example, has two regions of interest for obtaining precise, accurate patient histograms and computer compatible tape for storage and playback of patient data. Still another model has tape cartridge capability. This gives you a convenient way to retain information in a patient's file.

Among other things, these features allow you to use the Scintigraphic display remotely, without interrupting camera operation. You can then review the data and make diagnoses at your convenience, in the lab or in your office.

So, if you've been dazzled by computer glitter, but floored by the staff and budget problems that go along with it, look at the Ramtek Scintigraphic Display System. It's a practical alternative that gives you better pictures. Systems start at $6,500.

For some eye opening facts and/or a demonstration, call or write.

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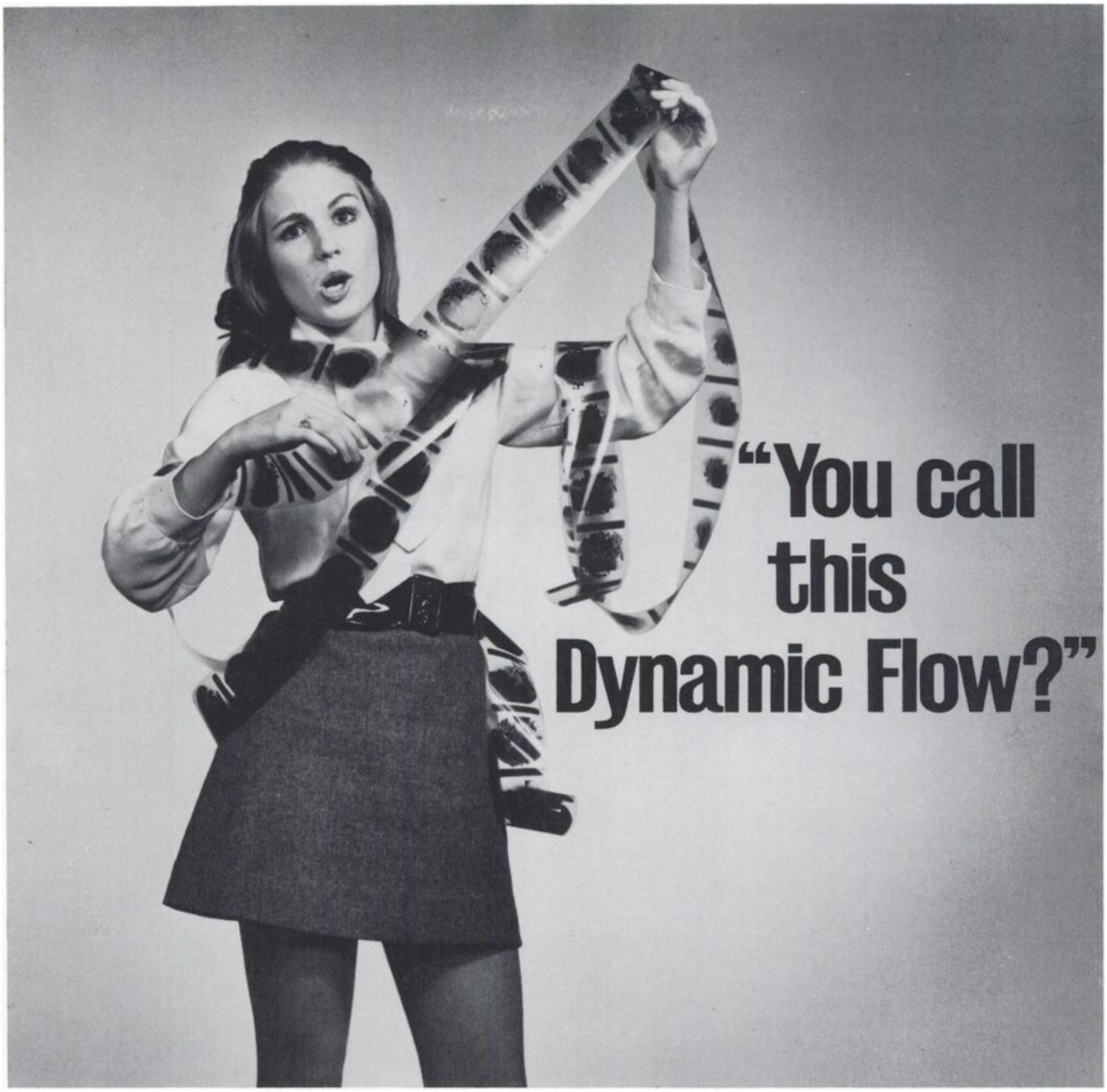

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Gentlemen: Please send me complete technical information on your Angiotensin I[^{125}I] RIA kit.

