

# If you know get to know



## Triosorb®-I25 T-3 Diagnostic Kit\*

The in vitro test unmatched for reproducibility, convenience and accuracy.

Reproducible. Over 15 million tests conducted over the past eight years have made Triosorb® the standard of T-3 tests.

Convenient. The disposable Triosorb® Kit is ready for immediate use at room temperature making it one of the simplest, most convenient thyroid function tests available.

Accurate. Approximately 15 drugs and conditions produce misleading Triosorb®-T-3 test results, compared with over 200 factors which affect PBI.

\* Also available as Triosorb®-131.



## Tetrasorb®-I25 T-4 Diagnostic Kit

An improved, simplified method for measuring total *serum* thyroxine with diagnostic accuracy equal to or better than any currently used measures of thyroid function. Unlike other tests, exogenous iodines don't affect Tetrasorb® results.

# one of these, them all.

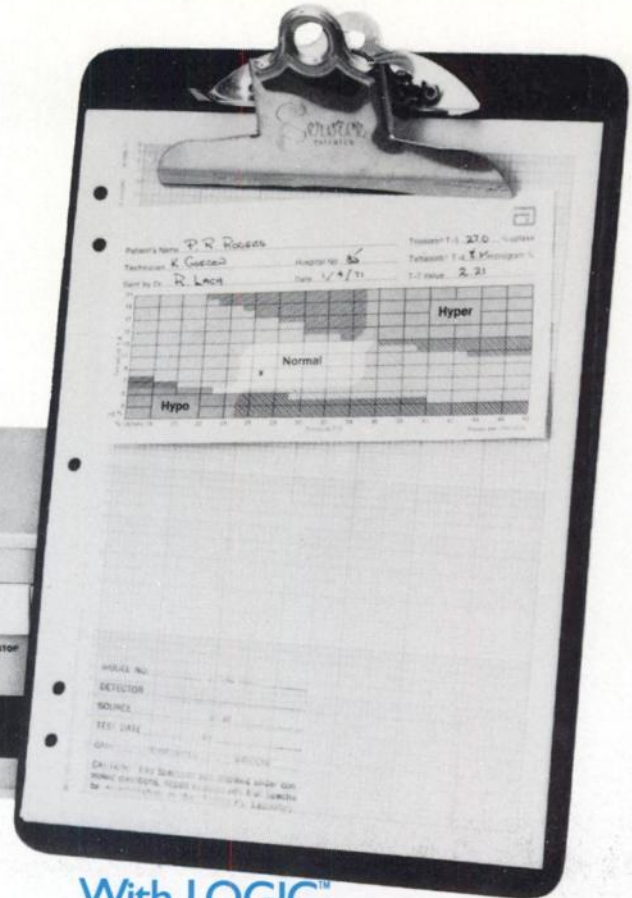


The T-7 value completes  
the thyroid profile.

It's the Abbott method for determining the in vitro free thyroxine index.

T-7 is not a test but a numerical value derived from the multiplication of T-3 and T-4 test values. Because it is a product of two other numbers, the *T-7 value* will *move* only when both the T-3 and T-4 values move in the *same direction*. There are *only* two physiological conditions which cause this to occur, *hypothyroidism* and *hyperthyroidism*. With the exception of those patients receiving liothyronine or d-thyroxine therapy, all other factors which affect thyroid function tests will cause the T-3 and T-4 values to move in opposite directions, and the T-7 value to remain in the normal range.

When you provide the Abbott T-3, T-4 and T-7 values you furnish a complete thyroid profile with unparalleled clinical accuracy.



With LOGIC™  
your final step is as easy as 1,2,3.

1. Establish a baseline.  
Pre-set count for 10,000; read the required time from the NIXIE tubes.
2. Take a post-wash reading.  
Pre-set *timer* for the baseline established in step 1.
3. **Read the percentage uptake** directly from the NIXIE tubes.  
LOGIC™ provides direct ratio readout in percentage.  
No conversions or calculations needed.  
Minimal chance for error.



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World's Leading Supplier of Radio-Pharmaceuticals  
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**With every shipment of a  
Raytheon isotope scanner,  
you get a free Mike Bono.**

Mike is our customer assurance specialist. And wherever our isotope scanning equipment goes, so goes Mike.

Not a salesman, not a serviceman, he's something more. A bonus for you, really. It's his job to insure that every Raytheon nuclear scanner is operating at peak efficiency in its new environment. That includes supervising the installation, training the staff, even running response curves and grey scales if need be. In short, Mike is the link between our equipment's arrival and

your acceptance.

His credentials? Over ten years' experience in nuclear medicine, including the teaching of various aspects of the science. Now if all this sounds like our equipment needs the help, it's just not so. The truth is though you didn't order Mike, and you may not even need him at all, we just thought you deserved the extra assurance. Raytheon Company, Medical Electronics, 190 Willow Street, Waltham, Mass. 02154. Telephone: 617-899-5949.

In medical electronics . . . Raytheon makes things happen.

**RAYTHEON**

Ask him why he specifies the NEN Technetium-99m generator. He'll tell you that he's tried the others and has chosen NEN because he's found he "doesn't have to worry about generators anymore. The best generator is the one nobody notices."

Because it gets there on time – pre-tested at NEN for sterility, non-pyrogenicity, Molybdenum-99, aluminum, and alumina and other particulates.

Ready to use with no pre- or post-assembly problems . . . just charge and elute! And the other extras too. Fractional elution and assay kits and MOLY-CODDLE™ radiation reducer.

In other words we worried about everything we could think of – so the man who buys one won't have to. It's the generator nobody notices.

**NEN** New England Nuclear  
Radiopharmaceutical Division

Atomlight Place, North Billerica, Mass. 01862  
Telephone (617) 667-9531

# ask the man who buys one







## New from Duphar: labelaid™

Ferrous ascorbate can now be labelled with Tc99m in two steps only. Add sterile eluate to the vial with lyophilised ferrous ascorbate complex, and buffer. Ready for injection.

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**duphar**



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N.V. PHILIPS-DUPHAR CYCLOTRON AND ISOTOPE LABORATORIES PETTEN HOLLAND



1

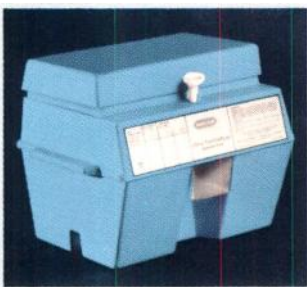
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3

4



# Introducing the New Ultra-TechneKow<sup>®</sup> Technetium Generator



with **4** New Features

**1. New enlarged lead shield reduces radiation exposure to the operator.** With at least 1½ inches of lead all around the generator column this is one of the best shielded generators available today.

**2. New "Ion Control" Process** (patent applied for) reduces aluminum level to a point where it is virtually undetectable by normal laboratory test methods. The eluate may be used with any of the currently available sulfur colloid kits or with other tagging

procedures requiring low aluminum levels.

**3. New 500-ml saline supply** allows as many as 15 or 16 elutions per week. The saline supply is built in and factory sealed, an exclusive feature of the new **Ultra-TechneKow**.

**4. New self-aligning milking station** makes the elution process simpler than ever. When the "Sight Glass" elution shield with evacuated vial is placed into the milking station, the needle is automatically centered over the evacuated vial. Press plunger down, turn slightly to lock into position, and elution proceeds automatically.

## It's the most advanced concept in technetium-99m generators.

This all-new, redesigned version of our **Ultra-TechneKow** series is carefully engineered into an attractive, pre-assembled, completely self-contained unit. This model is the culmination of seven years of experience making technetium-99m generators. The **Ultra-TechneKow** Generator is shipped each week complete with evacuated elution vials, needle pack with labels, molybdenum-99

and technetium-99m reference tables, needle guard for operator safety, convenient carrying handles, and package insert with complete information.

Contact your Mallinckrodt/Nuclear representative now for detailed information on this unique new product of Mallinckrodt/Nuclear research.



**RADIOPHARMACEUTICALS**  
**Mallinckrodt Chemical Works**  
**St. Louis, Missouri 63160**

# The new DI 650 Automatic Film Processor: Clearly, an inside design job.

Nuclear Medicine is why the DI 650 exists. It's the only film processor conceived and dedicated to serving the specific needs of nuclear medicine. That makes the DI 650 unique. Because its design was an "inside" job. Only those intimately acquainted with your needs could understand the importance of daylight loading. (No more dark-room problems.) Or the

flexibility and convenience of being used either as a desk model or a portable "on-the-floor." Or the fact that the DI 650 needs no plumbing hook-up. It may, but need not, be batched. This processor has its own built-in heater. It's also self-cleaning. With the DI 650 you will not have to depend on the developing facilities of other departments. All these DI 650 attributes point up to a new

capability: you can choose the proper developer, regulate its temperature, and optimize film travel speed for maximum image quality. Clearly, the DI 650 Automatic Film Processor is an inside design job.

## **Dunn Instruments**

1335 Columbus Avenue, San Francisco,  
Ca. 94133 / Phone (415) 776-7033



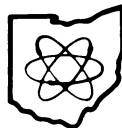




## We'll get you started...

\*\$16,250.00 is full price of standard Model 76A scanner, with one 5" detector. Scan cot included. One-year Warranty provides service, repair, adjustment and any parts required.

... in Nuclear Medicine at a reasonable cost. Like ... \$16,250. For a Model 76A radioisotope scanner with a single 5-inch detector ... with quality of resolution and density equal to any larger unit. Plus features you might not expect ... 13" x 16" scanning area (on 14" x 17" film), 500 cm/min scan speed, Photo Intensity Computer circuit, remote hand control, display monitor, and enhancement. Requires less than 10 square feet of floor space. Options available: subtraction-coincidence circuits, blended data photostan presentation. Model 76A — the best small department scanner ... at a realistic price. Call or write for brochure/specifications.



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## ATOMIC's patient transfer and imaging tables!

Whatever your gamma imaging application, there is a low cost ATOMIC imaging table available.

In addition to their individual highlights, our tables feature:

- Unobstructed frames to insure exact positioning of table.
- ¼" thick transparent lucite tops to permit placement of detectors below the patient.
- Large casters with wheel locks to provide maximum mobility and safety.

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**MODEL SC-101**  
Provides general purpose utilization.



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**MODEL EZ-101**  
Can be raised or lowered to exact height desired for patient transfer and gamma imaging.

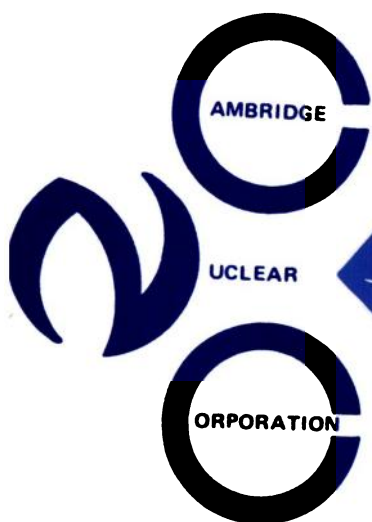


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**MODEL XY-101**  
Permits 10" of table top travel in both X and Y directions with graduated calibration scales for accurate re-positioning.



