# TM 11-6625-601-12

**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

**ORGANIZATIONAL MAINTENANCE MANUAL**
**INCLUDING REPAIR PARTS LIST**

# MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54

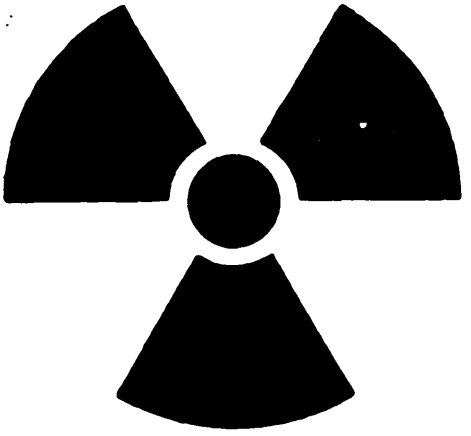
**This copy is a reprint which includes current pages from Changes 1 through 3.**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**JUNE 1967**

## WARNING

The fumes of TRICHLOROETHANE are toxic. Provide thorough ventilation whenever it is used; avoid prolonged or repeated breathing of vapor. Do not use near an open flame or hot surface; trichloroethane is nonflammable but heat converts the fumes to a highly toxic phosgene gas the inhalation of which could result in serious injury or death. Prolonged or repeated skin contact with trichloroethane can cause skin inflammation. When necessary, use gloves, sleeves and aprons which the solvent cannot penetrate.



STD-RW-2

Indicator ID-48 Ra226 1.5uCi 6610-839-8638

Radiation Hazard Information: The following radiation hazard information must be read and understood by all personnel before operating or repairing Maintenance Kit, Electronic Equipment MK-733ARC-54 Hazardous radioactive materials are present in the above listed component.

The components are potentially hazardous when broken. See qualified medical personnel and the local Radiological Protection Officer (RPO) immediately if you are exposed to or cut by broken components. First aid instructions are contained in TB 430122 and AR 75315.

EVER place radioactive components in your pocket.

Use extreme care NOT to break radioactive components while handling them.

NEVER remove radioactive components from cartons until you are ready to use them.

If any of these components are broken, notify the local RPO immediately. The RPO will survey the immediate area for radiological contamination and will supervise the removal of broken components.

The above listed radioactive components *will not* be repaired or disassembled.

Disposal of broken, unserviceable, or unwanted radioactive components will be accomplished in accordance with the instructions in AR 755-15.

TECHNICAL MANUAL
No. 11-6625-601-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *5 June 1967*

## ORGANIZATIONAL MAINTENANCE MANUAL

# MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54 (NSN 5821-00-901-4327)



*This manual supersedes TM 11-6625-601-12, 1 March 1965, including C 1, 3 March 1966.