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[1] Viol, G.W., *et al*, Clin. Biochem., 5, 251 (1972).
[2] Abe, K., *et al*, Jap.Circulation J. (Eng. Summary), *36*, 697(1972).

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Speed	Resolution
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1 frame/sec	128 x 120 (16K)

Available options provide:

39 frames/sec	32 x 30 (1K)
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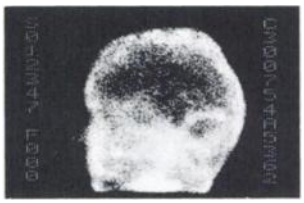
Display. Non-flickering interactive display continually refreshed from core memory.



Alphanumeric Display. Patient study number always displayed on left of image. Six digit time of storage (in hundredths of a second) and dynamic study frame number displayed on right; or six digit count and four digit area within an area of interest (or the total count of the area) can be displayed on the right.

Slices. Two slices along either the X or Y axis can be defined independently, & observed on the isometric view.

Options Available. Black and White video displays, 9″ and 14″ diagonal, with 64 shades of gray, flicker free; Isometric display, 14″ and 5″ diagonal, sixteen shades of green; Color display, 12″ diagonal, 16 or 8 colors, switch selectable; Color and B&W simultaneous display; Field uniformity correction; Statistical Smoothing; Chart Recorder for plot of profiles set by slices, or plot of dynamic study count versus time; Fast Framing Tape; Added Memory;16 Extended Rectangular Areas; Irregular Areas; Interfaces; B&W or Color Polaroid Capability.

Want More Information? Write for our DataSystem brochure and our Product Bulletin — Series 150 DataSystem Description. Visit an installation . . . we'll arrange it. And talk to us. We have something better. The complete DataSystem. From Ohio-Nuclear.

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Patient Positioning—The hospital cart or bed can be positioned under or to the side of the scanning platform—permitting scanning in a room only 7 ft. wide!

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Maximum Tap Rate—Tapper is capable of operating at 70 pulses per second, continuously! (Occasional higher repetition rates will not jam the tapper.)

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Enough to whet your interest? If you'd like to learn more about all the features of this truly unusual instrument that's 'way ahead of its time . . . more like 2002 A.D. than 1973 . . . contact your Searle Radiographics (formerly Nuclear-Chicago) sales engineer or write to us for our free Pho/Dot brochure.

