DEPARTMENT OF THE ARMY
TECHNICAL MANUAL
DEPARTMENT OF THE AIR
FORCE TECHNICAL ORDER

TM 11-1093
TO 16-35TS235-5

DUMMY ANTENNA

TS–235/UP

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
MARCH 1952

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DUMMY ANTENNA

TS–235/UP

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Major General, USA
The Adjutant General

J. LAWTON COLLINS
Chief of Staff,
United States Army

OFFICIAL:
K. E. THIEBAUD
Colonel, USAF
Air Adjutant General

HOYT S. VANDENBERG
Chief of Staff,
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CONTENTS

		Paragraph	Page
CHAPTER 1.	**INTRODUCTION**		
Section I.	General		
	Scope	1	1
	Forms and records	2	1
II.	Description and data		
	Purpose and use	3	2
	Technical characteristics	4	2
	Packaging data	5	2
	Table of components	6	4
	Description	7	4
CHAPTER 2.	**OPERATING INSTRUCTIONS**		
Section I.	Service upon receipt of equipment		
	Uncrating, unpacking, and checking new equipment.	8	5
	Service on receipt of used or reconditioned equipment.	9	6
II.	Installation and use		
	Installation	10	6
	Use of equipment	11	7
CHAPTER 3.	**ORGANIZATIONAL MAINTENANCE INSTRUCTIONS**		
Section I.	Preventive maintenance services		
	General preventive maintenance techniques	12	9
	Tools and materials	13	9
	Performing preventive maintenance	14	9
	Lubrication	15	10
II.	Weatherproofing and painting		
	Weatherproofing	16	10
	Rustproofing and painting	17	11
III.	Trouble shooting at organizational maintenance level.		
	Maintenance limitations	18	11
	Visual inspection	19	11
CHAPTER 4.	**THEORY**		
	Theory of coaxial-line load	20	12
	Theory of test probe	21	12
	Motor circuit	22	13

		Paragraph	Page
CHAPTER 5.	**FIELD MAINTENANCE**		
	Replacement of parts	23	14
	Recalibration of test probe	24	14
CHAPTER 6.	**SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE**		
Section I.	Shipment and limited storage		
	Repacking for shipment or limited storage	25	16
	Protective packaging	26	16
II.	Demolition of matériel to prevent enemy use		
	General	27	16
	Methods of destruction	28	16
APPENDIX I.	**REFERENCES**	--	18
APPENDIX II.	**IDENTIFICATION TABLE OF PARTS**	--	21

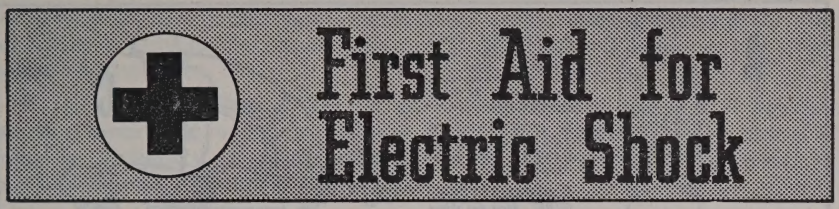
WARNING

HIGH VOLTAGE

is used in the operation of
this equipment.

DEATH ON CONTACT

May result if operating personnel
fail to observe safety precautions.



RESCUE.

In case of electric shock, shut off the high voltage at once and ground the circuits. If the high voltage cannot be turned off without delay, free the victim from contact with the live conductor as promptly as possible. Avoid direct contact with either the live conductor or the victim's body. Use a dry board, dry clothing, or other nonconductor to free the victim. An ax may be used to cut the high-voltage wire. Use extreme caution to avoid the resulting electric flash.

SYMPTOMS.

a. Breathing stops abruptly in electric shock if the current passes through the breathing center at the base of the brain. If the shock has not been too severe, the breath center recovers after a while and normal breathing is resumed, provided that a sufficient supply of air has been furnished meanwhile by artificial respiration.

b. The victim is usually very white or blue. The pulse is very weak or entirely absent and unconsciousness is complete. Burns are usually present. The victim's body may become rigid or stiff in a very few minutes. This condition is due to the action of electricity and is not to be considered rigor mortis. Artificial respiration must still be given, as several such cases are reported to have recovered. The ordinary and general tests for death should never be accepted.

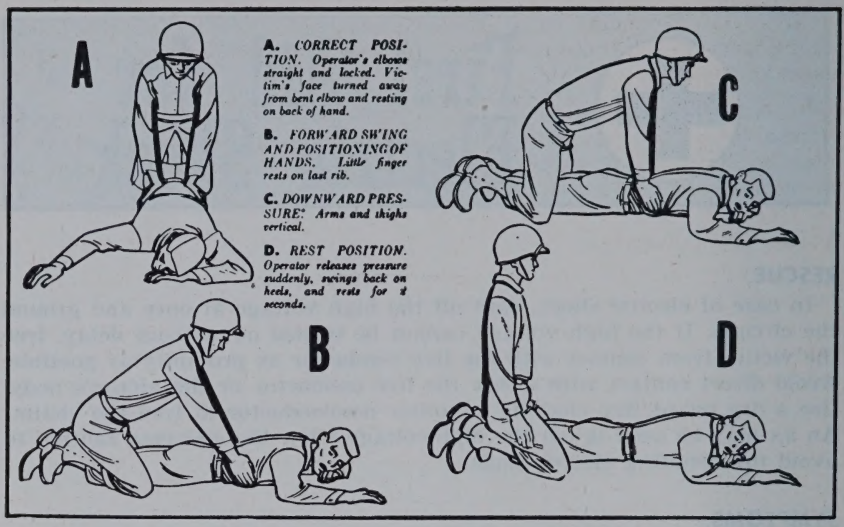
TREATMENT.

