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TM
1945

TM 11-1230

WAR DEPARTMENT TECHNICAL MANUAL

U.S. Dept. of Army

TEST SET AN/MPM-3



RESTRICTED. DISSEMINATION OF RESTRICTED MATTER.
No person is entitled solely by virtue of his grade or position to know-
edge or possession of classified matter. Such matter is entrusted only to
those individuals whose official duties require such knowledge or posses-
sion. (See also paragraph 23b, AR 380-5, 15 March 1944.)

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23 MARCH 1945

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WAR DEPARTMENT,
WASHINGTON 25, D. C., 23 March 1945.

TM 11-1230, Test Set AN/MPM-3, is published for the information and guidance of all concerned.

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(For explanation of symbols see FM 21-6.)

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DESTRUCTION NOTICE

WHY — To prevent the enemy from using or salvaging this equipment for his benefit.

WHEN — When ordered by your commander.

- HOW** —
1. Smash — Use sledges, axes, handaxes, pickaxes, hammers, crow-bars, heavy tools.
 2. Cut — Use axes, handaxes, machetes.
 3. Burn — Use gasoline, kerosene, oil, flame throwers, incendiary grenades.
 4. Explosives — Use firearms, grenades, TNT.
 5. Disposal — Bury in slit trenches, fox holes, other holes. Throw in streams. Scatter.

USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT.

- WHAT** —
1. Smash — Tuning assemblies, tubes, meters, dials, switches, cases, chassis.
 2. Cut — Cables, wiring, transformer windings, choke windings.
 3. Burn — Manuals, schematic diagrams, wooden cases, data obtained with test equipment.
 4. Bend — Metal cases, chassis, nameplates.
 5. Bury or scatter — All of the above materials after destroying their usefulness.

DESTROY EVERYTHING

RESTRICTED

TEST SET AN/MPM-3

1. INTRODUCTION.

a. The purpose of this manual is to serve as a guide for Test Set AN/MPM-3 and to present general information on each individual component. This manual is *not* to be used as a source of complete information on the components of Test Set AN/MPM-3. The components are listed below with the technical manuals (TMs) which cover the separate components in detail.

<i>Quantity</i>	<i>Component</i>	<i>TM</i>
1	Echo Box TS-207/UP	11-1212
1	Fluxmeter TS-15A/AP	11-2559
1	Power Meter TS-125/AP	11-1217
1	Calibrator I-189-A	11-1227
1	Range Calibrator I-223-A	11-2528
1	Signal Generator TS-155/UP	11-2657
1	Signal Generator TS-301/U	11-2639
1	Wavemeter Test Set TS-117/GP	11-2538
2	Chest CH-273	
1	Crystal Adapter UG-119/UP	11-1212
10	Crystal 1N21B	
1	Antenna Assembly AS-23/AP	11-1212
1	Dummy Antenna TS-208/MPM	11-1331
1	Test Antenna TS-210/MPM	11-1331
1	Terminal Box J-74/MPM	11-1212
2	Adapter M-358	11-1331
2	Adapter M-359	11-1331
2	Radio Frequency Jack UG-30/U	
2	Plug PL-258	
1	Thermometer, Henry J. Green No. 213	
1	Thermometer case, Henry J. Green No. 600	
1	Cord CG-70/MPM	
1	Cord CG-71/MPM	
1	Cord CG-138/U	
1	Cord CX-146/MPM-3	
1	Spanner Wrench MX-219/UP	
1	Filter Plug Tool MX-223/U	
1	Pothead Tool MX-224/U	
1	Adjusting Tool MX-225/U	
1	Offset Wrench MX-226/U	
1	Offset Wrench MX-227/U	
1	Spanner Wrench MX-228/U	

<i>Quantity</i>	<i>Component</i>	<i>TM</i>
1	Special Tool MX-229/U	
10	Lamp LM-54	
1	Case, for neon lamps	
8	Battery BA-30	

b. Test Set AN/MPM-3, used in conjunction with Test Set AN/GPM-1 (see TM 11-1080), furnishes the test equipment required for third echelon maintenance of Radio Set SCR-545-A and Radio Equipment RC-145-A.

c. The components of Test Set AN/MPM-3 are carried in two Chests CH-273, located on a shock-mounted base in the center of the van which houses Test Set AN/GPM-1.

2. POWER.

The power for operating the test equipment can be obtained either from Power Unit PE-95, supplied with Test Set AN/GPM-1, or from a commercial source. Convenience outlets for 115-volt, 60-cycle power are provided on both sides of the van. Six-volt, 12-volt, and 24-volt d-c power is supplied by batteries located in the front of the van. These batteries are charged by Rectifier Power Unit PP-34/MSM.

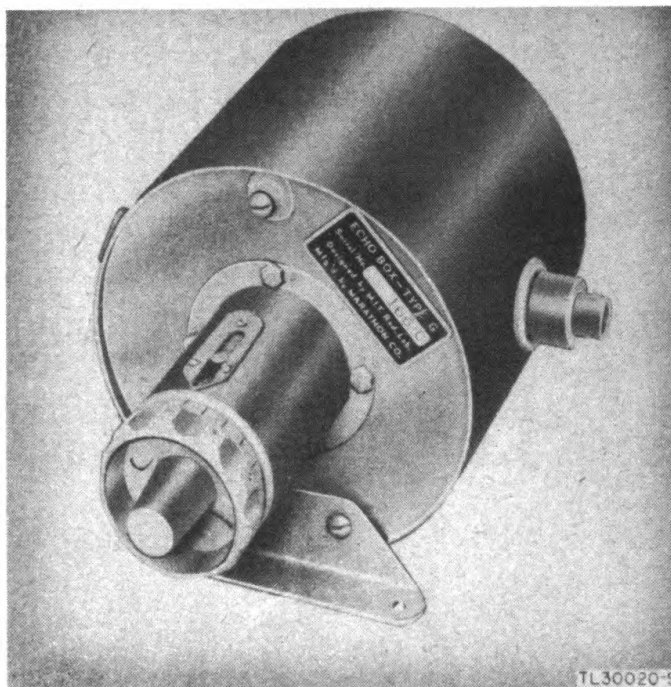


Figure 1. Echo Box TS-207/UP.

3. ECHO BOX TS-207/UP.

Echo Box TS-207/UP (fig. 1) is a cylindrical cavity used to measure the frequency and to check the relative power output of the track transmitter of Radio

Set SCR-545-A. It is also used to reradiate part of the transmitter output signal back to the antenna in order to check the over-all efficiency of the radio set. The major component of the echo box is a cylindrical cavity inside of which is a movable piston or plunger that may be moved axially to vary the length of the cavity. Antenna Assembly AS-23/AP is used as the pick-up and radiating antenna for the echo box. When the echo box is used to measure power, crystal 1N21B, Crystal Adapter UG-119/UP, Cord CG-71/MPM, and Terminal Box J-74/MPM are used to connect the echo box to Test Set I-179 which is a part

