

Crown Copyright Reserved

W.O. CODE No.  
19509

**RESTRICTED**

The information given in this document  
is not to be communicated, either directly  
or indirectly, to the press or to any person  
not authorized to receive it.

**USER HANDBOOK  
FOR  
METER, CONTAMINATION  
No.1 OR No.1. Mk.2**

(Supersedes Provisional Edition dated 1954)

By Command of the Army Council



The War Office  
4th March 1953



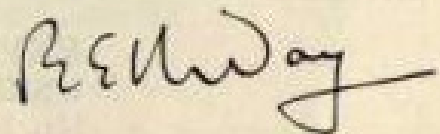
**RESTRICTED**

The information given in this document is not to be communicated, either directly or indirectly, to the press or to any person not authorized to receive it.

**USER HANDBOOK  
FOR  
METER, CONTAMINATION  
No.1 OR No.1. Mk.2**

(Supersedes Provisional Edition dated 1954)

By Command of the Army Council



The War Office  
4th. March 1963

## CONTENTS

CHAPTER 1	GENERAL DESCRIPTION	Page
101	Purpose and Facilities + + +	1
102	General Construction + + +	1
103	Power Supplies + + + + +	4
104	Weights and Dimensions + + +	4
105	Complete Equipment Nomenclature +	7
106	Controls, etc. + + + + +	8
CHAPTER 2	PREPARATION FOR USE	
201	Preliminary Checks + + + +	10
202	Setting Up the Appropriate Supply Unit	10
203	Checking the Power Supply + +	14
204	Setting Up the Probe Unit + + +	15
205	Functional Check + + + +	16
CHAPTER 3	OPERATION	
301	Use + + + + + + +	18
302	Care of the Instrument + + +	19
APPENDIX A		
	GEIGER-MULLER TUBES	21
APPENDIX B		
	EXPLOSION HAZARD OF CELLS USED IN POWER UNIT, VIBRATOR, No. 1	23

## LIST OF ILLUSTRATIONS

### CHAPTER 1

Fig. No.		Page
Frontispiece	The Meter, Contamination, No.1. +	iv
1	The Probe Unit + + + + +	2
2	The Indicating Unit + + + +	2
3	The Alternative Supply Units + +	3
4	Items Comprising Meter, Contamination, No.1. + + + + + + +	5
5	Items Comprising Meter, Contamination, No.1., Mk.2. + + + + + +	6
6	Controls, etc. on the Indicating Unit +	9

### CHAPTER 2

7	Fitting the Two 150 Volt Batteries into Battery Holder No.1. + + +	10
8	Fitting the Four 1.35 Volt Cells into the Battery Tray of Power Unit, Vibrator, No.1. + + + + + + +	12
9	Setting Up the Power Unit, Mains, No.1.	13
10	Checking the Power Supply + + +	14
11	Setting Up the Probe Unit + + +	15

### CHAPTER 3

12	The GM Tube (CV 2886) for Liquids +	18
13	Checking Personnel for Radioactive Contamination + + + + + +	19



**The Meter, Contamination, No. 1.**

## GENERAL DESCRIPTION

### 101 PURPOSE AND FACILITIES

Meters, Contamination, No.1 and No.1 Mk.2 are portable instruments used for the monitoring of personnel, clothing, food, equipment etc. for radioactive contamination.

They will detect gamma radiation and also measure dose rates within the range 0 to 10 milli-rads per hour when the Probe Unit is placed at a distance of 20 inches from and level with the centre of the subject being monitored. (The meter scales of older type instruments are marked in milli-roentgens per hour but they should be read as if marked in milli-rads per hour).

With a special GM tube (CV 2886) fitted, the instruments can be used to detect the beta particle activity in contaminated liquids. A true indication of the beta dose-rate, however, can only be obtained on instruments which have been specially re-calibrated in Workshops for this type of tube.

Provision is made for the use of headphones when an audible indication of contamination is required.

The two instruments are functionally similar and almost identical physically; the Mk.2 version has, however, a moulded rubber plug and socket and a moulded rubber connector assembly for improved climatic protection.

Canvas haversacks are provided which will enable the instruments to be operated whilst being carried, if so desired. The haversack for the Mk.2 instrument has a special PVC finish which can be more easily decontaminated. A cord is provided on each haversack for securing it close to the body of the wearer. A second cord is attached to a tool which is carried in a pocket of each haversack for the adjustment of pre-set controls.

### 102 GENERAL CONSTRUCTION

Each instrument consists of a Probe Unit and an Indicating Unit which are joined by a six foot connector assembly.



**Fig. 1. The  
Probe Unit**

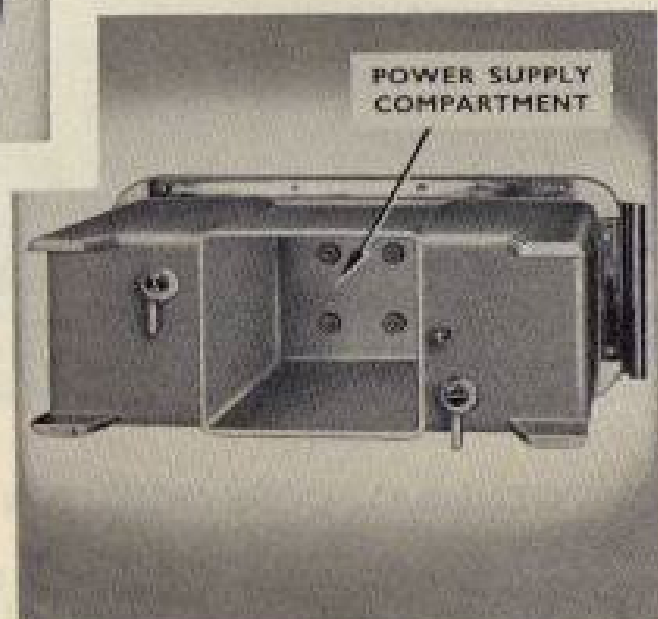
The case of the Probe Unit is of cast metal construction with carrying handle. On the top of the case is mounted the Geiger-Muller tube and a valve cover. A hook fitted to the carrying handle allows the Probe Unit to hang from the haversack or other convenient point. This facility enables the instruments to be used whilst being carried.

The case of the Indicating Unit is also of cast metal construction, with the controls, meter and folding carrying handles on the top. It also contains the power supply compartment which is accessible from the underside of the unit. (The alternative supply units which plug into this compartment are shown in Fig.3).