a. Start artificial respiration immediately. At the same time send for a medical officer, if assistance is available. Do not leave the victim unattended. Perform artificial respiration at the scene of the accident, unless the victim's or operator's life is endangered from such action. *In this case only*, remove the victim to another location, but no farther than is necessary for safety. If the new location is more than a few feet away, artificial respiration should be given while the victim is being moved. If the method of transportation prohibits the use of the Shaeffer prone pressure method, other methods of resuscitation may be used. Pressure may be exerted on the front of the victim's diaphragm, or the direct mouth-to-mouth method may be used. Artificial respiration, once started, must be continued, without loss of rhythm.

b. Lay the victim in a prone position, one arm extended directly overhead, and the other arm bent at the elbow so that the back of the hand supports the head. The face should be turned away from the bent elbow so that the nose and mouth are free for breathing.

c. Open the victim's mouth and remove any foreign bodies, such as false teeth, chewing gum, or tobacco. The mouth should remain open,

TL15338-A



with the tongue extended. Do not permit the victim to draw his tongue back into his mouth or throat.

d. If an assistant is available during resuscitation, he should loosen any tight clothing to permit free circulation of blood and to prevent restriction of breathing. He should see that the victim is kept warm, by applying blankets or other covering, or by applying hot rocks or bricks wrapped in cloth or paper to prevent injury to the victim. The assistant should also be ever watchful to see that the victim does not swallow his tongue. He should continually wipe from the victim's mouth any frothy mucus or saliva that may collect and interfere with respiration.

e. The resuscitating operator should straddle the victim's thighs, or one leg, in such manner that:

(*1*) the operator's arms and thighs will be vertical while applying pressure on the small of the victim's back;

(*2*) the operator's fingers are in a natural position on the victim's back with the little finger lying on the last rib;

(*3*) the heels of the hands rest on either side of the spine as far apart as convenient without allowing the hands to slip off the victim;

(*4*) the operator's elbows are straight and locked.

f. The resuscitation procedure is as follows:

(*1*) Exert downward pressure, not exceeding 60 pounds, for 1 second.

(*2*) Swing back, suddenly releasing pressure, and sit on the heels.

(*3*) After 2 seconds, swing forward again, positioning the hands exactly as before, and apply pressure for another second.

g. The forward swing, positioning of the hands, and the downward pressure should be accomplished in one continuous motion, which requires 1 second The release and backward swing require 1 second The addition of the 2-second rest makes a total of 4 seconds for a complete cycle Until the operator is thoroughly familiar with the correct cadence

TL15338-B

of the cycle, he should count the seconds aloud, speaking distinctly and counting evenly in thousands. Example: one thousand and one, one thousand and two, etc.

h. Artificial respiration should be continued until the victim regains normal breathing or is pronounced dead by a medical officer. Since it may be necessary to continue resuscitation for several hours, relief operators should be used if available.

RELIEVING OPERATOR.

The relief operator kneels beside the operator and follows him through several complete cycles. When the relief operator is sure he has the correct rhythm, he places his hands on the operator's hands without applying pressure. This indicates that he is ready to take over. On the backward swing, the operator moves and the relief operator takes his position. The relieved operator follows through several complete cycles to be sure that the new operator has the correct rhythm. He remains alert to take over instantly if the new operator falters or hesitates on the cycle.

STIMULANTS.

a. If an inhalant stimulant is used, such as aromatic spirits of ammonia, the individual administering the stimulant should first test it himself to see how close he can hold the inhalant to his own nostril for comfortable breathing. Be sure that the inhalant is not held any closer to the victim's nostrils, and then for only 1 or 2 seconds every minute.

b. After the victim has regained consciousness, he may be given hot coffee, hot tea, or a glass of water containing ½ teaspoon of aromatic spirits of ammonia. *Do not give any liquids to an unconscious victim.*

CAUTIONS.

a. After the victim revives, keep him LYING QUIETLY. Any injury a person may have received may cause a condition of shock. Shock is present if the victim is pale and has a cold sweat, his pulse is weak and rapid, and his breathing is short and gasping.

b. Keep the victim lying flat on his back, with his head lower than the rest of his body and his hips elevated. Be sure that there is no tight clothing to restrict the free circulation of blood or hinder natural breathing. Keep him warm and quiet.

c. A resuscitated victim must be watched carefully as he may suddenly stop breathing. *Never leave a resuscitated person alone until it is CERTAIN that he is fully conscious and breathing normally.*

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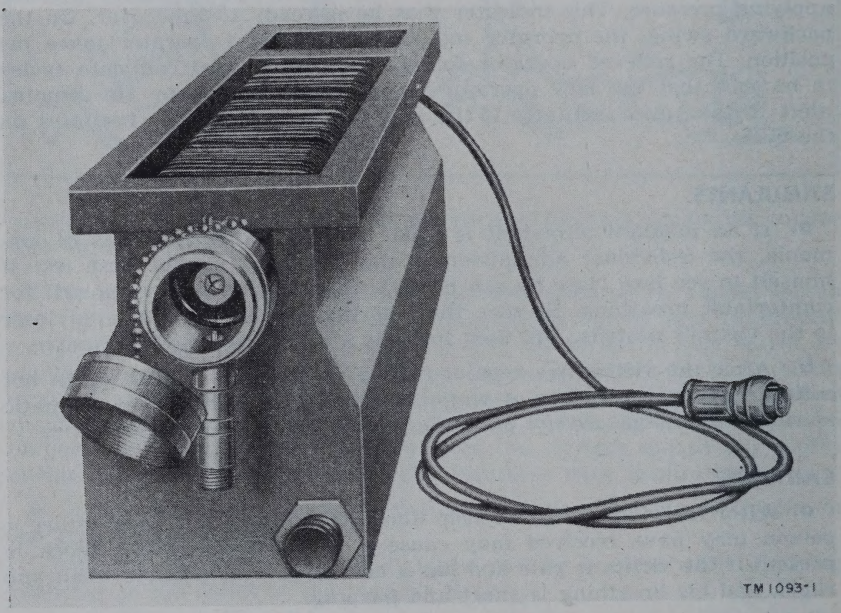


Figure 1. Dummy Antenna TS–235/UP.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Scope

This technical manual contains instructions for the installation, operation, theory, maintenance, and repair of Dummy Antenna TS–235/UP (fig. 1). In addition to these instructions, there are two appendixes covering a list of references and an identification table of parts.