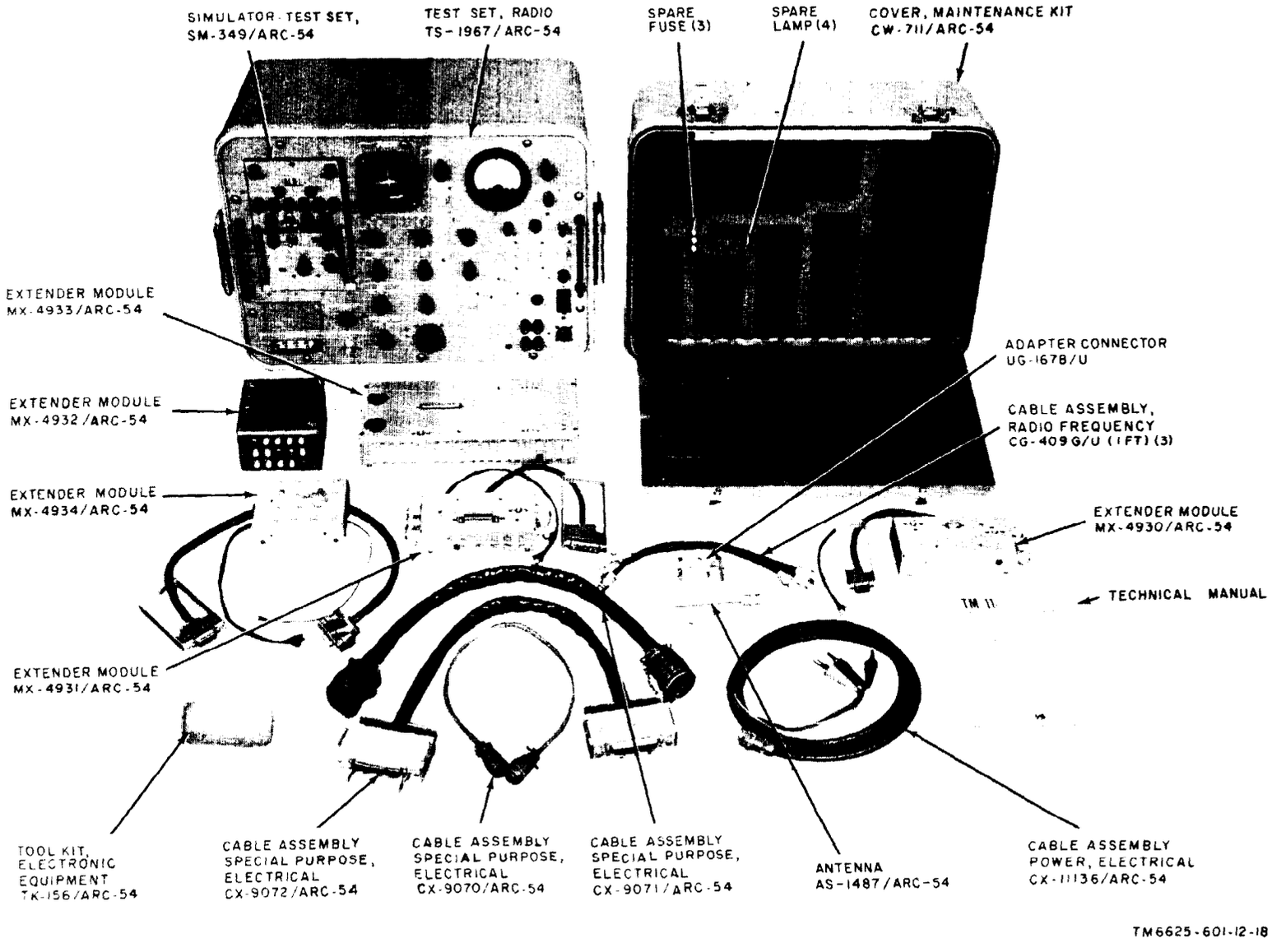



*Figure* **1-1.** *Maintenance Kit, Electronic Equipment MK-733/ARC-54.*

# CHAPTER 1
# INTRODUCTION

## Section I. GENERAL

### 1-1. Scope

This manual describes Maintenance Kit, Electronic Equipment MK-733/ARC-54 (fig. l-l) and provides instructions for installation, operation, and operator and organizational maintenance. It includes preventive maintenance checks and services, cleaning, preservation, and replacement of parts available to the oeprator and organizational repairman.

### 1-2. Indexes of Publications

*a. 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.

*b. DA Pam 310-7.* Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO'S) pertaining to the equipment.

### 1-3. 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 DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29B, and DLAR 4145.8.

*c. Discrepancy in Shipment Report (DISREP) (SF 961).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33A/AFR 75-18/MCO P4610.19B and DSAR 4500.15.

#### 1-3.1. 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 Publications and Blank Forms) and forwarded direct to Commander, US Army Electronics command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

#### 1-3.2. Reporting 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 (TAMMS). EIR's should be mailed direct to Commander, US Army Electronics Command, ATTN: DRSEL MA-Q, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

#### 1-3.3. Administrative Storage

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

#### 1-3.4. Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to pre vent enemy use shall be in accordance with TM 750-244-2.