# Cambridge Nuclear Corporation



## RADIOPHARMACEUTICAL DIVISION

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Technetium Sulfur Colloid Kit

Iodine-131 Capsules

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Molybdenum-99

Precalibrated Technetium Products

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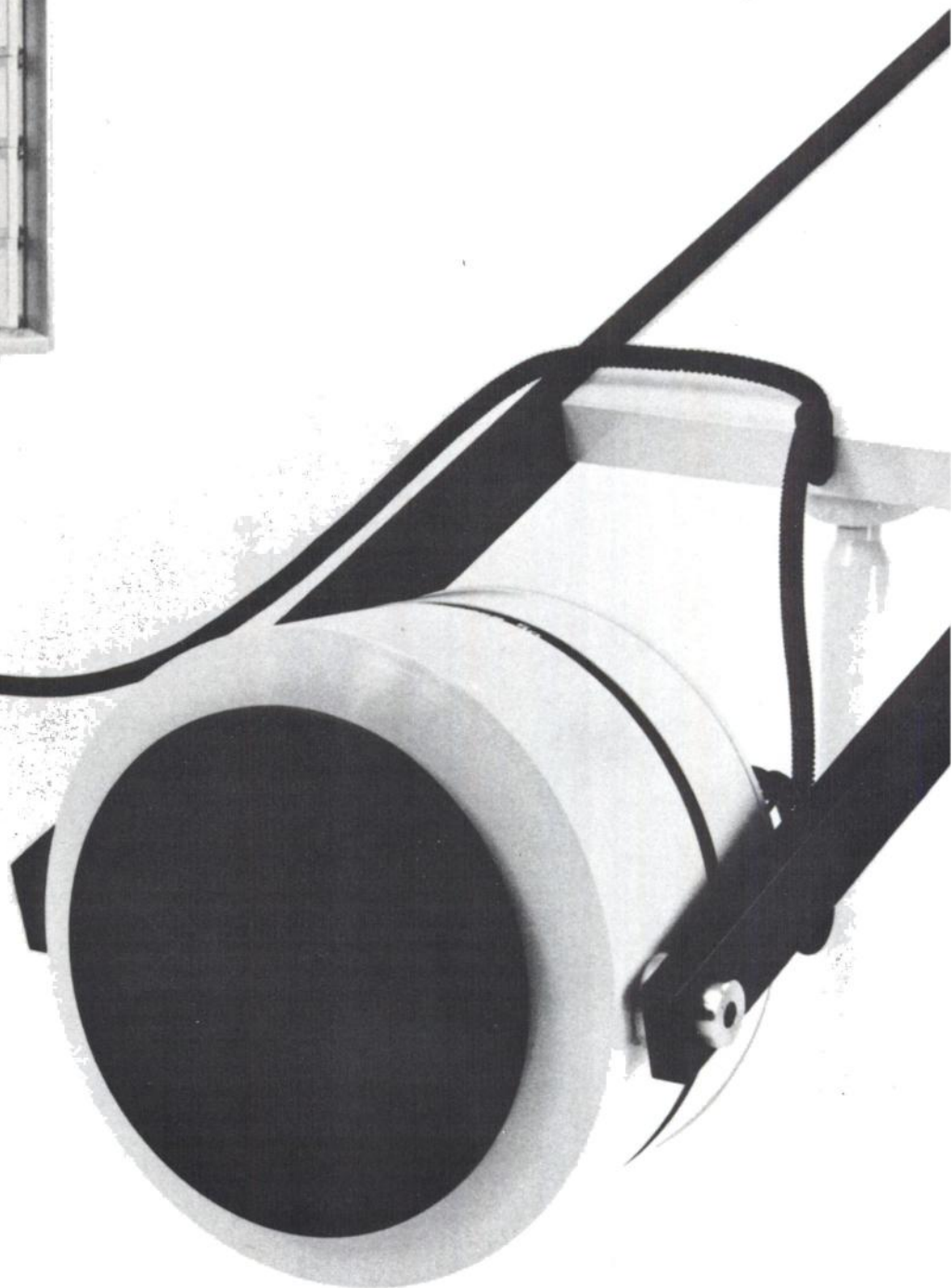
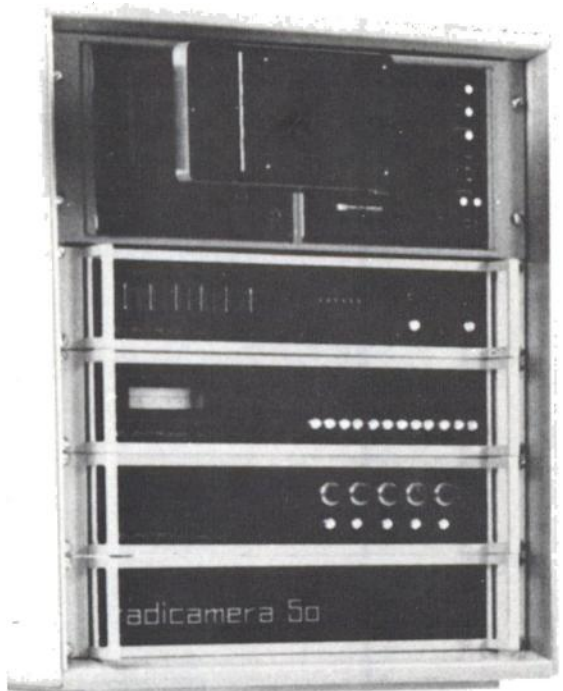
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# Simplicity... is the natural result of profound thought. —Hazlitt

## So we started thinking.

First, we thought about positioning. How could we simplify it: The solution, we decided, was to design a counterbalanced detector assembly. One which a 90 pound female technologist can push around with her finger. And one which doesn't make you wait for motors and gears to bring the detector into place. You merely position it where you want it, when you want it there.

We also thought about the patient. Which is another reason the counterbalanced detector head came into existence. It's quiet. With the Radicamera, your patients remain unperturbed and relaxed during study set-up.

And we designed the detector housing with more in mind than just housing the detector. We wanted to be certain that it wouldn't interfere with the patient's shoulder during lateral brain studies. So we made it more compact. But we still left room for a larger-than-usual 13-inch crystal. (After all, increased field-of-view and uniformity are important too.)

Then we constructed the detector stand so that plenty of room existed under and around it. That simplified patient table positioning.

We were also able to think about controls and circuitry. During the design phase, the Radicamera was free from the inertia of precedent. Consequently, we took full advantage of the technological developments and expertise of the Seventies. The results include easy, error free operation, reliable electronics, and a small space conserving console.

The Radicamera has eliminated many of the complexities of its generic predecessors. At the same time, significant advances have been made in all important clinical performance parameters.

Discover the refreshing simplicity of the Radicamera 50 for yourself.

Write, or call:



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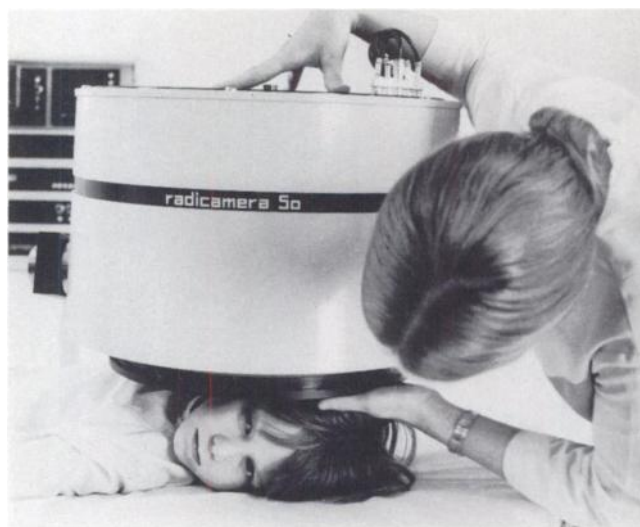
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Palatine, Illinois 60067  
Tel: 312/529-4600

Nuclear Data Inc. (U.K.)  
Rose Industrial Estate  
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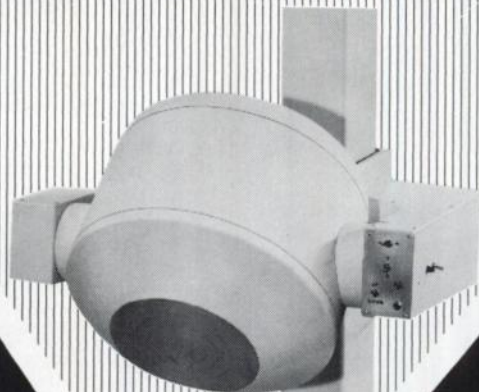
Nuclear Data, GmbH  
Mainzerlandstrasse 29  
6 Frankfurt/M, Germany

Nuclear Data Scandinavia  
Hammerves 3  
2970 Horsholm, Denmark

Nuclear Data Scandinavia  
Eriksbergsvagen 9  
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# IMAGE BY CONUCLEAR



## INTRODUCING ICON II

(the scintillation camera with the refreshingly pleasant price).

**Q:** *What's a little company in the middle of Canada doing in the camera business?*

**A:** Making what may well be the finest gamma camera available. (Plus lots of other useful nuclear medical tools, too).

**Q:** *I'll bet it has a small field of view.*

**A:** Wrong. The useful diameter is 11.4 inches—that's 29 cm. This gives you an area that's 40% larger than the most popular camera now in use.

**Q:** *Resolution is probably terrible.*

**A:** Well, it's not as good as an angiogram, but then no other camera is, either. We check resolution by placing a lead phantom in direct contact with the crystal and then irradiating the crystal through this phantom. The phantom has alternate bars and spaces ranging in width from 1/2" (12.5 mm) to 3/16" (4.7 mm). With <sup>99m</sup>Tc and counting until 500,000 counts have been accumulated, we clearly see the 1/4"

(6 mm) bars and spaces. Using <sup>203</sup>Hg and collecting 500,000 counts, we see the 3/16" bars and spaces.

**Q:** *You probably have no accessories.*

**A:** We have them. Do you want a tape recorder? Zones-of-Interest with adjustable size and shape for regional studies? Additional read-out scopes? The ability to do dual isotope work? Ratemeters and recorders? Diverging, converging or pinhole collimators? An automatic 35 mm camera? Yes, we have accessories.

**Q:** *How about service?*

**A:** We had a service department before we had a camera. The service manager designed major parts of the ICON II. So he knows what's in it.