2. Forms and Records

The following forms will be used for reporting unsatisfactory conditions of Army matériel and equipment.

a. DD Form 6, Report of Damaged or Improper Shipment, will be filled out and forwarded as prescribed in SR 745–45–5 (Army), NAV DEPT SERIAL 85P00 (Navy), and AFR 71–4 (Air Force).

b. DA AGO Form 468, Unsatisfactory Equipment Report, will be filled out and forwarded to the Office of the Chief Signal Officer as prescribed in SR 700–45–5.

c. USAF Form 54, Unsatisfactory Report, will be filled out and forwarded to Commanding General, Air Matériel Command, Wright-Patterson Air Force Base, Dayton, Ohio, as prescribed in SR 700–45–5 and AFR 65–26.

d. DA AGO Form 11–238, Operator First Echelon Maintenance Check List for Signal Corps Equipment (Radio Communication, Direction Finding, Carrier, Radar), will be prepared in accordance with instructions on the back of the form.

e. DA AGO Form 11–239, Second and Third Echelon Maintenance Check List for Signal Corps Equipment (Radio Communication, Direction Finding, Carrier, Radar), will be prepared in accordance with instructions on the back of the form.

f. Use other forms and records as authorized.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

Dummy Antenna TS–235/UP provides a power absorbing termination for the r-f (radio-frequency) transmission line of a radar set operating in the frequency range of 500 to 1,500 mc (megacycles). The dummy antenna allows the radar transmitter to be operated without radiating energy into space. The input end of the dummy antenna contains a probe and a jack that are used to connect a wavemeter or an echo box to the r-f line for test purposes.

4. Technical Characteristics

Frequency range ..... 500 to 1,500 mc.
Standing wave ratio:
  500 to 1,000 mc ..... 2.0 db (decibels) (maximum).
  1,000 to 1,500 mc ..... 1.0 db (maximum).
Maximum peak voltage ..... 10,000 volts.
Average power absorption:
  Fan not operating ..... 200 watts (maximum).
  Fan in operation ..... 1,000 watts (maximum).
Probe coupling loss ..... 50 db at 1,300 mc.
Nominal impedance ..... 50 ohms.
Probe impedance ..... 50 ohms (approximately).
Power required for fan motor ..... 15 watts, 115 volts, 400 cycles.

5. Packaging Data

When packaged for export shipment, the dummy antenna is placed in a moisture-vaporproof container and then packed in a wooden export crate. Figure 2 shows a typical method of packing. The size, weight, and volume of the crate are indicated in the following chart.

Note. Items may be packed in a manner different from that shown, depending on the supply channel.

Number of crates	Height (in.)	Width (in.)	Depth (in.)	Volume (cu ft)	Unit weight (lb)
1	30	10	12	2.1	65

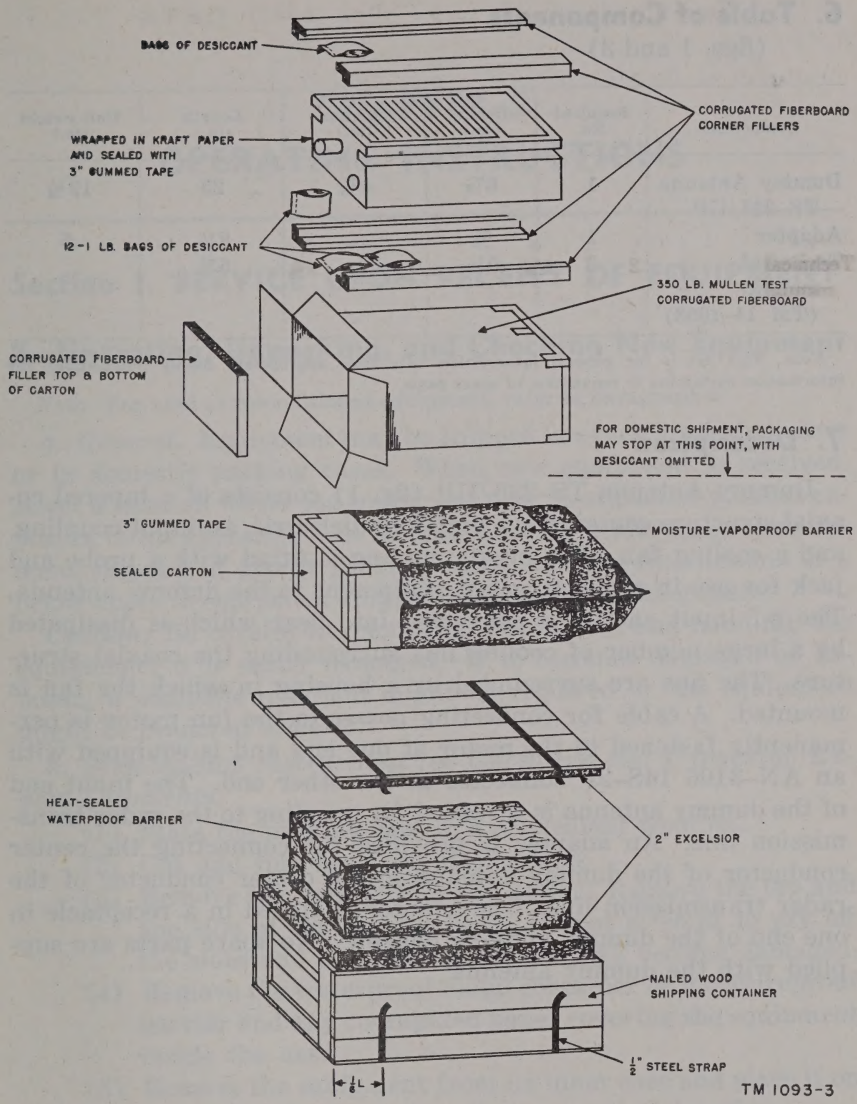


Figure 2. Packing and packaging Dummy Antenna TS-235/UP.

