

This copy is a reprint which includes current pages from Change 1 and Change 2.

\*TM 11-6625-475-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Operator's Manual

MULTIMETERS AN/PSM4, AN/PSM-6A, AND AN/PSM-6B

Headquarters, Department of the Army, Washington, D.C.

4 August 1966

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\*This manual supersedes TM 11-6625-475-10, 5 July 1962, including C 1, 6 December 1963, and C 2, 20 November 1964.

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## SECTION I

### GENERAL DESCRIPTION

#### 1. General

This manual comprises the operating instructions for Multimeter AN/PSM-6, part number 56-5002A, FSN 6625+43-1686; Multimeter AN/PSM-6, part number 56-5002B, FSN 6625-643-1686; Multimeter AN/PSM-6A, part number 165-5002, FSN 6625-656-5871; and Multimeter AN/PSM-6B, part number 199-5002, FSN 6625-957--4374. Figure 1 shows Multimeter AN/PSM-6, using Multimeter ME-70A/PSM-6 as its major component. Serial numbers 25298 and above are assigned to these units. The Multimeter AN/PSM-6, illustrated in figure 2, uses Multimeter ME-70/PSM-6, to which serial numbers below 25298 are assigned, Multimeter AN/PSM-6A, illustrated in figure 3, uses Multimeter ME-70B/PSM-6A as its major component.

#### 2. Purpose

A. Multimeter AN/PSM-6, AN/PSM-6A, and AN/PSM-6B, are items of general purpose test equipment designed to measure dc and ac voltage, dc current and resistance in the ranges most commonly encountered in electrical equipment. The maximum values which can be measured are as follows :

- (1) dc voltage-5,000 volts.
- (2) ac voltage-1,000 volts.
- (3) dc current-10 amperes.
- (4) resistance-10 megohms.

b. Multimeter AN/PSM-6A differs from Multimeter AN/PSM-6 in the following two respects:

- (1) The output function in the AN/PSM-6 has been replaced in the AN/PSM-6A by the more useful pulsed dc current function which is employed in the maintenance of

certain Fire Control apparatus. This makes it possible to measure pulsating dc currents having high peak values 1 and average values up to 1 ampere. Such currents cannot be measured accurately with the AN/PSM-6 incorporating Multimeter MF-70A/PSM-6.

- (2) To minimize down-time of the Multimeter in the field, a protective system has been incorporated in the AN/PSM-6A to protect the instrument against damage due to incorrect setting of the RANGE or FUNCTION Switch or wrong polarity of test lead connection. This system is capable of protecting every RANGE-FUNCTION combination under the following maximum conditions:

From a power source having 2000 volts open circuit capable of delivering 1 maximum short-circuit current of 375 ma and a maximum surge current of 30 amperes which decays to 400 ma within 2 milliseconds:

- 2000 volts dc applied in the forward direction,
- 2000 volts dc applied in the reverse direction,
- 2000 volts ac at 60 cps.

From a power source such that the multimeter is not required to dissipate more than 750 watts of power in any current range:

- 10 amperes dc applied in the forward direction,
- 10 amperes dc applied in the reverse direction,
- 10 amperes ac at 60 cps.

*Note.* Because of the variability among identical components with respect to their ability to withstand peak overload voltages and currents the number of overloads for which any individual multimeter is protected will vary from unit to unit.

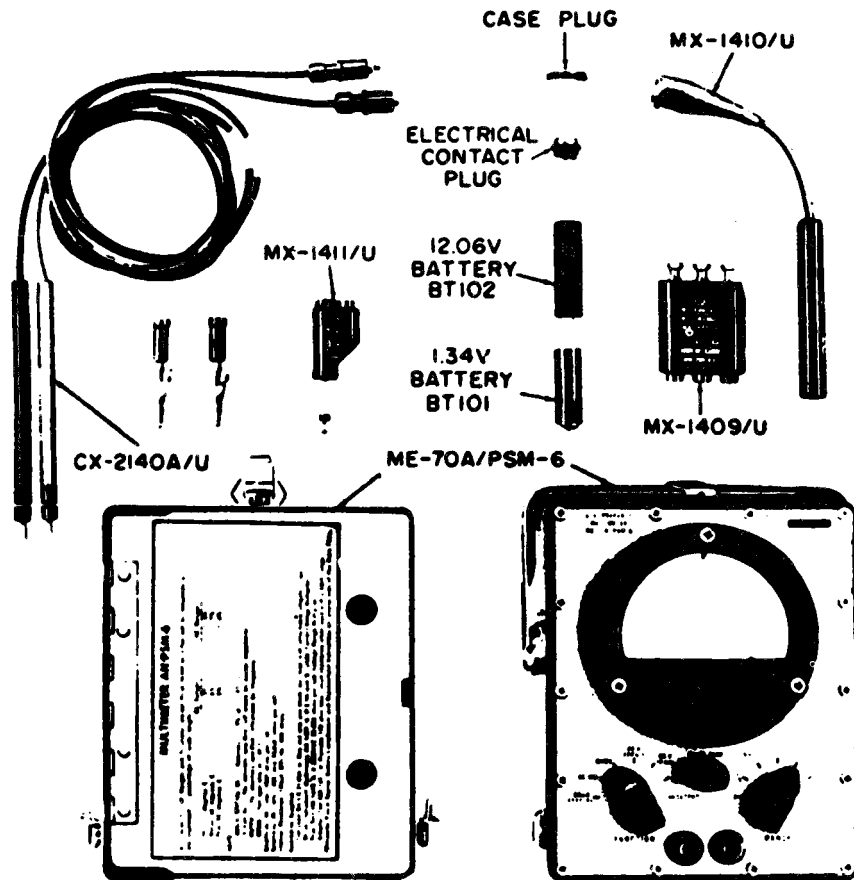


Figure 1. Multimeter AN/PSM-6 using Multimeter ME-70A/PSM-6.