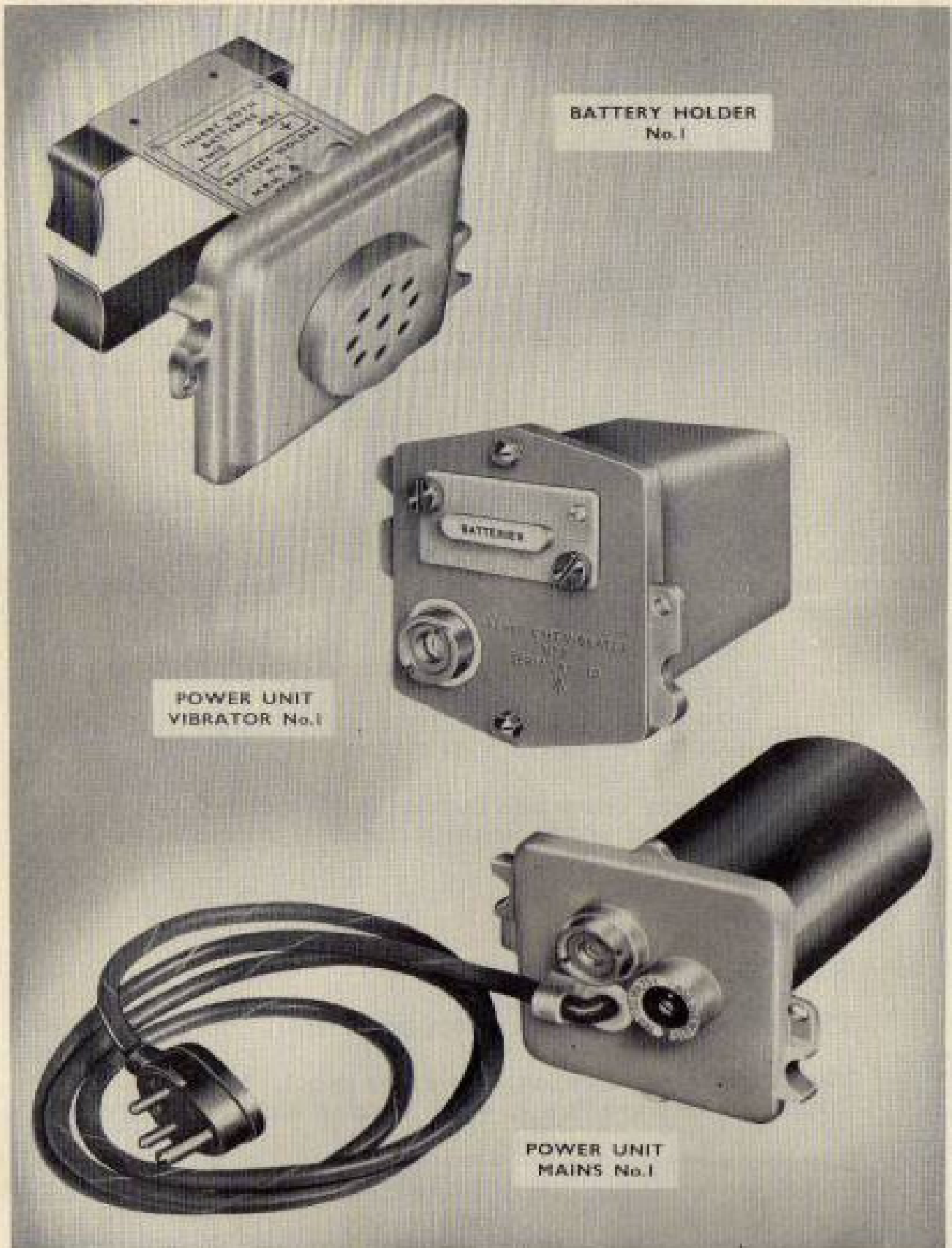
The two units are hermetically sealed; only the interior of the power supply compartment being accessible to the operator. All plugs and sockets are of the sealed type. The Indicating Unit is fitted with a Humidity Indicator which incorporates a replaceable Desiccator Unit.



**Fig. 2.  
The Indicating Unit**







**Fig. 3. The Alternative Supply Units**

## 103 POWER SUPPLIES

The three supply units which are shown in Fig.3 and described below are available as separate alternatives for insertion into the power supply compartment of the Indicating Unit. The Vibrator and Mains Units are not normally used by the Army and are only supplied when specially authorized by the War Office.

a. Battery Holder, No.1 (6665-99-911-0030)

This holder houses two 'Batteries, Dry, 150V, No.1' (6135-99-910-1165) which are provided separately. The approximate working life of these batteries is 600 hours. They have no commercial equivalent which can be obtained locally.

b. Power Unit, Vibrator, No.1 (6665-99-911-0029)

This unit operates from four 'Batteries, Dry, 1.35V, No.1, Positive Base, Negative Cap, 1.31/32 in. H x 0.625 in. dia.' (6135-99-910-1172). The approximate working life of these cells is 120 hours and the nearest commercial equivalent is Mallory type RM 12.

c. Power Unit, Mains, No.1 (6665-99-911-0028)

This unit operates from 40-60 c/s AC mains within the range 100-120V or 200-250V.

The two power units are hermetically sealed and contain a Humidity Indicator which incorporates a replaceable Desiccator Unit.

## 104 WEIGHTS AND DIMENSIONS

The following weights are approximate:-

Meters, Contamination, No.1. or No.1, Mk.2. (compl. in haversack, less supply unit)	14 lb
Battery Holder, No.1 (compl. with two 150V batteries)	2.1/2lb
Power Unit, Vibrator, No.1 (compl. with four 1.35V cells)	2.1/2lb
Power Unit, Mains, No.1	3 lb



**Fig. 4. Items Comprising Meter, Contamination, No. 1.**  
**(6665-99-911-0012)**



PLATE INSTRUCTION  
(6665-99-911-0255)

SCREWDRIVER, SPECIAL  
1 1/2 x 7 x 2 1/4 TIP  
(5120-99-911-0226)

HAVERSACK ASSEMBLY  
SPECIAL No. 1 Mk. 2  
(6665-99-911-0127)

PROBE UNIT, BETA - GAMMA  
No. 1 ASSEMBLY Mk. 2  
(6665-99-911-0110)

VALVES,  
ELECTRONIC  
CV2246  
OR CV2247

INDICATING UNIT No. 2 Mk. 2  
(6665-99-911-0108)

VALVES, ELECTRONIC  
CV2255

CONNECTOR ASSEMBLY No. 1 Mk. 2  
(6665-99-911-0109)

**Fig. 5. Items Comprising Meter, Contamination, No. 1, Mk. 2.  
(6665-99-911-0107)**

Dimensions of the haversack with the equipment housed are as follows:-

Length	.....	10 in.
Width	.....	7 in.
Height	.....	11 in.