6. Table of Components

(figs. 1 and 3)

Component	Required No.	Height (in.)	Depth (in.)	Length (in.)	Unit weight (lb.)
Dummy Antenna TS–235/UP	1	6⅞	4⅞	25	19½
Adapter	1	⅝	--	8½	.5
Technical manual (TM 11–1093)	2	9⅛	--	5⅞	--

Note. This list is for general information only. See appropriate supply publications for information pertaining to requisition of spare parts.

7. Description

Dummy Antenna TS–235/UP (fig. 1) consists of a tapered coaxial structure containing a high-loss dielectric, an input coupling, and a cooling fan. The input coupling is fitted with a probe and jack for use in connecting test equipment to the dummy antenna. The r-f input energy is converted into heat which is dissipated by a large number of cooling fins surrounding the coaxial structure. The fins are surrounded by a housing in which the fan is mounted. A cable for connecting power to the fan motor is permanently fastened to the motor at one end and is equipped with an AN–3106 14S–2P connector at the other end. The input end of the dummy antenna is threaded for coupling to the radar transmission line. An adapter is provided for connecting the center conductor of the dummy antenna to the center conductor of the radar transmission line. The adapter is stored in a receptacle in one end of the dummy antenna housing. No spare parts are supplied with the dummy antenna.

CHAPTER 2
OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

8. Uncrating, Unpacking, and Checking New Equipment

Note. For used or reconditioned equipment, refer to paragraph 9.

a. General. Equipment may be shipped in oversea packing cases or in domestic packing cases. When new equipment is received, select a location where the equipment may be unpacked without exposure to the elements. The instructions in *b* below apply to equipment shipped in export packing cases, and the instructions in *e* below apply to equipment shipped in domestic packing cases.

Caution: Be careful in uncrating, unpacking, and handling the equipment; it is easily damaged. If it becomes damaged or exposed, a complete overhaul might be required or the equipment might be rendered useless.

b. Step-by-Step Instructions for Uncrating and Unpacking Export Shipments.

(1) Place the packing case in a convenient position.
(2) Cut and fold back the steel straps.
(3) Remove the nails with a nail puller. Remove the top and one side of the packing case. Do not attempt to pry off the sides and top; the equipment may become damaged.
(4) Remove the waterproof metal container or moistureproof barrier and any corrugated paper covering the equipment inside the case.
(5) Remove the equipment from its inner case and place it on a workbench or in some other convenient location.
(6) Inspect the equipment for possible damage incurred during shipment.
(7) Check the contents of the packing case against the master packing slip.

c. Opening Cardboard Carton and Waterproof Barrier. No special instructions are needed for opening the waterproof paper barrier and removing the equipment from the cardboard carton.

d. Instructions for Opening Metal Containers. The top of the metal container is soldered to the sides. To open, break the sol-

dered seam by prying the side of the container away from the soldered seam as follows:

(1) Wipe off the excess solder with a soldering iron. Never use a torch because the contents of the container are inflammable.

(2) With a wooden block or a screw driver, pry the sides from the soldered seam.

(3) When the seam is completely open, pry off the cover.

(4) Remove the bags of desiccant and the protective cardboard packing and lift or draw out the packages within.

e. Unpacking Domestic Packing Cases. Radio equipment may be received in domestic packing cases. The instructions given in *b* above also apply to unpacking domestic shipments. Cut the metal bands if they are used. Open the cartons that protect the equipment, or, if heavy wrapping paper has been used, remove it carefully and take out the contents. Check the contents of the packing case against the master packing slip.

Note. Save the original packing cases and containers for both export and domestic shipments. They can be used again when the equipment is repacked for storage or shipment.

9. Service on Receipt of Used or Reconditioned Equipment

a. Follow the instructions in paragraph 8 for uncrating, unpacking, and checking the equipment; then proceed as outlined in *b* below.

b. Check the used or reconditioned equipment for tags or other indications of changes in the wiring of the equipment. If any changes in wiring have been made, note the change in this manual, preferably on the schematic diagram.

Section II. INSTALLATION AND USE

10. Installation

The dummy antenna is used in place of the radar antenna when it is desired to operate the equipment without radiating r-f energy into space.

a. Make sure that the radar set is turned off.

b. Disconnect the r-f transmission line of the radar set from the antenna at a point close to the transmitter unit.

c. Remove the protective cap from the dummy antenna (fig. 3).

d. Remove the adapter from the storage receptacle and connect it to the dummy antenna as shown in figure 3.

e. Install the dummy antenna on the radar transmission line. It may be necessary to use an additional adapter to make this connection. For example, when connecting the dummy antenna to Radio Set AN/TPS–3, Adapter UG–209/MPM–15 is required.

f. Connect the power cable for the fan to a 115-volt, 400-cycle outlet. In some cases it may be necessary to use an additional power cord to extend the power cord. When the dummy antenna is used with Radio Set AN/TPS–3, Cord CX–659/MPM–15 may be used.

g. If measurements are to be made through the probe, connect the test equipment to the probe connector (fig. 3).

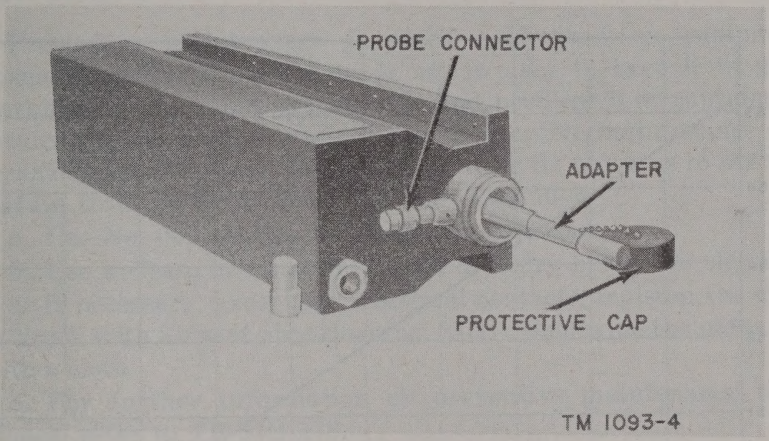


Figure 3. Dummy antenna with adapter connected.