### 3. Index of Publications

Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to this equipment. DA Pam 310-4 is an index of current technical manuals, technical bulletins, supply manuals (types 7, 8, and 9), supply bulletins, lubrication orders, and modification work orders available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc.) and the latest changes to and revisions of each equipment publication.

### 4. Forms and Records

*a. Reports of Maintenance and Unsatisfactory Equipment.* Use equipment forms and records in accordance with instructions in TM 38-750.

*b. Report of Damaged or Improper Shipment.* Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58.

*c. Reporting of Equipment Manual Improvements.* The direct reporting by the individual user of errors, omissions and recommendations for improving this manual is authorized and encouraged. D A F o r m 2028 (Recommended Changes to DA Publications) will be used for reporting these improvement recommendations. This form will be completed using pencil pen, or typewriter and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-MR-NMP-MA, Fort Monmouth, N.J. 07703.

### 5. Multimeter AN/PSM-6

Multimeter AN/PSM-6 consists of the following items in one completely self-contained case:

- a. Multimeter ME-70/PSM-6 or ME-70A/PSM-6.
- b. Multirange Instrument Shunt MX-1409/U.
- c. Test Prod MX-1410/U.
- d. Test Adapter MX-1411/U.
- e. Test Lead Set CX-2140/U or CX-2140A/U.

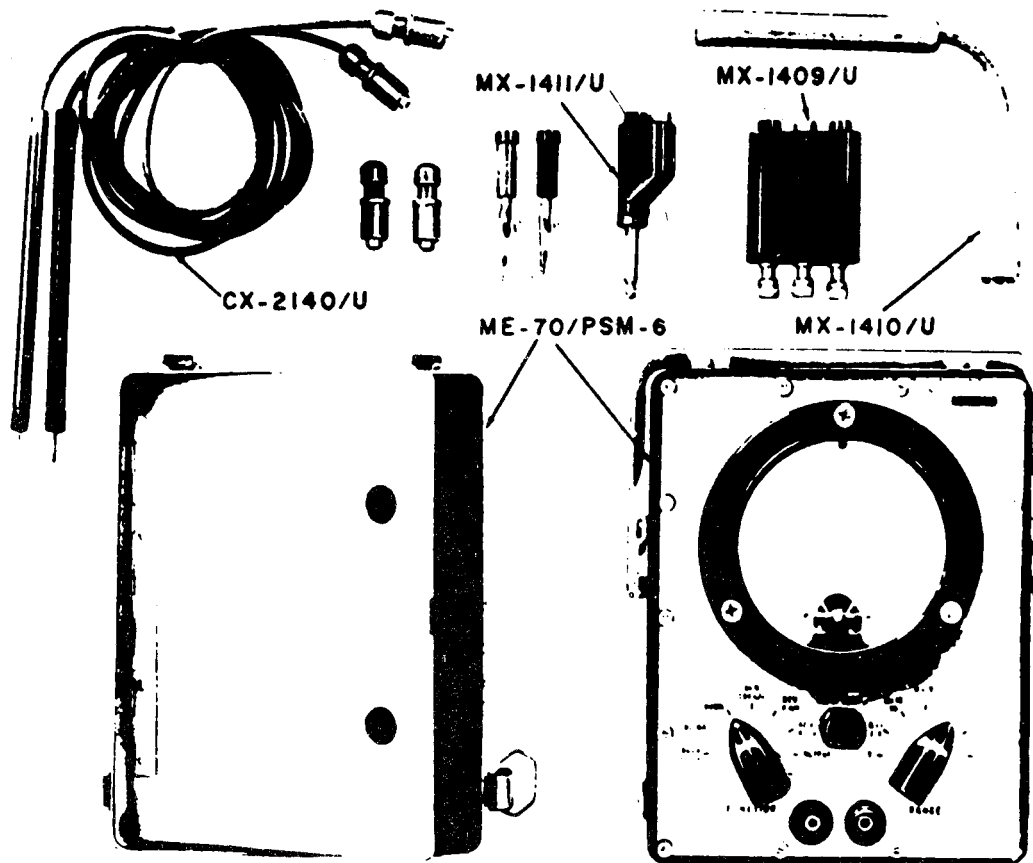


Figure 2. Multimeter AN/PSM-6 using Multimeter ME-70/PSM-6.

#### 6. Multimeter AN/PSM-6A

Multimeter AN/PSM-6A consists of the following items in one completely self-contained case:

- a. Multimeter ME-70B/PSM-6A.
- b. Multirange Instrument Shunt MX-1409/U.
- c. Test Prod MX-1410/U.
- d. Test Adapter MX-1411/U.
- e. Test Lead Set CX-2140A/U.

#### 7. Multimeter AN/PSM-6B

Multimeter AN/PSM-6B consists of the following items in one completely self-contained case:

- a. Multimeter ME-70C/PSM-6B.
- b. Multirange Instrument Shunt MX-1409/U.
- c. Test Prod MX-1410/U.
- d. Test Adapter MX-1411/TT.
- e. Test Lead Set CX-2140A/U.

