



## This sponge

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

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

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

# revolutionized thyroid testing!

more rapidly performed than any other T-3 test.

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

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

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

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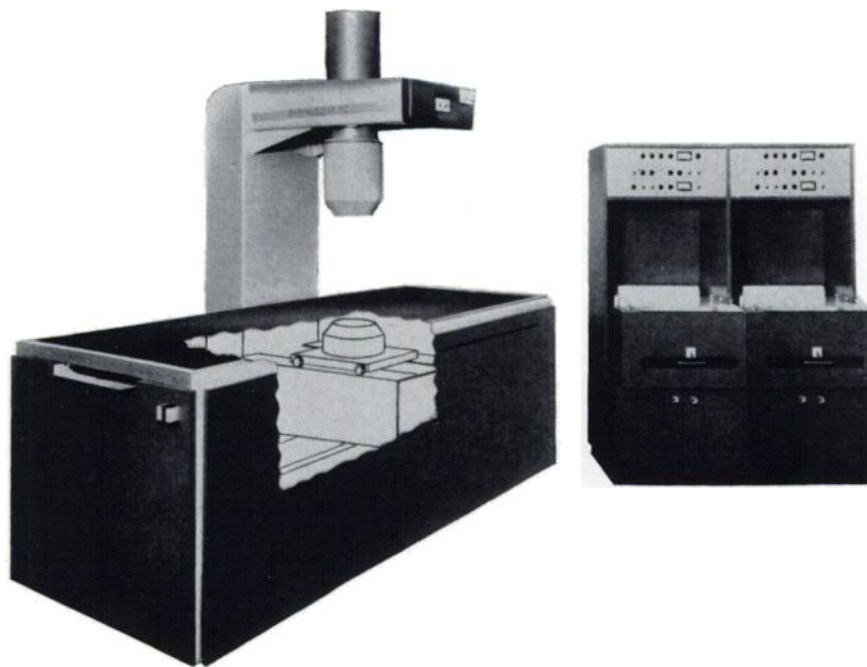
\*McAdams, G. B. and Reinfrank, R. F., *Jrnl. Nuclear Med.*, 5:112, Feb., 1964.

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

# RADIOISOTOPE SCANNER

## MODEL 54-FD

### DUAL, OPPOSED, 5-INCH CRYSTALS



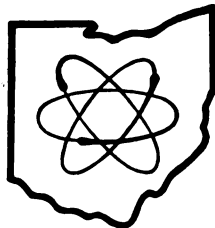
The demonstrable advantages of a dual 5-inch crystal scanner should be investigated by all those with a high clinical load who desire high resolution, rapid scans of both large and small organs or of the whole body.

The two scanning heads, exactly opposite each other, have separate, and complete electronics and print-out so that the data collected by each crystal may be used separately, in coincidence, or additively.

Mechanical and electronic specifications are the same as for our other large-crystal radioisotope scanners Models 54F and 54H:

Scanning speeds continuously variable to 200 inches per minute (500 cm/min.); adequate shielding even for high energy gamma emitters (up to 3 inches lead and 1 inch steel); high resolution crystals (9 per cent or better); accurate, reproducible scanning speeds and line spacing; no scalloping at any speeds; low background crystals (2 inch thick pure NaI light pipe); Gamma-graphic (patent pending) or slit mask photoscans; unequivocal one year warranty anywhere in USA or Canada.

This unparalleled radioisotope scanner is priced at \$28,750 with delivery in 90 days guaranteed.



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*Demonstrated Leadership from the specialist*

