

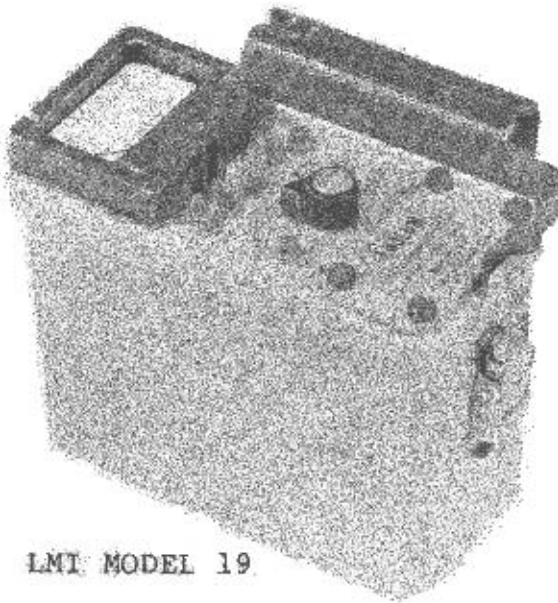
Dec. 1987

DURABILITY ???!

Recently a Ludlum Model 6 and a Ludlum Model 19 were returned to us for repair. Both portable survey meters were owned by two different long-time LMI customers. After a bit of investigation, we found that the Model 19 had supported an 8000 pound crate and the Model 6 was accidentally run over by a 6000 pound forklift truck.



LMI MODEL 6



LMI MODEL 19

The Model 19 which is pictured at the left, sustained a cracked casting, a broken meter face and a somewhat flattened outer can. The Model 6 also sustained a cracked casting and a broken meter face while the handle was completely torn off of the instrument. However, we are proud to say that both instruments continue to properly function and were in full compliance of calibration.

NEW FAX NUMBER 915/235-4672

In October Ludlum Measurements, Inc. acquired a new FAX machine. Of course, this now makes it possible for pictures, orders, confirming orders, bids for quotations or any other message you might want us to have to be sent over the telephone.

Please send at your convenience, your company's FAX number as we are trying to build a directory of these important numbers. Also, for those of you who do not have a facsimile machine, we will continue to maintain our TELEX machine.

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CALIBRATING LMI INSTRUMENTS

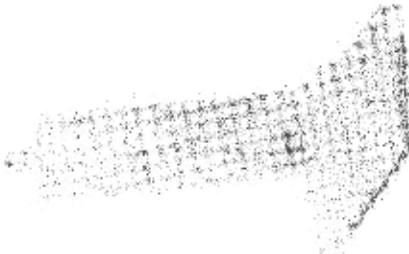
Due to an overwhelming response on calibration methods, we are glad to offer a little information on how we calibrate most of our Ludlum Measurements manufactured instruments. All of our instruments have the same general calibration procedure, some however, are more complicated than others. The calibration procedure system that we use conforms to the requirements of MIL-STD-45662A and ANSI N323-1978. The sources used for calibration are traceable to the National Bureau of Standards. When calibrating instruments with both milli Roentgens per hour (mR/hr) and micro Roentgens per hour (micro R/hr) meter faces, we use Cesium 137 as our source. We have two levels of this isotope, one being 150 milli Curies and the other being 1.5 Curies. These sources are affixed to a range table which have points or lines that are calibrated to equal various levels of radiation. For example, our 150 mci source has points of 1.5 R/hr down to 1 mR/hr.

A very common problem our customers experience is dealing with the positioning of probes to the beam of the source. When using Cs-137 for a calibration source, this isotope emits a Beta and Gamma particle. To prevent Beta from influencing the count, one must place the probe in a position away from direct exposure. For example, the Model 44-9, a pancake G-M detector, is turned so the back of the detector probe faces the source; the Model 44-7 which has an end window G-M is turned perpendicular to the source; and both the Model 44-6 and the Model 44-38, which are unlike the window G-M detectors, are equipped with a Beta shield, so therefore, they are positioned with the shields closed. Another positioning problem is the alignment of the probe to the calibration source. The probe should be placed with the exact middle of the G-M tube in center of the level of radiation which can be done by visually bisecting the detector or tube with the radiation level line.

Also, we have many inquiries regarding the bottom ranges on the portable instruments with mR/hr meter faces. Due to the range limitation, we must calibrate all ranges below 1 mR/hr with a pulse generator. For example, when we use the Model 3 with the Model 44-9 probe, we calibrate the upper ranges (X100, X10 and X1) in that respective order using the source. However, when calibrating the lower range (X.1) on the same Model 3, we connect the instrument to the pulse generator (LMI Model 500). After the connection is made, turn the amplitude up on the Model 500 pulser to twice the survey meter sensitivity. Once this is done, place the survey meter to the last range calibrated X1. Now, increase the counts on the pulser to drive the survey meter to the last calibrated point on the dial (1.5 mR/hr on X1 range). This step gives you the counts per minute equal to 1.5 mR/hr. Leave the count rate at the present reading and turn both instruments ranges down by a factor of 10. Now, calibrate the lower scale to make it read 1.5 on the X.1 range using the same procedure.

We will have a follow-up article in our March 1988 newsletter regarding counts per minute calibrations using the Ludlum Model 500 paiser.

NEW LMI MODEL 43-65 ALPHA SCINTILLATOR DETECTOR



We are proud to feature our new Model 43-65 Alpha Scintillator which is a light weight ergonomics designed alpha detector. Its design is very compatible for personnel monitoring or frisking. The Model 43-65 can be used with most of our portable survey meters or scaler instruments. Listed below are the specifications for this new product.

MODEL 43-65

Photomultiplier tube: 3.8 cm (1.5") diameter
Scintillator material: ZnS (Ag)
Window: 0.8 mg/cm² aluminized mylar
Window dimension: 8.14 sq. cm (3.2 sq. inches)
Window active area: 50 square cm
Efficiency: 30% from a 7/8" dia. PU source of 2 pi geometry
Plateau: typically 200 volts long
Response uniformity: less than 15% from average reading
Operating voltage: 600 - 1100 volts (1200v maximum)
Window angle with respect to handle: 60 degrees
Temperature range: -40 degrees C to +50 degrees C
Connector: series "C" unless specified BNC, MNV or SHV
Protector screen: 20 ga. SS, 1/4" hex, approx. 79% open
Size: 18.4 cm (7.24")H, 9.5 cm (3.74") X 15 cm (5.9")
Weight: 0.62 Kg (1.37 lbs.)
Paint: computer beige polyurethane
Protective screen cover: vinyl copolymer
Construction: the bracket holding the SS mesh, window and acrylic light pipe is fastened by 4 screws that can easily be removed to repair the window and/or the scintillator material.

HAPPY HOLIDAYS !!!!!

All of us at Ludlum Measurements, Inc. would like to wish you and yours a MERRY CHRISTMAS and a HAPPY NEW YEAR. Enjoy the holidays!