



# THE LUDLUM REPORT

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A NEWS LETTER FROM  
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support.

## **METER CHANGE** *March 1987*

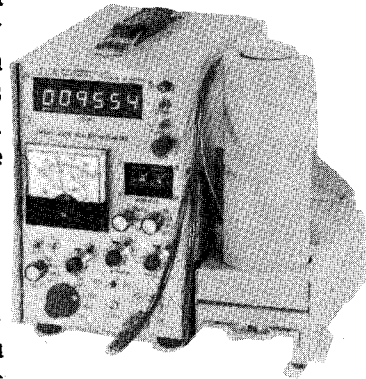
The specifications for the meter movements used in our portable instruments have been changed. Prior to this date, we used rugged 50 microamp, 100 millivolt meter with a full scale torque of 0.314 gm<sub>mm</sub>/100 degrees. This has been changed to a very rugged 1.0 milliamp, 1.1 volt meter movement with a full scale torque of 2.69 gm<sub>mm</sub>/100 degrees.

A quantity of 50 microamp movements will be maintained for repair and replacement. However, the one milliamp movement can be used in almost all instruments in the field by changing two resistors in the instrument. A few instruments in the field will require a small meter mounted circuit board to convert to one milliamp movement. Please contact our service department if you need any assistance in this matter.

## DETECTING ENVIRONMENTAL RADIATION

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More and more these days we are seeing a concern about naturally occurring radiation hazards from radon and thoron. The publicity has created a market for the testing of radon levels in homes. LMI now has complete kits for grab sampling of radon and thoron. A kit consists of a Model 2000 Scaler, alpha sample counter, an air pump, sample hose, filters, filter holder and a TH-230 alpha check source, all contained in a very nice carrying case.



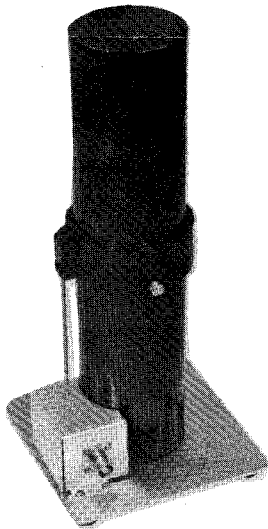
The Model 2000 Scaler features battery/line power, built in battery charger, panel meter of HV reading, adjustable high voltage from 100-2500 volts, and a thumb switch timer with operation from 0-99 minutes with multiples of X0.1, X1, X10 or an EXT position for manual timing.

Filters are available in 25mm, 37mm, and 47mm sizes. The 25mm size would be used in the Model 43-9 alpha sample counter, which has a one inch diameter depression in the sample drawer and uses zinc sulfide (ZnS) as the scintillation material. The ZnS is covered by 0.4mg per square centimeter metalized mylar window. The Model 43-10 alpha sample counter with it's 2" diameter sample space and 2" diameter photomultiplier tube would accommodate either a 25, 37, or a 47mm filter. Also, the ZnS used in the 43-10 is not covered by the metalized mylar.

Air pumps are available in AC or DC power. Please specify how many liters per minute you want to pull. The price of kit will depend on which size pump and filters you choose to use. Call us with your needs and we will be glad to quote you a price.

See catalog page 3-6 for specifications on Model 43-9 and 43-10 alpha sample counters. Specs of the Model 2000 are on page 5-2 of our catalog.

### RADON FLASK COUNTER



Another method of sampling for radon would be to use a Lucas cell or a zinc sulfide flask. When either are filled with sample air and placed in the Model 182 or the 218 radon flask counter, counts are obtained with a scaler/analyzer. The Model 182 is the smaller of the two, with a inside dimensions of 3" diameter and 6.75" tall. It utilizes a 2" photomultiplier tube. High voltage is automatically disconnected when the flask cover is removed. For larger cells (500-1000 ml), a Model 218 would be more appropriate because of its size, a 6" diameter and a height of 8". The

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photomultiplier tube is 5" in diameter. An acrylic flask with zinc sulfide and two valves are furnished with this unit. Extra flasks are available for \$175.00 each.

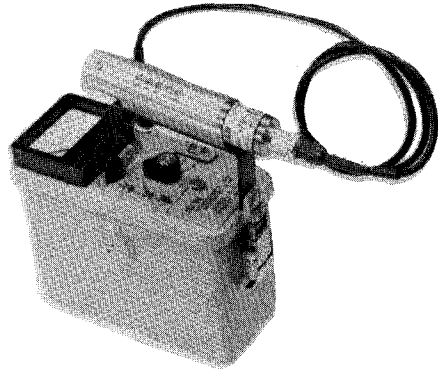
### **CHARCOAL CANISTER COUNTER**

Yet another method of determining radon levels in the home is with a charcoal canister which is placed in the home from four to ten days. The radon daughters are absorbed by the canisters. Again, a scaler is used and our Model 2000, a single channel analyzer, is recommended for this application. The detector used in this particular situation is our Model 44-20 which is a 3" X 3" integral line sodium iodide scintillator. Lead shielding around the detector is recommended to reduce the background count so that the count from the canister can be more easily analyzed.

### **MODEL 3-97**

Another area where naturally occurring radiation produces a hazard is in the oil industry. As oil is pumped out of the ground, barium sulfate accumulates in the pipe. Barium sulfate is a naturally occurring substance which is radioactive and while in the ground is not ordinarily a problem. However, when it builds up in oil pipe it can reach concentrations that can be dangerous. All used oil pipe should be checked for radiation hazard before being considered for other uses.

The Ludlum Model 3-97 utilizes a self-contained 1" X 1" sodium iodide scintillator which is very sensitive for locating problem areas and is highly recommended for radon plateout detection. Also a Model 44-38 energy compensated detector will furnish direct exposure rates.



### **CALIBRATION AND REPAIR DEPARTMENT**

For your convenience our repair department maintains a fully trained staff of technicians to calibrate and repair radiation instrumentation in a timely manner. The charge for calibration for most instruments is \$30.00 and \$15.00 for each additional probe. Repairs are charged at \$30.00 per hour plus parts.

Our technicians can calibrate and repair most radiation detection instruments from other companies also. We ask that you please send in your maintenance manual when you send us your instruments for repair and calibration. The charges are the same as for our Ludlum instruments.

To get the fastest possible turn around when you send us an instrument, please be sure to include your name, company name,

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phone number, a good shipping address (usually we use UPS so send a street address), instructions on whether your instrument needs calibration or repair or both and if it needs repair please include a brief description of the problem. If you do not include a phone number you must include a purchase order number.

Please double check your instruments for contamination prior to shipping them to us. We appreciate your cooperation in this matter. If you need to speak to someone about sending in an instrument for calibration and repair, or you want the status of an instrument that is already received by us please call our customer service department. We are always glad to help.

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