**Q:** *And the price?*

**A:** Let's leave something for a surprise.

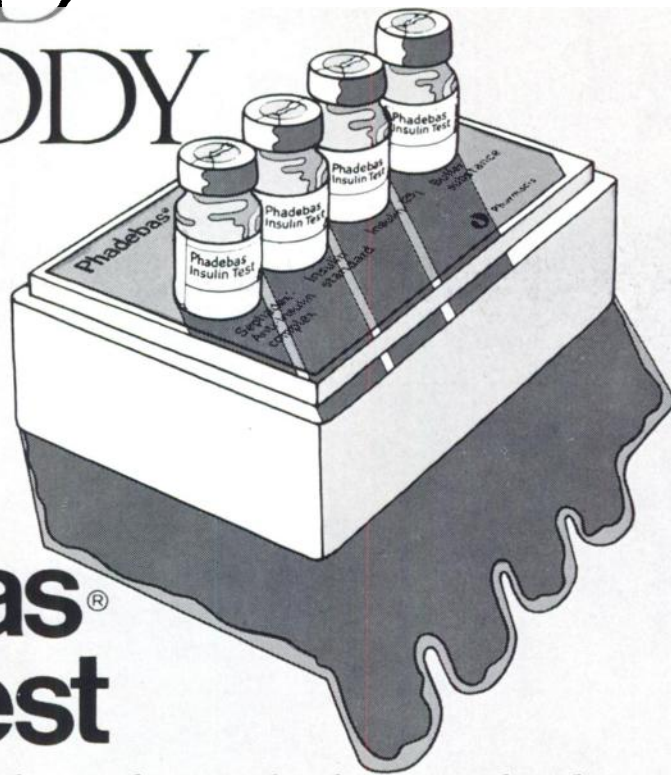
**SORRY U.S.A.—Icon II is not available in your country.  
The rest of the world—Please write or call for your Icon II Brochure**



**CONUCLEAR LTD.** 551 Ferry Road, Winnipeg 21, Manitoba, Canada. Phone 204-786-5838



# INTRODUCING THE FIRST INSULIN TEST WITH A BUILT-IN SECOND ANTIBODY

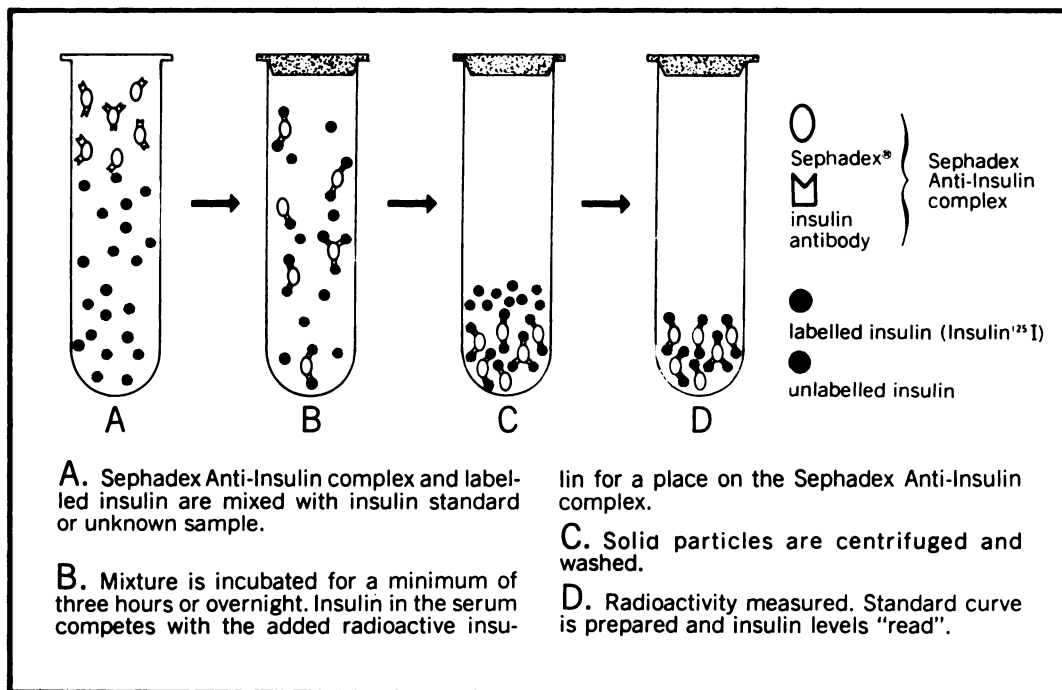


## **Phadebas<sup>®</sup> Insulin Test**

Radioimmunoassay with insulin antibodies covalently coupled to Sephadex<sup>®</sup> as the solid phase support.

Makes small- and large-scale insulin testing of serum and other body fluids simpler, faster and more convenient than ever before possible.

## The solid phase principle at work in insulin testing



## New Phadebas® Insulin Test for faster, more accurate results

- eliminates time-consuming procedures of conventional double-antibody methods—no refrigeration, microfiltration, buffer preparations
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If you would like to see the Pharmacia Representative for more complete details, simply mail in the coupon below to:

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Pharmacia Laboratories Inc.  
800 Centennial Avenue  
Piscataway, New Jersey 08854

NAME & TITLE

HOSPITAL OR LABORATORY

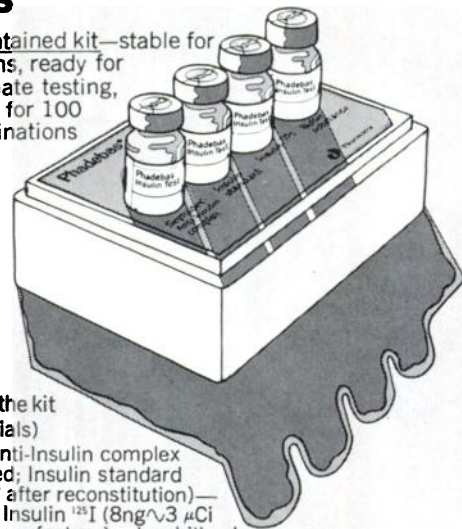
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- self-contained kit—stable for 4 months, ready for immediate testing, enough for 100 determinations



### Contents of the kit

(4 x 10 ml vials)  
Sephadex Anti-Insulin complex—lyophilized; Insulin standard (320  $\mu$ U/ml after reconstitution)—lyophilized; Insulin <sup>125</sup>I (8ng $\wedge$ 3  $\mu$ Ci at date of manufacture)—lyophilized; Buffer substance

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# 85 HAPPY MARRIAGES

The proud parents of the Model 600 would like to announce that 85 of their offspring have been perfectly matched with scintillation cameras around the country. They are now inseparable.

We would be most happy to send vital statistics of the Model 600 to any unattached scintillation camera.

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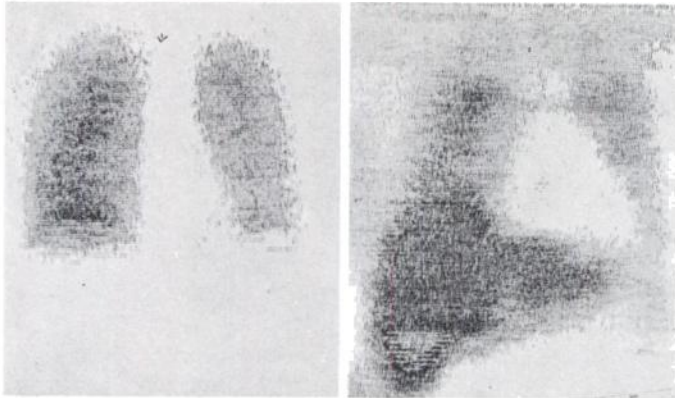
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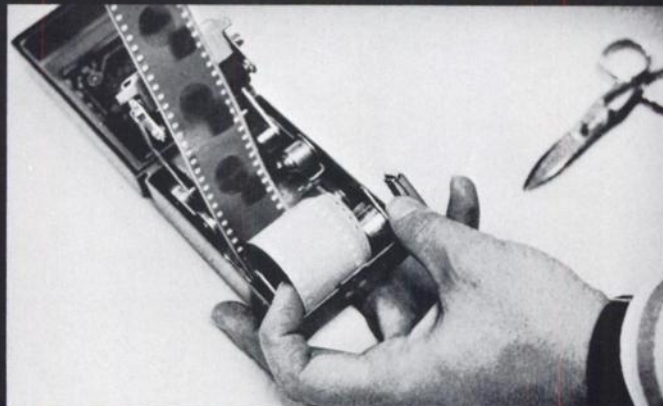
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DEVELOPED THE NEGATIVE OF THIS  
35MM PHOTO IN 5 MINUTES.**



This film is Kodak RAR 2495. Other films that can be used in Poro-Pak: Kodak Panatomic X, Plus X, Tri-X, RAR 2490, 2491, 2495, 2496, Kodak High Contrast Copy, Linagraph Shellburst 2476, DuPont SR 114, GAF 125, and others.

The photo above was developed with Poro-Mat™ in our Poro-Pak™. There was no wet mess or chemicals to mix or prepare.

After the film was developed in the Poro-Pak, we took out and inspected the negatives you see above. Now imagine, doing flow studies of your patient and being able to see fully developed negatives 5 minutes later.

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# Introducing the new DI 800 Triaxial Table: Every little movement has an improvement all its own.

As long as the scintillation camera remains an immovable object, there will be the problem of positioning the patient from a single, stable platform. Other imaging tables exist but none can match the new DI 800 Triaxial Table. Simply because the DI 800 has four degrees of freedom going for it. One: A continuous vertical height adjustment which greatly facilitates patient transfer from conveyance vehicle to imaging table. It also optimizes the plane

of patient imaging between vertically opposed dual-headed scanners.

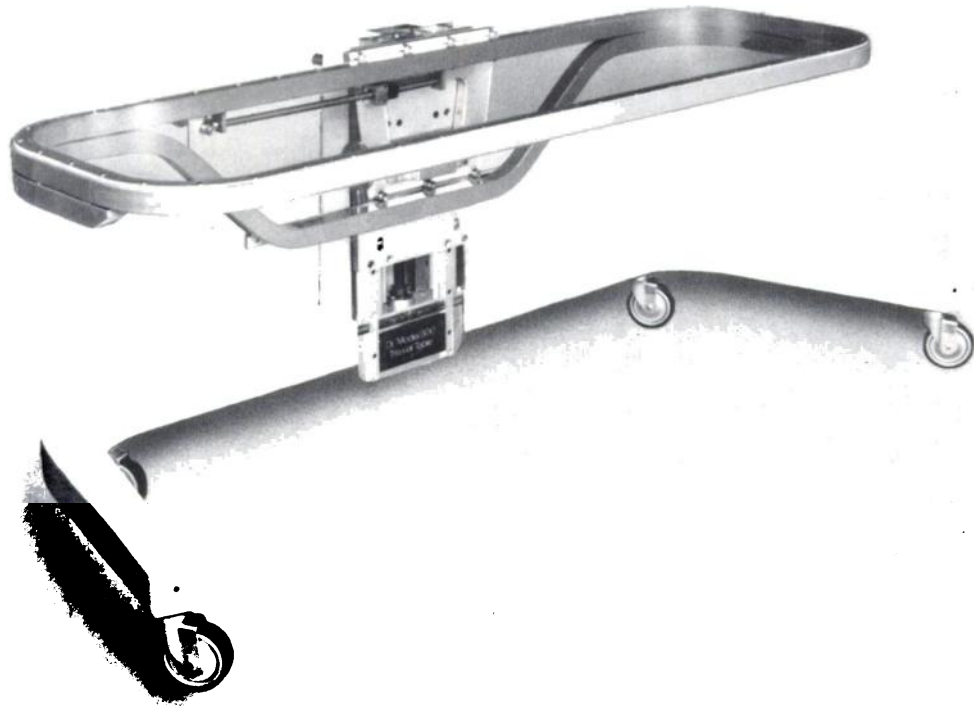
Two: Long axis adjustment in the horizontal plane; and Three: Short axis adjustment in the horizontal plane. These actions allow a precise control over the patient's position so that the entire organ of interest can be encompassed within the limited field of view of the detector.

Four: Theta rotation (circular tilt about a horizontal axis.) Such action allows a semi-recumbent

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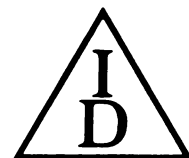
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Each component of the MDS system provides maximum versatility. You can expand it at any time to perform treatment-planning, research studies, patient scheduling, and accounting operations. And the Nuclear Medicine Module is fitted to your clinic by a medical-science team that specializes in nuclear medicine.