#### 8. Multimeter ME-70/PSM-6 or ME-70A/PSM-6

Multimeter ME-70/PSM-6 or ME-70A/PSM-6 is the basic instrument for the AN/PSM-6. It consists of a 50-microampere dc meter mounted on

an aluminum panel and connected through two multiple switches to precision resistor circuits. All measurements are made with the test leads connected to the two jacks at the bottom center of the multimeter panel, the RANGE and FUNCTION switches being set to the desired values. The multimeter is designed to be watertight with the cover off. The overall size of the equipment is 8 X 6 $\frac{3}{8}$  X 4 $\frac{1}{2}$  inches and the total weight is 7 lb., 7 oz. The minimum accuracies attained are printed on the lid of the multimeter cover. At room temperatures, the accuracy of measurement is within  $\pm 3$  percent on all dc ranges, and  $\pm 4$  percent on all ac ranges except the 0.5-volt range, which is influenced by source impedance.

#### 9. Multimeter ME-70B/PSM-6A

Multimeter ME-70B/PSM-6A is the basic instrument for the AN/PSM-6A. It is the same as models ME-70/PSM-6 and ME-70A/PSM-6 with the exception of having an overload circuit to minimize its being damaged and a pulsed dc current function instead of an output function.

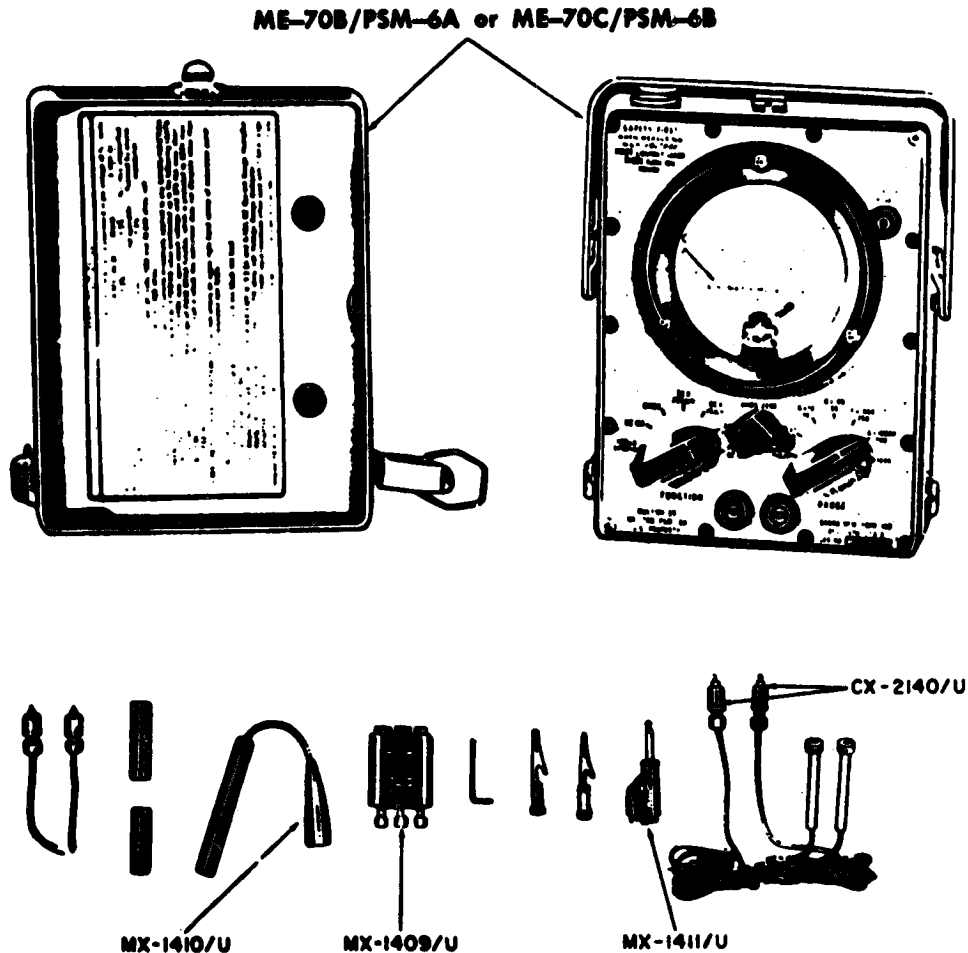
By means of a pushbutton on the front panel, its overload system may be reset.

10. Multimeter ME-70C/PSM-6B

Multimeter ME-70C/PSM-6B is the basic instrument for the AN/PSM-6B. It is the same as the ME-70B/PSM-6A except that the overload protective system is operative. This system is incorporated to protect the instrument from damage due to incorrect settings of the RANGE or FUNCTION switch or incorrect polarity of test lead connection. An integral OVERLOAD RESET button is provided to restore normal operation. This system is capable of protecting every RANGE FUNCTION combination under maximum conditions as specified in paragraph 2b.

11. Handle

The multimeter handle has been designed to serve a dual function. In addition to carrying or suspending the multimeter, the handle may be folded back and locked into the pins projecting from the case, as shown at the left of figure 4, to form an easel support which holds the instrument at a 30-degree angle so that it may be used more conveniently on a bench or table. To lock the handle in its stowed position, fold it over the top of the case, as shown as the right of figure 4, and pull forward the bottom of the handle hinges until a positive lock is obtained. To unlock push the bottom of the hinge toward the back of the instrument.



**Figure 3. Multimeter AN/PSM-6A using Multimeter ME-70B/PSM-6A or Multimeter AN/PSM-6B using Multimeter ME-70C/PSM-6B.**

12. Multirange Instrument Shunt MX-1409/U

This shunt is supplied to extend the current-measuring range of the multimeter to a maximum of 10 amperes. It consists of two low-resistance shunt sections within a plastic case, to be used either for the 0-2.5 ampere or 0-10 ampere range. The shunt together with the other items described below, is stowed in a compartment under the cover lid when not in use.