11. Use of Equipment

Dummy Antenna TS–235/UP is used as an r-f load to absorb the power that is normally radiated by the radar antenna. It also provides a test jack for connecting test equipment to the transmission line.

a. R-F Load. When the dummy antenna is used only as an r-f load, connect it to the transmission line, following the instructions in paragraph 10*a* through *f*.

Caution: Make certain that the top (air exhaust) and the back (air intake) of the dummy antenna are free of any obstruction that would prevent a free flow of air.

b. R-F Load and Test Point. When r-f tests are to be made, connect the dummy antenna, following instructions in paragraph 10. Ringtime measurements may be made on the radar set by connecting an echo box to the probe connector. R-f power measurement

also may be made by use of the proper equipment connected to the probe connector. Information on theory and measurement of pulse radar system performance is contained in TM 11–759.

c. Probe Attenuation. The probe projects into the dummy antenna line so that a small portion of the r-f energy in the line is picked up and is available at the probe connector for test purposes. The amount of attenuation for various frequencies is shown in figure 4. R-f power-measuring equipment usually indicates the average power in db. Therefore, the attenuation figure in db of the probe must be added to the measured power to obtain the average power flowing into the dummy antenna.

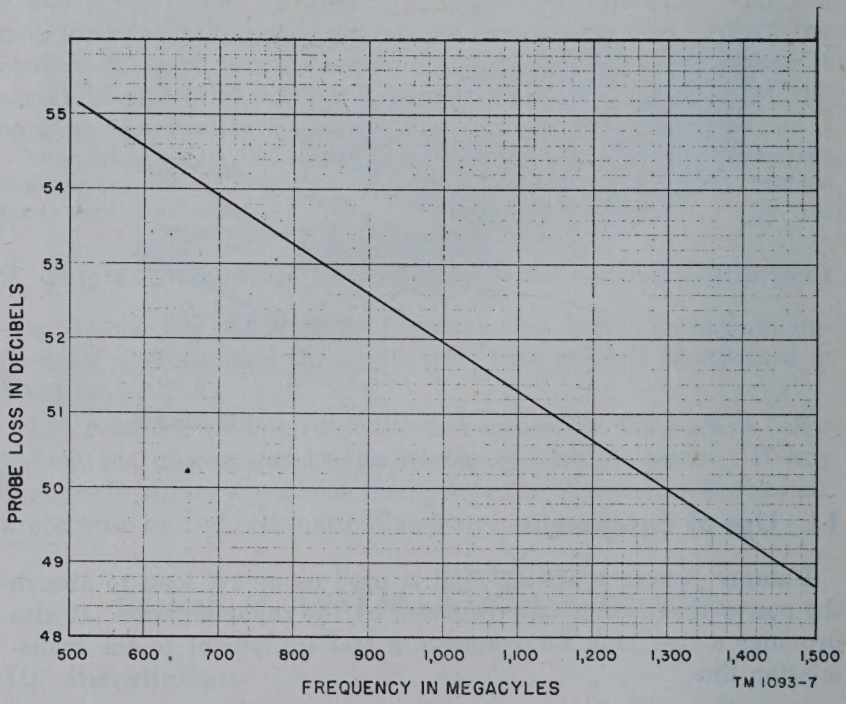


Figure 4. Probe loss for various operating frequencies.

CHAPTER 3
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. PREVENTIVE MAINTENANCE SERVICES

12. General Preventive Maintenance Techniques

Preventive maintenance is work performed on equipment (usually when the equipment is not in use) to keep it in good working order so that breakdowns and needless interruptions in service will be kept to a minimum. Preventive maintenance differs from trouble shooting and repair since its object is to prevent certain troubles from occurring. See AR 750–5.

a. Use No. 000 sandpaper to remove corrosion.

b. Use a clean, dry, lint-free cloth or a dry brush for cleaning.

c. If necessary, except for electrical contacts, moisten the cloth or brush with Solvent, dry-cleaning (SD) ; then wipe the parts dry with a cloth.

d. For further information on preventive maintenance techniques, refer to TB SIG 178.

13. Tools and Materials

Tools and materials required for performing preventive maintenance on the dummy antenna are listed below:

Cheesecloth, bleached, lint-free.
Paper, sand, flint #000.
Solvent (SD) (Fed. spec. No. P–S–661a).

14. Performing Preventive Maintenance

The following preventive maintenance operations should be performed by organizational personnel at the interval indicated, unless this interval is reduced by the local commander.

Caution: Screws, bolts, and nuts should not be tightened carelessly. Fittings tightened beyond the pressure for which they are designed will be damaged or broken. Do not change the position of the probe because this will necessitate recalibration of the probe attenuation.

1. Remove the coaxial assembly from the housing by taking out the 14 screws located in the flange of the housing (fig. 6).
2. Using compressed air at a pressure of not more than 40 pounds per square inch, blow out any dust, dirt, or lint from between the cooling fins. Be careful not to bend the fins.
3. Using a lint-free cloth, clean the inside of the housing.
4. Using compressed air, blow out any dust, dirt, or lint from the fan compartment.
5. If the compressed air is moisture free, blow out any dust that has accumulated in the input connection and the probe connection. Otherwise, clean these openings with a lint-free cloth.
6. Replace the coaxial assembly in the housing.
7. Test the fan by inserting the power plug in a 115-volt, 400-cycle power source.

15. Lubrication

The fan motor of Dummy Antenna TS–235/UP is equipped with sealed bearings to prevent entrance of dirt and escape of lubricant. Sealed bearings are packed during manufacture with the correct amount and grade of grease to last the life of the bearing at normal operating temperatures. If the lubricant runs out of the bearing, the bearing must be replaced with a new one. No attempt should be made to apply oil or solvent to the bearings for the purpose of supplementing or otherwise modifying the special grease originally placed in the bearings.