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**Gentlemen:** Mail us the MDS Nuclear Medicine System brochure. It includes live films of actual studies and demonstrates the system's total capabilities.

Name \_\_\_\_\_

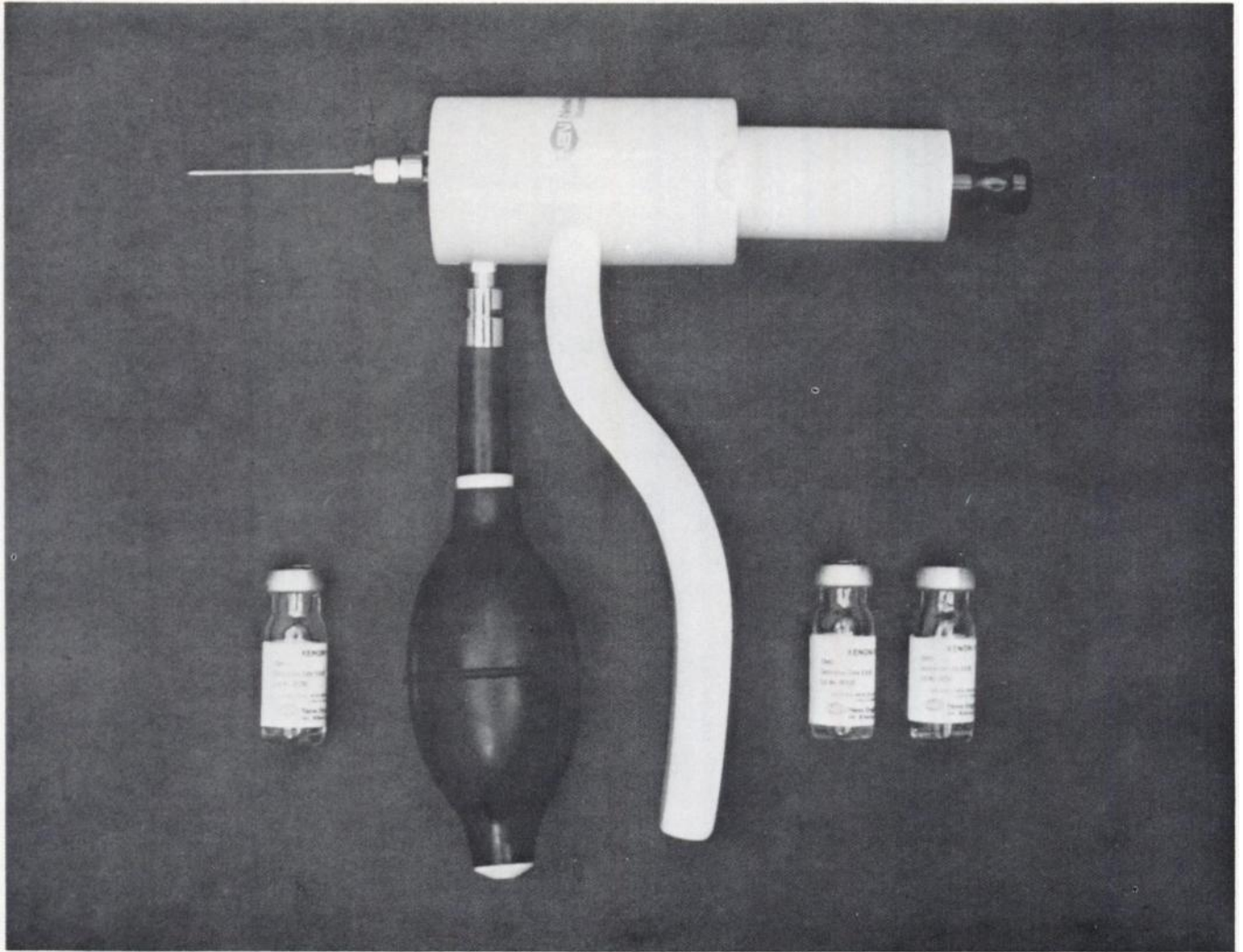
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- Transparent — detector head easily positioned below patient for posterior views. Strong—accommodates 400 lbs. and still raises & lowers smoothly. Low-Density—maximum transmission with low energy nuclides.

**PHYSICAL SPECIFICATIONS**

- Lucite Top: 72"x30"x1/2"
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- Wheels: 8" diameter chrome finish with conductive rubber tread.
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**UNOBSTRUCTED FRAME DESIGN**

- No crossmembers or support bars to interfere with proper placement of probes, scanner heads, or camera detectors.

**MOBILITY**

- Large diameter casters to facilitate moving patients to and from department.

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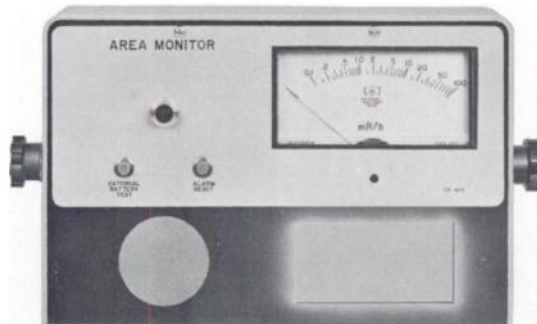
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56-600 Protective Lead Barrier

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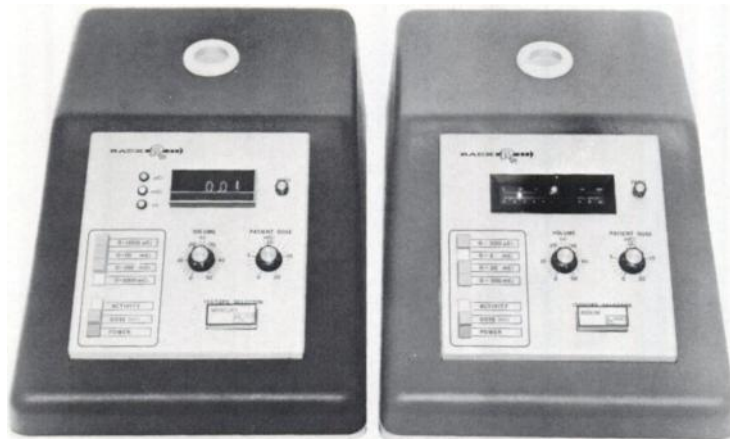
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# Meet the new fast scanners from Picker.

## Why new scanners?

We asked hundreds of people what they liked about scanners. "Resolution," they said. And what didn't they like? "Too slow." Okay, here are two new *fast* scanners from Picker: the *fast* Magnascanner® and the *fast* Dual Magnascanner®. They're improved in other ways, too, as you'll soon see.

## What's been changed?

These new Magnascanners are fast instruments because they're computerized. The implication of this is that the entire setting-up procedure has been radically simplified and

speeded. These machines respond to your commands by making many of the decisions (consistent with the desired output, of course) automatically. Since most of the calculations and adjustments are eliminated, the calibration is virtually instantaneous: these Magnascanners can actually be set up for use in a matter of seconds.

## Does the computer limit the user's options?

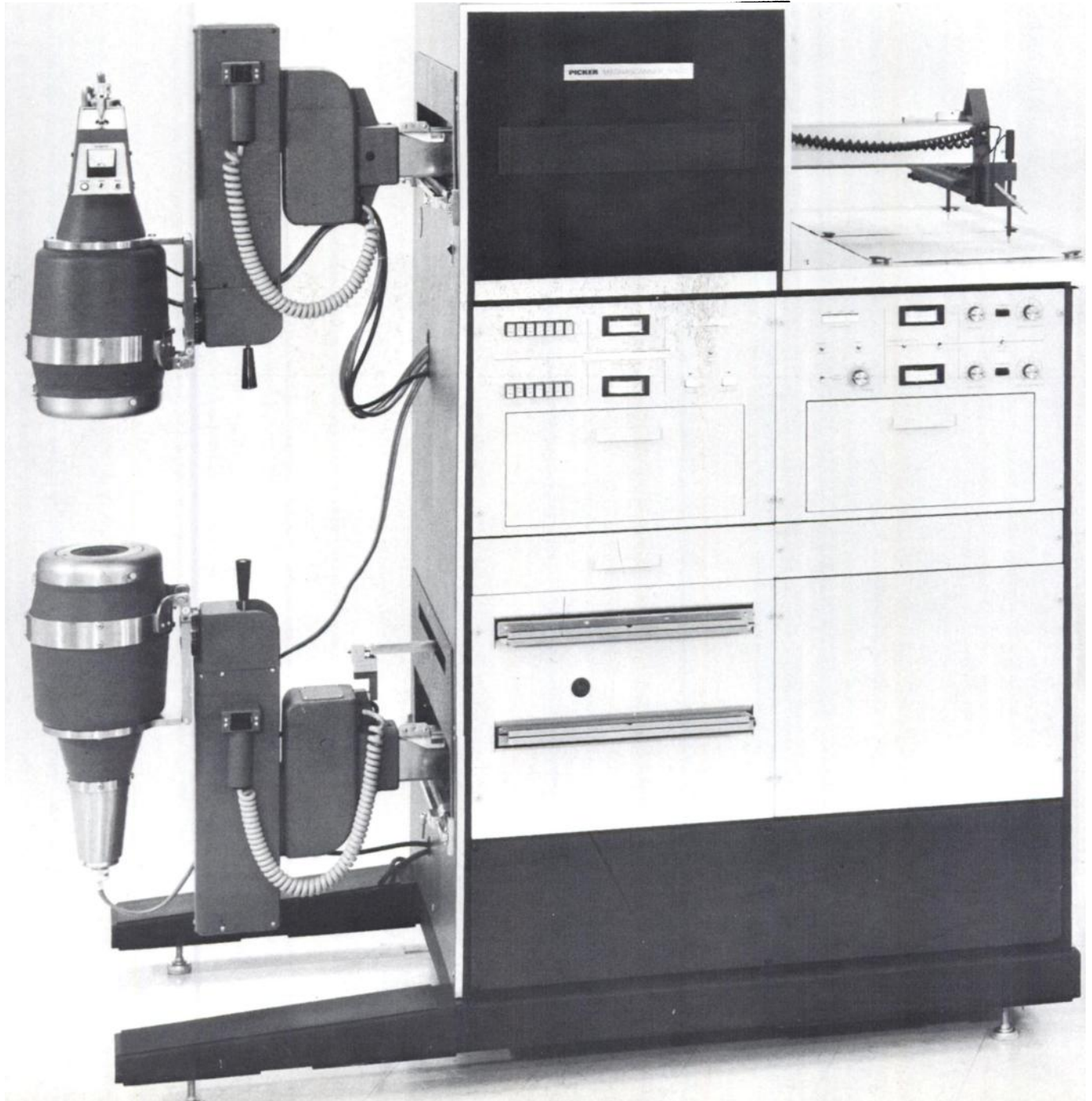
Suppose that you wish to set the scan parameters individually for a specific application. Simple. An alternative manual control overrides the computer and provides maximum flexibility.

## What else?

Here are some of the other major user benefits inherent in these new digital Magnascanners.

*Consistent scans:* with the scan parameters automatically optimized, overall scan quality and consistency are superior and interpretation is improved.

*Repeats minimized:* automatic calibration provides more consistently usable scans and, hence, minimizes the





annoyance, time, and cost of retakes for you and your patients.

**Productivity improved:** rapidity of set-up, coupled with the reduction in the need for retakes, significantly reduces total study time.