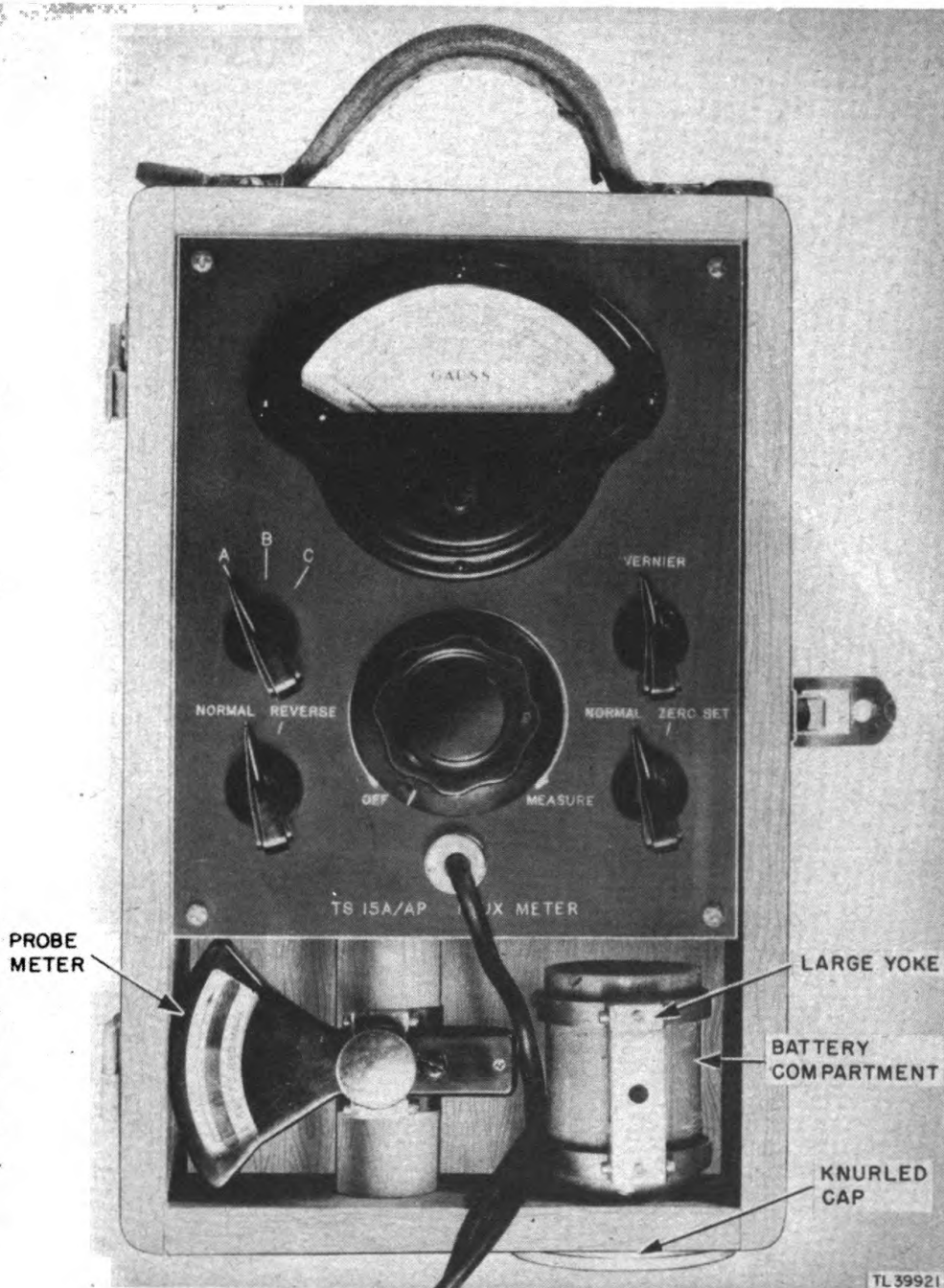


Figure 2. Fluxmeter TS-15A/AP.

of Test Set AN/GPM-1. A complete description of the installation, operation, preventive maintenance, and functioning of parts of the echo box is given in TM 11-1212.

4. FLUXMETER TS-15A/AP.

Fluxmeter TS-15A/AP (fig. 2) is a portable, self-contained test instrument designed to measure magnetic flux density in gaussses between the poles of magnets used in X- and S-band transmitters. The major components of the fluxmeter are a probe meter and a gaussmeter connected by a shielded cable. In operation, the probe meter is placed between the poles of the magnet, the needle on the probe meter is adjusted to the calibration mark, and the flux density is read on the gaussmeter. The probe meter, the 1.5-volt battery which supplies the operating power, and the shielded cable are stored in the wooden case which contains the gaussmeter. A complete description of the installation, operation, preventive maintenance, and functioning of the parts of the fluxmeter is given in TM 11-2559.

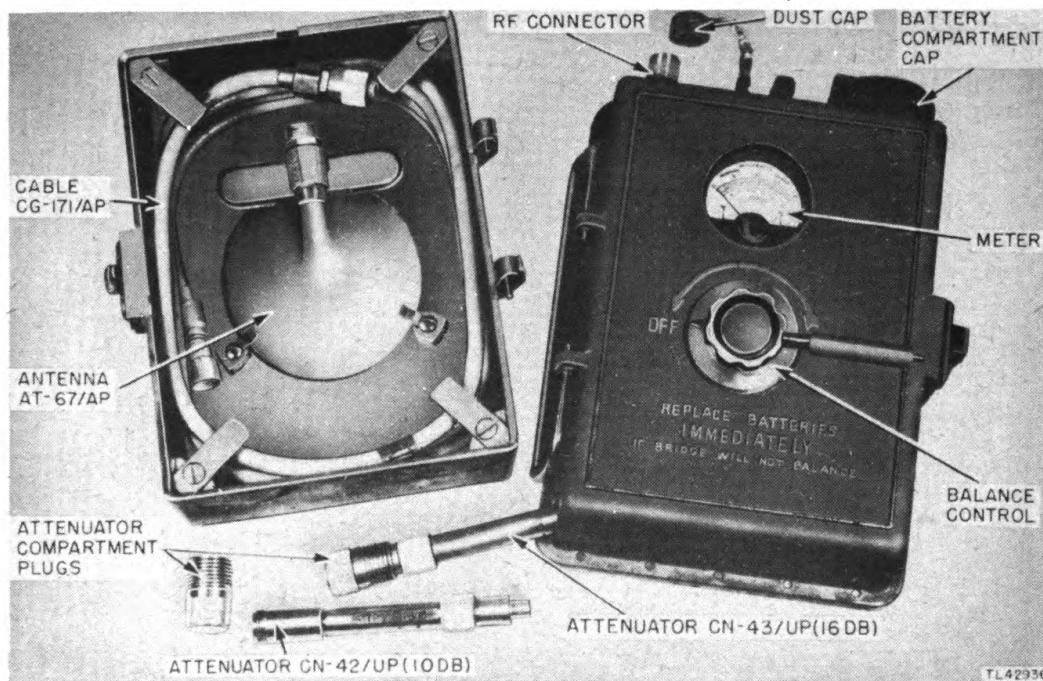


Figure 3. Power Meter TS-125/AP.

5. POWER METER TS-125/AP.

Power Meter TS-125/AP (fig. 3) is a compact battery-operated wattmeter used for measuring radio-frequency (r-f) power. The instrument is encased in a cast aluminum box with an indicating meter and balance control on the top. A pick-up horn antenna and an r-f cable are stored in the lid, and two attenuators are stored in compartments in the case. Power for the instrument is obtained from three standard flashlight batteries (fig. 22). In operation the r-f energy is

fed to the power meter either by means of the pick-up antenna or by a direct connection to a directional coupler on the radar set being tested. The attenuators provided with the meter are used to increase the range of the meter by attenuating the r-f power. They are connected between the r-f cable and the input connector of the meter. The instrument gives readings of average r-f power. A detailed description of the meter and information on installation, operation, preventive maintenance, theory, and trouble shooting will be found in TM 11-1217.

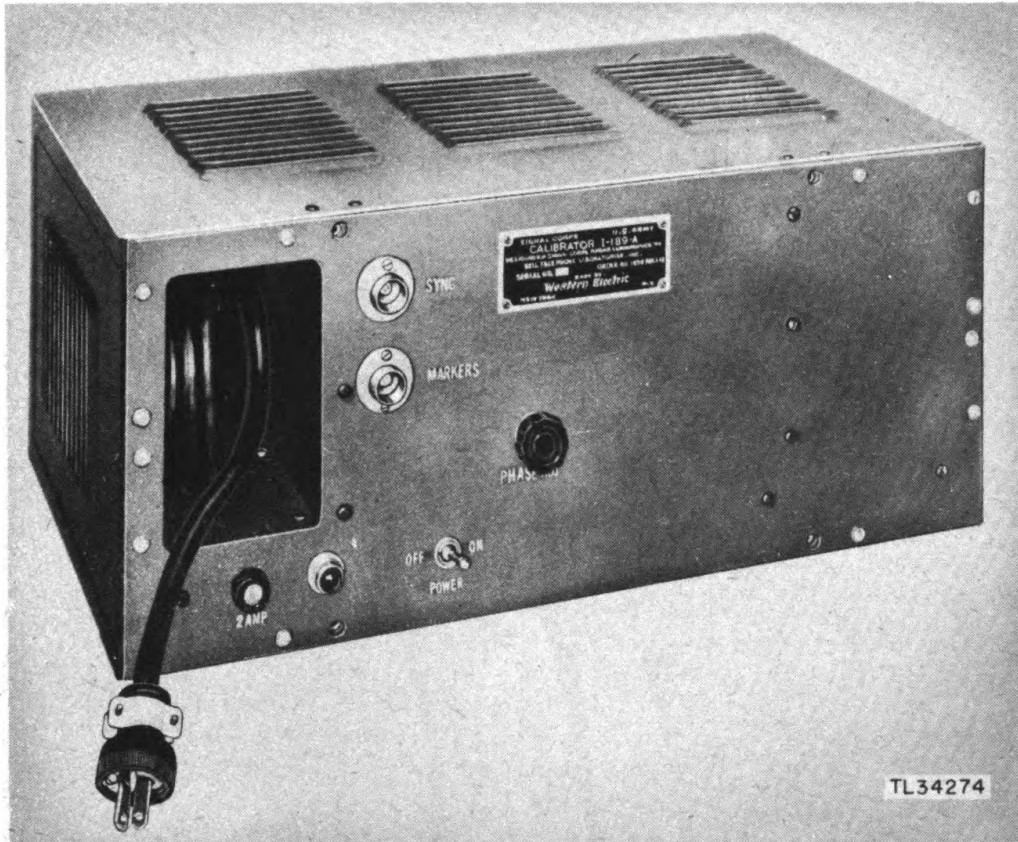


Figure 4. Calibrator I-189-A.