## The TECHNEKOW® Shielded Dispenser

# A NEW COMPACT "HOT LAB"

by NCC

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



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

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

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

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

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

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

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

*Write today for further information.*



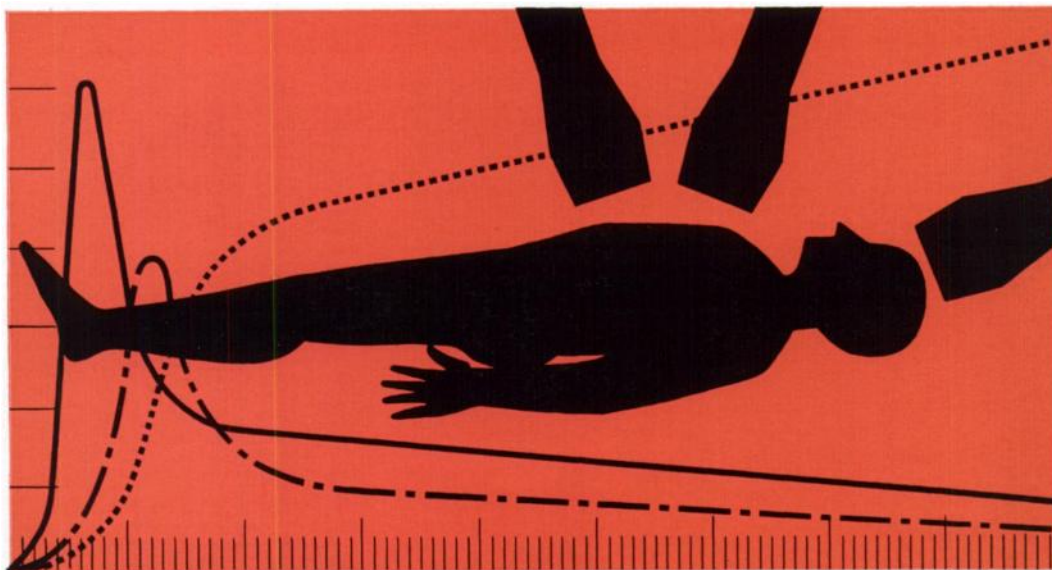
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## Dynamic clinical studies using radioisotopes:



### Are you interested but don't know quite where to start?

#### Then start here.

First let us admit that the dynamic clinical techniques which use radioisotopes for studying various bodily functions are more complicated than well counting or even scanning procedures. Undeniable.

But these methods are valuable, providing either confirmatory clinical data or, in some instances, information which just cannot be obtained *by any other means*. Long-established applications of these techniques include, for example, renal function studies, cardiac output determinations and hepatic function assessment. Or perhaps the newer techniques such as cerebral blood flow or pulmonary function would be of interest.

Whatever your interest, we *can* minimize the technical difficulties of getting into this field.

Our offer: to work with you in any and every way to make your entry into this area as painless as possible. Specifically, we would be

happy to talk with you about these methods, to provide the necessary information on existing procedures, to help you plan your radio-tracer studies, to assist in interpreting results, and to aid in the training of your staff in all phases of radioisotope dynamic function methodology. Or, to work with you in any other way that you may wish. With no obligation.

Then it will come as no surprise that we can also help you select the equipment that makes sense for your needs. And to begin with, this can be a relatively simple outfit; your first commitment can be limited to the basic equipment since refinements can be added easily as needed. You should also know that our line of instruments for dynamic function work of every kind is *unmatched in diversity or quality*.

So, an invitation: call your Picker Nuclear representative, or drop us a line. Start a dialogue.

Picker Nuclear: 1275 Mamaroneck Avenue, White Plains, New York 10605





## NEW TRESITOPE® DIAGNOSTIC KIT

SQUIBB RESIN UPTAKE KIT WITH LIOTHYRONINE <sup>125</sup> BUFFER SOLUTION

**fast...accurate...reproducible in vitro thyroid function test**

**S**QUIBB's new and practical Tresitope Diagnostic Kit is completely self-contained. The reverse side of the package insert becomes the record sheet for test results. And the kit contains 10 capped vials with 0.5 cc. Liothyronine <sup>125</sup> Buffer solution (activity does not exceed 0.1 microcurie per vial), 10 plastic tubes of resin powder and 10 separate droppers, to avoid cross contamination.

New Tresitope offers a reliable and accurate method of in vitro evaluation of thyroid function. The <sup>125</sup> labeled material does not emit beta rays to affect the stability of liothyronine and it has a longer half life than <sup>131</sup>.

When Tresitope is employed for in vitro procedures, the resin uptake values are un-

changed by prior use of exogenous iodine and by the presence of certain non-thyroid factors that can affect the results with any other technique. Tresitope may be used with infants, children and during pregnancy without risk because the patient is not exposed to any ionizing radiation.