## Section II. DESCRIPTION AND DATA

### 1-4. Purpose and Use

The MK-733/ARC-54 is a portable test set that provides connections between Radio Set AN/ARC-54 and external test equipment when operational and maintenance checks are preformed on the AN/ARG54. The MK-733/ARC-54 contains facilities for bench testing Receiver-Transmitter, Radio RT-348/ARC-54, Control, Radio Set G-3835/ARC-54, and Coupler, Antenna CU-942/ARC-54 (or Coupler, Antenna CU-943/ARC-54). Included in the MK-733/ARC-54 is Simulator-Test Set SM-349/ARC-54. The SM-349/ARC-54 can be substituted for the RT-348/ARC-54 in the aircraft to check out the AN/ARC-54 control functions and wiring harness.

### 1-5. Technical Characteristics

Environmental conditions:

**Temperature:**
- **Storage** ..... **55° C. to 71° C.**
- **Operating** ..... **−18° C. to 55° C.**

**Altitude:**
- **Storage** ..... **0 to 50,000 feet.**
- **Operating** ..... **0 to 10,000 feet.**

**Humidity** ..... **95 percent.**

**Electrical characteristics:**

**Power input requirements** ..... **+27.5 ±1 volt direct current**

**RF POWER meter:**
- **Sensitivity** ..... **50 microamperes (ua).**

**Physical characteristics:**

Weight ..... 43 pounds.
Dimensions (in.):
Height ..... 21⅛.
Depth ..... 16⅛.
Width ..... 18½

## 1-5.1. Items Comprising an Operable Maintenance Kit, Electronic Equipment MK-733/ARC-54

| *FSN* | *Qty* | *Nomenclature, part No., and mfg code* | *Fig. No.* |
|---|---|---|---|
| 5821-901-4327 | | Maintenance Kit, Electronic Equipment MK-733/ARC-54 consisting of: | 1-1 |
| | | **NOTE** The part number is followed by the applicable 5-digit Federal supply code for manufacturers (FSCM) identified in SB 708-42 and used to identify manufacturer, distributor, or Government agency, etc. | |
| 5935-892-9733 | 1 | Adapter, Connector UG-1678/U: 566-6695-003;13499 | 1-1 |
| 5985-985-9023 | 1 | Antenna AS-1487/ARC-54:566-9512-003;13499 | 1-1 |
| 5995-901-4340 | 1 | Cable Assembly, Power Electrical CX-11136/ARC-54: 566-6688-004;13499 | 1-1 |
| 5995-985-8287 | 1 | Cable Assembly, RF CG-409/U: SC-D-68284; 80063 | 1-1 |
| 5995-901-4334 | 1 | Cable Assembly, Special Purpose, Electrical CX-9070/ARC-54: 566-9511-004;13499 | 1-1 |
| 5995-901-4335 | 1 | Cable Assembly, Special Purpose, Electrical CX-9071/ARC-54: 566-9510-005; 13499 | 1-1 |
| 5995-901-4337 | 1 | Cable Assembly, Special Purpose, Electrical CX-9072/ARC-54: 566-9509-005;13499 | 1-1 |
| 6625-906-1173 | 1 | Extender, Module MX-4933/ARC-54: 566-9504-005; 13499 | 1-1 |
| 6625-906-1174 | 1 | Extender, Module MX-4931/ARC-54: 566-9507-005; 13499 | 1-1 |
| 6625-906-1175 | 1 | Extender, Module MX-4930/ARC-54: 566-9508-005; 13499 | 1-1 |
| 6625-906-1176 | 1 | Extender, Module MX-4932/ARC-54: 566-9505-005; 13499 | 1-1 |
| 6625-906-1177 | 1 | Extender, Module MX-4934/ARC-54: 566-9506-005; 13499 | 1-1 |
| 5120-198-5401 | 1 | Key, Socket Head: 050; 08664 | 1-2 |
| 6625-901-2972 | 1 | Test Set, Radio TS-1967/ARC-54: 566-9503-004; 13499 which includes: | 1-1 |
| 6625-906-1172 | 1 | Similator Test Set SM-349/ARC-54: 566-5902-005; 13499 | 1-1 |
| 5180-900-8041 | 1 | Tool Kit, Electronic Equipment: 762-2213-006; 13499 | 1-1 |
| 5120-872-7818 | 1 | Tool, Extraction: CETC6B1; 71468 | 1-1 |