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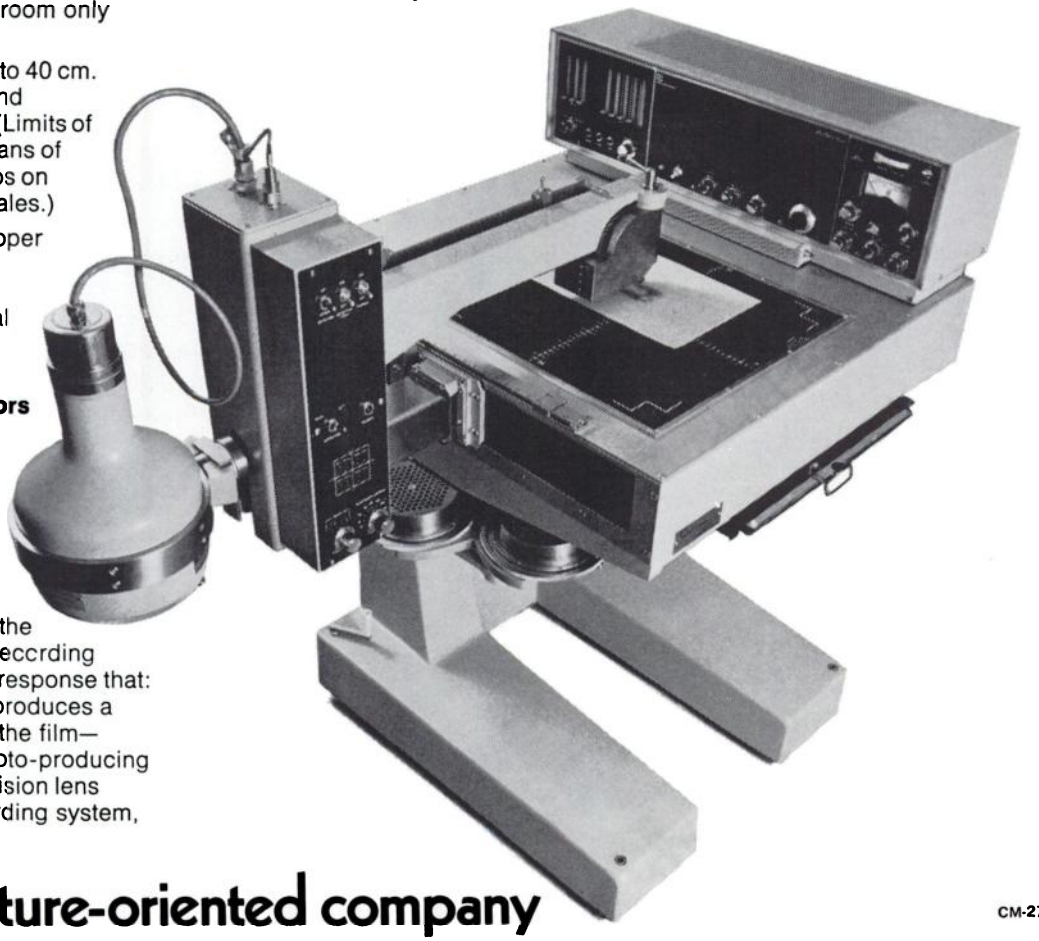
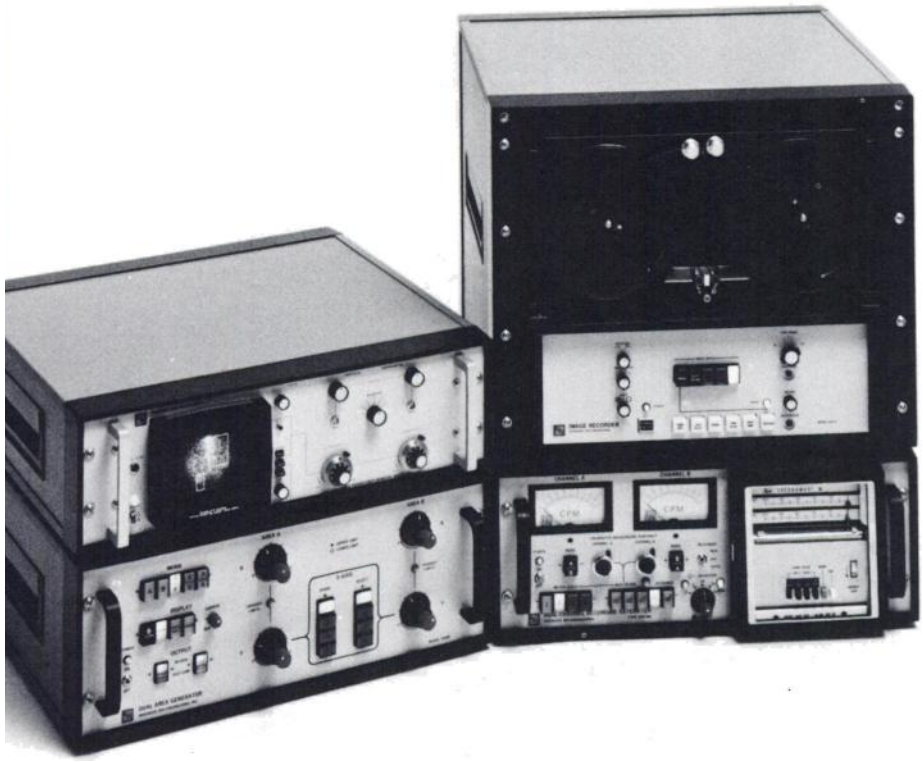


The future-oriented company

We have built a unique system to acquire, playback and analyze Gamma-Camera studies.

Our Image Recorder is the only instrument capable of reproducing Gamma-Camera studies with the original image quality and the option of increasing or reducing the duration of the study without degradation of information inherent in digital systems.

Our system consists of the Image Recorder, the Dual Channel Ratemeter/ Recorder, the Variable Persistence Monitor and the Dual Area Generator.



Our Image Recorder utilizes standard ¼ inch audio tape as its recording medium, resulting in a savings in money, time and storage space.