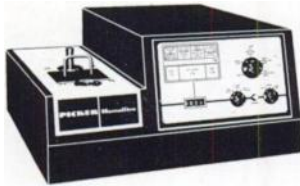
For greater convenience and more rapid diagnostic discrimination, without the risk of contamination to your patient or to laboratory equipment, and with less radiation exposure to the technician, specify Tresitope for testing thyroid function.

Your own isotope clinician is prepared to carry out this study for you. Ask him. For additional information on Tresitope, write to Professional Service Dept., Squibb, 745 Fifth Ave., New York, New York 10022.

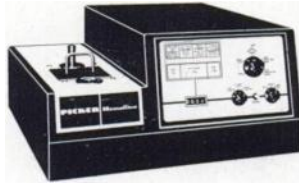
**SQUIBB**



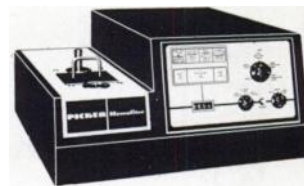
Squibb Quality — the Priceless Ingredient



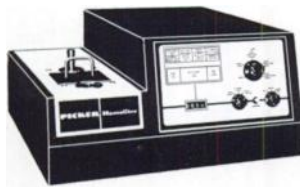
**BODY WATER**



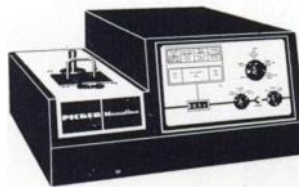
**Thyroid Uptake\***



**Urinary Rose Bengal Excretion**



**Schilling Test**



**BLOOD VOLUME**



**Plasma Disappearance**

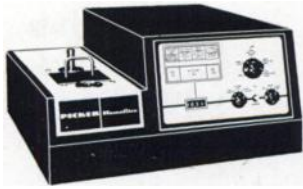
***Now then, isn't it funny  
that we named it Hemolitre®  
if the measurement of blood volume  
is but one of its many talents?***

Yes. Except that it now leaves us with this not-so-funny problem: to explain, credibly and compellingly, that this instrument's capabilities extend far beyond the measurement of blood volume. Read on if you'd like to hear about this truly versatile instrument useful for essentially all static nuclear medicine techniques.

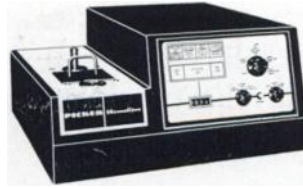
Basically, the Hemolitre is a complete, self-contained instrument for precise measurement of gamma radioactivity. As such, any of the clinical procedures using gamma-emitting

radioisotopes can be performed easily with the Hemolitre. More specifically, the Hemolitre's usefulness extends to the measurement of small samples with low radioactivity (T-3 and PBI tests, red cell survival, plasma disappearance, fat absorption, iron binding, body-water measurement, etc.). Or tests involving bulk samples (Schilling test, urinary rose bengal excretion, counting of feces, etc.). Or tests using an external scintillation probe (thyroid uptake, placenta localization, regional perfu-

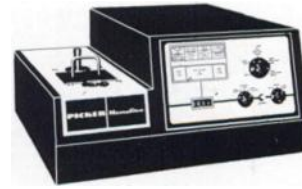




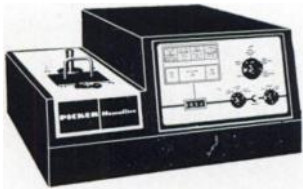
**RED CELL SURVIVAL**



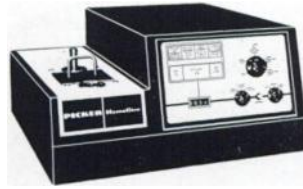
*Placenta Localization\**



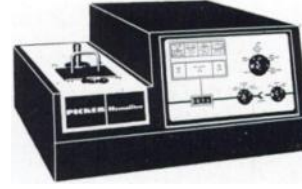
**PBI**



**Fat Absorption**



**T-3**



*Iron Binding*

sion, etc.). Or even blood volume measurement. Versatile instrument.

Also worthy of emphasis: the Hemolitre is fully transistorized, gives direct reading in per cent, and has automatic background correction. And Picker service everywhere.