Section II. WEATHERPROOFING AND PAINTING

16. Weatherproofing

a. General. Signal Corps equipment, when operated under severe climatic conditions such as prevail in tropical, arctic, and desert regions, requires special treatment and maintenance. Fungus growth, insects, dust, corrosion, salt spray, excessive moisture, and extreme temperatures are harmful to most materials.

b. Tropical Maintenance. A special moistureproofing and fungiproofing treatment has been devised which, if properly applied, provides a reasonable degree of protection. This treatment is explained in TB SIG 13 and TB SIG 72.

c. Winter Maintenance. Special precautions necessary to prevent poor performance or total operational failure of equipment in extremely low temperatures are explained in TB SIG 66 and TB SIG 219.

d. Desert Maintenance. Special precautions necessary to prevent equipment failure in areas subject to extremely high temperatures, low humidity, and excessive sand and dust are explained in TB SIG 75.

e. Lubrication. The effects of extreme cold and heat on materials and lubricants are explained in TB SIG 69. Observe all precautions outlined in TB SIG 69.

17. Rustproofing and Painting

a. When the finish on the housing has been badly scarred or damaged, rust and corrosion can be prevented by touching up bared surfaces. Use No. 000 sandpaper to clean the surface down to the bare metal; obtain a bright smooth finish.

Caution: Do not use steel wool. Minute particles frequently enter the coaxial cavity or the probe connection and cause harmful shorting or a change in the characteristics of the dummy antenna.

b. When a touch-up job is necessary on the housing, apply paint with a small brush. Do not paint the cooling fins. Remove rust from the housing by cleaning corroded metal with solvent (SD). In severe cases, it may be necessary to use solvent (SD) to soften the rust and to use sandpaper to complete the preparation for painting. Paint used will be that authorized and consistent with existing regulations.

Section III. TROUBLE SHOOTING AT ORGANIZATIONAL MAINTENANCE LEVEL

18. Maintenance Limitations

The trouble shooting and repair work that can be performed at the organization maintenance level (operators and repairmen) is limited in scope by the tools and the replaceable parts available.

19. Visual Inspection

Failure of this equipment to operate properly usually will be caused by one or more of the following faults:

Note. Make certain that the radar set under test is functioning properly before inspecting the dummy antenna for trouble.

a. Improper connection to radar set.

b. Power cord not connected properly.

c. Broken connection in power cord.

d. Defective motor.

CHAPTER 4
THEORY

20. Theory of Coaxial-line Load

The coaxial-line load section of the dummy antenna consists of a 1¾-inch diameter brass tube, a center conductor, and a resistive material molded into the brass tube (outer conductor) (fig. 5). The resistive material is a mixture of graphite and a special cement that is formed into a conical shape within the outer tube. The inner conductor is held in place at the input end by an insulator that is cemented in place. The other end of the center conductor is short-circuited to the outer tube by an end plate. The tapered portion of the resistive element provides a smooth impedance transformation from the 50-ohm impedance of the dummy antenna to the impedance of the transmission line. R-f power flowing into the dummy antenna is gradually absorbed in the resistive element as the power travels toward the end of the center conductor. The r-f power is thereby converted into heat which is conducted through the outer conductor walls into the cooling fins. The cooling fins present a large metal-to-air surface. Air is forced through the fins by a fan. With the fan in operation, it is possible to dissipate 1,000 watts of average r-f power within the dummy antenna. The length of the coaxial-line load section is determined, experimentally, to provide the lowest voltage standing wave ratio, the proper characteristic impedance, and for optimum performance over a broad band of frequencies (500 to 1,500 mc).

21. Theory of Test Probe

The test probe assembly consists of a special coaxial connector which projects at right angles to the coaxial-line load, and a center conductor that extends into the input cavity of the dummy antenna (fig. 5). The center conductor extends into the electric field and acts as a small antenna to extract a small portion of the power flowing into the dummy antenna. The amount of power extracted is determined by the depth of the probe in the electric field. The probe depth, and therefore the ratio of input power to power extracted by the probe, is adjusted during manufacture. The fixed power ratio is of little value when making tests through the test

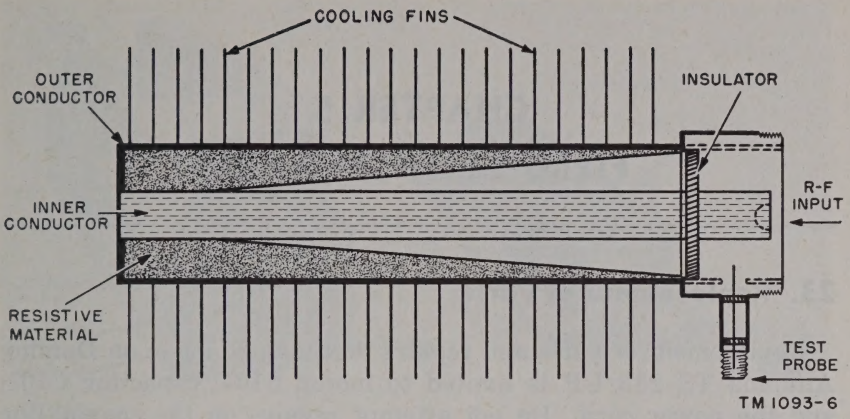


Figure 5. Cut-away view of coaxial-line load.

probe. Therefore, the probe attenuation is calibrated in db. Figure 4 shows the attenuation, or loss, in db for various frequencies.

22. Motor Circuit

The circuit of the blower motor is shown in figure 7. The motor (B101) is of the capacitor type and operates at a speed of about 4,000 rpm (revolutions per minute) from a power source of 115 volts at 400 cycles. It is rated at 1/50 hp (horsepower). Capacitor C101 causes the necessary phase shift to operate the motor.