13. Test Prod MX-1410/U

This test prod is an external high-voltage multiplier which extends the dc voltage range of the equipment to 5,000 volts. It is used only with the 20,000 ohms/volt dc scale. The prod casing is constructed of plastic with a high voltage breakdown rating, but it is not designed to be connected or disconnected while the source of high voltage is turned on.

14. Test Adapter MX-1411/U

Standard crystal current measurements require a 100-ohm impedance at the terminals of the meter

circuit. The test adapter is designed to adapt a phone plug output to the test leads of the multimeter, and also contains a built-in resistor of the correct value so that the total meter impedance with the adapter in use becomes 100 ohms.

15. Test Lead Set CX-2140/U, or CX-2140A/U

Four feet of cable are used to couple the circuit under test to the multimeter. The plugs which connect into the meter jacks are of the interlock type. To connect plug to the multimeter, slide the front part of the plug backwards and insert the plug into the jack. The plug will lock automatically and cannot be disengaged until the rear portion is slid forward to meet the front portion again. Two detachable alligator clips are furnished with the multimeter for use as desired. A pair of spare plugs is also supplied with multimeters having serial numbers below 25298. Instructions for the assembly of plugs to the leads, and also for the repair of broken leads are provided in the Service Instructions for this equipment.

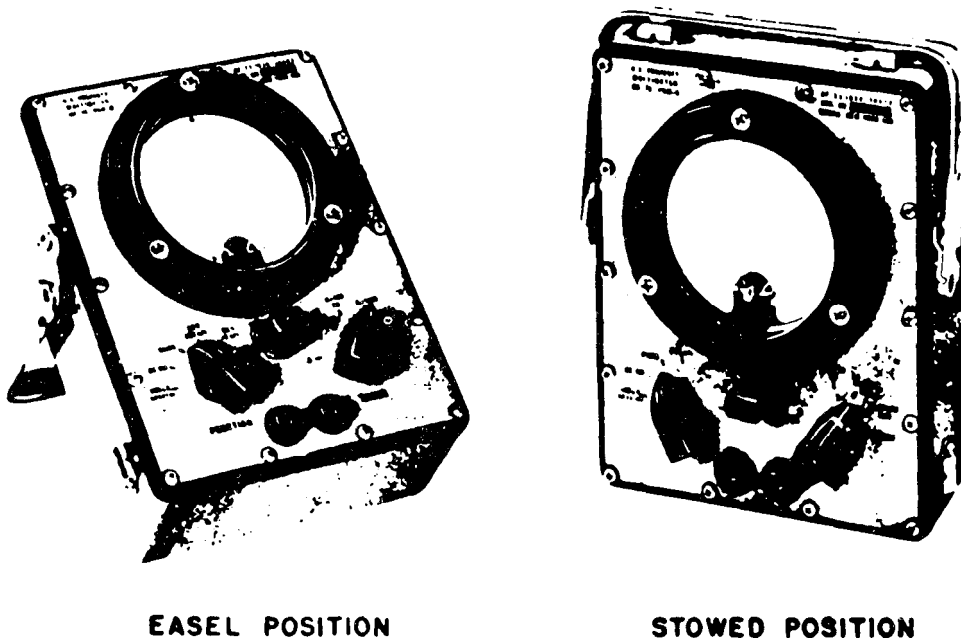


Figure 4. Handle positions.

## SECTION II

### OPERATING PROCEDURES

#### 16. AN/PSM-6 Controls

*a. Function Switch* (fig. 5). The FUNCTION switch is located at the lower left of the multimeter panel and provides the means for setting the instrument for the particular electrical characteristic to be measured.

*b. Range Switch* (fig. 5). The RANGE switch is located at the lower right of the panel. Once the FUNCTION switch has been set, the correct instrument range to provide an accurate scale indication is set with the RANGE switch.

*c. Ohms Zero* (fig. 5). The OHMS ZERO control is located directly below the meter on the panel, and is used only in resistance measurements to zero the meter for changes in range or battery voltage.

#### 17. AN/PSM-6A and AN/KM-6B controls (fig. 6)

*a. Locations.* The control locations are the same as those described for the AN/PSM-6 controls with the following exception: The OVERLOAD RESET button when pressed, reactivates the multimeter protection system after an overload condition has been removed from the multimeter. To reset, disconnect leads, depress momentarily.

*Note.* Do not hold OVERLOAD RESET button.

*b. Overload Reset Button (AN/PSM-6A and AN/PSM-6B Only)* (fig. 6). The OVERLOAD RESET button is inoperative in the AN/PSM-6A. Refer to Multimeter ME-70B/PSM-6A (para 9). The OVERLOAD RESET button on the AN/PSM-6B indicates red when an overload has occurred. The overload protective system is reactivated by disconnecting the test leads from the circuit under test and depressing the OVERLOAD RESET button so that the red indication disappears.

#### 18. Procedure for AN/PSM-6

If the instrument has never been used before a battery voltage check maybe made as follows:

*a.* Set the FUNCTION switch at OHMS and the RANGE switch at X1.

*b.* Plug the test leads into the meter jacks and short-circuit the test lead tips together.

*c.* Adjust OHMS ZERO knob until the meter pointer is exactly at zero on the OHMS scale.

*d.* Repeat *c* with RANGE switch set at X10, X100, X1,000, and X10,000, respectively. If pointer cannot be zeroed on all ranges the battery voltage is low. Instructions for replacing the battery are found in the Service Instructions for this equipment.