6. CALIBRATOR I-189-A.

Calibrator I-189-A (fig. 4) is a crystal-controlled oscillator used to check the accuracy of Range Unit BC-1053-A of Radio Set SCR-545-A. The calibrator furnishes a range-marker signal which is applied to the video input of the range scope and a synchronizing signal which is used to trigger the sweep circuit of the range scope. The range indications of Range Unit BC-1053-A may be compared to the range markers from the calibrator for accuracy. Power for the calibrator may be obtained from a 115-volt, 60-cycle, a-c power source. A complete description of the installation, operation, preventive maintenance, and functioning parts of the calibrator is given in TM 11-1227 and in TM 11-1527

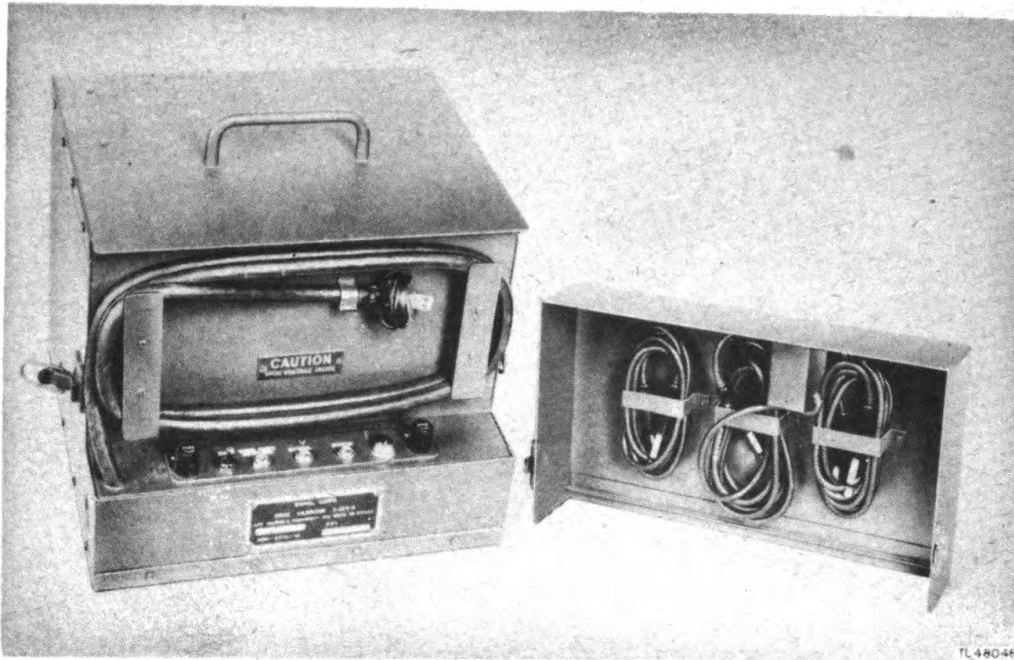


Figure 5. Range Calibrator I-223-A.

7. RANGE CALIBRATOR I-223-A.

Range Calibrator I-223-A (fig. 5) is used to calibrate Control Unit BC-1266-A of Radio Equipment RC-145-A. The calibrator produces three outputs: a sine-wave output of 163.94 kilocycles (kc), a synchronizing pulse, and a range-marker pulse having a very short duration and a pulse repetition frequency which corresponds to a range separation of 1,000 yards between pulses. The range calibrator is housed in a metal case and is designed to operate from a 115-volt a-c power source. The panel cover contains three cables which are used to connect the calibrator to the radar set control unit under test and also to an oscilloscope. Ordinarily the synchronizing pulse is used to trigger the control unit of the set being tested, and the range-marker pulses are fed to the A-scope on the control unit where they appear as pips separated by 1,000 yards of range. The range indications of the radar set may then be compared with the range as indicated by the marker pips. Detailed information on the range calibrator is given in TM 11-2528.

8. SIGNAL GENERATOR TS-155 UP.

Signal Generator TS-155 UP (fig. 6) is used to measure the sensitivity and over-all performance of the track transmitter and receiver in Radio Set SCR-545-A. The signal generator has a built-in wattmeter and can be used to measure the relative power output of Radio Transmitter BC-1037-A. Antenna Assembly AS-23/AP and Cord CG-70/MPM are used with the signal generator when it is used as a source of S-band frequency signals. The signal generator produces a pulse-modulated signal of known frequency and known repetition rate, which is used to check the sensitivity of the track receiver. Power for the signal generator



Figure 6. Signal Generator TS-155/UP.

may be obtained from a 115-volt, 60-cycle, a-c power source. A complete description of the installation, operation, preventive maintenance, and functioning of parts of the signal generator is given in TM 11-2657.

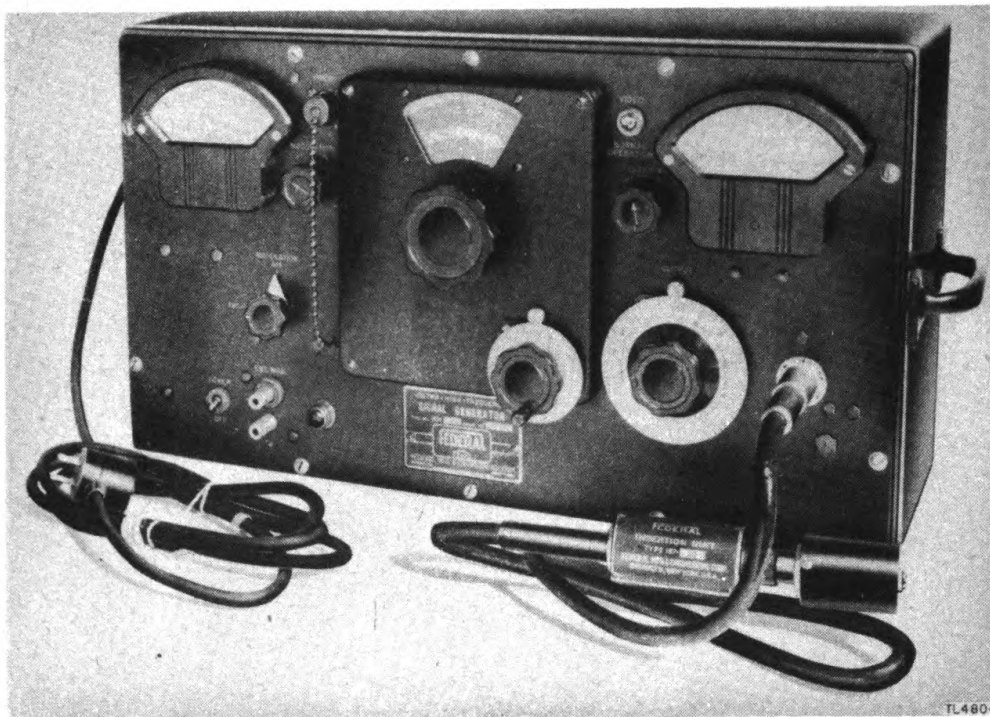


Figure 7. Signal Generator TS-301/U.

9. SIGNAL GENERATOR TS-301/U.

Signal Generator TS-301/ U (fig. 7) is a test instrument used in aligning the intermediate-frequency (i-f) stages of the receivers of Radio Set SCR-545-A. The correct signal from the signal generator is fed into the receiver through the signal cable provided. The signal generator has an r-f output continuously variable from 7.6 to 330 megacycles. The r-f output may be unmodulated (continuous wave) or may be modulated in one of three ways: externally modulated, internally modulated, or pulse-modulated. The signal generator operates from a 105- to 125-volt, 40- to 60-cycle, a-c power source, or it may be converted to operate from a 205- to 250-volt, 40- to 60-cycle, a-c power source. For complete information on the signal generator refer to TM 11-2639.