## 105 COMPLETE EQUIPMENT NOMENCLATURE

The various items supplied under 'Meters, Contamination, No.1' (6665-99-911-0012) and No.1, Mk.2 (6665-99-911-0107) are shown in Figs.4 and 5 respectively.

These items are also supplied under Meters, Contamination, No.1 EQUIPMENT (6665-99-911-0250) and No.1, Mk.2 EQUIPMENT (6665-99-911-0251) together with the following ADDITIONAL items:-

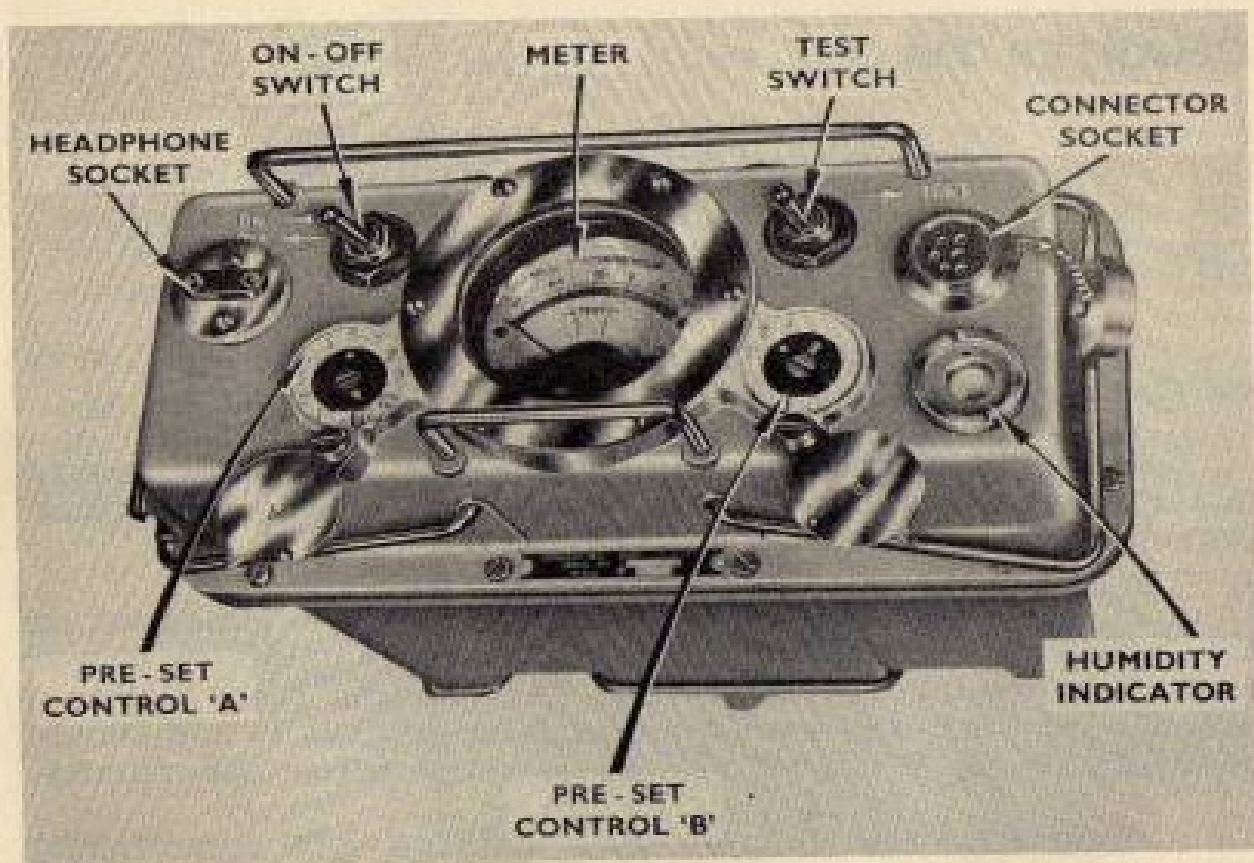
- a. Battery Holder, No.1 (6665-99-911-0030)
- b. Headset, Electrical, I.T.E., No.1B (5965-99-940-0046)
- c. Valves, Electronic, CV 2886 (alternative type GM tube for use when monitoring liquids)
- d. User Handbook (W.O. Code 19509)
- e. Desiccator, Silica-Gel, 2.1/4 in. long x 5/8 in., 28 UN.S. fixing (6685-99-942-0788)
- f. Gasket, Round, Asbestos, 3/8 in. I.D. x 9/16 in. O.D. x 1/32 in. (6685-99-942-1203)
- g. Gasket, Rubber, 0.675 in. I.D. x 0.833 in. O.D. x 0.075 in. thick (5330-99-910-5045)

NOTE: Items e-g are spares for the Humidity Indicator on the Indicating Unit; they are provided for the use of Workshops only.

106 CONTROLS, ETC.

This section of the User Handbook is broadly termed Controls, etc to include all external details of the Indicating Unit and explain their function.

ITEM	FUNCTION
HEADPHONE SOCKET	For the connection of headphones (5965-99-940-0046) when an audible indication of radioactive contamination is required.
ON-OFF SWITCH	For switching on the power supplies to the instrument.
METER	Indicates the dose rate when the Probe Unit is placed 20 inches from and level with the centre of the subject being monitored. The scale is marked 0-10 in either mR/hr or milli-roentgens per hour, but this should be read as if marked in milli-rads per hour. The meter dial also contains two red lines and the word 'TEST' which are used to indicate the state of the power supply when the TEST SWITCH is operated. (The meter is not illuminated).
TEST SWITCH	A spring-loaded switch, biased in the 'OFF' position, used for checking the state of the power supplies. (See item above).
CONNECTOR SOCKET	Accommodates the plug of the connector to the Probe Unit. Fitted with a cover which should be replaced when the connector plug is removed.
PRE-SET CONTROL 'A'	An eleven-position switch, protected by a slide-over cover, used for setting the voltage applied to the GM tube. THIS CONTROL SHOULD ONLY BE ALTERED BY SUITABLY QUALIFIED PERSONNEL (SEE APPENDIX A).
PRE-SET CONTROL 'B'	A three-position switch, protected by a slide-over cover, used for adjusting the supply voltage to the instrument. (See Section 203).
NOTE: A tool for adjusting PRE-SET CONTROLS 'A' and 'B' is carried in a pocket of the haversack.	