So, if you are interested in a seasoned, dependable instrument for blood volume measurement and/or other static nuclear medicine procedures, think Hemolitre. The name may be limiting, the instrument certainly isn't.

(Finally, why did we name it Hemolitre if its versatility extends so far beyond the measurement of blood volume? Simple. It was born, baptized, and known to so many people as the Hemolitre *before* the full development of its capabilities. It just seemed much too complicated—and, hopefully, unnecessary—to start changing its name at this late date. And the same reasoning applies to the price: it, too, remains the same.)

Write for the Hemolitre brochure HNM3.

\*With external detector.

PICKER NUCLEAR: 1275 Mamaroneck Avenue, White Plains, New York 10605





# duphar nuclear pharmaceuticals

## Own cyclotron

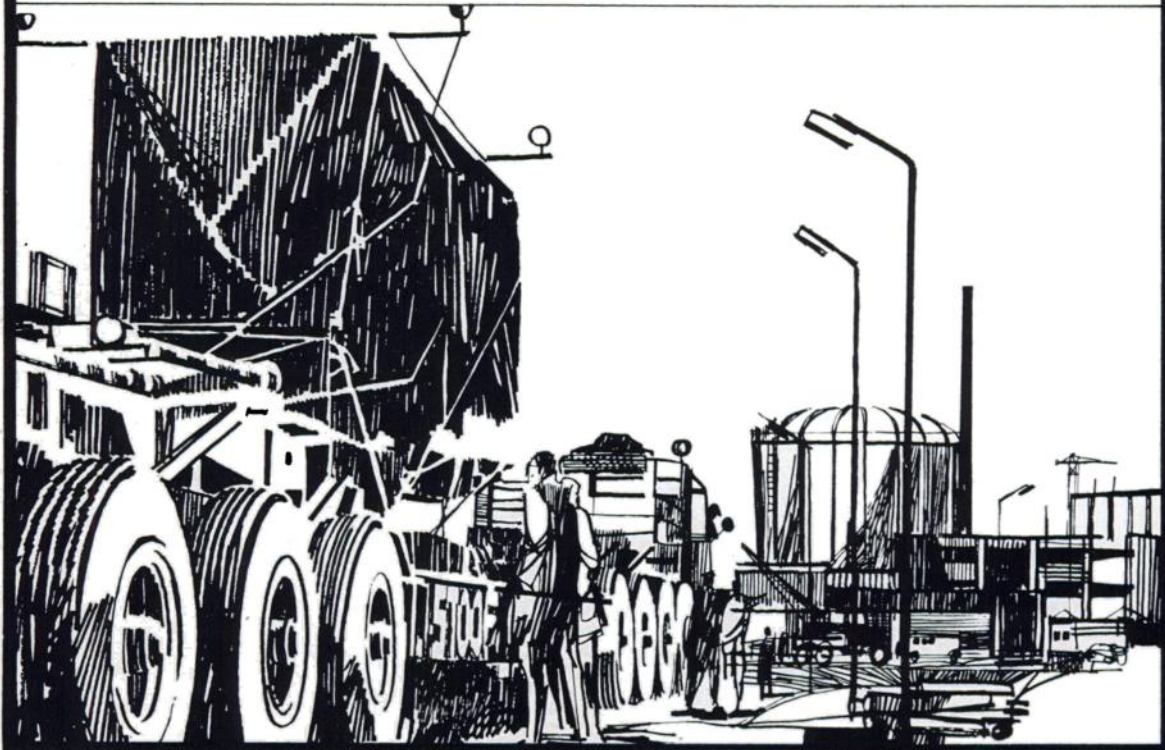
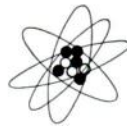
There are many cyclotrons on our planet. Only one of them is completely owned and operated by a private firm; the one recently installed in the new Duphar Isotopes Laboratory at the Petten Reactor Centre, Holland. This isochronous cyclotron is intended exclusively for the production of carrierfree cyclotron isotopes, such as Bi206, As74, Na22 and V48. Now you can rely on quick delivery.

Besides the cyclotron isotopes, Duphar delivers reactor isotopes, C14/H3 compounds, industrial sources and Nuclear Pharmaceuticals. Complete catalogues and pricelists are available on request.