**Training simplified:** another obvious advantage of automatic calibration.

**Color printer improved:** the new color dot scans are simply the highest quality color scans obtainable at any scanning speed. And color ranges are set up automatically.

**How about the new, fast Dual Magnascanner?**

All of the improvements described above are shared by both the new Magnascanner and the new Dual Magnascanner. In addition to these, the Dual Magnascanner also features: dual isotope and subtraction, improved uniformity, and matching of scans between the lower and upper probes.

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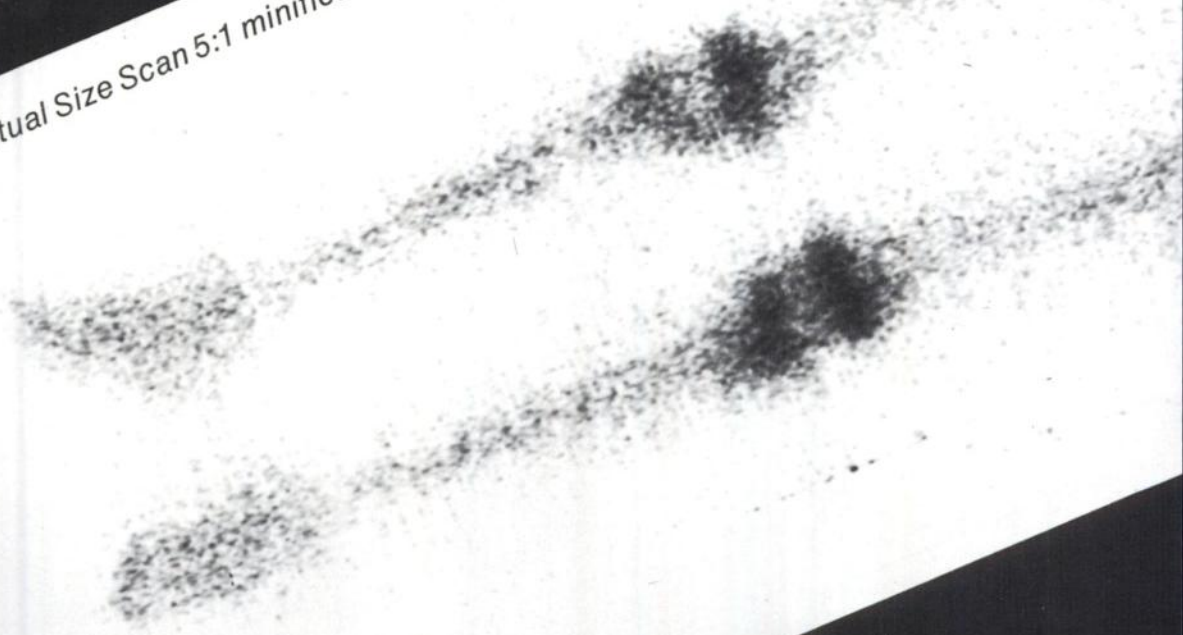
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makes a  
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(Actual Size Scan 5:1 minification)



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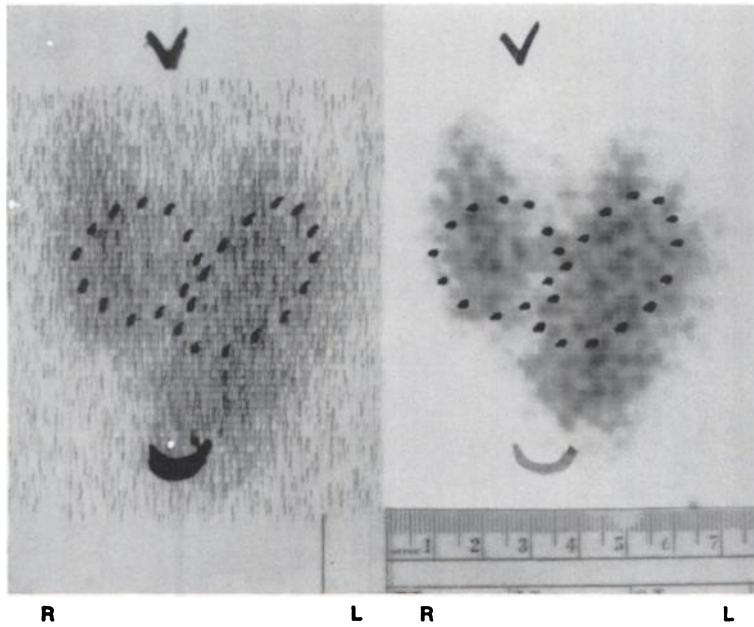
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Sure, small scan size is a great advantage. And, there's more. One piece of film (two for anterior and posterior). One simple patient setup. One 30-minute procedure (for whole-body bone scan). One complete film for diagnostic viewing. Put it all together . . . and you can increase your department's scanning capabilities . . . with no loss of display or diagnostic detail. Scan minification is a proven diagnostic scanning technique, pioneered by Ohio-Nuclear, which can help put your department "in the black". (Scan minification is available as an option in 2:1 and 5:1 ratios). Write for our new brochure, "Scan Minification . . . milestone in nuclear medicine technology".



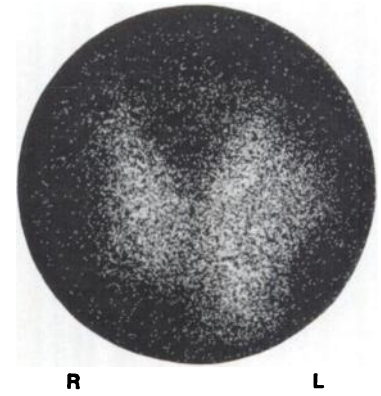
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**TOXIC NODULAR GOITER. RHEUMATIC HEART DISEASE.**



**RECTILINEAR SCANS.**

Isotope:  $^{131}\text{I}$  iodide. Dot scan (left). Photo scan with 61-hole collimator. 0% suppression. Scan time 10 minutes. Broken lines define palpable nodules not evident in scan recordings.



**PHO/GAMMA SCINTIPHOTO.**

Isotope:  $^{131}\text{I}$  iodide. Pho/Gamma equipped with single-pinhole collimator. Total counts 10,000. Total exposure time 3 minutes, 32 seconds. Cold nodule evident in left lobe (see text).

**THE PHO/GAMMA  
SCINTILLATION CAMERA**





# The Thyroid Study

## A Basic Technique for Evaluation of Regional Thyroid Function with the Nuclear-Chicago Pho/Gamma® Scintillation Camera

Scintiphotography, using  $^{131}\text{I}$  iodide and the Pho/Gamma Scintillation Camera, serves as both a primary diagnostic method and as a supplement to rectilinear scanning in the evaluation of thyroid function.

**SETTING-UP.** The patient is positioned with his thyroid at the appropriate distance (usually about 3 inches) from the aperture of the Pho/Gamma single-pinhole collimator which is directed at the thyroid isthmus. The patient must be positioned to remain stationary during the exposure.

**ISOTOPE AND DOSE.** Normally, 50  $\mu\text{Ci}$  of  $^{131}\text{I}$  iodide is given orally 6 to 24 hours prior to the study. Smaller doses may be used, depending upon radioiodide uptake. The 24-hour uptake is generally twice the 6-hour uptake and therefore permits data accumulation at double the rate. (Note: Thyroid scintiphotography may also follow oral or intravenous administration of  $^{99\text{m}}\text{Tc}$  pertechnetate to yield higher data densities and good images of small nodules.)

**DATA ACCUMULATION.** With  $^{131}\text{I}$  iodide, small cold nodules located within thyroid lobes may be defined by data densities as low as 5000 counts in the entire scintiphoto. Better resolution is produced in the image by longer counting times to accumulate an increased number of counts. Extended exposure times may also be necessary to obtain thyroid images in children who are given reduced isotope doses.

**CASE HISTORY.** The clinical illustrations on the facing page are for a patient with the following case history: Female, 53 years old. Scheduled for mitral-valve

surgery. Referred for thyroid evaluation because of atrial fibrillation and recent weight loss. Pertinent physical findings limited to a fine tremor and a 60-gram multinodular thyroid gland. Neck radioiodide uptake was 43% at 24 hours and  $\text{TT}_4$  was 9.4  $\mu\text{gm}\%$  (normal maximum 8.2  $\mu\text{gm}\%$ ). Initially, a rectilinear scan was ordered.

**EVALUATION.** The rectilinear scan was performed with the focal distance of the collimator carefully adjusted to the level of the thyroid gland. The images thus produced failed to show any clear definition of two discrete palpable nodules, which are shown, as palpated, in outlines superimposed on the images.

The Pho/Gamma scintiphoto study was therefore ordered, following the procedure described above. In the scintiphoto obtained from this study, a definite cold nodule is apparent. It is seen as a large area of decreased labelling laterally in the mid-portion of the more actively functioning tissue in the left lobe. Other areas of decreased labelling are seen in both lobes.

**CONCLUSIONS.** The Pho/Gamma thyroid-imaging technique illustrated here is most often used as a primary diagnostic method for the determination of regional thyroid function. It may be used as a secondary or supplementary method when rectilinear scanning fails to demonstrate the nature of a clearly palpable nodule. In the latter case, the scintiphoto made with the Pho/Gamma single-pinhole collimator often demonstrates cold nodules, even though they are not apparent on the scan. Pho/Gamma imaging generally requires one-third the time of a rectilinear scan of the same area.

0-233

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## Nuclear Reviews

**PHO/GAMMA AT WORK: A DISTILLATION.** For convenient reference, we offer a new brochure containing both clinical and phantom studies, plus results of the latest advances in scintillation-camera technology. Profusely illustrated. Properly detailed. Write for it.

**SCINTILLATION SYSTEM PAR EXCELLENCE.** Pho/Gamma with its Data-Store/Playback unit equips you to achieve such things as unambiguous area-of-interest pulmonary dilution curves. And, in addition to comparative quantification of data, studies can be replayed at will—for teaching,

for reviewing and comparing dynamic pre-and post-operative studies—and for re-doing scintiphotos that didn't make it (without having to repeat the original study). Interested? A new issue of "The Nucleus," our publication for the nuclear-medicine community, is now available. It contains an informative discussion of the many capabilities of Pho/Gamma with Data-Store/Playback. It includes studies which demonstrate these capabilities in clinical practice, and discusses (in detail) the techniques involved in producing taped dynamic studies with the Data-Store/Playback unit. Your copy (or copies) are ready on request.