10. WAVEMETER TEST SET TS-117/GP

Wavemeter Test Set TS-117/GP (fig. 8) is used for measuring frequencies of radar sets operating in the S-band. The test set is a self-contained unit requiring no power for its operation. It is housed in a metal case with all controls readily accessible. A calibration chart is mounted on the back. Frequency measurements may be made readily either by placing the set in a field of r-f energy or by making a direct connection to the source of r-f energy. In making frequency measurements a cavity is adjusted to resonance by means of a micrometer head whose reading is converted to frequency by means of the calibration chart provided. For complete information on the test set refer to TM 11-2538.



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Figure 8. Wavemeter Test Set TS-117/GP.

11. CHEST CH-273.

Chest CH-273 (fig. 9) is a wooden chest 42 $\frac{1}{2}$ inches long, 22 $\frac{1}{4}$ inches wide, and 20 $\frac{3}{4}$ inches high. Two of these chests are furnished to store the smaller components of Test Set AN/MPM-3.

12. ANTENNA ASSEMBLY AS-23/AP.

Antenna Assembly AS-23/AP (fig. 10) is an S-band dipole antenna with a type N receptacle at the base. It is used with Echo Box TS-207/UP, Signal Generator TS-155/UP, and Wavemeter Test Set TS-117/GP.

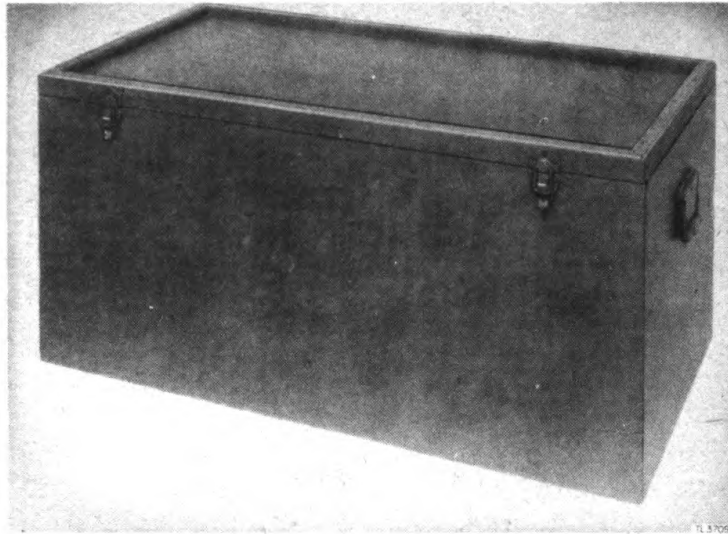


Figure 9. Chest CH-273.

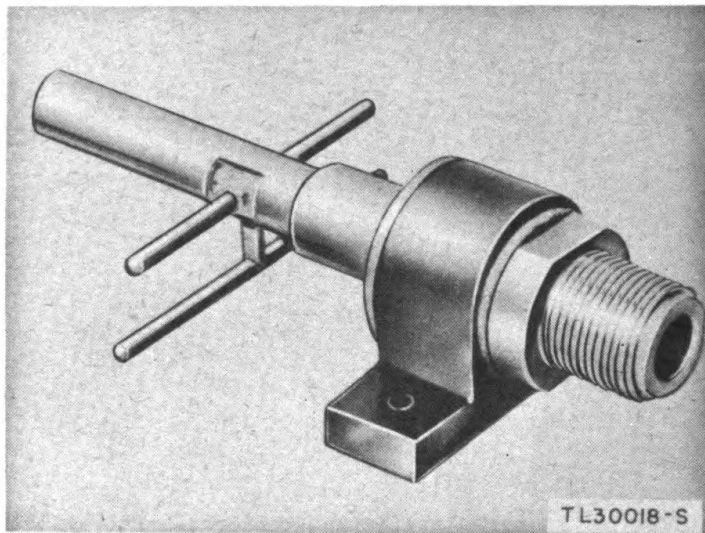


Figure 10. Antenna Assembly AS-23/AP.

13. DUMMY ANTENNA TS-208/MPM.

Dummy Antenna TS-208/MPM (fig. 11) is a connector Plug PL-259-A with a 47-ohm, 1-watt resistor soldered between the center pin and the shell inside the connector. It is used as a transmitter dummy load for aligning Radio Receiver and Transmitter BC-1267-A of Radio Equipment RC-145-A.

14. TEST ANTENNA TS-210/MPM.

Test Antenna TS-210/MPM (fig. 12) consists of an Adapter M-359, with a cap on the female end, and a silver-plated steel rod 4 inches long with a phenolic knob 5/16 inch in diameter cemented on one end. The other end of the rod goes through a hole drilled in the cap and is soldered to the center contact of the adap-



Figure 11. Dummy Antenna TS-208/MPM.

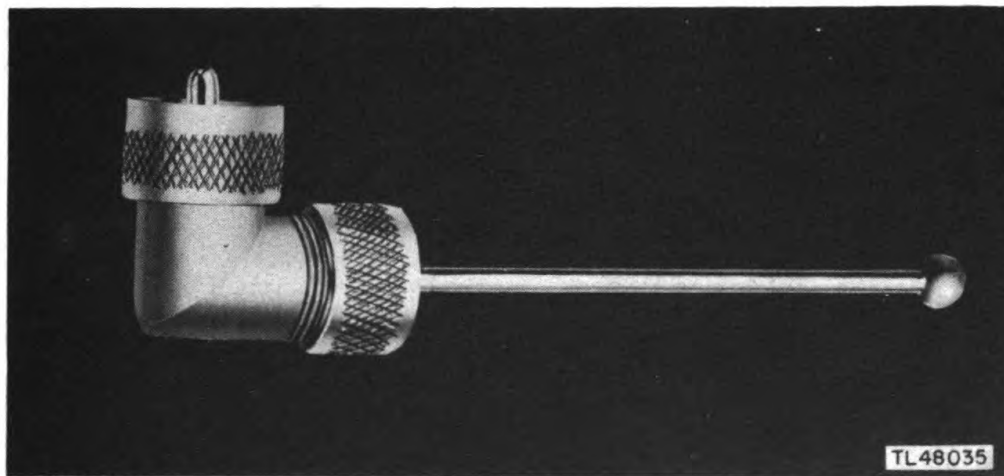


Figure 12. Test Antenna TS-210/MPM.

ter. The antenna is used with Adapter M-358 and Dummy Antenna TS-208/MPM for aligning Radio Receiver and Transmitter BC-1267-A of Radio Equipment RC-145-A.

15. TERMINAL BOX J-74/MPM.

Terminal Box J-74/MPM (fig. 13) is a small steel box with a removable cover. At one end of the box is Socket SO-239 (a video-type receptacle), and at the other end are two screw-type terminals. The box contains a 2-microfarad, 600-volt, oil-filled capacitor. This terminal box is used to connect the output of the crystal used in Echo Box TS-207/UP to a multimeter such as Test Set I-179, which is part of Test Set AN/GPM-1.