## 1-6. Components of Maintenance Kit, Electronic Equipment MK-733/ARC-54 (fig. 1-1)

| *Quantity* | *Item* | *Dimensions (in.)* | | | *Unit weight (lb)* |
|---|---|---|---|---|---|
| | | *Height* | *Depth* | *Width* | |
| 1 | Test Set, Radio TS-1967/ARC-54 (Collins #566-9503-004). | 16⅛ | 11⅛ | 21⅛ | 28 |
| 1 | Cover, Maintenance Kit CW-711/ARC-54 (Collins #566-9746-004). | 16⅛ | 7⅜ | 21⅛ | 3 |
| 1 | Simulator-Test Set SM-349/ARC-54 (Collins #566-9502-005). | 7¾ | 8¼ | 7¾ | 6½ |
| 1 | Antenna AS-1487/ARC-54 (Collins #566-9512-003). | 5 (lg) | ¾ | ⅝ | 1/10 |
| 1 | Cable Assembly, Special Purpose, Electrical CX-9070/ARC-54 (2 ft) (Collins #566-9511-004). | ..... | ..... | ..... | 4/10 |
| 1 | Cable Assembly, Special Purpose, Electrical CX-9071/ARC-54 (2 ft) (Collins #566-9510-005). | ..... | ..... | ..... | 6/10 |
| 1 | Cable Assembly, Special Purpose, Electrical CX-9072/ARC-54 (2 ft) (Collins #566-9509-005). | ..... | ..... | ..... | 6/10 |
| 3 | Cable Assembly, Radio Frequency CG-409G/U (1 ft) (Collins #566-9514-003). | ..... | ..... | ..... | 6/10 |
| 1 | Cable Assembly, Power, Electrical CX-111136/ARC-54 (Collins #566-6688-004). | ..... | ..... | ..... | 4/10 |
| 1 | Adapter, Connector UG-1678/U (Collins #566-6695-003). | 1 5/16 | ¾ | 2⅛ | 1/10 |
| 1 | Extender, Module MX-4930/ARC-54 (Collins #566-9508-005). | 18 (lg) | 6 | 1½ | ¾ |
| 1 | Extender, Module MX-4931/ARC-54 (Collins #566-9507-005). | 18 (lg) | 6 | 1½ | 1 |

| Quantity | Item | Dimensions (in.) Height | Depth | Width | Unit weight (lb) |
|---|---|---|---|---|---|
| 1 | Extender, Module MX-4932/ARC-54 (Collins #566-9505-005). | 2⅝ | 4 7/16 | 4¾ | ⅞ |
| 1 | Extender, Module MX-4933/ARC-54 (Collins #566-9504-005). | 2 | 12¼ | 5 | 2 |
| 1 | Extender, Module MX-4934/ARC-54 (Collins #566-9506-005). | 28¾ (lg) | 3⅞ | 4¾ | 1⅛ |
| 1 | Tool Kit, Electronic Equipment TK-156/ARC-54 (fig. 1-2) (Collins #762-2213-001), consisting of: Wrench, hexagon — .050; Tool, connector; Cotton duck bag. | 2 | 7 | 3½ | 3/10 |
| 1 (set) | Running spares: 3 spare fuses, 6 amperes, 250 volts. 4 spare lamps, incandescent, 28 volts, 0.04 ampere, (type MS25237-237). | | | | |

## 1-7. Description of Maintenance Kit Electronic Equipment MK-733/ARC-54

(fig. l-l)