Areas of interest are presented brightly outlined on otherwise normal camera image for easy first-try area placement.

The R.B.E. system components are simple to operate and have proven to be effective and consistent in clinical use. Tapes are machine to machine compatible and the system can operate independently for teaching and training purposes.

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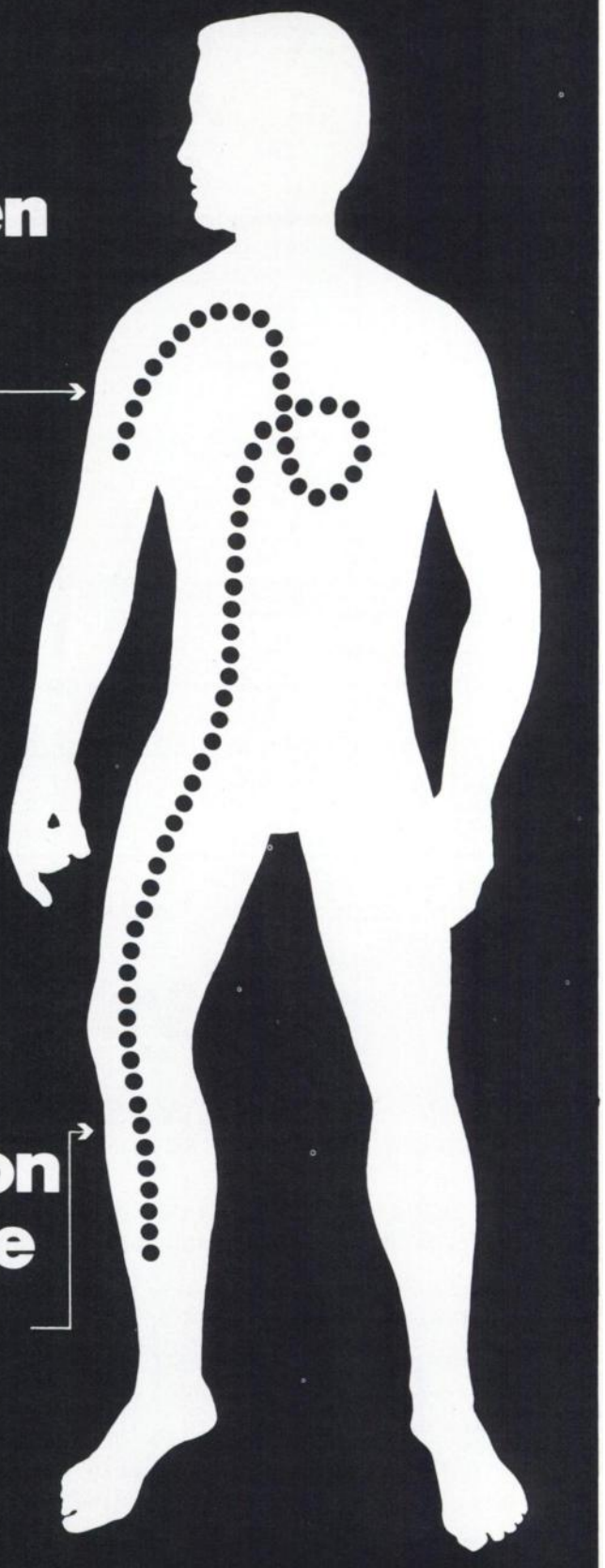

- 90% of iodinated fibrinogen is available for coagulation.
- prepared from a restricted pool of donors, screened to minimize the possibility of transmission of serum hepatitis.
- can be used for monitoring treatment of thrombus as well as detection.
- more convenient than phlebography–can be used for routine screening by ward staff.
- available from stock.

Post-operative deep vein thrombosis of the leg can give rise to many serious sequelae, including fatal pulmonary embolism, yet in many cases there are no clinical signs of the thrombus, itself. Labelled fibrinogen, administered by intravenous injection, becomes incorporated in the thrombus, and can be followed by daily scanning of each leg (using a hand held Isotope Localization Monitor). The area of maximum radiation intensity indicates the size and site of the thrombus. This simple daily procedure can be easily carried out at the patient's bedside.

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Availability of this product may be subject to national regulations.