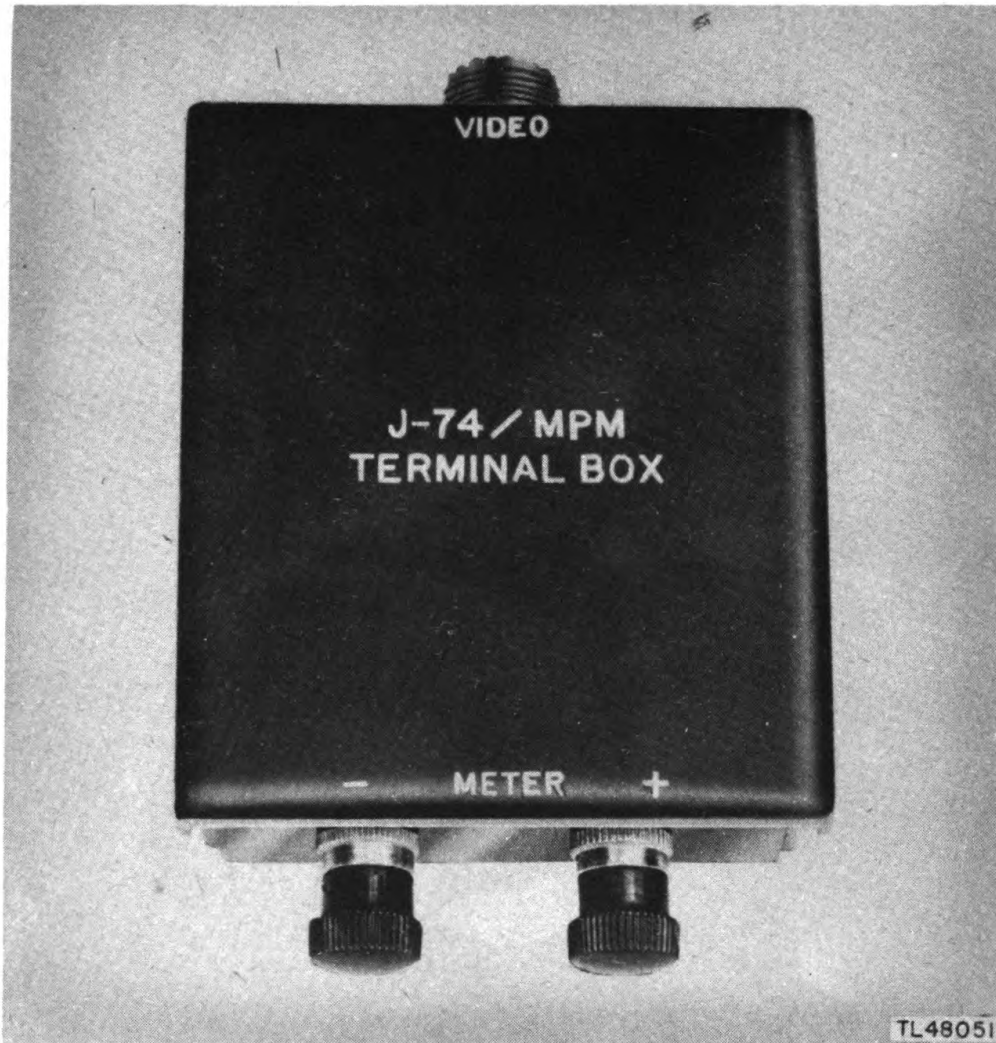


Figure 13. Terminal Box J-74/MPM.

16. ADAPTERS.

a. Adapter M-358 (fig. 14) is a T-type connector used to connect Dummy Antenna TS-208/MPM and Test Antenna TS-210/MPM to the receiver of Radio Equipment RC-145-A for alignment purposes.

b. Adapter M-359 (fig. 14) is a video-type, male-to-female, right angled connector used with Adapter M-358 for alignment of the receiver of Radio Equipment RC-145-A. It connects Socket SO-239 and Plug PL-259. The male portion of the adapter has a coupling unit to fit Socket SO-239.

c. Radio Frequency Jack UG-30/U (fig. 14) has a type N receptacle at each end. It is used to connect two r-f coaxial cables in order to provide increased length.

d. Plug PL-258 (fig. 14) is a video-type connector with two female sockets.

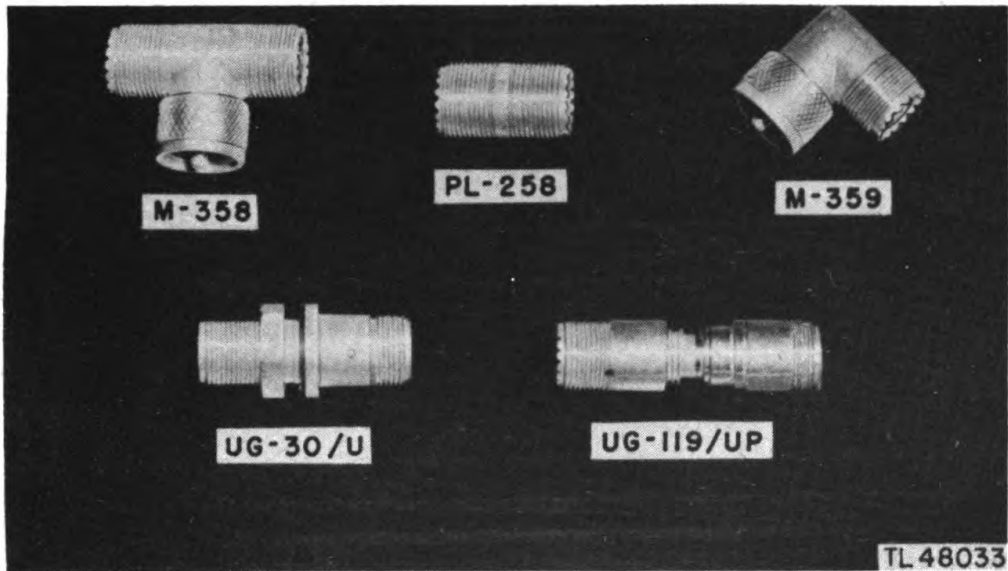


Figure 14. Adapters and Plugs.

It fits the male portion of Plug PL-259 and permits interconnection of cables which are fitted with Plug PL-259.

e. Crystal Adapter UG-119/UP (fig. 14) has a type N plug on one end and Socket SO-239 on the other end. The adapter serves as a holder for crystal 1N21B, which is used with Echo Box TS-207/UP.



Figure 15. Crystal 1N21B.

17. CRYSTAL 1N21B.

Crystal 1N21B (fig. 15) is a cartridge-type converter for use in microwave detection. A sharpened tungsten whisker, placed on a smooth silicon surface, supplies the rectifying contact. The crystal fits Crystal Adapter UG-119/UP.

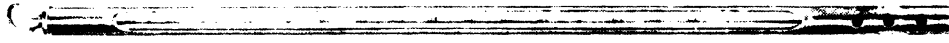


Figure 16. Thermometer.

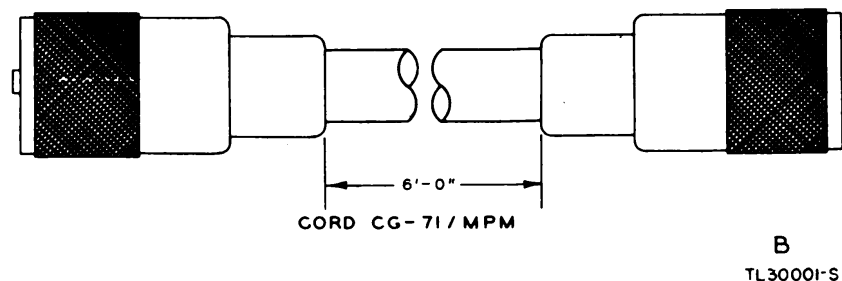
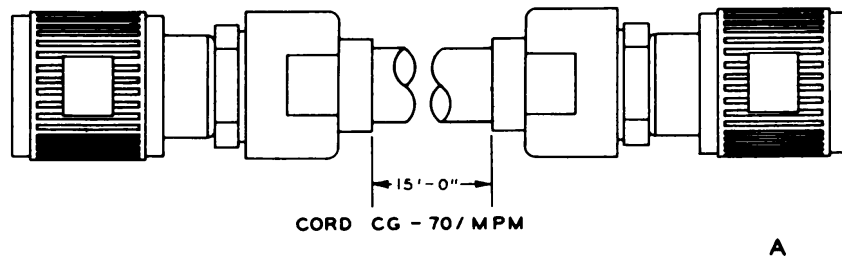
18. THERMOMETER AND CASE.

The thermometer (fig. 16), which consists of a glass tube with mercury element, is contained in a metal case 1.4 inches long and approximately $\frac{3}{8}$ inch in diameter. The case has an opening to permit temperature readings over the range of -40° to $+120^{\circ}$ F. The glass tube is replaceable by unscrewing the cap from the end of the case. This cap, which holds the glass tube in place, is lined with a special shock-absorbing material.

19. CORDS.

The following cords are included in Test Set AN MPM-3.

a. Cord CG-70 MPM. This cord (fig. 17-A) is a 15-foot length of Radio Frequency Cable RG-9 U terminated at each end with Radio Frequency Plug



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Figure 17. Cords CG-70 MPM and CG-71 MPM.

UG-24/U. It is stranded single-conductor, double-shielded r-f cable of medium size, with a vinyl covering. It is used to connect Echo Box TS-207/UP or Signal Generator TS-155/UP to Antenna Assembly AS-23/AP.

b. Cord CG-71/MPM. This cord (fig. 17-B) is a 6-foot length of Radio Frequency Cable RG-13/U terminated at each end with Plug PL-259. Radio Frequency Cable RG-13/U is a stranded, single-conductor, double-shielded r-f cable with a vinyl protective covering. It is used to connect the output of Echo Box TS-207/UP to Terminal Box J-74 MPM, and Signal Generator TS-155/UP to Radio Receiver BC-1055-A.