CHAPTER 5
FIELD MAINTENANCE

23. Replacement of Parts

Replacement of parts and repairs that may be made on Dummy Antenna TS–235/UP is limited to motor B101, capacitor C101, and the power cord. Do not attempt repairs on the coaxial-line load assembly. If it is known that the coaxial-line load assembly is defective, it must be replaced as a unit. If the test probe becomes loose, recalibrate in accordance with instructions in paragraph 24. Access to the motor and capacitor is made by removing the motor end of the housing (fig. 6).

24. Recalibration of Test Probe

Recalibration of the attenuation of the test probe can be accomplished in the field by comparing it with another dummy antenna that is known to be calibrated correctly. Proceed as follows:

a. Connect the dummy antenna that is known to be correct to a radar set operating within the frequency band of 500 to 1,500 mc.

b. Connect an echo box to the test probe of the dummy antenna, using the cord furnished with the echo box.

c. Place the radar set in operation and set the echo box for maximum ringtime as shown on the radar scope.

d. Turn off the radar set but do not disturb the setting of the echo box or the tuning of the radar equipment.

e. Remove the dummy antenna from the radar r-f line and install the dummy antenna which is to be recalibrated. Connect the echo box in the same manner as in *b* above.

f. Place the radar set in operation.

g. Loosen the three screws in the test probe and adjust the depth of the probe until the ringtime as shown on the radar scope is exactly the same as obtained in subparagraph *c* above. Then fasten the probe in place by tightening the screws.

h. Turn off the radar set and disconnect the dummy antenna.

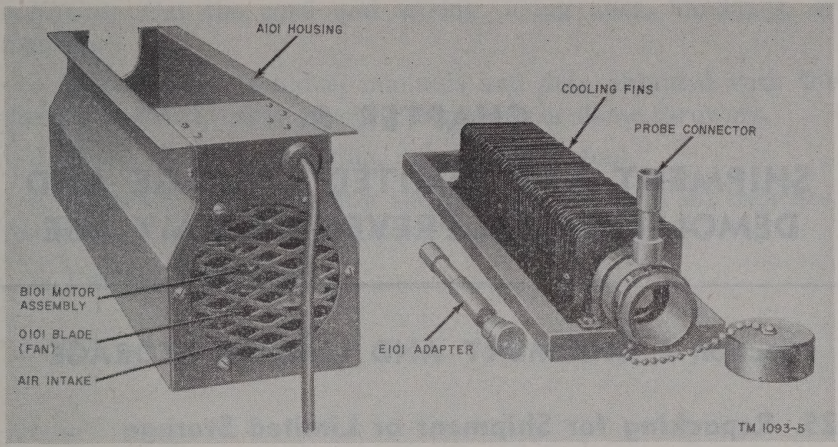


Figure 6. Dummy Antenna TS–235/UP, load assembly removed.

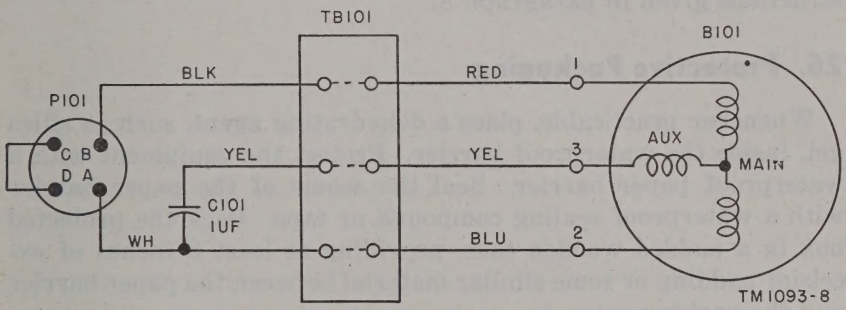


Figure 7. Dummy Antenna TS–235/UP, schematic diagram.

CHAPTER 6

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

25. Repacking for Shipment or Limited Storage

The exact procedure in repacking for shipment or limited storage depends on the materials available and the conditions under which the equipment is to be shipped or stored. Reverse the instructions given in paragraph 8.

26. Protective Packaging

Whenever practicable, place a dehydrating agent, such as silica gel, inside the waterproof barrier. Protect the equipment with a waterproof paper barrier. Seal the seams of the paper barrier with a waterproof sealing compound or tape. Pack the protected box in a padded wooden case, providing at least 3 inches of excelsior padding or some similar material between the paper barrier and the packing case.

Section II. DEMOLITION OF MATÉRIEL TO PREVENT ENEMY USE

27. General

Follow the demolition procedures outlined in paragraph 28 to prevent the enemy from using or salvaging this equipment. Demolition of the equipment will be accomplished only upon order of the commander.

28. Methods of Destruction

a. Smash. Smash the coaxial line and the test probe assemblies, using sledges, axes, handaxes, pickaxes, hammers, or other heavy tools.

b. Cut. Cut the cord and wiring, using axes, handaxes, or machetes.

c. Burn. Burn technical manuals and data obtained with the dummy antenna, using gasoline, kerosene, or flame throwers.

d. Bend. Bend the housing, using a heavy tool.

e. Disposal. Bury or scatter the destroyed parts in slit trenches, foxholes, or other holes, or throw them into streams.

f. Destroy everything.

APPENDIX I
REFERENCES

Note. For availability of items listed, check SR 310–20–3 and SR 310–20–4. Check Department of the Army Supply Catalog SIG 1 for Signal Corps supply catalog pamphlets.

1. Army Regulations

AR 380–5	Safeguarding Military Information.
AR 750–5	Maintenance of Supplies and Equipment (Maintenance Responsibilities and Shop Operation).

2. Supply Publications

SIG 1	Introduction and Index.
SIG 3	List of Items for Troop Issue.
SIG 5	Stock List of All Items.
SIG 6	Sets of Equipment.
SIG 7 & 8	Organizational Maintenance Allowances and Field and Depot Maintenance Stockage Guide.
SB 11–47	Preparation and Submission of Requisitions for Signal Corps Supplies.
SB 11–76	Signal Corps Kit and Materials for Moisture- and Fungi-Resistant Treatment.