**Fig. 6. Controls, etc on the Indicating Unit**

ITEM	FUNCTION
HUMIDITY INDICATOR	<p>If this turns from blue to a pronounced pink in colour, it indicates the presence of dampness inside the Indicating Unit.</p> <p><b>NOTE: REMOVAL OF THIS ITEM WILL DESTROY THE HERMETIC SEALING OF THE INSTRUMENT AND CONSEQUENTLY IT SHOULD ONLY BE REMOVED BY WORKSHOPS WHO ARE EQUIPPED TO ENSURE THE CORRECT SEALING CONDITIONS.</b></p>

## CHAPTER TWO

### PREPARATION FOR USE

#### 201 PRELIMINARY CHECKS

Remove the equipment from the haversack and carry out the following checks:-

a. Check the equipment for discrepancies and ensure that the serial numbers of the Indicating Unit and Probe Unit correspond.

b. Check the colour of the Humidity Indicator on the Indicating Unit and also on the Vibrator or Mains Power Unit, if provided. If the colour has changed from blue to a pronounced pink, the equipment is damp internally and should be RETURNED TO WORKSHOPS at the earliest opportunity.

c. Examine for external damage and cleanliness. If a second Contamination Meter is available check for radioactive contamination.

#### 202 SETTING UP THE APPROPRIATE SUPPLY UNIT

If this has already been done in accordance with the following instructions, proceed at Section 203.

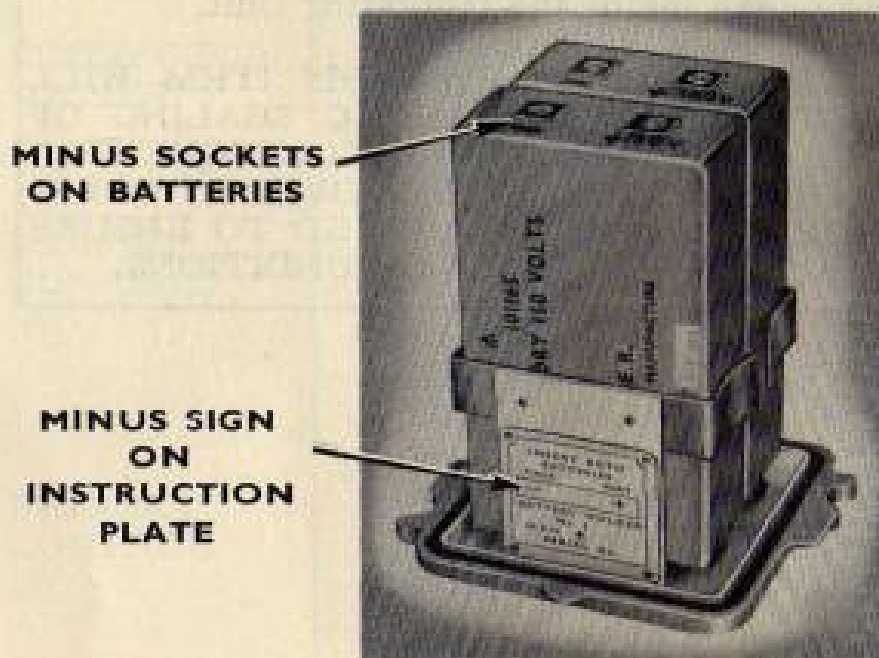


Fig. 7.

Fitting the Two  
150 Volt  
Batteries into  
Battery Holder  
No. 1.



a. Operation from 150 volt Batteries

(1) As shown in Fig.7, place the two batteries (6135-99-910-1165) together so that their 'PLUS' and 'MINUS' sockets correspond. If necessary, tear the protective seal covering off the top of the batteries in order to expose the sockets.

(2) Grasp the batteries firmly at the socket end and insert into the spring clip of the Battery Holder No.1 so that the 'PLUS' and 'MINUS' sockets on the batteries correspond with similar marks on the instruction plate on the holder.

(3) Insert the Battery Holder complete with batteries into the power supply compartment of the Indicating Unit, ensuring that:-

(a) The small locating pin on the base of the Indicating Unit enters the hole in the flange of the Battery Holder.

(b) The four pins inside the power compartment engage with the sockets on the batteries.

(4) Rotate the two catches on the base of the Indicating Unit until the Battery Holder can be pushed fully home. Finally, rotate the catches in the opposite direction until the Battery Holder is clamped in position.

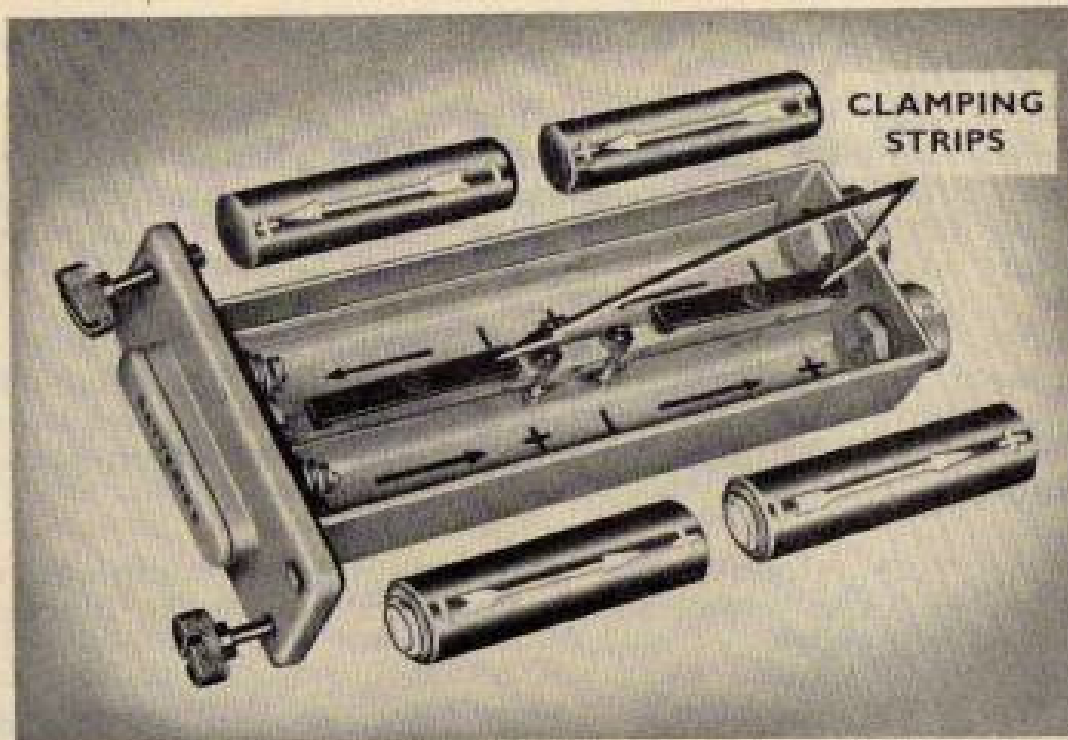
b. Operation from Power Unit, Vibrator, No.1