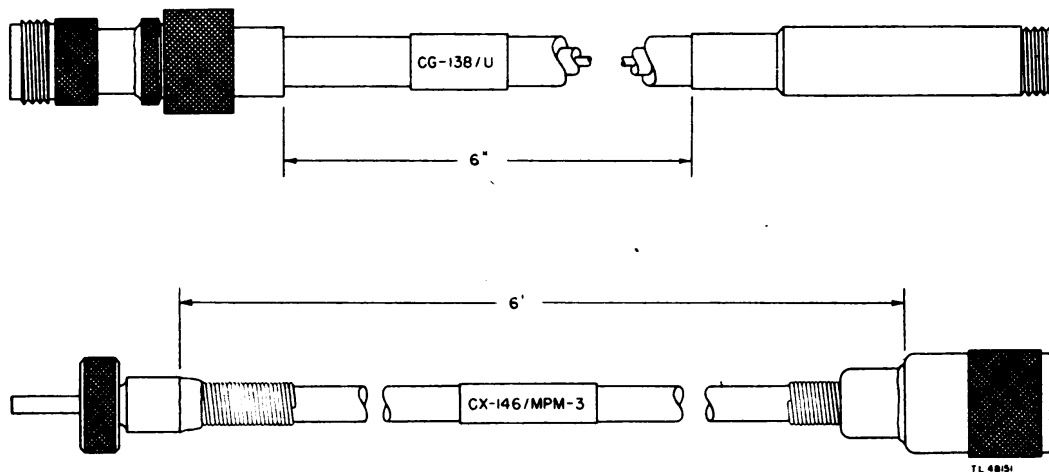


Figure 18. Cords CG-138 U and CX-146 MPM-3.

c. Cord CG-138/U. Cord CG-138, U (fig. 18) is a 6-inch section of Radio Frequency Cable RG-5/U fitted at one end with Radio Frequency Jack UG-20/U and at the other end with a male connector, Western Electric Company type D163597 or equal. The cord is used to connect the standing-wave detector of the transmit-receive (T/R) box of Radio Set SCR-545-A to Power Meter TS-125/AP.

d. Cord CX-146/MPM-3. Cord CX-146/MPM-3 (fig. 18) is a coaxial cable 6 feet long with Plug PL-259 on one end and a Howard B. Jones type P-201-D-3/8 plug on the other end. It is used to connect Signal Generator TS-155/UP to Range Unit BC-1053-A of Radio Set SCR-545-A.

20. SPECIAL TOOLS.

A general description of the special tools included in Test Set AN/MPM-3 is given below. For additional information see TM 11-1527, Radio Set SCR-545-A, Service Manual, and TM 11-1212, Echo Box TS-207/UP.

a. Spanner Wrench MX-219/UP (fig. 19). This is a steel tool 6 inches long and $\frac{1}{4}$ inch thick with a steel pin $\frac{1}{8}$ inch in diameter inserted $\frac{3}{16}$ inch

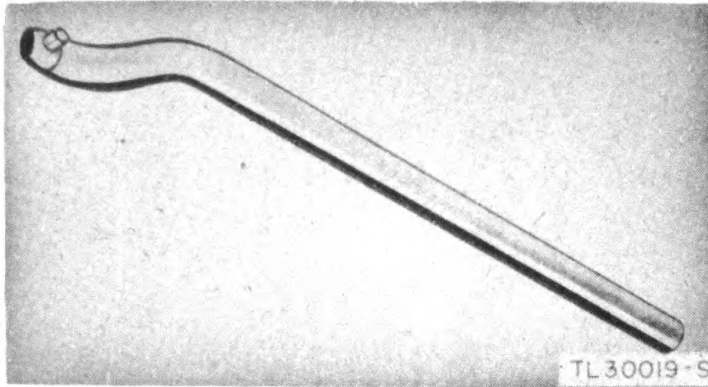


Figure 19. Spanner Wrench MX-210/UP.

from the end. The tool is used to tighten the coupling loop nuts of Echo Box TS-207/UP.

b. Filter Plug Tool MX-223/U (fig. 20). The filter plug tool is made of steel and is $\frac{3}{4}$ inch in diameter and approximately 3 inches long. On one end there are eight axial saw slots, each 1 inch long, spaced equally around the circumference of the tool. A steel bit $2\frac{1}{2}$ inches long, with a screwdriver bit on one end, extends through the outer steel rod. This tool is used to remove the filter plug from the transmission line of Radio Set SCR-545-A.

c. Pothead Tool MX-224/U (fig. 20). This is a steel tool 4 inches long by $1\frac{1}{4}$ inches in diameter with three steel pins, each $\frac{1}{4}$ inch long, spaced 120° apart on the end. It is used to remove the retaining ring in the pothead of Radio Set SCR-545-A.

d. Adjusting Tool MX-225/U (fig. 20). The adjusting tool is a phenolic rod $6\frac{1}{2}$ inches long and $\frac{1}{8}$ inch in diameter. Extending from one end of the rod is a steel rod $\frac{3}{4}$ inch long and $\frac{1}{8}$ inch in diameter with a T-end. The adjusting tool is used to vary the length of the probe within the waveguide line on Radio Set SCR-545-A.

e. Offset Wrench MX-226/U (fig. 20). This is an open-end wrench $\frac{3}{8}$ inch thick and $10\frac{3}{8}$ inches long with the open end offset $1\frac{3}{8}$ inches. It is used to remove the antenna harness coupling on the back of the antenna of Radio Set SCR-545-A.

f. Offset Wrench MX-227/U (fig. 20). This is an open-end wrench $\frac{3}{8}$ inch thick and $10\frac{3}{16}$ inches long with the open end offset $1\frac{1}{16}$ inches. It is used to remove the harness coupling on the back of the antenna of Radio Set SCR-545-A.

g. Spanner Wrench MX-228/U (fig. 20). This tool, J. H. Williams Company type 456-2 or equal, is a standard spanner wrench with a steel pin $\frac{3}{32}$ inch long and $\frac{3}{16}$ inch in diameter on the using end. It is used to uncouple the transmission line of Radio Set SCR-545-A.

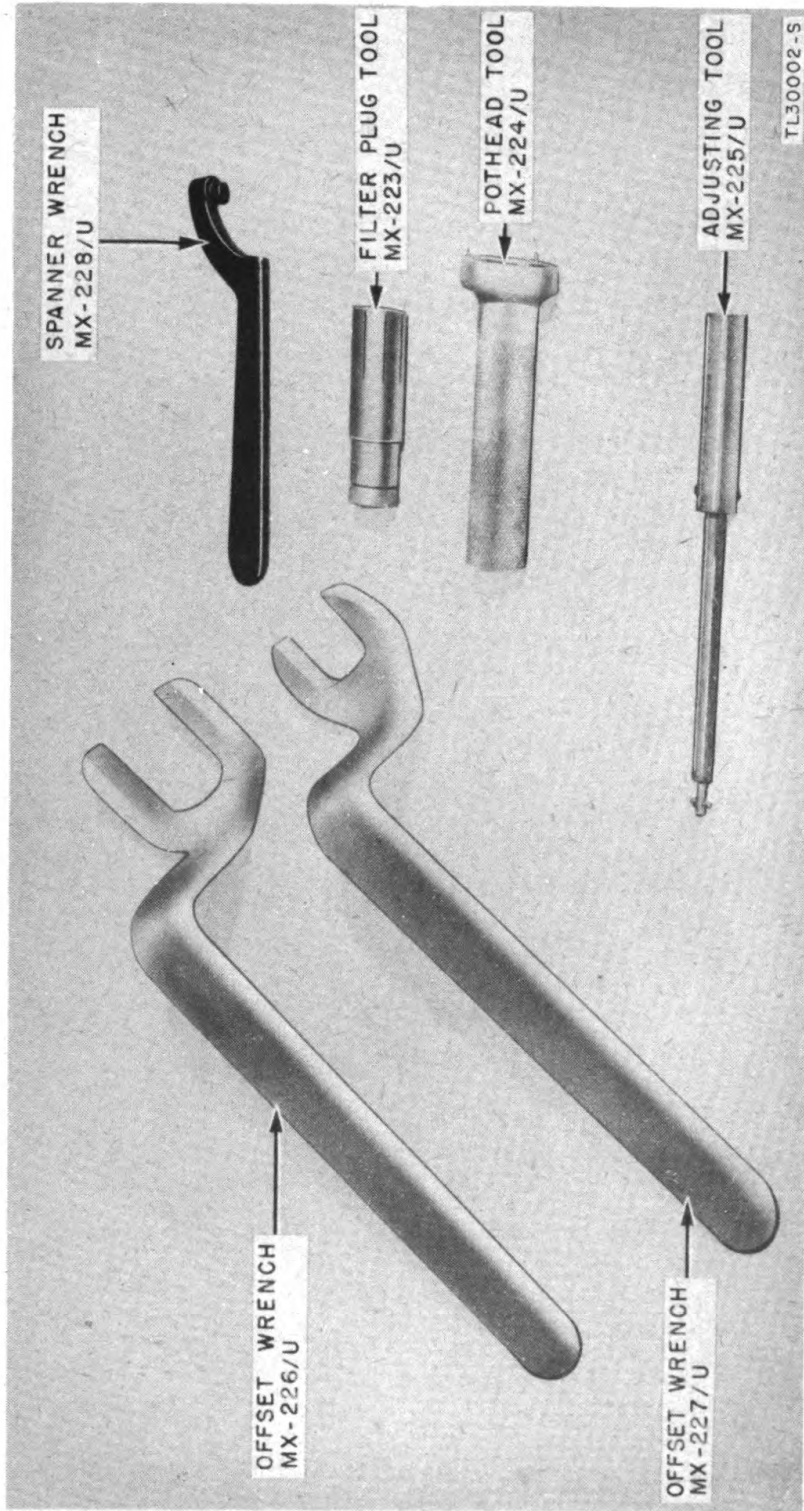


Figure 20. Special tools.