An exchange of information on topics related to nuclear medicine sponsored by

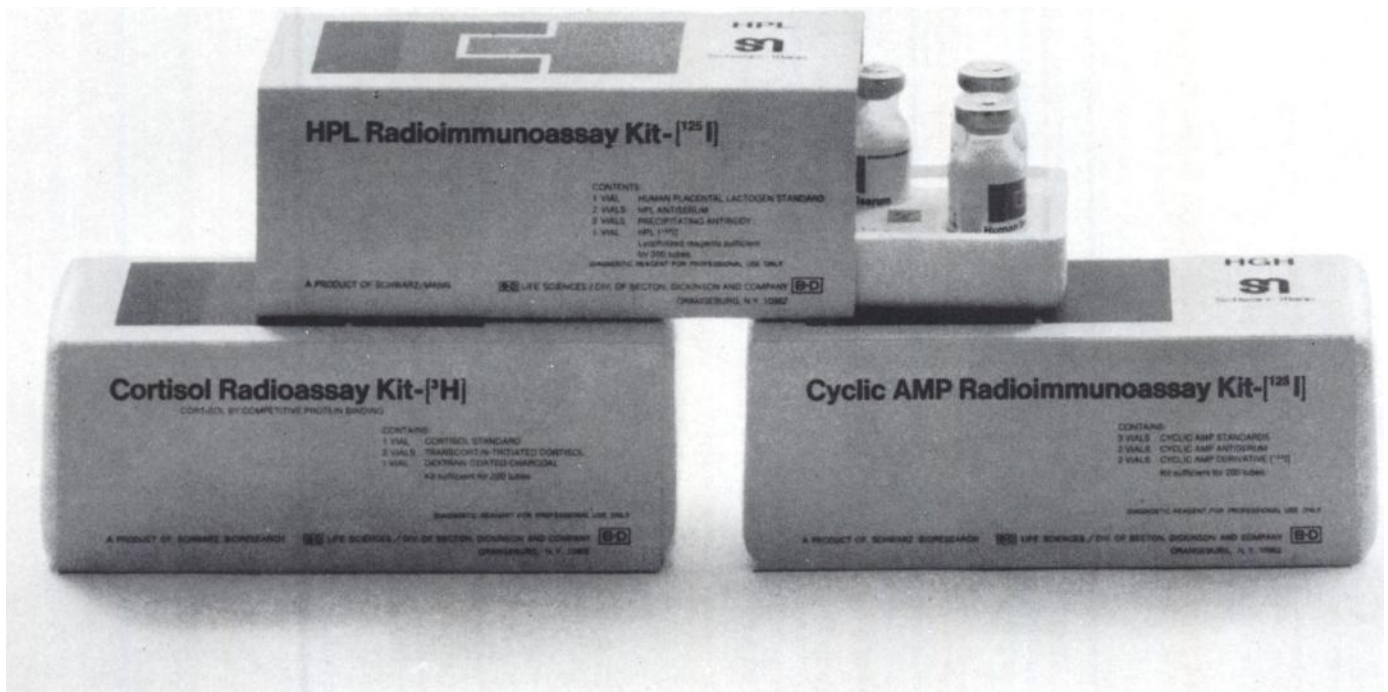
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# 3 new radioimmunoassay kits from Schwarz/Mann.



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the placenta throughout pregnancy. Accordingly, this simple-to-use procedure now provides a convenient method for routinely appraising obstetric complications of placental origin.

## Cyclic AMP Kit

Cyclic AMP is, of course, of great interest as an intermediary in many hormone systems. And Schwarz/Mann's new cyclic AMP radioimmunoassay kit now brings the unique advantages of these techniques—exceptional sensitivity, specificity, precision and speed—to the *in vitro* analysis of this compound. This procedure permits measurement of as little as a billionth of a mole or less in tissues or body fluids—even in the presence of normally interfering materials.

## Radioimmunoassay: General Comment

Schwarz/Mann—the major factor in radioim-



# And then there were 10!



radioimmunoassay—now offers 10 such kits as practical, convenient tools suitable for routine research and clinical use. These simple-to-use kits include all necessary reagents and typically offer exceptional sensitivity, specificity, rapidity, precision, and low cost.

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- Human Placental Lactogen Kits
- Cyclic AMP Kits
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I would be interested in radioimmunoassay workshops if available in my area.

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# WHAT'S NEW IN PATIENT POSITIONERS AND IMMOBILIZERS? PLENTY.

## WHOLE-BODY (Half-Body and Head) IMMOBILIZERS

This new approach features a lightweight (6 lb.) polystyrene-filled plastic mattress that restrains the patient quickly, firmly and comfortably, in any position... and is re-usable. Operation is easy. The limp mattress is molded gently around the body (or any part). As its air is pump-evacuated, the mattress solidifies into a rock-hard mold that is precisely contoured to the body.

Since it holds the patient rigidly, it prevents the addition of artifacts to photoscans. Half-body size is available for pediatric work and for restraining the head or other parts of the body. Made of radio-transparent, low-density materials. Ideal for use with all rectilinear scanners and gamma-imaging instruments.



Whole-Body Immobilizer



Mattress can be molded around any portion of body

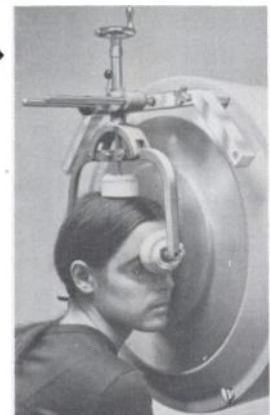


Half-Body Immobilizer holds the head rigidly

## HEAD POSITIONER For Nuclear-Chicago and Picker SCINTILLATION CAMERAS

Assures positive head immobilization and the precise placement of the skull during brain scanning. Motion artifacts are eliminated without patient discomfort. Adjusts to all head sizes and permits lateral, AP and PA views. Includes all hardware for mounting on Pho/Gamma and Dynacamera.

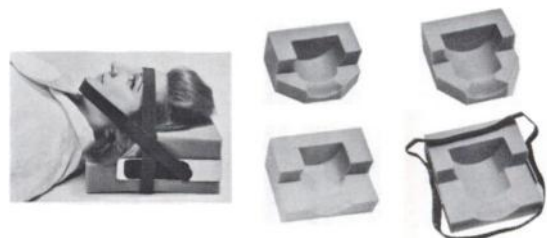
Operation is simple. The hand-wheel opens and closes the padded jaws in unison. Jaws rotate through 360° but will index parallel to the camera face. The distance from the patient's head to the camera face is adjustable, as is the position of the jaws with respect to the collimator.



Head Positioner in use with Nuclear-Chicago PhoGamma camera. Also compatible with Picker Dynacamera.

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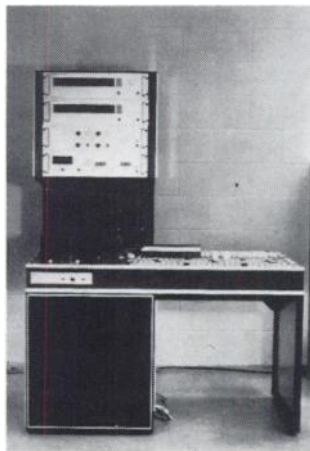


rect plug-in circuit board or a replacement LOGIC™ is air shipped to you the same day. You're back in operation within 24 hours. In short, if you have trouble with a LOGIC™, we'll repair or replace it with a service loaner in 24 hours or less.

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The Wallac LKB 80000 automatic sample changer handles a large capacity of samples to free your skilled staff for other duties. It allows long uninterrupted automatic runs with either uniform or intermixed samples.

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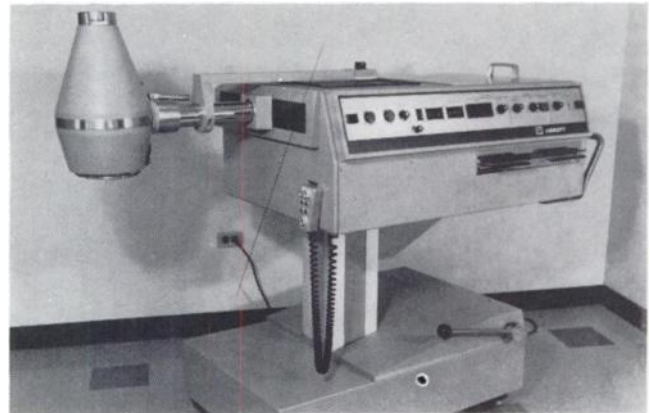
out is supplied in printed form or on punched tape. The Wallac automatic sample changers simple foolproof controls allow you to handle your needs efficiently and accurately.

## IN-VIVO

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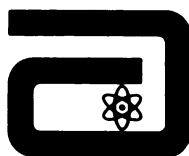


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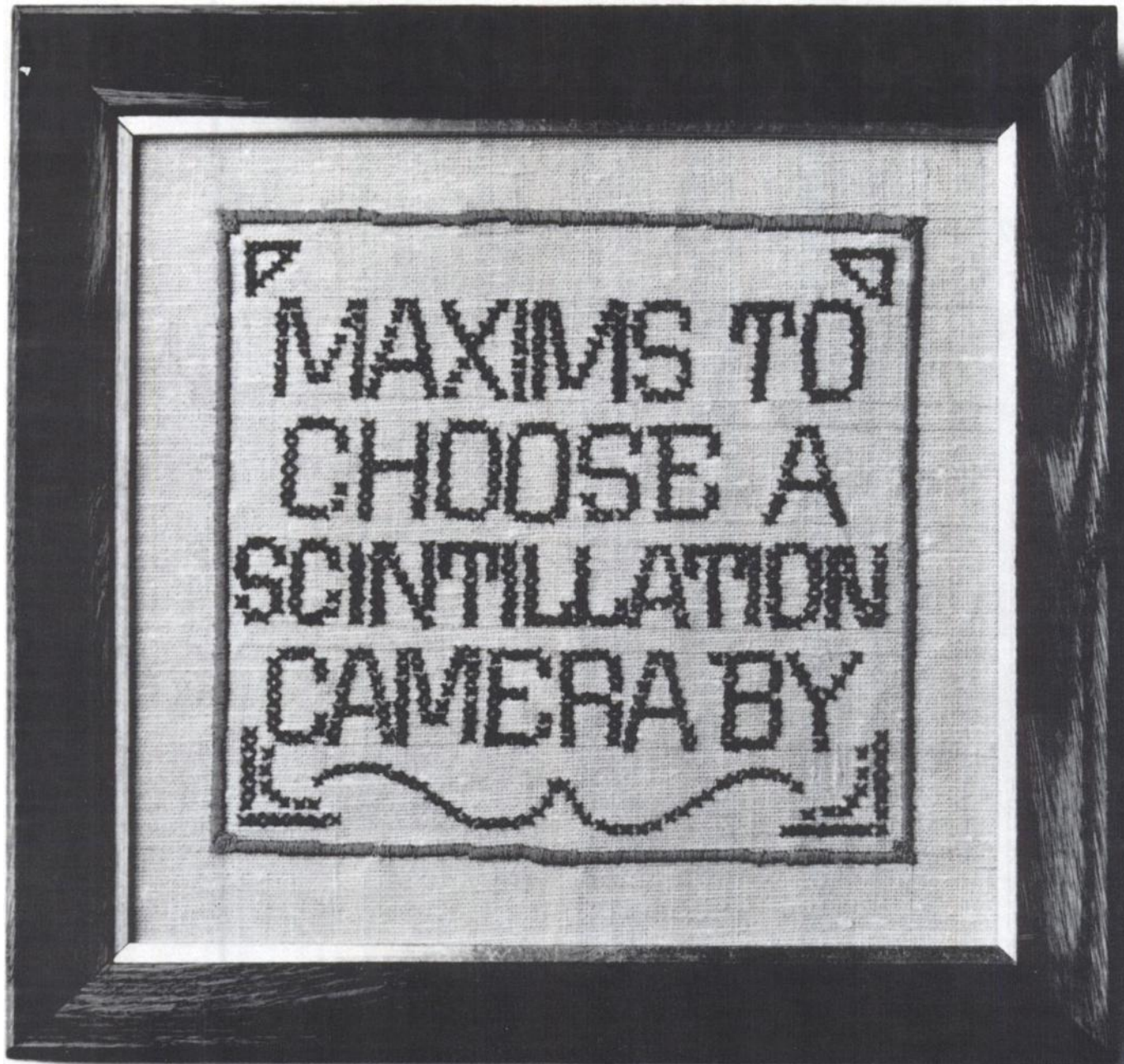
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1. Be not dissuaded: diagnostic certitude is to be cherished above all.
2. Before you diagnose the patient, be sure you can diagnose the machine.
3. First, diagnostic confidence. Everything else, second.
4. Choose not a scintillation camera that asks you to accept its output on faith.
5. Sacrifice diagnostic certainty *last*.