The MK-733/ARC-54 is composed of the TS-1967/ARC-54, the SM-349/ARC-54, the CW-711/ARC-54, adapters, and extender cables (para 1-6). The main panel of the MK-733/ARC-54 is formed by the TS-1967/ARC-54 and the SM-349/ARC-54 installed in a fiberglass case. Operating controls, connectors, and indicators are mounted on the front panel of the TS-1967/ARC-54 and the SM-349/ARC-54. The SM-349/ARC-54, normally plugged into the front panel of the TS-1967/ARC-54, can be removed and substituted for the RT-348/ARC-54 when operational checks are performed in the aircraft. A sliding connector bracket, on the rear of the SM-349/ARC-54 (fig. 2-3), is used to adapt the SM-349/ARC-54 to the RT-348/ARG54 shockmount (Mounting MT-1535/ARC-54). Locking pins hold the bracket in place in either the extended or retracted position. Indicator ID-48/ARN, mounted on the front panel of the TS-1967/ARC-54 (fig. 2-2), is used to display left, right, or over-target homing information during homing tests. A blower in the TS-1967/ARC-54 provides forced air ventilation during transmit tests. When prepared for transit, the compartment cover of the CW-711/ARC-54 is closed. The case containing the SM-349/ARC-54 and the TS-1967/ARC-54 is placed in the recessed area of the CW-71l/ARG54 and held in place by four latches.

## 1-8. Description of Minor Components

(fig. l-l)

Special features of the minor components of the MK-733/ARC-54 are listed below:

*a.* Cover, Maintenance Kit CW-711/ARC-54 is of lightweight rugged construction and contains all of the accessories for the MK-733/ARC-54. Compartments are provided for storing the adapters, cable assemblies, and running spares.

*b.* Antenna AS-1487/ARC-54 is used for radiofrequency (RF) signal transmission during bench test of the RT-348/ARC-54. The AS-14871ARC-54 connects to ANT jack J7 on the TS-1967/ARC-54.

*c.* Cable Assembly, Special Purpose, Electrical CX-9070/ARC-54 is used to interconnect the TS-1967/ARC-54 and the CU-942/ARC-54 (or CU-943/ARC-54). The CX-9070/ARC-54 provides control circuit connections for testing the CU-942/ARC-54 or CU-943/ARC-54).

*d.* Cable Assembly, Special Purpose, Electrical CX-9071/ARC-54 is used to interconnect the TS-1967/ARC-54 and the G3835/ARC-54. The CX-9071/ARC-54 provides control circuit connections for testing the RT-348/ARC-54 of the G-3835/ARC-54.

*e.* Cable Assembly, Special Purpose, Electrical CX-9072/ARC-54 is used to interconnect the TS-1967/ARC-54 and the RT-348/ARC-54. The CX-9072/ARC-54 provides control circuit and coaxial connections for testing the RT-348/ARC-54.

*f.* Cable Assembly, Radio Frequency CG-409G/U (1 ft) is used to interconnect the RF circuits between the TS-1967/ARC-54 and the unit under test. The CG-409G/U consists of RF Cable RG-58/U with a BNC connector on each end.

*g.* Cable Assembly, Power, Electrical CX-11136/ARC-54 is used to interconnect the TX-1967/ARC-54 to the primary power source. One end of the cable has a plug that connects to POWER 28 VDC jack J32 on the TS-1967/ARC-54. The other end of the cable has three alligator clips that connect to the power source.

*h.* Adapter, Connector UG-1678/U is used to adapt the RF connector of the CU-942/ARC-54 (or CU-943/ARG-54) to a BNC connector.

*i.* Extender, Module MX-4930/ARC-54 is used to extend the fixed intermediate frequency (IF) module from the RT-348/ARC-54. The test jacks on the MX-4930/ARC-54 provide access to the module connector pins.

*j.* Extender, Module MX-4931/ARG-54 is used to extend the homer module from the RT-348/ARC-54. The test jacks on the MX-4931/ARC-54 provide access to the module connector pins.

*k.* Extender, Module MX-4932/ARC-54 is used to extend the power supply module from the RT-348/ARC-54. The test jacks on the MX-4932/ARC-54 provide access to the module connector pins.

*l.* Extender, Module MX-4933/ARC-54 is used to extend the RF chassis from the RT-348/ARC-54. The test jacks on the MX-4933/ARC-54 provide access to the RF chassis connector pins.

*m.* Extender Module MX-4934/ARC-54 is used to extend the SEL CALL transmit audio, or the receive audio module from the RT-348/ARC-54. The test jacks on the MX-4934/ARC-54 provide access to the module connector pins.