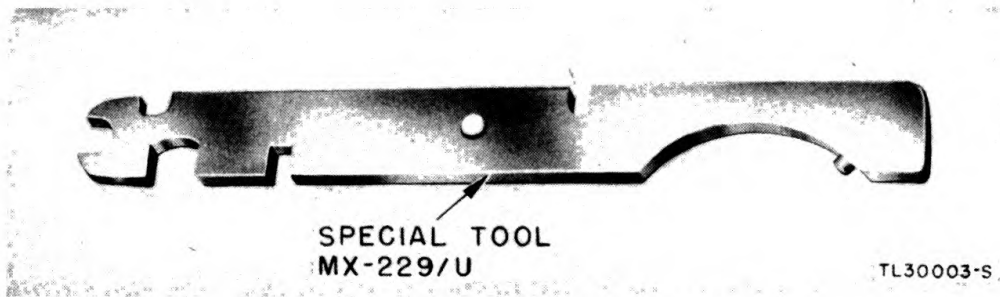


Figure 21. Special Tool MX-229/U.

h. Special Tool MX-229/U (fig. 21). This wrench is 11-3/16 inches long, 1 inch wide, and 1/4 inch thick. One end, used as an open-end wrench, has four openings: 7/16 inch, 9/16 inch, 13/64 inch, and 23/64 inch. One side of the tool has a spanner wrench opening. This special tool is used to uncouple the magnetron from the transmission line of Radio Set SCR-545-A.



21. BATTERY BA-30.

Battery BA-30 (fig. 22) is a standard 1½-volt dry cell used as the source of power for Fluxmeter TS-15A/AP and Power Meter TS-125/AP.

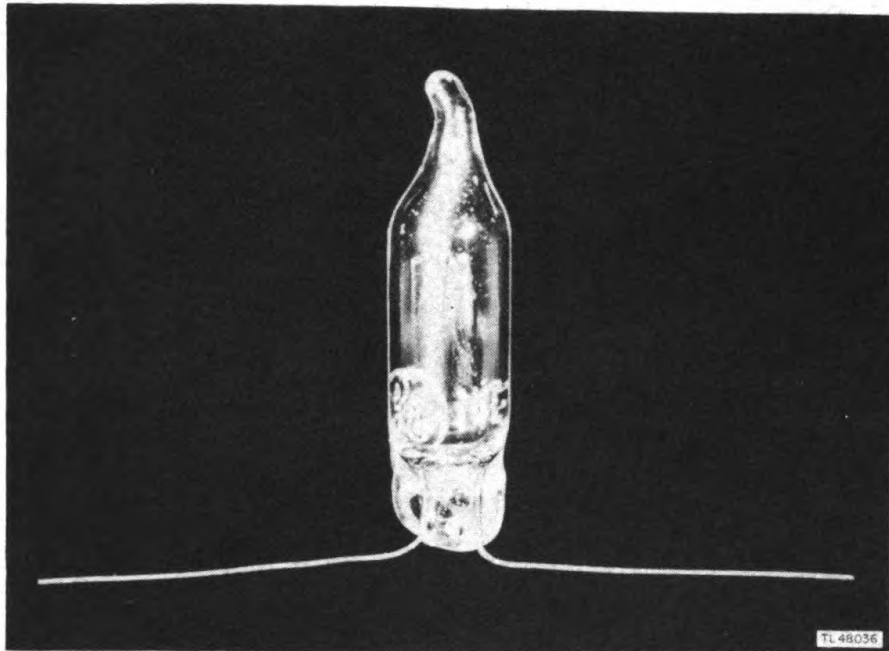


Figure 23. Lamp LM-54.

22. LAMP LM-54 AND CASE.

Lamp LM-54 (fig. 23) is a general utility neon lamp used to detect the presence of r-f power in the various circuits of the radio set under test. A carrying case for Lamp LM-54 (fig. 24) is included in Test Set AN/MPM-3.

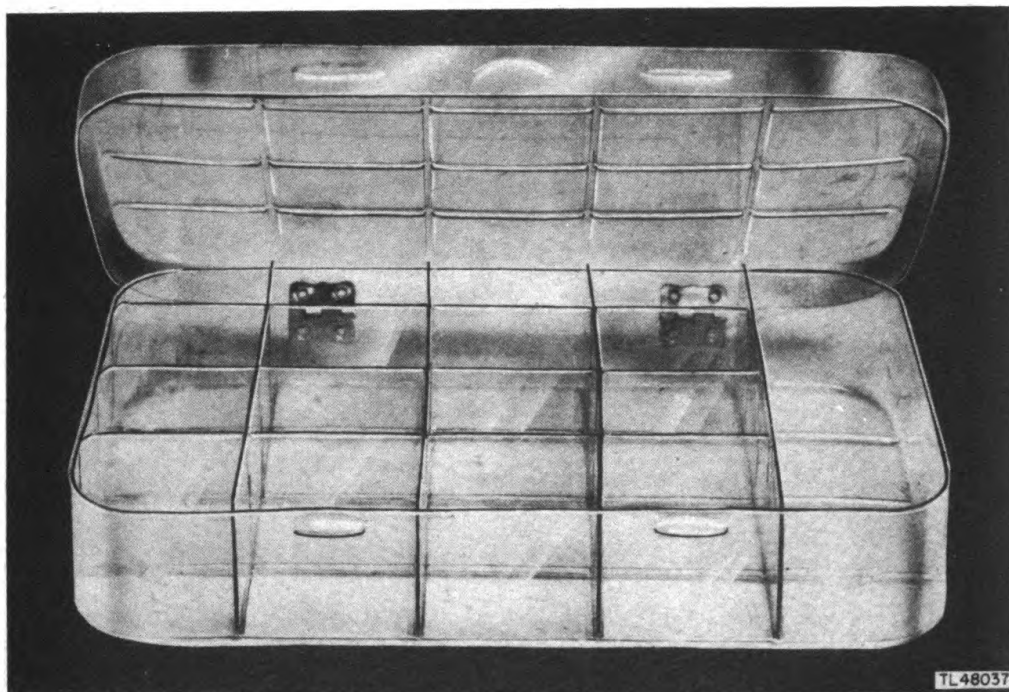


Figure 24. Case for neon lamps.

23. MAINTENANCE.

NOTE: Failure or unsatisfactory performance of equipment used by Army Ground Forces and Army Service Forces will be reported on W.D., A.G.O. Form No. 468 (Unsatisfactory Equipment Report); by Army Air Forces, on Army Air Forces Form No. 54 (Unsatisfactory Report). If either form is not available, prepare the data according to the sample form reproduced in figure 25.

a. General. The information in this section is provided to aid the repairman in maintaining the test equipment furnished with Test Set AN/MPM-3. Take care to keep the equipment in good operating condition. Make routine checks and inspections periodically to prevent serious damage to the equipment. For maintenance procedure for the specific test equipment refer to the relevant technical manual (par. 1).

b. Chest CH-273. Clean the chests (fig. 9) periodically to prevent dust and dirt from accumulating on the test equipment stored in them. Scrape off any broken or cracked paint and repaint the affected area. Use sandpaper to remove the paint and to prepare the surface for the new coat of paint.

c. Cords. The cords furnished with the test set are rubber-covered and are subject to damage, weathering, and deterioration. If they are used carefully, the useful life of the cords will be greatly extended.