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**AMSTERDAM HOLLAND**  
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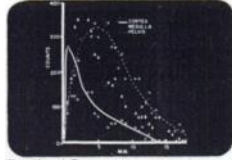
carrierfree cyclotron isotopes:

Be7 - Na22 - Ti44/Sc44 - V48 -  
Fe55 - Co57 - Ge68/Ga68 -  
Se72/As72 - As74 - Sr82/Rb82  
Sr85 - Y87/Sr87m - Nb95/Zr95  
Cd109 - Sn113/In113 - Te118/  
Sb118 - I124 - W178/Ta178 -  
Bi206



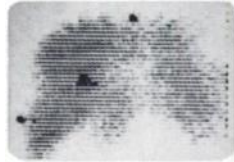


30 YEARS OF SCIENTIFIC ACHIEVEMENT



Fractional Renogram

Shown at right is a Model 5000 fractional renogram in a patient with normal kidney function showing the characteristic sequential passage of Hippuran through the cortex, medulla and pelvis.

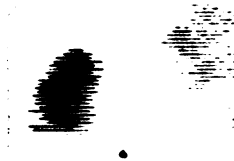


Conventional Scan Time: 35 min.



Autofluorogram Time: 3.2 min.

At left is a conventional anterior scan compared with a Model 5000 autofluorogram showing a reduced uptake in the inferior 2/3rds of the right kidney due to the presence of a large hypernephroma in this area.



Conventional Scan Time: 20 min.



Autofluorogram Time: 4 min.

At left is a conventional posterior renal scan compared with a Model 5000 autofluorogram showing a reduced uptake in the inferior 2/3rds of the right kidney due to the presence of a large hypernephroma in this area.

Supplied with each Model 5000 are an Adjustable Hospital Cot and RECORDING and CONTROL consoles which house crystal matrix, cathode ray oscilloscope visual display, pulse height analyzer, core memory, dynamic and static system operation controls, and Polaroid Camera



## MODEL 5000 DIGITAL AUTOFLUOROSCOPE

**FOR RAPID DIAGNOSTIC LOCALIZATION AND  
VISUALIZATION OF GAMMA-EMITTING  
RADIOISOTOPES WITHIN THE HUMAN BODY!!**

The Digital Autofluoroscope MODEL 5000 is a fixed (non-scanning) device with memory storage which provides a picture of the distribution of radioisotopes within any organ of the human body. Compared to conventional moving scanners, the versatile new MODEL 5000 will localize tumors faster. Visualization is accomplished by the use of a multi-crystal matrix which permits the simultaneous detection of radiation from all parts of the organ or area of interest without scanning. Disease processes in the brain, heart, lung, kidneys, liver, spleen, and pancreas are routinely detected in only a fraction of the time required with conventional mechanical scanning techniques!

Moreover, the MODEL 5000 will also measure rapid changes in the concentration of a radioactive material in compartments within the organ. Of special importance, the instrument allows effective utilization of the full range of isotopes — high energy isotopes can now be used and data can be immediately viewed! Further, the Autofluoroscope periodically displays accumulated data allowing observation of buildup. For continuing historical advantage, the patient's records can be permanently stored on magnetic tape for future reference!

### MODEL 5000 FEATURES:

- CONTRAST ENHANCEMENT OF PICTURE WITHOUT AFFECTING RAW DATA
- DYNAMIC AND STATIC VISUALIZATION OF THE ISOTOPE WITHIN THE BODY
- FULL RANGE OF (INCLUDING HIGH ENERGY) ISOTOPES CAN BE USED AND ACCUMULATED DATA CAN BE IMMEDIATELY VIEWED
- PATIENT'S RECORDS CAN BE PERMANENTLY STORED ON COMPUTER-FORMATTED MAGNETIC TAPE
- CRYSTAL MATRIX AND MULTI-CHANNEL STORAGE OF ACCUMULATED DATA
- PERIODIC DISPLAY OF DATA DURING BUILDUP PROCESS
- AUTOMATICALLY PROVIDES QUANTIFICATION OF DATA