6. Be not kidded: resolution is not the be-all, and end-all. (Ask about uniformity, ask about linearity, ask about speed, for example.)

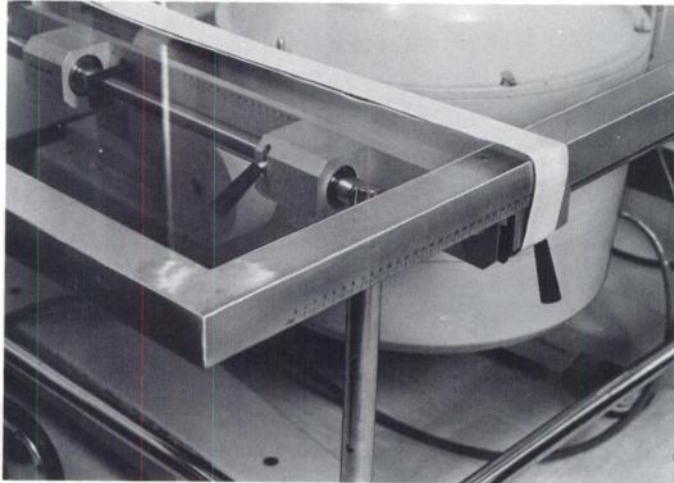
7. Resist not the temptation to take a good, hard look at the Dynacamera™ 2 for it is the one that provides good, hard information.

For elaboration—and for detailed Dynacamera 2 “application data sheets”—contact your local Picker man or write Picker Corporation, Dept. C12, 333 State Street, North Haven, Connecticut 06473.

**PICKER**

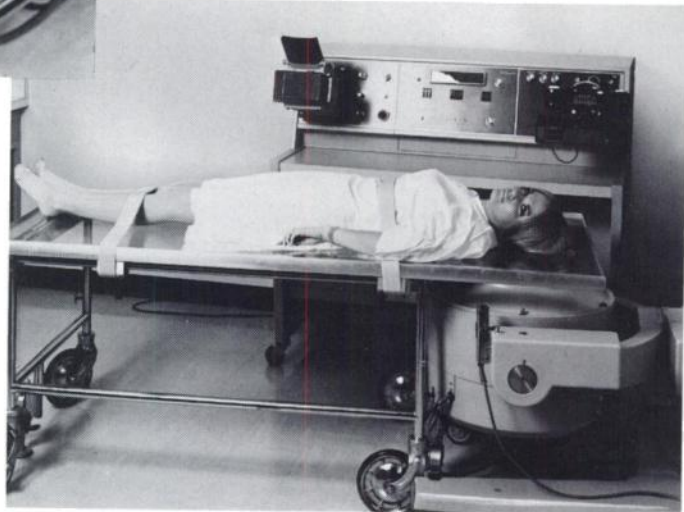


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The "floating" top overhangs to allow supine posterior brain views. Ten inches of travel in both longitudinal and lateral planes.



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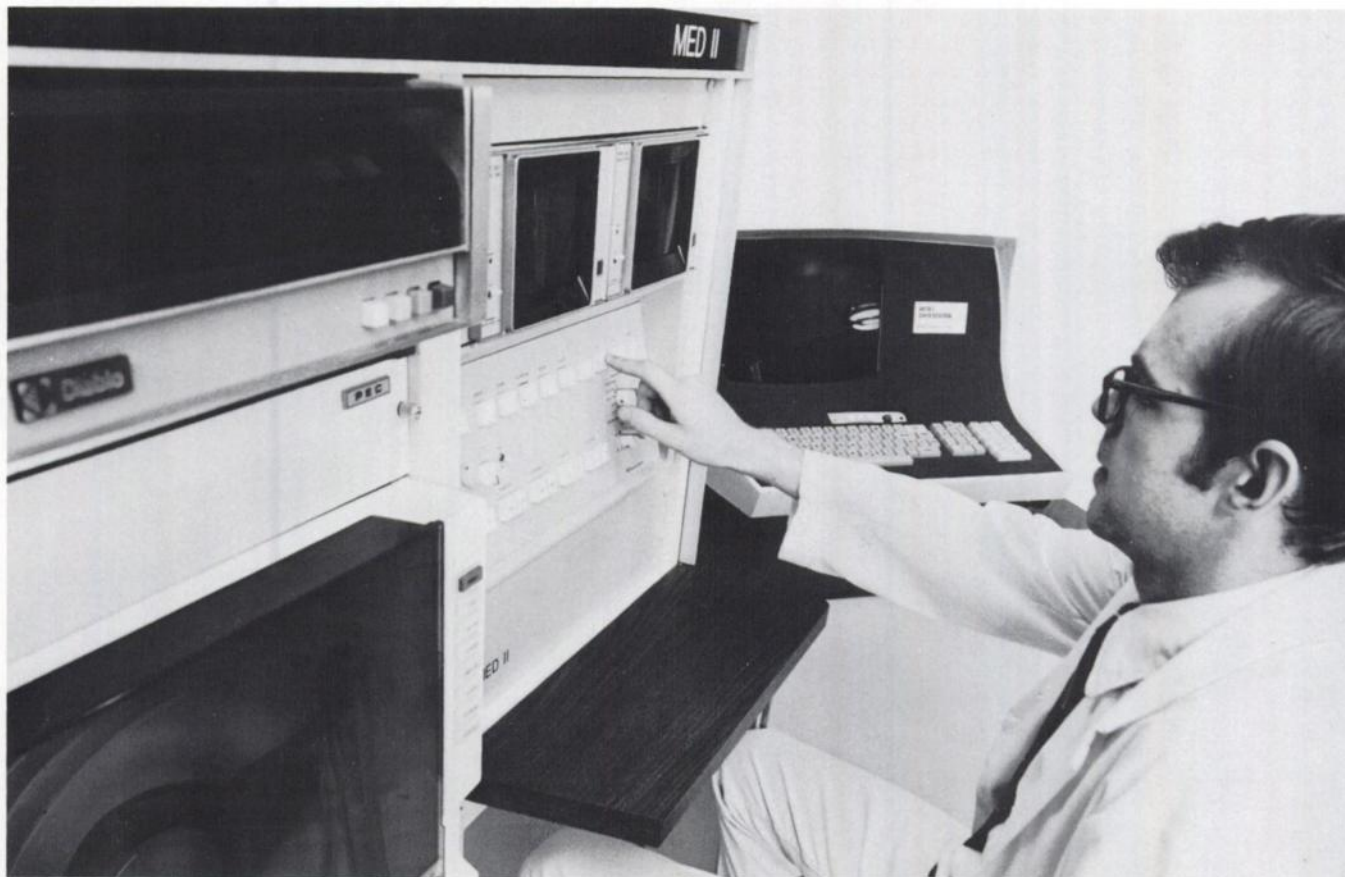
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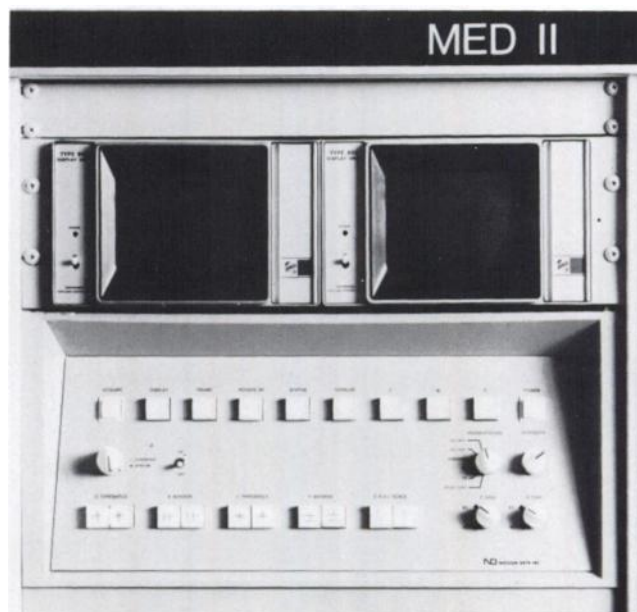
### **MED II and you**

With the MED II, you can record dynamic and static gamma camera images. You can enhance these images in accordance with several clinically tested protocols. You can generate time/activity histograms, and derive data, which cannot otherwise be visualized, from the resultant curves. In addition, you can correct for camera response non-uniformities, add and subtract either sequential or non-sequential images from each other; and perform several additional image manipulation routines which yield improved visualization and higher confidence levels.

### **MED II: its different**

First, the MED II is pre-programmed. To execute a complex clinical protocol, the operator has only to type in the appropriate two letter command.

Second, image enhancement has been vastly simplified. For example, contrast manipulation is now achieved with continuous action pushbuttons.





Third, the image data are now recorded on a high-speed disc. After a given frame or frame sequence is specified, it can be displayed within milliseconds. And magnetic tape continues to be available for bulk storage.

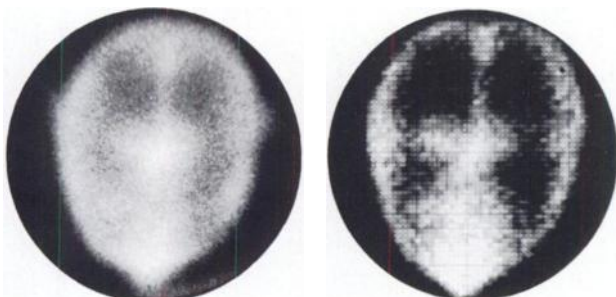
Fourth, the comprehensive image data analysis capability available in Nuclear Data's earlier systems has been extended still further with the MED II. Extraction of exponentials, normalization, curve smoothing and the many additional data analysis routines available with MED II are more refined than ever. And they are easier to execute.

#### **MED II as a storage retrieval system**

As a storage device, the MED II records complete studies on a rapid access disc. While acquiring data, frame rates of up to 8 frames-per-second may be specified. If desired, the frame rate may be more rapid during some intervals of the study than others. For example, in a renal function study, it may be desirable to have a rapid frame rate during the first few minutes, and a slower rate during the more gradually changing excretory phase. Another important feature: with the MED II, a recorded frame or frame sequence can be accessed for replay in a matter of milliseconds.

#### **MED II as a static image processor**

MED II can be considered a "perception extender." Image enhancement, for instance, allows one to elaborate subtle differences in displayed activity to the point where they can be discerned. Improved delineation of organ contours, lesion boundaries, and other abnormalities are prominent advantages to be gained with the MED II.



Initial analog scintigraph

Same data processed by MED II

#### **MED II as a dynamic image data processor**

As a dynamic processor, the MED II brings a wide range of data quantification and enhancement into the clinician's repertoire.