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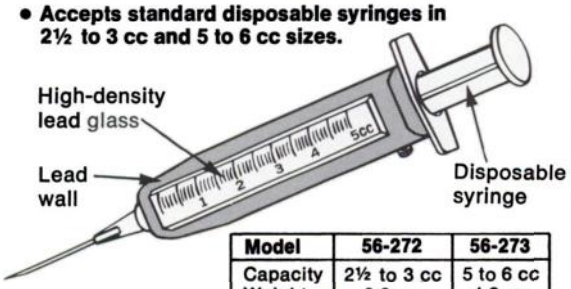

Model	56-272	56-273
Capacity	2½ to 3 cc	5 to 6 cc
Weight	3.2 oz.	4.6 oz.
Price	$38.00	$39.00

*U.S. Patent 3,596,659

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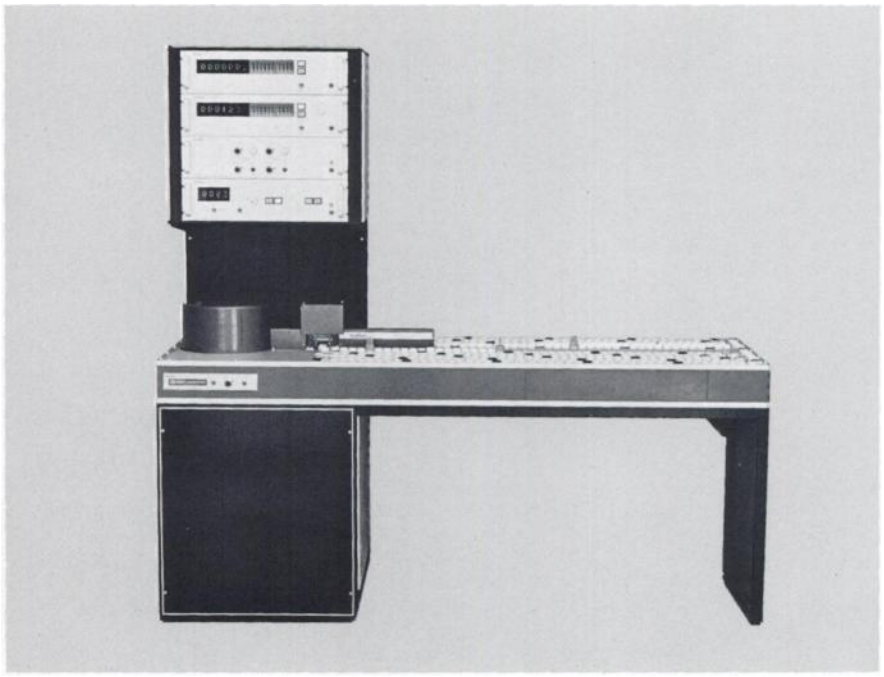

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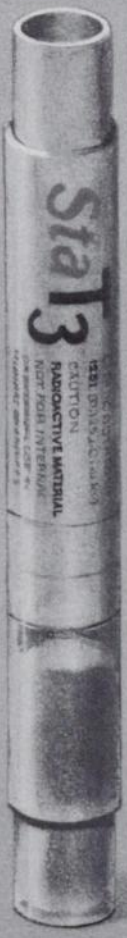

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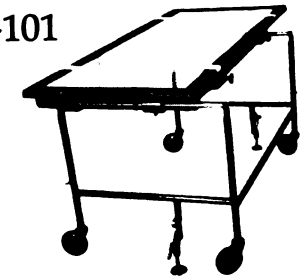

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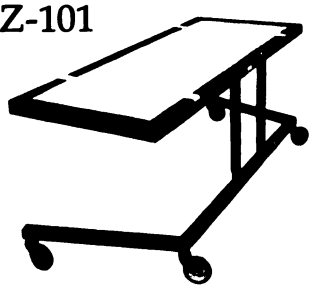

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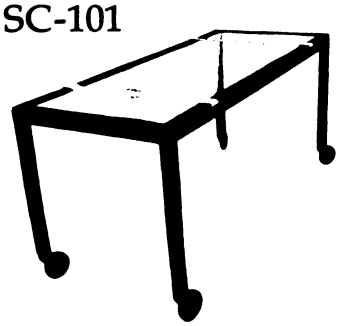