#### 19. Dc Voltage Measurements

Dc voltages may be measured in the range of 0-1,000 volts at a sensitivity of either 1,000 ohms/volt or a sensitivity of 20,000 ohms/volt. The use of Test Prod MX-1410/U permits voltage measurements up to 5,000 volts at a sensitivity of 20,000 ohms/volt only. To measure dc voltages in the range of 0-1,000 volts the procedure is as follows :

*a.* Set FUNCTION switch at **DCV-20K $\Omega$ /V** or **DCV-1K $\Omega$ /V** as desired.

*b.* Set RANGE switch to desired range.

*Caution:* Whenever taking any unknown voltage or current measurement always set RANGE switch to highest range first and then decrease until the appropriate range is reached. Failure to observe this precaution may result in overload and possible damage to the meter or circuit components.

*c.* Plug test leads into meter jacks.

*d.* Place the test lead tips at the points between which the voltage is to be measured, with the red lead connected to the positive side. If the meter deflects backwards, reverse test lead connections.

#### 20. High Dc Voltages

For voltages between 1,000 and 5,000 volts DC, Test Prod MX-1410/U must be used. The procedure is as follows:

*a.* Set FUNCTION switch at **DCV-20K $\Omega$ /V**.

*b.* Set RANGE switch at 500.

*c.* Plug test leads into meter jack

*d.* Plug tip of RED test lead into pin jack end of Test Prod.

**Warning: Be sure equipment under test is turned off before attempting to connect test prod or test leads. Do not turn on until test leads are clipped into place.**

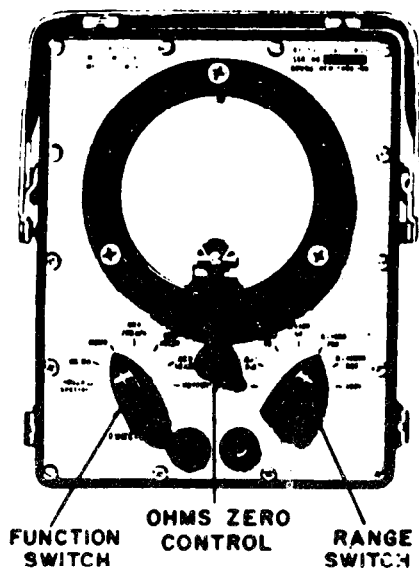


Figure 5. AN/PSM-6 operating controls.

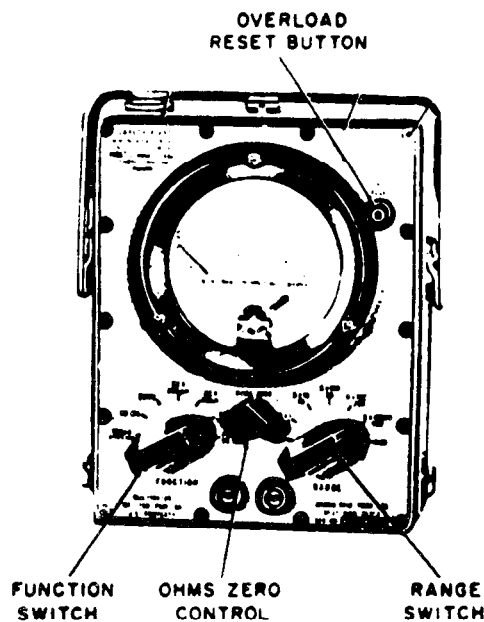


Figure 6. AN/PSM-6A and AN/PSM-6B operating controls.

e. Connect clip on test prod to POSITIVE side of high voltage test point. Attach alligator clip to black test lead tip and clip to NEGATIVE side of test voltage.

f. Turn on high voltage. Read on meter. Full scale deflection corresponds to 5,000 volts.

## 21. AC Voltage Measurements

Ac voltage may be measured in the range of 0-1,000 volts at a sensitivity of 1,000 ohms/volt. The procedure is as follows:

a. Set FUNCTION switch to ACV-1K  $\Omega/V$  and RANGE switch to desired range.

b. Plug test leads into meter jacks.

c. Connect test lead tips to circuit being measured.

Note. The internal rectifier in the multimeter is designed to operate at frequencies up to approximately 1,000 cycles per second. Measurement made at higher frequencies will therefore suffer in accuracy.

## 22. Output Measurements

The procedure for making output voltage measurements is identical to that for ac voltage except that the FUNCTION switch is set at OUTPUT. In this position, a 1-microfarad capacitor is placed in series with one test lead so that any dc component of the voltage being measured is blocked out. Since the impedance of this capacitor varies with

frequency, the accuracy of any output voltage measured will depend upon its frequency.

*Caution:* Any ac voltage with a dc component above 200 volts will damage this capacitor. For such measurements use AC setting and suitable external series capacitor.

## 23. Dc Current Measurements

(Pulse DC MA, AN/PSM-6A and AN/PSM-6B only.) Dc currents from 0-1 ampere may be measured directly on the multimeter, and currents up to 10 amperes may be measured with the use of Instrument Shunt MX-1409/U. The procedure is as follows:

a. Set FUNCTION switch to DC MA.

b. For measurements up to 1 ampere, set RANGE switch at desired range.

c. Plug test leads into meter jacks. Connect other end of leads in series with circuit under test while the power is off. Turn on power and read meter.

d. For measurements above 1 ampere, connect test lead tips to  $\pm$  and 2.5A pin jack or  $\pm$  and 10A pin jacks (as desired) or shunt. Connect circuit under test to corresponding Lead Circuit binding posts. The RANGE switch is set at 2.5 or 10 as required.



*Note.* Excessive contact resistance on the load circuit side will reduce the measurements accuracy considerably. Care should be exercised to keep this resistance at a minimum.