Renograms, cerebral blood transit, cardiac and pulmonary function studies are all included among the major dynamic study applications of the MED II. For example, separate areas-of-interest within a recorded renal excretion study may be specified by the clinician. These areas-of-interest may be assigned to correspond only to the right and left renal contours, or to regions within the kidneys. Then, after appropriate brief instructions, complete right and left renograms appear on the MED II oscilloscope. Since the renograms represent activity only within the defined areas-of-interest, distorting background data, as well as activity within the ureters and bladder, do not mask renal activity. And in pulmonary function analyses, the ability of the MED II to generate dynamic function curves for up to twelve areas-of-interest means that right versus left lung activity comparisons can be made for six different regions simultaneously. Dynamic activity curves for comparing comparable regions within the cerebral hemispheres and right versus left carotid blood transit can also be available for your evaluation within seconds.



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#### **And more!**

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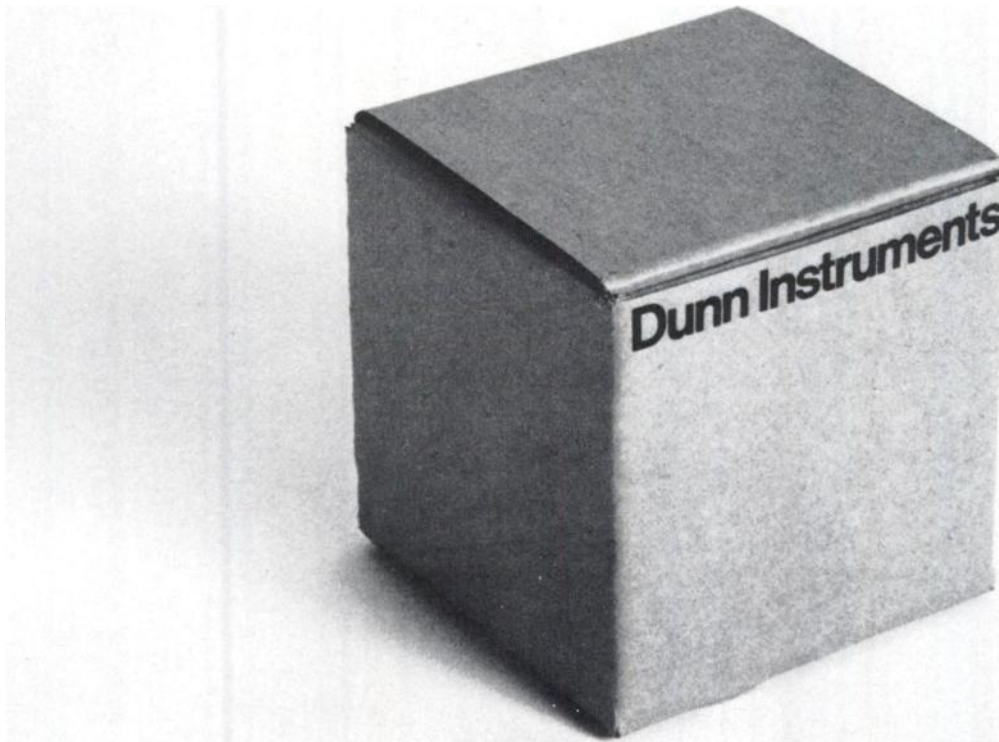
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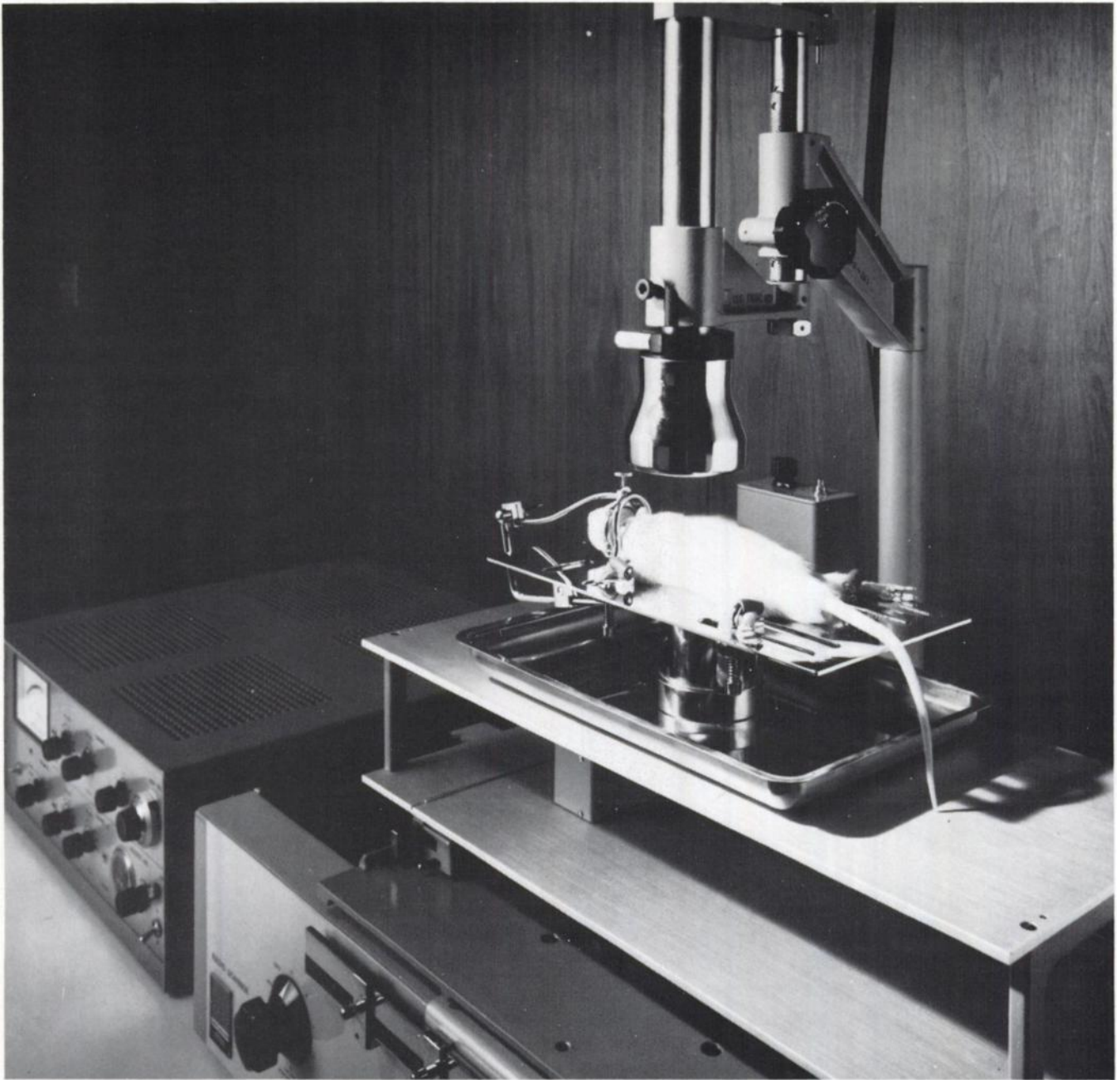
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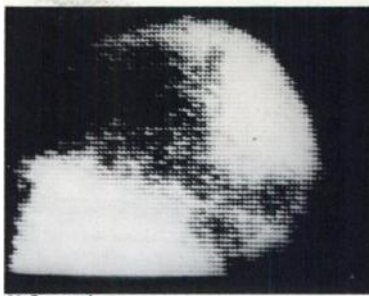
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**Atomic Development & Machine Corp.**  
Plainview, N.Y. .... XII, XLII  
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Center Moriches, N.Y. .... XLVII  
**Baird-Atomic**  
Bedford, Mass. .... LIV, IBC  
**Cambridge Nuclear Corp.**  
Princeton, N.J. .... XIII  
**Capintec, Inc.**  
Mt. Vernon, N.Y. .... XLVII, LIII  
**CDS**  
Centereach, N.Y. .... XXI  
**Conuclear Ltd.**  
Winnipeg, Canada .... XVI  
**Diagnostic Isotopes, Inc.**  
Upper Saddle River, N.J. .... XXIII  
**Dunn Instruments**  
San Francisco, Calif. .... X, XXII, L  
**Philips Duphar, N.V.**  
Petten, The Netherlands .... VII  
**Isolab, Inc.**  
Akron, Ohio .... XXVII  
**Mallinckrodt/Nuclear**  
St. Louis, Mo. .... VIII, IX  
**Medical Data Systems Corp.**  
Detroit, Mich. .... XXIV, XXV  
**Medi-Physics, Inc.**  
Emeryville, Calif. .... XX

**New England Nuclear**  
Boston, Mass. .... IV, XXVI, XLI  
**Nuclear Advisors, Inc.**  
Palos Heights, Ill. .... XLVI  
**Nuclear Associates, Inc.**  
Westbury, N.Y. .... XXIX, XL  
**Nuclear Chicago**  
Des Plaines, Ill. .... XXXVI, XXXVII, BC  
**Nuclear Data, Inc.**  
Palatine, Ill. .... XIV, XV, XLVIII, IL  
**Nuclear Medical Systems, Inc.**  
Roslyn Heights, N.Y. .... XXXI  
**Ohio-Nuclear, Inc.**  
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**PGL-Instruments & Services for Medicine**  
San Francisco, Calif. .... XIX, XXVIII, XLV  
**Pharmacia Laboratories, Inc.**  
Piscataway, N.J. .... XVII, XVIII  
**Picker Nuclear**  
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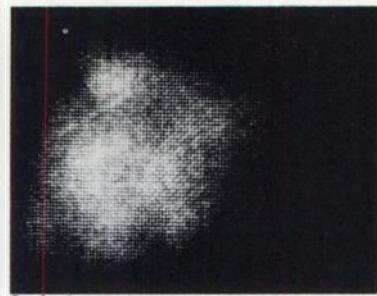




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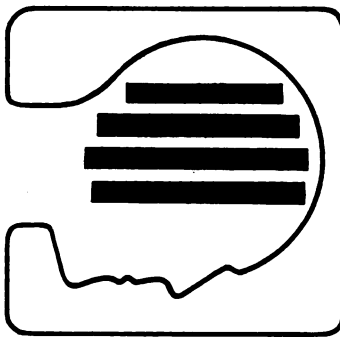
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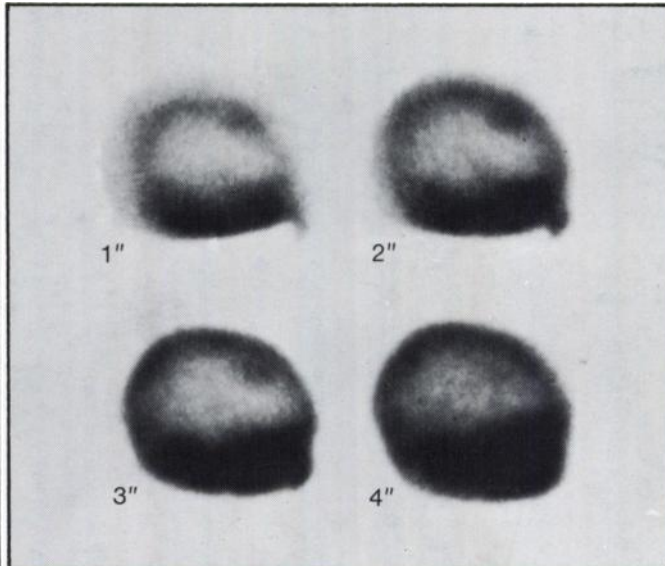
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