**WARNING**

The Mercury Cell Batteries used with this Vibrator Unit can become explosive. Handling and disposal instructions are given in Appendix B of this Handbook.

(1) On the Vibrator Unit, loosen the two captive screws which retain the tray marked 'Batteries' and carefully withdraw the tray. (These screws must be loosened fully before attempting to withdraw the tray. Failure to do this may result in damage to the threads when the tray is withdrawn).

(2) Turn the two clamping strips carefully to their longitudinal positions in the tray, as shown in Fig.8. (Some trays may have in lieu of clamping strips, a perspex plate which is retained by a centre screw).



**Fig. 8. Fitting the Four 1.35 Volt Cells into the Battery Tray of Power Unit, Vibrator, No. 1**

(3) Insert the four 1.35 volt cells (6135-99-910-1172) as marked on the tray. (The top cap of the cell is 'MINUS' and the base 'PLUS').

(4) Whilst holding down the cells, carefully rotate the clamping strips to hold the cells in position (or replace the perspex plate).

(5) Replace the tray into the Vibrator Unit and carefully tighten the two captive screws.

(6) Insert the Vibrator Unit into the power supply compartment of the Indicating Unit, ensuring that:-

(a) The small locating pin on the base of the Indicating Unit enters the hole in the flange of the Vibrator Unit.

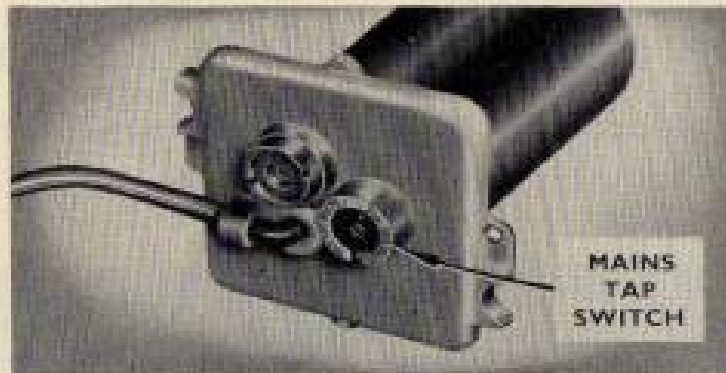
(b) The four pins inside the power supply compartment engage with the sockets at the rear of the Vibrator Unit.

(7) Rotate the two catches on the base of the Indicating Unit until the Vibrator Unit can be pushed fully home. Finally, rotate the catches in the opposite direction until the Vibrator Unit is clamped in position.

c. Operation from Power Unit, Mains, No.1

(1) Ascertain the voltage of the mains power supply to be used. (This unit only operates from AC mains, 100-120V or 200-250V, 40-60 c/s).

(2) With the tool provided in the pocket of the haversack, adjust the Mains Tap Switch on the Mains Unit to the appropriate setting for the mains supply voltage.



**Fig.9. Setting Up the Power Unit, Mains No.1.**

(3) Insert the Mains Unit into the power supply compartment of the Indicating Unit, ensuring that:-

(a) The small locating pin on the base of the Indicating Unit enters the hole in the flange of the Mains Unit.

(b) The four pins inside the power supply compartment engage with the sockets at the rear of the Mains Unit.

(4) Rotate the two catches on the base of the Indicating Unit until the Mains Unit can be pushed fully home. Finally, rotate the catches in the opposite direction until the Mains Unit is clamped in position.

(5) SWITCH OFF THE MAINS POWER SUPPLY AT THE SOURCE and insert the mains plug of the unit into a convenient 5 amp, 3 pin mains supply socket.

(6) If a suitable mains supply socket cannot be found for the type of plug provided, ask a competent electrician to change the plug.

## 203 CHECKING THE POWER SUPPLY

NOTE: The Probe Unit need not be connected for this check.

- a. Set the ON/OFF switch on the Indicating Unit to the 'Off' position in order to protect the METER from the risk of a momentary overload when the TEST switch is released.
- b. If the Mains Unit is being used, switch 'On' the mains power supply at the source.
- c. Hold the TEST switch on the Indicating Unit over in the direction of the arrow and, at the same time, check whether the pointer of the METER comes to rest between the two red lines in the region marked 'TEST'.