*e.* Turn on power and read meter. For a RANGE switch setting of 2.5, full-scale deflection corresponds to 2.5 amperes and for a RANGE switch setting of 10, full-scale deflection corresponds to 10 amperes.

#### **24. Resistance Measurements**

To measure resistance from 0-10 megohms, the procedure is as follows:

- a.* Set FUNCTION switch at OHMS.
- b.* Set RANGE switch at proper multiplier so that estimated value of resistor to be measured will fall in the upper half of the meter scale.
- c.* Plug test leads into meter jacks.
- d.* Short circuit the free ends of the test leads.
- e.* Adjust OHMS ZERO control until meter pointer reads zero on the OHMS scale This adjustment should be repeated each time the RANGE switch setting is changed to obtain maximum accuracy of measurement.
- f.* Clip the test lead ends across the resistance to be measured. Read resistance on OHMS scale.

#### **25. 100-Microampere Special**

With the FUNCTION switch set at 100  $\mu$ A SPECIAL and the RANGE switch in any position the multimeter becomes a 0-100 microampere dc microammeter measuring the current in series with the test leads.

#### **26. Crystal Current Measurements**

To make standard measurement of crystal current, Test Adapter MX-1411/U as used as follows

- a.* Set FUNCTION switch to DC MA.
- b.* Set RANGE switch to 2.5.
- c.* Plug test leads into meter jacks and connect test lead tip to pin jacks on adapter.
- d.* Connect phone plug to test circuit and read current on 2.5 milliamperes scale.

#### **27. Procedure for AN/FSM-6A**

Perform procedure described in paragraph 18.

*Note.* If there is no meter indication check circuit breaker setting by momentarily depressing the OVERLOAD RESET button. Since the circuit breaker may open when the multimeter transported or otherwise jarred this should be routine check.

#### **28. Dc Voltage Measurements**

Perform procedures described in paragraph 19.

#### **29. High Dc Voltages**

Perform procedure described in paragraph 20.

#### **30. AC Voltage Measurements**

Perform procedures described in paragraph 21.

#### **31. Dc Current Measurements**

Perform procedures described in paragraph 23.

#### **32. Pulse DC MA**

The procedure for making pulsed dc current measurements is identical to that for DC MA except that the FUNCTION switch is set at PULSE DC MA.

## **SECTION III**

### **OPERATING CHECKS AND ADJUSTMENTS**

#### **33. Battery check**

Before making resistance measurements the meter pointer should be zeroed at each resistance range as described in section II. If the pointer cannot be brought to zero at each range the battery voltage is low and the battery should be replaced. The procedure for replacing the battery is found in the Service Instruction for this equipment.

#### **34. Mechanical Zero Adjustment for Meter**

The mechanical zero adjustment for the meter is at the bottom rear of the meter under the panel. The procedure for adjusting the mechanical zero is found in the Service Instructions.

#### **35. AN/PSM-6A Overload Reset Button Adjustment**

In the event the overload protection system has been activated, check the setting of the FUNCTION and RANGE switches and the polarity of the test lead connections. Once the cause of the overload has been determined and remedied, disconnect leads depress OVERLOAD RESET button, and release. If further testing of voltage results in activating the overload protection system, perform troubleshooting procedure described in service manual.

## SECTION IV

### EMERGENCY OPERATION AND REPAIR

#### 36. Emergency Operation

With the exception of parts which are common to all functions of the multimeter, such as the meter and switches, the measurement circuits are in general, independent. If a resistor burns out in one function position, therefore, the remaining functions may still operate accurately. If a part

which is common to all functions is defective, reference must be made to the Service Instructions and Parts Breakdown for this equipment.

#### 37. Repair

All repairs possible by personnel of the operating organization are described in the Service Instructions for this equipment.

## SECTION V

### MAINTENANCE INSTRUCTIONS

#### 38. Scope of Maintenance

The maintenance duties assigned to the operator of the equipment are listed below together with a reference to the paragraphs covering the specific maintenance function.

- a. Daily preventive maintenance checks and services (para 41).
- b. Weekly preventive maintenance checks and services (para 42).
- c. Cleaning (para 43).
- d. Checks and adjustments.
  - (1) Battery check (para 33).
  - (2) Meter zeroing (para 34).
  - (3) AN/RSM-6A overload reset button (para 35).

#### 39. Preventive Maintenance

Preventive maintenance is the systematic care servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. *Systematic Care.* The procedures given in paragraphs 40 through 42 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment.

b. *Preventive Maintenance Checks and Services.* The preventive maintenance checks and services charts (para 41 and 42) outline functions to be performed at specific intervals. These checks and services are to maintain Army electronic equipment in a combat-serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the chart indicates what to check, how to check, and what the normal conditions are. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

#### 40. Preventive Maintenance Checks and Services Periods

Preventive maintenance checks and services of the equipment are required daily and weekly. Paragraphs 41 and 42 specify the items to be checked and serviced. In addition to the routine daily and weekly checks and services, the equipment should be rechecked and serviced immediately before going on a mission and as soon after completion of the mission as possible.

### 41. Daily Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure	References
1	Completeness.....	See that the equipment is complete (para 5 and 6).....	None.
2	Exterior surfaces.....	Clean the exterior surfaces, including the panel and meter glass (para 43). Check the meter glass for cracks.	None.
3	Controls and indicator.....	During operation, observe that the mechanical action of each knob and switch is smooth and free of external or internal binding, and that there is no excessive looseness. Also, check the meter for sticking or bent pointer.	None.
4	Operation.....	During operation, be alert for any unusual performance or condition.	None.