*n.* Tool Kit, Electronic Equipment TK-156/ARC-54 (fig. 1-2) contains tools used for calibration, alignment, and maintenance of the TS1967/ARC-54 and the RT-348/ARC-54. The tools are supplied in a cloth container.

## 1-9. Additional Equipment Required

*a. General.* The test equipment listed in ***b*** below is required for use with the MK-733/ARC-54 when the tests described in paragraphs 2-7 through 2-10 are performed.

*b. Test Equipment Required.*

| Nomenclature | Technical Manual | Use |
|---|---|---|
| Modulation Meter ME-57/U | TM 11-6625-400-12 | Measures the deviation of frequency modulation. |
| Audio Oscillator TS-382A/U | TM 11-6625-261-12 | Supplies audio test signals. |
| Signal Generator AN/URM-48 | TM 11-1257 | Supplies test signals. |
| Voltmeter, Electronic ME-30B/U | TM 11-6625-320-12 | Measures voltage. |
| Frequency Meter AN/USM-26 and Converter, CV-394/USA-5. | TM 11-5057 | Used to make frequency measurements. |
| Attenuator, Variable 10-db steps (Hewlett-Packard 355B) | | Used for signal attenuation. |
| Attenuator, Variable (1-db steps) (Hewlett-Packard 355A) (2 required). | | Used for signal attenuation. |
| Multimeter ME-26A/U | TM 11-6625-200-12 | General testing. |
| Spectrum Analyzer TS-723A/U | TM 11-5097 | Used for frequency and bandwidth measurements. |
| Radio Interference Measuring Set AN/URM-85. | TM 11-6625-351-12 | Signal detector. |
| Signal Generator AN/USM-44A | TM 11-6625-508-10 | Supplies test signals. |
| Admittance Meter, General Radio 1602-B. | | Measure admittance of the CU-942/ARC-54 (for CU-943/ARC-54). |
| Headset/Microphone H-101/U (2-required). | | Used for communication tests. |
| Dc power supply, adjustable from 24 to 29 volts, 10 amp. | | Supplies operating voltage for the MK-733/ ARC-54. |
| Stopwatch with second hand | | Time measurements. |