3. Publications on Auxiliary Equipment and Test Equipment

TM 11–1083	Echo Box TS–280/TPS–3
TM 11–1255	Test Set AN/MPM–15

4. Painting, Preserving, and Lubrication

TB SIG 13	Moistureproofing and Fungiproofing Signal Corps Equipment.
TM 9–2851	Painting Instructions for Field Use.

5. Camouflage

FM 5–20	Camouflage, Basic Principles.

6. Decontamination

TM 3–220	Decontamination.

7. Demolition

FM 5–25	Explosives and Demolitions.

8. Other Publications

SR 310–20–3	Index of Training Publications (Field Manuals, Training Circulars, Firing Tables and Charts, Army Training Programs, Mobilization Training Programs, Army Training Tests, Graphic Training Aids, Joint Army-Navy-Air Force Publications, Combined Communications Board Publications, and Army Communications Publications).
SR 310–20–4	Index of Technical Manuals, Technical Regulations, Technical Bulletins, Supply Bulletins, Lubrication Orders, Modification Work Orders, Tables of Organization and Equipment, Reduction Tables, Tables of Allowances, Tables of Organization, and Tables of Equipment.
SR 700–45–5	Unsatisfactory Equipment Report (Reports Control Symbol CSGLD–247).
SR 745–45–5 NAV DEPT SERIAL 85P00 AFR 71–4	Report of Damaged or Improper Shipment (Reports Control Symbols CSGLD–66 (Army), SandA–70–6 (Navy), and AF–MC–U2 (Air Force)).
TB SIG 66	Winter Maintenance of Signal Equipment.
TB SIG 69	Lubrication of Ground Signal Equipment.
TB SIG 72	Tropical Maintenance of Ground Signal Equipment.
TB SIG 75	Desert Maintenance of Ground Signal Equipment.
TB SIG 123	Preventive Maintenance Practices for Ground Signal Equipment.
TB SIG 178	Preventive Maintenance Guide for Radio Communication Equipment.
TB SIG 219	Operation of Signal Equipment at Low Temperatures.

TM 11–453	Shop Work.
TM 11–455	Radio Fundamentals.
TM 11–466	Radar Electronic Fundamentals.
TM 11–660	Introduction to Electronics.
TM 11–759	Theory and Measurement of Pulse Radar System Performance.

9. Abbreviations

db	decibel
hp	horsepower
mc	megacycle
r-f	radio-frequency
rpm	revolutions per minute

10. Glossary

For an explanation of terms used in this manual, refer to the glossary in TM 11–466.

APPENDIX II
IDENTIFICATION TABLE OF PARTS

1. Requisitioning Parts

The fact that a part is listed in this table is not sufficient basis for requisitioning the item. Requisitions must cite an authorized basis, such as the specific T/O&E, T/A, list of allowances of expendable material, or another authorized supply basis. For an index of available supply catalogs in the Signal portion of the Department of the Army Supply Catalog, see the latest issue of SIG 1, Introduction and Index.

2. Identification Table of Parts for Dummy Antenna TS–235/UP

Ref symbol	Name of part and description	Function of part	Signal Corps stock No.
A101	HOUSING: fan; p/o Barlow Eng part #9–135 axial flow fan, u/w Barlow Eng part #9–138 fan blade, steel shell, cylindrical, dull black lacquer finish; $4\frac{15}{16}$" lg x 4" dia body w/$4\frac{3}{8}$" fl ea end; six #10–32 tapped holes on $4\frac{3}{8}$" dia bolt circle ea fl.	Fan blade housing.	
B101	MOTOR ASSEMBLY: AC, p/o Barlow Eng part #9–135 axial flow fan, 1/60 hp; 115 v AC, 400 cyc single ph, 7000 rpm no load speed; cylindrical; $1\frac{3}{4}$" dia x $2\frac{3}{4}$" lg; $\frac{3}{4}$" shaft extension, $\frac{1}{8}$" SS shaft, 45° C continuous, clockwise rotation shaft end view, ball bearings; WECo spec KS–15105.	Fan drive motor.	
C101	CAPACITOR, fixed: paper dielectric; 1 μf +10% —3%; 220 v, 400 cyc; HS metal case; $2\frac{3}{4}$" lg x $1\frac{3}{4}$" wd x 1" h; mineral oil filled and impr, nonremovable solder lugs at top; no internal ground connections, Navy spec RE 13A 488A, Navy designation CD 482456.	Motor starting.	
E101	ADAPTER, connector: brass, silver pl; cylindrical; $\frac{1}{2}$" female socket at transmission line end, $\frac{3}{8}$"–32 thd for connection to dummy antenna, screw thd protected by separate screw holder, .625" dia x $8\frac{1}{8}$" lg o/a incl screw holder.	Connects center conductor to r-f line.	
H101	CLAMP, cable: zinc, die cast, for $\frac{1}{2}$" dia wire or cable; $\frac{15}{16}$" x $1\frac{5}{64}$" x $\frac{1}{2}$" cable opening; $\frac{3}{4}$"–20 thd, u/w AN–310614S–2P connector.	Cable clamp for P101.	

C101	BLADE, fan: p/o Barlow Eng part #9–135, axial flow fan, u/w Barlow Eng part #9–105 fan housing, 2 blade propeller type; aluminum; dull black lacquer finish; ¼" shaft hole; two #10–32 set screws 90 deg apart; approx 3¾" dia x 2¼" wd x 1⅝" d.	Forces air around dummy load assembly.
P101	CONNECTOR, male contact: zinc; die cast shell; for four #20 wires, 1/16" cont spacing, marked A, B, C, D; 1 1/16" dia x 1 11/32" lg; u/w AN–3057–6 clamp.	Connects fan motor to power supply.
TB101	BOARD, terminal: general purpose; 3 brass nickel pl screw term; term 5/16" between ctr; molded phenolic board; 1¾" lg x ⅞" wd x 13/32" thk o/a; two ⅛" dia mtg holes on 1½" ctr.	Wiring terminal board.

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