### 42. Weekly Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure	References
1	Cables.....	Inspect cords, cables, and wires for chafed, cracked, or frayed insulation. Replace connectors that are broken, arced, stripped, or worn excessively.	None.
2	Handle and latches.....	Inspect the handle, latches, and hinges for looseness. Replace or tighten as necessary.	None.
3	Metal surfaces.....	Inspect exposed metal surfaces for rust and corrosion. If required, refer to higher echelon.	None.
4	Batteries and compartment..	Inspect the batteries for loose terminals and leakage. Check the compartment for corrosion.	None.

### 43. Cleaning

Inspect the exterior of the equipment. The exterior surfaces should be free of dust, dirt, grease, and fungus.

a. Remove dust and loose dirt with a clean, soft cloth.

**Warning:** Cleaning compound is flammable and its fumes are toxic. Provide adequate ventilation. *Do not* use near a flame.

b. Remove grease, fungus, and ground-in dirt from the case; use a cloth dampened (not wet)

with Cleaning Compound (Federal stock No. 7930-395-9542).

c. Remove dust or dirt from plugs and jacks with a brush.

**Caution:** Do not press on the meter face (glass) when cleaning; the meter may become damaged.

d. Clean the front panel, meter, and control knobs; use a soft, clean cloth. If necessary, dampen the cloth with water; mild soap may be used.

## APPENDIX I

### REFERENCES

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**DA Pam 310-4**      **Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders, Army Equipment Record Procedures.**

**TM 38-750**

## APPENDIX II

### BASIC ISSUE ITEMS LIST

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#### Section I. INTRODUCTION

##### 1. General

a. This appendix lists items supplied for initial operation. The list includes tools parts and material issued as part of the major end item. The list includes all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

b. Columns are as follows:

- (1) *Federal stock number.* This column lists the 11-digit Federal stock number.
- (2) *Designation by model.* The dagger (†) indicates the manufacturer's part number and model in which the part is used.
- (3) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

(4) *Unit of issue.* The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage requisitioning, allowances and issue purposes.

(5) *Expendability.* Nonexpendable items are indicated by NX. Expendable items are not annotated.

(6) *Quantity authorized.* Under "Item Comprising an Operable Equipment," the column lists the quantity of items supplied for the initial operation of the equipment.

(7) *Illustration.* Not used.

##### 2. Batteries

Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization, in accordance with SB 11-6.

## SECTION II. FUNCTIONAL PARTS LIST

FEDERAL SPEC. NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
6625-543-1698		MULTIMETER AN/PSM-5; AN/PSM-6A: Ranges 0 to 5000 vdc in 8 steps, 0 to 1,000 vac in 7 steps, 0 to 10 amps dc in 3 steps, 0 to 500 ma dc in 7 steps, 0 to 10 meg in 5 steps; ±3% accuracy; 50 ua sensitivity; oper power 13.4 vdc; 4-1/2 in x 6-3/8 in x 7-3/4 in o/a dim; metal case, gray finish; spcl features: Batt tapped at 1.34 v, output measurement available for use at all ac range sw settings, ohms have corresponding cntr indication of 25; 250; 2,500; 25,000; 250,000 ohms					
6625-957-4374		MULTIMETER AN/PSM-6B: Ranges 0-1,000 vdc in 7 steps, 0-100 ua in 7 steps, 0-1,000 ma in 7 steps, 0-1,000 vac in 7 steps, 0-10,000,000 ohms dc resistance in 10 steps; oper power reg 12.06 v (BA-1363/U) and 1.34 v (BA-1328/U); o/a dim 8-1/2 in x 7-1/4 in x 4-1/2 in; aluminum case w/enamel finish; provided with overload protective circuit breakers					
		NOTE: Model Column 1 refers to AN/PSM-6, Bruno Industries Part. No. 56-5002A; Column 2 refers to AN/PSM-6, Bruno Industries Part No. 56-5002B; Column 3 refers to AN/PSM-6A; Column 4 refers to AN/PSM-6B					
		ITEMS COMPRISING AN OPERABLE EQUIPMENT					
ORD THRU AOC		TECHNICAL MANUAL TM11-6625-475-10			2		
	†	MULTIMETER MX-70/PSM-6 (Basic component)					
	†	MULTIMETER MX-70A/PSM-6 (Basic component)					
	†	MULTIMETER MX-70B/PSM-6A (Basic component)					
	†	MULTIMETER MX-70C/PSM-6 (Basic component)					
6625-504-2893	† † † †	ADAPTER, TEST MX-1411/U			1		
6135-295-2613	†	BATTERY, DRY: 13.4 V, tapped at 1.34 V; Bruno Industries Part. No. 56-1010B			1		
6135-274-4039	† †	BATTERY, DRY: BA1328/U			1		
6135-672-8604	† †	BATTERY, DRY: 12.06 V; Bruno Industries Part. No. 123-1046			1		
6135-577-8309		BATTERY, DRY BA1363/U			1		
5:20-072-6214	† † † †	KEY, SOCKET HEAD SCREW: Bruno Industries Part. No. 162-2801			1		
6625-649-1791	† † † †	PROD, TEST MX-1410/U			1		
6625-649-2434	† † † †	SHUNT, INSTRUMENT, MULTIRANGE MX-1409/U			1		
6625-553-1442	† † † †	TEST LEAD SET CX-2140A/U			1		

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	ERP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
		AN/PBN-6; 6A; 6B (continued)					
		RUNNING SPARE ITEMS					
		NO PARTS AUTHORIZED FOR STOCKAGE AT OPERATOR'S LEVEL					

**By Order of the Secretary of the Army :**

HAROLD K. JOHNSON,  
*General, United States Army,*  
*Chief of Staff.*

Official:

KENNETH G. WICKHAM,  
*Major General, United States Army,*  
*The Adjutant General*

Distribution:

*Active Army:*

To be distributed in accordance with DA Form 12-32 Section II (Unclas) requirements for Organizational Maintenance applicable to the Hawk missile system.