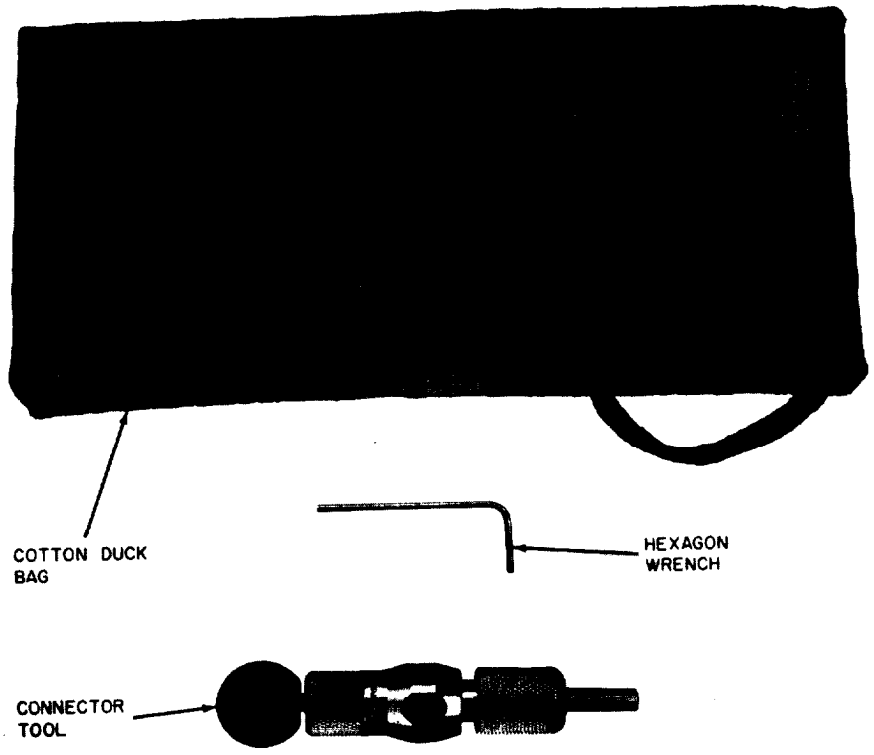



***Figure*** 1-2. ***Tool Kit,*** *Electronic Equipment* ***TK-156/ARC-54.***

# CHAPTER 2

# OPERATION

## Section I. SERVICE UPON RECEIPT OF EQUIPMENT

### 2-1. Unpacking

*a. Packaging Data.* When packed for shipment, the MK-733/ARC-54 is inclosed in a protective cushion and placed in a corrugated carton. The corrugated carton is then placed in a wooden packing case. Two MK-7331ARC-54's are packed in the wooden packing case. A typical wooden packing case and its contents are shown in figure 2-1. The outside dimensions of the wooden packing case are 53 1-2 inches wide, 21 6/8 inches deep, and 23 3/4 inches high. The total weight of the wooden packing case and its contents is 205 pounds, and the volume is approximately 15.8 cubic feet.

*b. Removing Contents* (fig. 2-l).

(1) Cut and fold back the metal straps.

*Caution:* Do not attempt to pry off the wooden cover; equipment damage may result.

(2) Remove the nails from the wooden cover of the wooden packing case with a nailpuller, and lift off the wooden cover.

(3) Remove the envelopes containing the technical manuals.

(4) Remove one of the corrugated cartons from the wooden packing case.

(6) We a knife or sharp instrument to cut the pressure-sensitive tape that seals the top of the corrugatad carton, and open the flaps.

(6) Remove the protective cushion from the corrugated carton.

(7) Remove the MK-733/ARC-54 from the protective cushion inside the corrugated carton.

(8) Remove the other corrugated carton from the wooden packing case

(9) Repeat the procedures given in (5) through (7) above.

### 2-2. Checking Unpacked Equipment

*a.* Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1-3).

*b.* Check to see that the equipment is complete as listed on the packing slip. If a packing slip is not available, check the equipment against the basic issue items list (appx B). Report all discrepancies in accordance with TM 38-750. Shortage of a minor assembly or part that does not affect proper functioning of the equipment should not prevent use of the equipment.

*c.* If the equipment has been used or reconditioned, see whether it has been changed by a modification work order (MWO). If the equipment has been modified, the MWO number will appear on the front panel near the nmenclature plate. If modified, make sure that any operational instruction changes resulting from the modification have been entered in the equipment manual.

*Note.* Current MWO'S applicable to the equipment are listed in DA Pam 310-4.

### 2-3. Installation of Fuse

*Caution:* Use only a fuse of the Correct value when replacing the fuse. Overusing can result in damage to the equipment.

The MK-733/ARC-54 contains one fuse. The fuse is contained in a fuseholder on the front panel of the SM-349/ARC-54. Be sure that the proper fuse is inserted in, the fuseholder. The fuse is rated at 6 amperes, 250 volts.