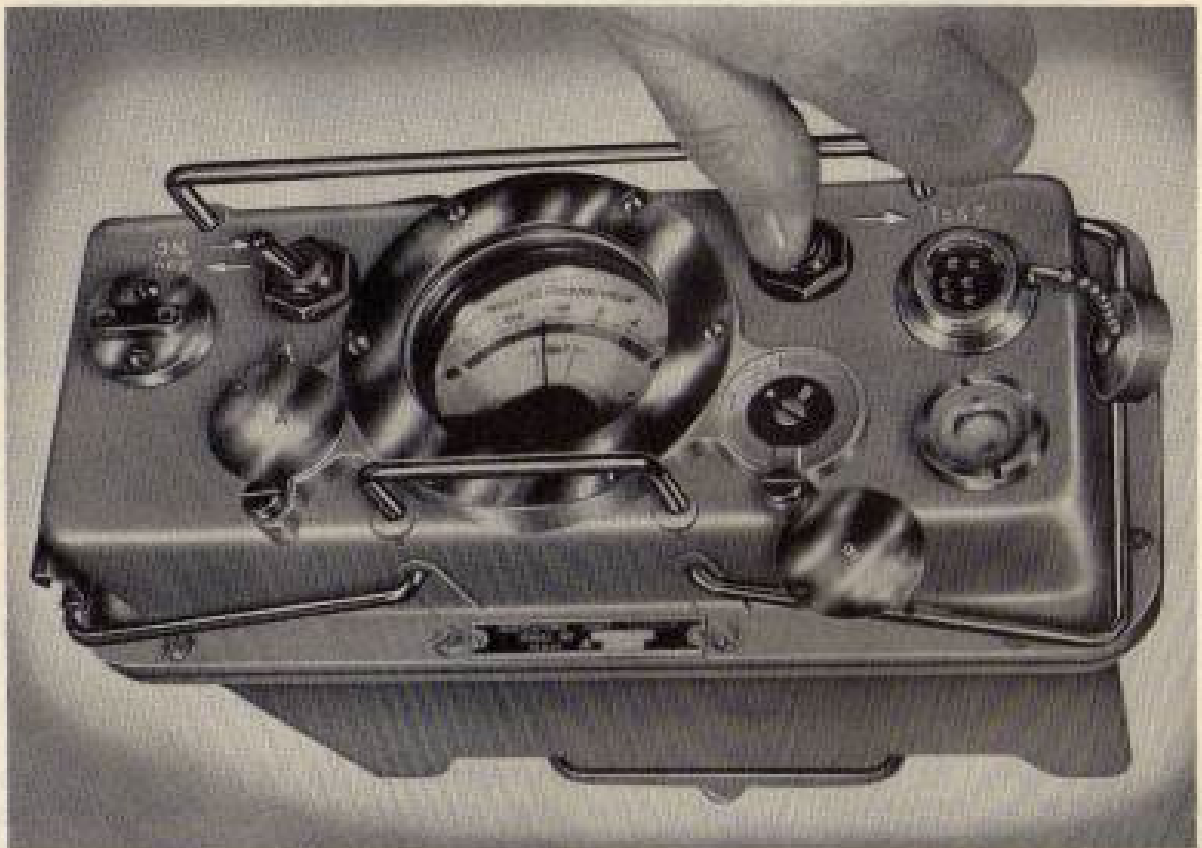


Fig. 10. Checking the Power Supply

- d. If the METER pointer is not within the 'TEST' region, slide off the cover from PRE-SET CONTROL 'B' and, using the tool provided in the pocket of the haversack, rotate the control screw one position at a time:-

To increase the reading ... .. Clockwise  
To decrease the reading ... .. Anti-clockwise

e. If the METER fails to indicate or the pointer cannot be brought up to the 'TEST' region and the Vibrator Unit or 150 volt batteries are being used, change the batteries - but before doing so turn the screw of PRE-SET CONTROL 'B' to position 1.

#### 204 SETTING UP THE PROBE UNIT

a. Remove the dust cover from the socket on the Indicating Unit.

b. Connect the Probe Unit to the Indicating Unit by means of the connector assembly provided, as shown in Fig.11.

NOTE: On instruments with moulded rubber plugs and sockets

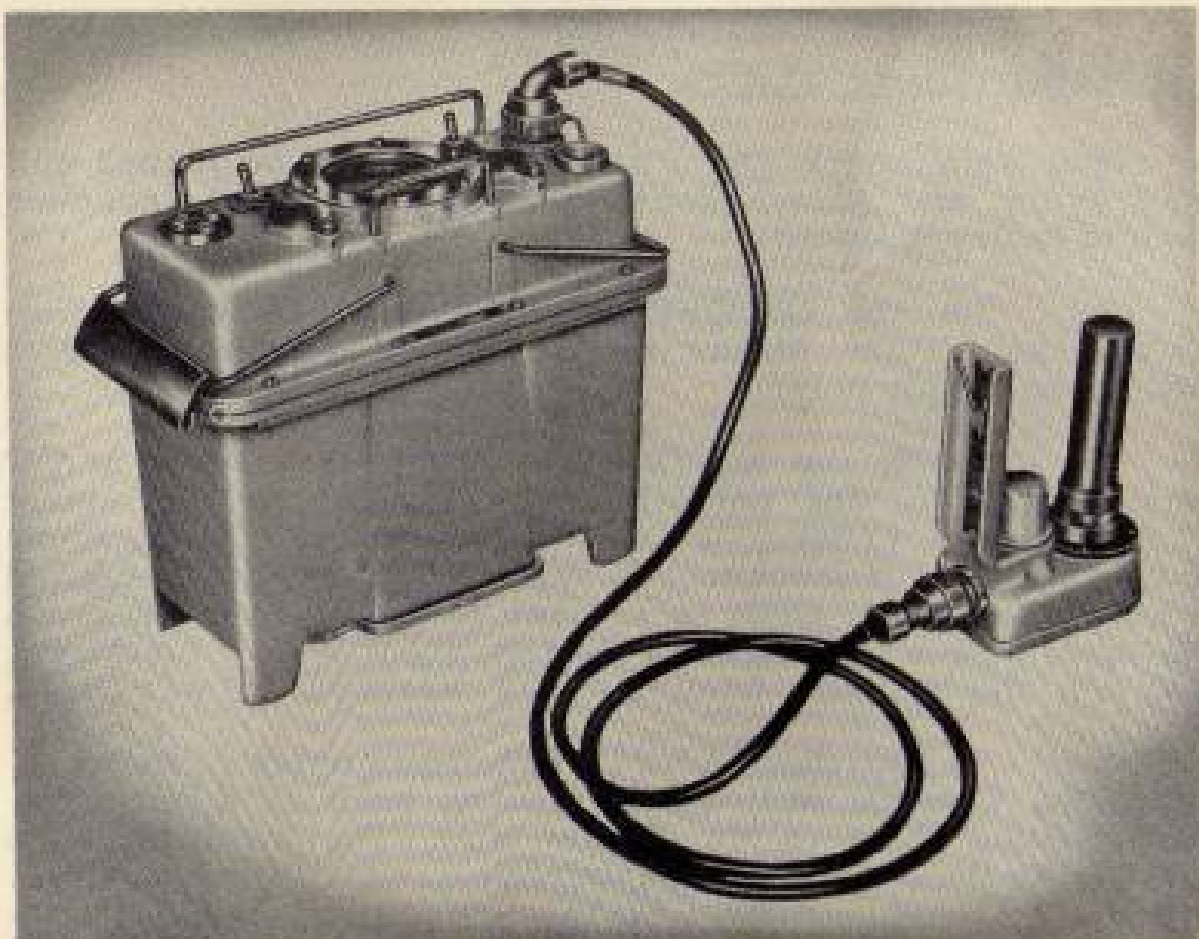


Fig. 11. Setting Up the Probe Unit

the pips on the outside of each part must be aligned before connection is made. On instruments with metal cased plugs and sockets the key and keyways must be aligned and, after connection is made, the clamping rings on the connector must be screwed home.