## Change in force Change 2

TM 11-6625-475-10

\*C2

CHANGE }  
No. 2 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON DC, 29 July 1981

### Operator's Manual

**AN/PSM-6 (NSN 6625-00-643-1686)**  
**AN/PSM-6A (NSN 6625-00-656-5871)**  
**AN/PSM-6B (NSN 6625-00-957-4374)**

TM 11-6625-475-10, 4 August 1966, is changed as follows:

The title of the manual is changed as above.

Page 3. Paragraph 3 is superseded as follows:

#### 3. Indexes of Publications

*DA Pam 310-4.* Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

*Paragraph 4* is superseded as follows:

#### 4. Forms and Records

*a. Reports of Maintenance and Unsatisfactory Equipment.* Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

*b. Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy) (ROD) as prescribed in AR 735-11-2/NAVMATINST 4355.73/AFR 400-54/MCO 4430.3E.

*c. Discrepancy in Shipment Report.* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-381/NAVSUPINST 4610.33B AFR 75-18/MCO P4610.19C and DLAR 4500.15.

#### 4.1. Reporting of Errors

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028, Recommended Changes to DA Publications

and Blank Forms, and forwarded directly to Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ, 07703. A reply will sent directly to you.

#### 4.2. Reporting of Equipment Improvement Recommendations (EIR)

EIR's will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed directly to Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ, 07703.

#### 4.3. Administrative Storage

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 740-90-1.

#### 4.4. Destruction of Army Electronics Materiel

Destruction of Army Electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

##### WARNING

The batteries in this multimeter contain mercury and are to be handled in the following manner:

*a.* Do not dispose in fire.

*b.* Do not short circuit.

*c.* Return batteries to the property disposal officer for disposal in accordance with DLSC Handbook 41601.

\*This change supersedes Change 1, dated 27 February 1974.

## 4.5. Items Comprising an Operable Equipment

NSN	QTY	Nomenclature and/or part number	Usable on code	Fig. No.
<b>NOTE</b>				
Number 1 in the usable on code column refers to items comprising an operable AN/PSM-6, 56-5002A, Bruno Industries, number 2 refers to items comprising an operable AN/PSM-6, 56-5002B. Bruno Industries; number 3 refers to items comprising an operable AN/PSM-6A; and number 4 refers to items comprising an operable AN/PSM-6B.				
6625-00-643-1686		Multimeter AN/PSM-6		1,2,5
6625-00-656-5871		Multimeter AN/PSM-6A		3,6
6625-00-957-4374		Multimeter AN/PSM-6B		3,6
<b>NOTE</b>				
Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization in accordance with SB 11-6.				
6625-00-713-0477	1	Multimeter ME-70/PSM-6 (Basic component)	1	2
6625-00-713-0477	1	Multimeter ME-70A/PSM-6 (Basic component)	2	1
6625-00-713-0477	1	Multimeter ME-70B/PSM-6A (Basic component)	3	3
6625-00-713-0477	1	Multimeter ME-70C/PSM-6 (Basic component)	4	
6625-00-504-2883	1	Adapter, Test MX-1411/U	1,2,3,4	1
6135-00-295-2613	1	Battery, Dry; 13.4V, tapped at 1.34V; 56-1010B Bruno Industries, BA-1085/U	1	1
6135-00-274-4035	1	Battery, Dry; BA-1328/U	2,3,4	1,3
6135-00-577-8309	1	Battery, Dry; BA-1363/U	2,3,4	1,3
6625-00-649-1991	1	Prod, Test MX-1410/U	1,2,3,4	1,2
6625-00-649-2434	1	Shunt, Instrument, Multirange MX-1409/U	1,2,3,4	1,2
6625-00-553-1442	1	Test Lead Set, CX-2140A/U	1,2,3,4	1,2

Page 9. Paragraph 27. The title of the paragraph is changed as follows:

### 27. Procedures for ME-70C/PSM-6B

Paragraph 35. The title of the paragraph is changed as follows:

### 35. ME-70C/PSM-6B Overload Reset Button Adjustment

*Page 11.* Paragraph 43 is superseded as follows:

### 43. Cleaning

Inspect the exterior of the equipment. The exterior surfaces should be free of dust, dirt, grease, and fungus.

a. Remove dust and loose dirt with a clean, soft cloth.

#### WARNING

Adequate ventilation should be provided while using TRICHLOROETHANE. Prolonged breathing of vapor should be avoided. The solvent

should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately,

b. Remove grease, fungus, and ground-in dirt from the case; use a cloth dampened (not wet) with cleaning compound NSN 6850-00-984-5853; also known as Freon type TF, NSN 6850-00-105-3084.

c. Remove dust or dirt from plugs and jacks with a brush.

#### CAUTION

Do not press on the meter face (glass) when cleaning; the meter may become damaged.

d. Clean the front panel, meter, and the control knobs; use a soft, clean cloth. If necessary, dampen the cloth with water; mild soap may be used.

Page 13. Appendix II is deleted in its entirety.

By Order of the Secretary of the Army:

Official:

E. C. MEYER  
*General, United States Army*  
*Chief of Staff*

ROBERT M. JOYCE  
*Brigadier General, United States Army*  
*The Adjutant General*

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-32. Organizational Maintenance requirements for HAWK and HAWK Improved Missile System.

\*U.S. GOVERNMENT PRINTING OFFICE : 1990 - 262-912 (30365)