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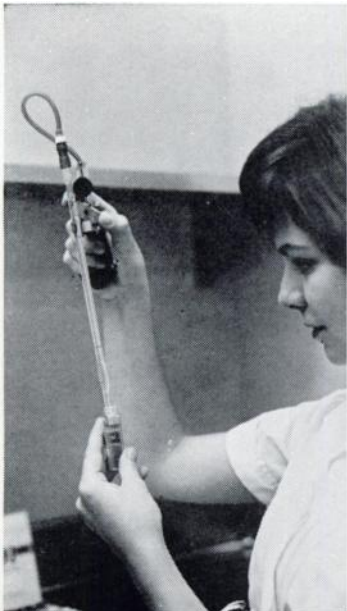
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*Than Any Other T-3 Test*

## TBI KIT 265T



Pipette Serum



Rotate Vials



Count Aliquot Once

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

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

Write today for further information.

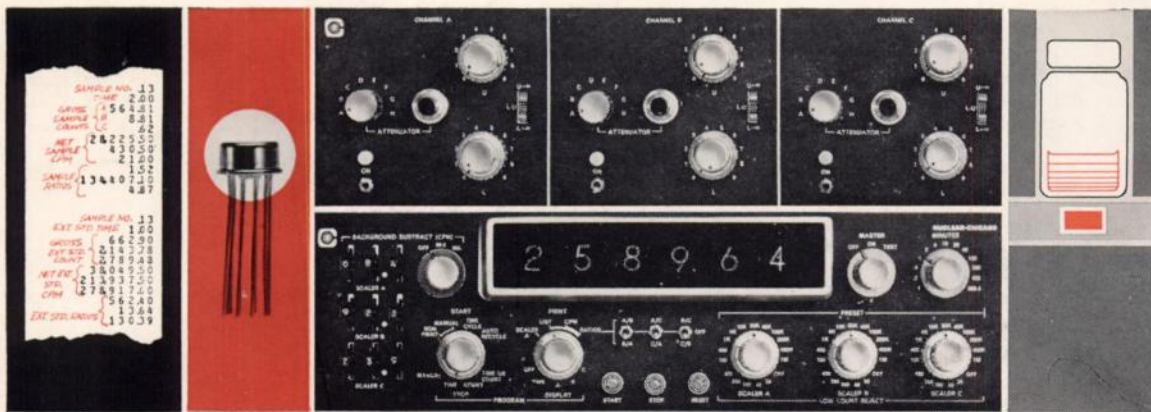


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**Only the Mark I Liquid Scintillation Computer has what it takes.**



Model 6860 (Ba<sup>133</sup> external standard)  
Model 6863 (Ra<sup>226</sup> external standard)

Everything about our Mark I™ Liquid Scintillation Computer is there to help you cut down on your work load. To let you handle all sample types and energies, quickly and easily. To give you unmatched counting accuracy and system reliability.

Here are just some of the reasons why the Mark I has what it takes for your kind of work:

1. Exclusive, all-electronic data computer with integrated microcircuits.
2. Three separate, identical counting channels.
3. 150-sample capacity with temperature control.
4. All operating controls located on front panel within easy reach.
5. Automatic external standardization with choice of Ra<sup>226</sup> or Ba<sup>133</sup> standard.
6. Three scalars with 0.2  $\mu$ sec resolution. Crystal-controlled timer.
7. Preset time, preset count, and preset time/preset count control on all three scalars.
8. No high-voltage adjustments necessary.
9. Reproducible, positive-step discriminators and amplifier attenuators with dynamic ranges to cover any beta spectrum.
10. Individual background subtractors on each counting channel.
11. Low-count reject on each counting channel.
12. Foolproof sample-changing and index numbering.
13. Automatic counting of preselected sample groups.
14. Repeat counting for best statistical accuracy and reproducibility comparison.
15. Built-in data conversion for card punch, tape punch, electric typewriter, and Teletypewriter.
16. Wide selection of data listing sequences.
17. Continuous presentation of number of sample being counted.
18. Calibration and operating logic designed for the individual convenience of multiple users.
19. Set-up for single-, dual-, or triple-labelled samples.
20. Guaranteed performance specifications.

Call your Nuclear-Chicago sales engineer or write to us for the complete details on the Mark I.

NUC/B-9-058



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