(1) Inspect the cords regularly for worn or damaged insulation. If any such places are found, repair or replace the damaged cord immediately

(2) When using the test equipment, arrange it so that the cords are not resting on any sharp objects or stretched tight over the edge of the bench or any test equipment. Make no sharp bends in the cords, since these may result in damage to the wire or insulation.

d. Adapters and Plugs. Clean the plugs and adapters periodically to keep dirt and corrosion from accumulating around the pins and in the threads of the connecting rings. Never force plugs or adapters together when making a connection; the threads may be stripped or the pins may be bent until they are of no further use. Any bent or broken plugs or adapters must be repaired or replaced immediately.

e. Tools. Proper care and use of the tools is necessary at all times. Keep all tools clean and free from rust and oil them regularly to prevent rusting. Remove all excess oil with a clean cloth. Do not attempt to use a tool for some other purpose than that for which it is intended. Damage to the tool or the equipment on which it is being used will result.

f. Crystal. Crystals must be handled carefully. Do not drop them. In dry climates handle a crystal as little as possible, because static discharges from the

WAR DEPARTMENT UNSATISFACTORY EQUIPMENT REPORT											
FOR	TECHNICAL SERVICE SIGNAL CORPS					MATERIEL		DATE 15 AUG 1945			
FROM	ORGANIZATION 885 SIGNAL REPAIR COMPANY					STATION APO 888 NEW YORK					
TO	NEXT SUPERIOR HEADQUARTERS SIGNAL OFFICER				STATION ARMY		TECHNICAL SERVICE				
COMPLETE MAJOR ITEM											
NOMENCLATURE SIG. GEN TS-165/UP			TYPE			MODEL					
MANUFACTURER BOONTON RADIO CORP.			U. S. A. REG. NO. 896-KPD-45		SERIAL NO.		DATE RECEIVED 30 MAY 1945				
EQUIPMENT WITH WHICH USED (if applicable)											
DEFECTIVE COMPONENT—DESCRIPTION AND CAUSE OF TROUBLE											
PART NO. R89		TYPE POTENTIOMETER		MANUFACTURER ROYCE RESISTORS			DATE INSTALLED 16 JUNE 1945				
DESCRIPTION OF FAILURE AND PROBABLE CAUSE (if additional space is required, use back of form)											
POTENTIOMETER BURNED OUT - TOO LOW WATTAGE RATING											
DATE OF INITIAL TROUBLE			TOTAL TIME INSTALLED			TOTAL PERIOD OF OPERATION BEFORE FAILURE					
2 JUL 1945			YEARS	MONTHS	DAYS	YEARS	MONTHS	DAYS	HOURS	MILES	ROUNDS
			0	0	17				5.5		
BRIEF DESCRIPTION OF UNUSUAL SERVICE CONDITIONS AND ANY REMEDIAL ACTION TAKEN											
OPERATING IN REGION OF HIGH HUMIDITY											
TRAINING OR SKILL OF USING PERSONNEL			RECOMMENDATIONS (if additional space is required, use back of form)								
POOR	FAIR	GOOD	REPLACE POTENTIOMETER (R89) WITH ONE HAVING A HIGH POWER RATING								
		X									
ORIGINATING OFFICER											
TYPED NAME, GRADE, AND ORGANIZATION HAROLD T. MASON, CAPT., SIG. C. 885 SIGNAL REPAIR COMPANY						SIGNATURE <i>Harold T. Mason</i>					
FIRST ENDORSEMENT											
TO CHIEF	TECHNICAL SERVICE					OFFICE					
NAME, GRADE, AND STATION						STATION		DATE			
<i>Instructions</i>											
<ol style="list-style-type: none"> 1. It is imperative that the chief of technical service concerned be advised at the earliest practical moment of any constructional, design, or operational defect in matériel. This form is designed to facilitate such reports and to provide a uniform method of submitting the required data. 2. This form will be used for reporting manufacturing, design, or operational defects in matériel, petroleum fuels, lubricants, and preserving materials with a view to improving and correcting such defects, and for use in recommending modifications of matériel. 3. This form will not be used for reporting failures, isolated material defects or malfunctions of matériel resulting from fair-wear-and-tear or accidental damage nor for the replacement, repair or the issue of parts and equipment. It does not replace currently authorized operational or performance records. 4. Reports of malfunctions and accidents involving ammunition will continue to be submitted as directed in the manner described in AR 750-10 (change No. 3). 5. It will not be practicable or desirable in all cases to fill all blank spaces of the report. However, the report should be as complete as possible in order to expedite necessary corrective action. Additional pertinent information not provided for in the blank spaces should be submitted as inclosures to the form. Photographs, sketches, or other illustrative material are highly desirable. 6. When cases arise where it is necessary to communicate with a chief of service in order to assure safety to personnel, more expeditious means of communication are authorized. This form should be used to confirm reports made by more expeditious means. 7. This form will be made out in triplicate by using or service organization. Two copies will be forwarded direct to the technical service; one copy will be forwarded through command channels. 8. Necessity for using this form will be determined by the using or service troops. 											
W. D., A. G. O. Form No. 468 30 August 1941						This form supersedes W. D., A. G. O. Form No. 466, 1 December 1943, which may be used until existing stocks are exhausted.					
U. S. GOVERNMENT PRINTING OFFICE 16-41540-1 TL41743											

Figure 25. Sample Unsatisfactory Equipment Report.

fingers will burn out a crystal. Never allow a crystal to be left unshielded near a field of microwave energy; such a field will burn out crystals.

24. UNSATISFACTORY EQUIPMENT REPORT.

a. When trouble in the equipment used by Army Ground Forces or Army Service Forces occurs more often than repair personnel feel is normal, War De-

partment Unsatisfactory Equipment Report, W.D., A.G.O. Form No. 468 (fig. 25). should be filled out and forwarded through channels to the Office of the Chief Signal Officer, Washington 25, D. C.

b. When trouble in equipment used by Army Air Forces occurs more often than repair personnel feel is normal, Army Air Forces Form No. 54 should be filled out and forwarded through channels.

c. If either form is not available, Form No. 468 (fig. 25) may be reproduced, filled out, and forwarded through channels. When Army Air Forces Form No. 54 is required but unavailable, reproduce Form No. 468 and forward it through channels in accordance with directions on Form No. 468.

Order No. 1874-MPD-44 and 2408-MPD-45; 9,394 copies printed March 1945

25. MAINTENANCE PARTS FOR TEST SET AN MPM-3.

<i>Signal Corps stock No.</i>	<i>Name of part and description</i>
2Z299-358	ADAPTER M-358.
2Z299-359	ADAPTER M-359.
6R38425	ADJUSTING TOOL MX-225, U.
2A264-23	ANTENNA ASSEMBLY AS-23, AP.
3A30	BATTERY BA-30.
3F2440-189A	CALIBRATOR I-189-A.
2Z1800.30	CASE: for neon lamps.
2Z2599-273	CHEST CH-273.
1F430-70	CORD CG-70/MPM.
1F430-71	CORD CG-71/MPM.
1F430-138	CORD CG-138/U.
3E6000-146	CORD CX-146/MPM-3.
2J1N21B	CRYSTAL 1N21B.
2Z308-119	CRYSTAL ADAPTER UG-119/UP.
3F4325-208	DUMMY ANTENNA TS-208/MPM.
3F4325-207	ECHO BOX TS-207/UP.
6R38507-223	FILTER PLUG TOOL MX-223/U.
3F4325-15	FLUXMETER TS-15A/AP
2Z5954	LAMP LM-54.
6R56533-226	OFFSET WRENCH MX-226/U.
6R56533-227	OFFSET WRENCH MX-227/U.
2Z7226-258	PLUG PL-258.
6R38661-224	POTHEAD TOOL MX-224/U.
3F4325-125	POWER METER TS-125/AP.
2Z7390-30	RADIO FREQUENCY JACK UG-30/U.
3F2440-223A	RANGE CALIBRATOR I-223-A.
3F4325-155	SIGNAL GENERATOR TS-155/UP.
3FK3820.5	SIGNAL GENERATOR TS-301/U.
6R57585-219	SPANNER WRENCH MX-219/UP.
6R57585-228	SPANNER WRENCH MX-228/U.
6R38900-229	SPECIAL TOOL MX-229/U.
6D13492	TECHNICAL MANUAL: for Test Set AN/MPM-3, TM 11-1230.
2Z9323-74	TERMINAL BOX J-74/MPM.
3F4325-210	TEST ANTENNA TS-210/MPM.
6Z8648-3	THERMOMETER: H. J. GREEN ✕213.
6Z1744	THERMOMETER CASE: H. J. GREEN ✕600.
3F4325-117	WAVEMETER TEST SET TS-117/GP.