c. If the instrument is to be operated whilst being carried, place the Indicating Unit in the haversack.

d. Remove the GM tube from its packing if not already fitted in the Probe Unit. To fit the tube, double back the rubber skirt on the base of the tube, align the base so that it fits into the keyway of the two-way socket on the Probe Unit and insert. Finally, secure the rubber skirt over the flange of the socket.

NOTE: The instrument is normally calibrated before despatch for the type CV 2246 or CV 2247 tube which is supplied with the instrument. When a new tube of the same type or the liquid tube CV 2886 is fitted, action must be taken in accordance with the instructions given in Appendix A.

## 205 FUNCTIONAL CHECK

For this check the Probe Unit should be placed well away from any known sources of radioactivity, including those to be investigated.

a. Set the ON/OFF switch on the Indicating Unit to 'ON' and if the Mains Power Unit is being used, switch 'ON' at the supply point.

b. Watch the METER for about 15 seconds and if slight 'kicks' of the pointer are observed the instrument is functioning. (These 'kicks', known as the 'background count', are due to 'background activity' which can be caused by several factors, such as natural radiation from the earth and outer-space, artificial radiation from X-ray machines, etc. and the fall-out from nuclear weapons in war time).

c. As a further check that the instrument is functioning, bring a small radioactive source, such as a luminous-faced watch, close to the Probe Unit. The reading should increase as the source is brought nearer.

d. If headphones (5965-99-940-0046) are available, plug them into the two-pin socket on the Indicating Unit. Audible 'clicks' should be heard which coincide with the 'kicks' of the meter pointer.

e. If the meter pointer fails to move, examine the connections between the Indicating Unit and Probe Unit, re-check the power supply and try again. If the meter pointer still fails to move, check the setting of PRE-SET CONTROL 'A' in accordance with the instructions given in Appendix A of this handbook.

## CHAPTER THREE

### OPERATION

#### 301 USE

The Probe Unit of the instrument is used for detecting the existence of contamination and, for normal use, is placed at a distance of 20 inches from and level with the centre of the subject being monitored.



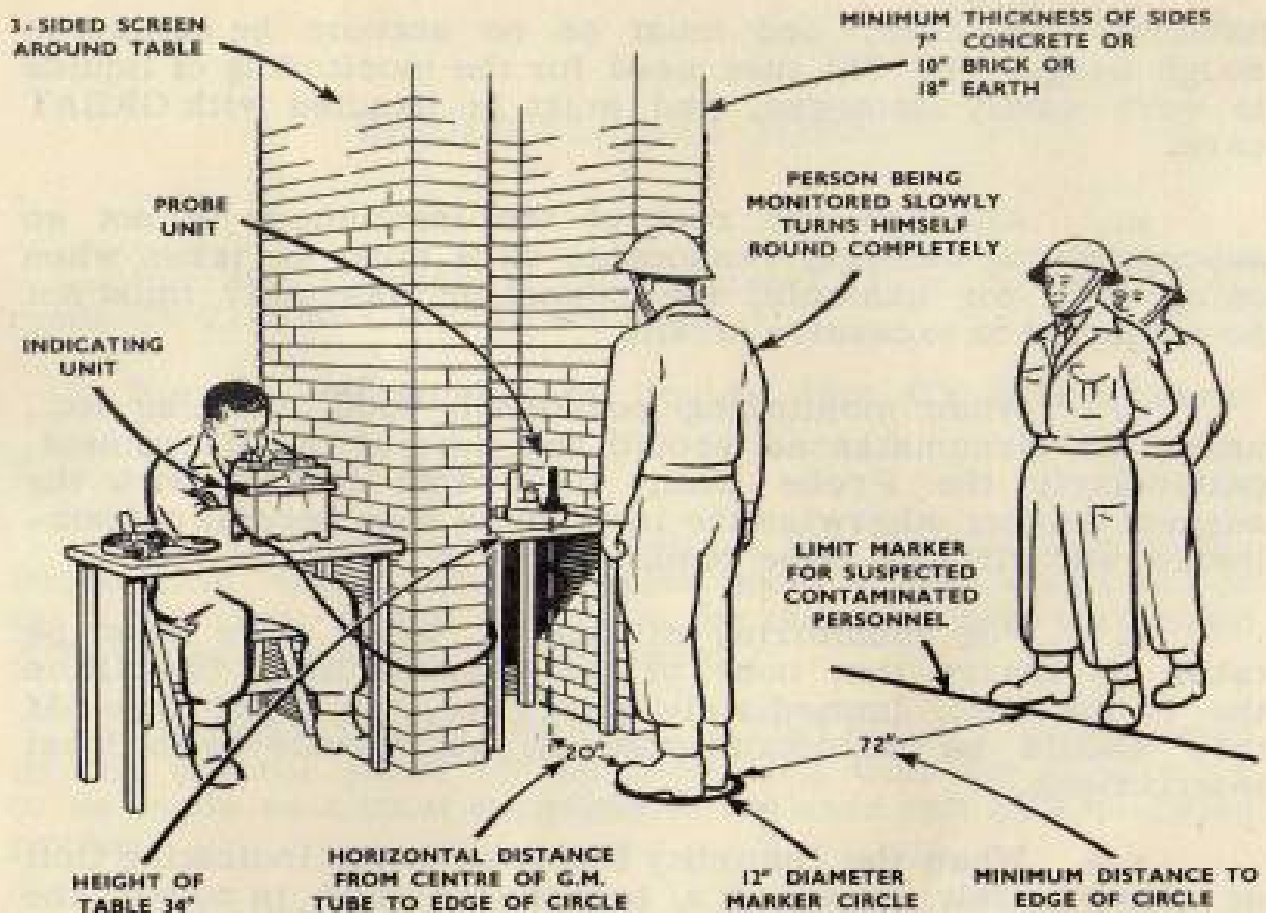
Fig. 12. The G M Tube  
(CV 2886) for Liquids

When checking a liquid for contamination, a sample of the suspect liquid is poured into the specially-designed glass container surrounding the GM tube CV 2886.