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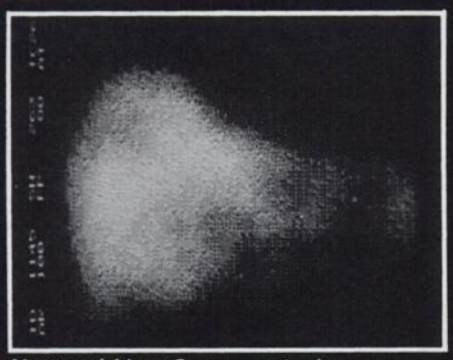
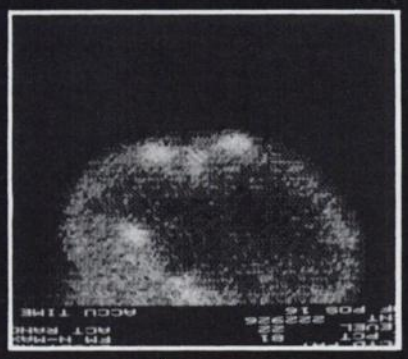


Abnormal Liver Scan — ant. view
(Metastatic Disease)
Study Time — 224 sec.
Isotope — 4mCi ^{99m}Tc Sulfur Colloid
Total Counts — 2,676,795

Abnormal Brain Scan — right lat. view
(CVA)
Study Time — 80 sec.
Isotope — 12mCi ^{99m}Tc
Total Counts — 806,899

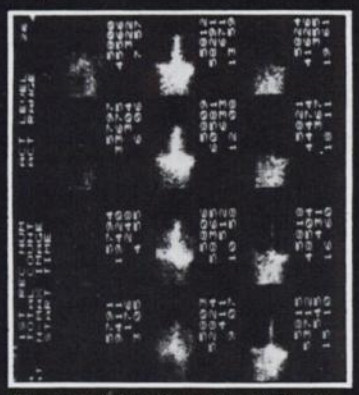
Abnormal Liver Scan — ant. view
Study Time — 320 sec.
Isotope — 2mCi ^{99m}Tc
Total Counts — 445,502



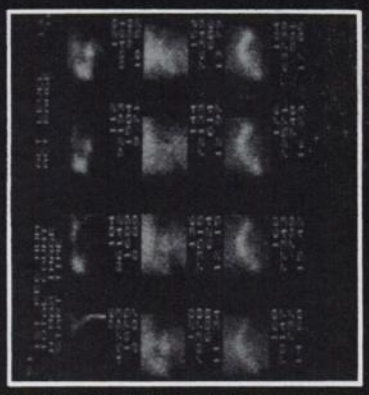
Brain-Bone Scan — left lat. view
(abnormal foci in the convexity and orbit)
Study Time — 240 sec.
Isotope — 6mCiTc Polyphosphate
Total Counts — 222,926

Normal Thoracic and Lumbar Spine Scan
— post. view
Study Time — 480 sec.
Isotope — 6mCiTc Polyphosphate
Total Counts — 1,000,733

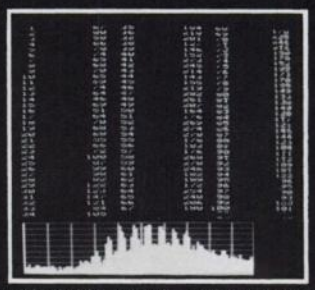
Dynamics



Abnormal Cerebral Blood Flow —
post. view
(decreased perfusion left cervical area)
Accumulation Interval — 0.5 sec.
Display Interval — 2 sec.
Peak Counts per sec. — 17,283
Isotope — 15mCi $^{99m}TcO_4^-$

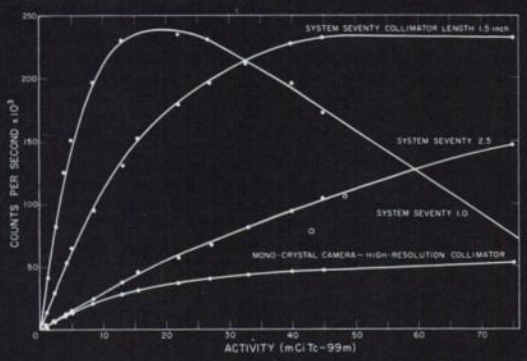


Normal Cardiac Blood Flow — ant. view
Accumulation Interval — 0.1 sec.
Display Interval — 1.0 sec.
Peak Counts per sec. — 78,147
Isotope — 15mCi $^{99m}TcO_4^-$



Normal Left Ventricular Quantitative
Histogram
Each double vertical line represents a
1.0 sec. time interval.
The entire histogram is 10.0 sec. long
and consists of 100, 0.1 sec. count
accumulations. This area-of-interest
histogram took less than 1.0 min. to
produce from end-of-study.
Note — definition of sinus rhythm of left
heart.