When strong contamination of a liquid is suspected it will be desirable to dilute the suspect liquid with a known proportion of uncontaminated water, in order that convenient meter readings can be obtained.

As these instruments are very sensitive, they will give a false reading of the suspect contamination if the Probe Unit is operated unshielded in an area of general contamination. During use, therefore, action should be taken to ensure that





**Fig. 13. Checking Personnel for Radioactive Contamination**

the Probe Unit is adequately shielded from all radioactive sources other than that under investigation - the stronger the interfering source, the greater will be the shielding required. A suggested method for checking personnel is shown in Fig. 13.

Before using the instrument to check contamination, place the Probe Unit in its operating position, with the suspect personnel, food, clothing, liquid etc. well removed.

Note the meter reading obtained from the normal natural radioactivity and from any other interfering radioactive source, i.e. the 'background count'.

Before assessing the extent of the contamination, the 'background count' must be deducted from the reading obtained from any suspect contamination.

### 302 CARE OF THE INSTRUMENT

a. The use of the instrument depends very largely upon the satisfactory operation of the GM tube. It must be

handled with care, and must on no account be subject to rough usage. The GM tube used for the monitoring of liquids is very easily damaged, and must be handled with GREAT care.

b. Although the rest of the instrument is not so susceptible to damage, reasonable care must be taken when using it - for example, the connector assembly must not be subjected to excessive strain.

c. When monitoring personnel, food, clothing etc., under no circumstances should any part of the instrument, particularly the Probe Unit, come into contact with the suspect subject otherwise the instrument may become contaminated, and will give false readings.

d. For monitoring of liquids, great care must be taken to ensure that none of the suspect liquid is spilt on the Probe Unit. Immediately after use, the liquid type GM tube should be decontaminated in accordance with local instructions.

e. When the Humidity Indicator in the Indicating Unit or Power Unit turns to a pronounced pink in colour, the complete unit should be returned to Workshops as soon as practicable for the checking of hermetic sealing and the replacement of the Humidity Indicator.

f. Under no circumstances should the User remove the Humidity Indicator, or the Indicating and Power Units from their cast metal cases, as the hermetic seal would then be broken.

g. After use ALWAYS check that the ON/OFF SWITCH on the instrument is set to 'Off'.

h. When the instrument is using either the 150V Batteries or Power Unit Vibrator No.1, and it is not in use for 24 hours or more, e.g. during storage, ALL BATTERIES SHOULD BE REMOVED TO PREVENT CORROSION.

## APPENDIX A

### GEIGER-MULLER TUBES

#### 1. TYPES

For the monitoring of personnel, food, clothing etc., types CV 2246 or CV 2247 are used.

For the monitoring of liquids, type CV 2886 is used.

#### 2. OPERATING VOLTAGE

The correct operating voltage for the GM tube in the Probe Unit varies with different tubes - even with tubes of the same type. It will also vary for the same tube with large differences in ambient temperature.

For this reason, PRE-SET CONTROL 'A' is mounted on the control panel of the Indicating Unit for adjustment to be made as a local expedient in the user unit by a qualified person.

With different GM tubes of the same type, errors may occur up to 15%, whereas if a GM tube type CV 2886 is substituted in an instrument calibrated for types CV 2246 or CV 2247 (or vice versa), errors up to 60% may occur. Therefore, as soon as practicable after a change of GM tube, the instrument complete with new GM tube should be RETURNED TO WORKSHOPS for the calibration to be accurately checked and, if necessary, compensating adjustments to be made inside the instrument.

#### 3. ADJUSTMENT OF PRE-SET CONTROL 'A'

This adjustment should be made only by qualified personnel.

a. Set up the instrument as detailed in Chapter 2 and ensure that it is free from sources of radiation other than the normal background count.

NOTE: If the background count is negligible, a small radioactive source, such as a luminous watch face, may be placed near the Probe Unit. This will give the necessary 'kicks' to be noted.

b. Slide off the cover of PRE-SET CONTROL 'A' and using the tool provided in the pocket of the haversack,

rotate the control screw fully anti-clockwise to position 1.

c. Set the ON/OFF switch on the Indicating Unit to 'ON' and if the Mains Power Unit is being used, switch 'ON' at the supply point.

d. Wait about 15 seconds and during the period observe whether there is any movement of the meter pointer (background count).

e. If a reading is obtained on the METER of the Indicating Unit, rotate the screw on PRE-SET CONTROL 'A' clockwise 6 positions (i.e. to position 7).

f. Set the ON/OFF switch to the 'OFF' position, slide back the cover of PRE-SET CONTROL 'A' and return the tool to the pocket of the haversack.

g. If after waiting 15 seconds there is no reading, rotate the screw on PRE-SET CONTROL 'A' clockwise one position at a time until there is a reading but do not go beyond position 5. If a reading is now obtained, turn the control screw clockwise a further six positions and complete the instructions in sub para. f. e.g. if a reading is obtained at position 5, rotate the control screw clockwise to position 11.

h. If no reading has been obtained by the time the control screw has been rotated to position 5, check the flexible connection and repeat the adjustment. If there is still no reading change the GM tube and repeat the adjustment.

## APPENDIX B

### EXPLOSION HAZARD OF CELLS USED IN POWER UNIT, VIBRATOR, No.1.

1. The Mercury Cells used in Power Unit, Vibrator, No.1 are capable of generating toxic gases at high pressure and may burst with explosive force if they are:-
  - a. Subject to excessive heat, or
  - b. Subject to prolonged short circuit, or
  - c. Discharged well beyond their operating life.
2. A cell which has been discharged so that it will no longer operate the equipment must be promptly removed and buried. IT MUST NOT BE PLACED ON A FIRE OR IN ANY RECEPTACLE FOR OTHER RUBBISH.
3. Every precaution must be taken to prevent accidental short circuit.
4. The cells must not be tampered with, or any attempt made to open them.
5. In the event of any injury being sustained as a result of a cell exploding, IMMEDIATE medical attention must be obtained.

**RESTRICTED**