Performance



These curves provide a useful calibration of System Seventy. The observed count rate for 15 mCi of ^{99m}Tc for the 1.0, 1.5, and 2.5-inch thick collimators is 230,000, 150,000, and 45,000 cps respectively.

The count-rate curve obtained from a mono-crystal camera using the high-resolution collimator shows an efficiency about equal to that of the 2.5-inch thick collimator at low count rates and exhibited a saturation rate of about 40,000 cps. The same saturation rate has also been observed with the other collimators available for this type of system.

The efficiencies of the parallel-hole collimators are such that the saturation rate of 230,000 cps is observed with 15, 45, and 180 mCi of ^{99m}Tc with the 1.0, 1.5, and 2.5-inch thick collimators respectively.

System Seventy

or...

(how the unique combination of a programmed computer and a matrix detector allow you to practice the NOW and FUTURE art of nuclear medicine consistently, simply and reproducibly.)

Diagnostic Superiority

That's what you're really looking for. We routinely obtain 3-4mm. static resolution scans — regardless of energy. Dynamic studies can now be accomplished at high frame rates with count/unit time accumulations (at low dose rates) that are not achievable on any other gamma camera, and the results can be displayed or printed-out in histogram or numerical form within seconds of the end-of-study. That's diagnostic superiority!

Operation Simplicity

Our unique "back-lit" front panel reduces each operation to a logical-computer assisted-series of steps. Select the mode; i.e. Static/ Dynamic, and only those buttons or controls necessary to complete the study will be illuminated. That's operation simplicity!

New Standard!

The New Standard in diagnostic nuclear medicine. The only words that can describe a camera that is easy to use, delivers the greatest patient throughput, and provides the most technically superior diagnostic data while doing it.

No ONE of these terms really describes SYSTEM SEVENTY.

SYSTEM SEVENTY offers the highest spatial resolution, and that's why our static images are the best. This means that you can choose to increase patient throughput by selecting the best clinical measurement which optimizes spatial resolution and efficiency.

The system's high count rate capability (>200,000 cps) enhances the time resolution of dynamic studies which is a scientific necessity to achieve diagnostically meaningful evaluations of physiological time parameters. Stop thinking about the eventual possibility of more meaningful dynamic procedures and do them *now,* with SYSTEM SEVENTY.

And, the operational functions we've wired into the system and the software support we provide leave very little for you or your technician/operators to learn in putting SYSTEM SEVENTY to work and realizing the technically superior results.

So, looking back on them, certainly ALL of those terms apply, though no one of them really does SYSTEM SEVENTY justice.

BA BAIRD-ATOMIC

Nuclear Division, 125 Middlesex Turnpike, Bedford, Ma. 01730, 617/276-6000, Telex: 923491, Cable BAIRDCOBFRD

2002 A.D. Pho/Gamma®...
the camera of the future...
can do more right now than any other scintillation camera in the world.

Pho/Gamma can do more because we've taken the three most important qualities that make a scintillation camera great—*sensitivity, uniformity,* and high *resolution*—and included an exclusive fourth:

Clinical Versatility.

Our Pho/Gamma System is available with a complete range of instruments to perform today's clinical procedures, and to facilitate the work of those who are making the future of medicine happen. Among these capability-expanders are: Various, specialized collimators which allow you to choose the optimum resolution and sensitivity you need for each study, because two or three collimators can not meet the exacting requirements of every clinical application.

The Tomocamera™ for imaging organs in 4 separate and variably selectable focal planes at one time. An Anatomical Marker which electronically provides direct transfer of anatomical landmarks to all film readouts and system accessories, and eliminates the need for cumbersome radioactive markers. A Clinical Data System (CDS-4096) to perform functional data manipulation and present the processed results as unambiguous, easily interpreted results for more accurate and faster interpretation. A Data-Store/Playback System which allows you to digitally capture the scintillation events, play the results back at your convenience, study, step-by-step, the nuclide distribution in the organ, and interpret the study with information that might have been missed on the initial scintiphoto study—and many more features, including the totally variable area of interest capability—all at the push of a button on the master console.

Pho/Gamma. Everything about it sounds like 2002 A.D., but it's here now for you to use. Contact your Searle Radiographics (formerly Nuclear-Chicago) Sales Engineer, or write to us for further information.

SEARLE

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