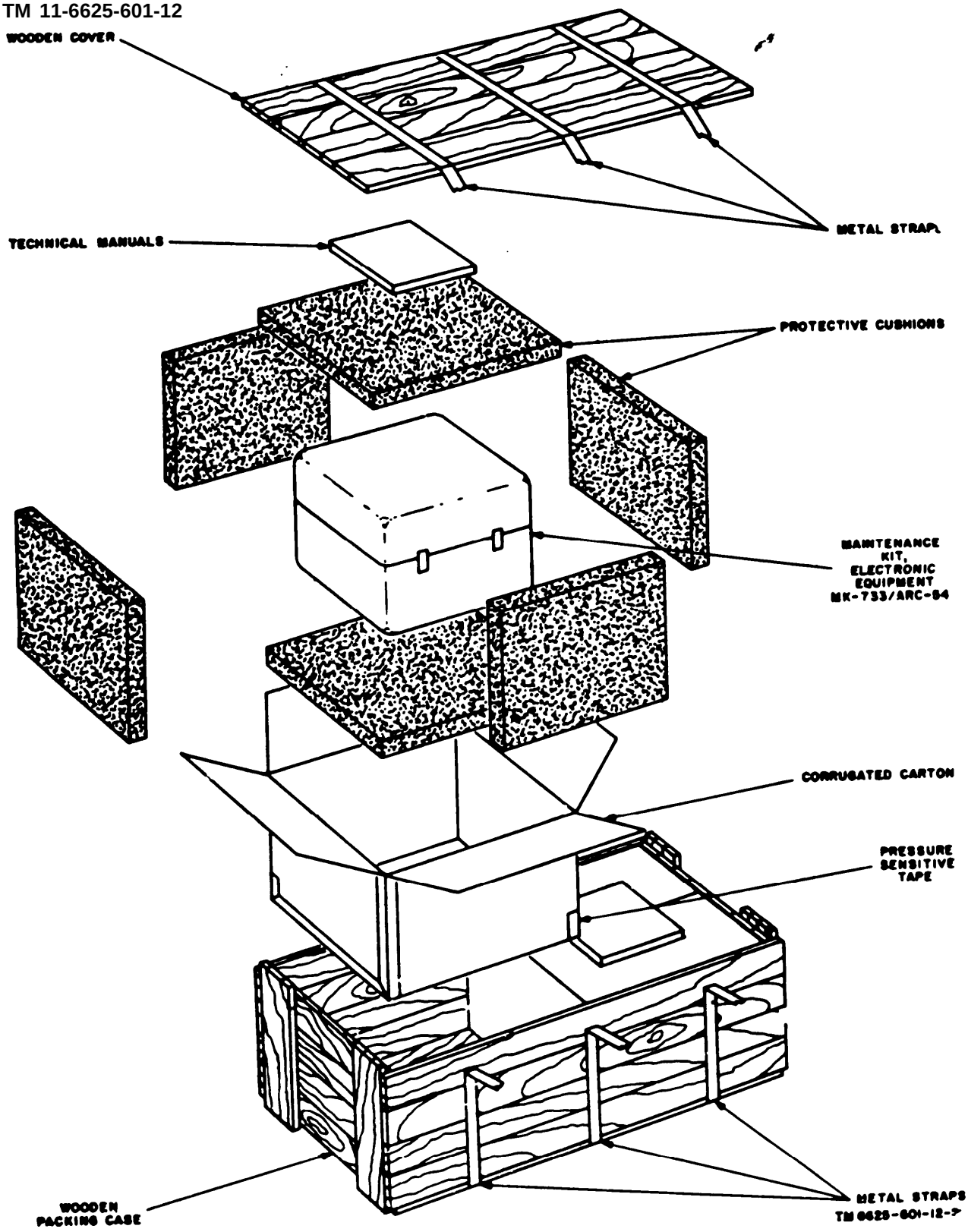



*Figure 2-1. Packaging of Maintenance Kit, Electronic Equipment MK-733/ARC-54.*

## Section II. OPERATING INSTRUCTIONS

### 2-4. Maintenance Kit, Electronic Equipment MK-733/ARC-54, Operating Controls, Indicators and Connectors

(fig. 2-2)

| Control, indicator, or connector | Function |
|---|---|
| **Test Set, Radio TS-1967/ARC-54** | |
| INDICATOR ID-48/ARN | Provides left, right, or on-course indication during AN/ARC-54 homing tests. INDICATOR ID-48/ARN works in conjunction with HOME SIMULATOR switch S1 and HOME INPUT jack J1 to simulate homing signals. |
| HOME SIMULATOR (three-position rotary) switch S1. | Works in conjunction with HOME INPUT jack J1 to simulate homing signals.<br>*Switch position* — *Action*<br>LEFT — Simulates left homing antenna signal.<br>ON COURSE — Simulates on-course homing antenna signal.<br>RIGHT — Simulates right homing antenna signal. |
| HOME INPUT jack J1 (BNC connector) | Couples external signal to home simulator circuit. |
| RF POWER meter (0 to 40 watts full scale). | Monitors forward or reflected power and standing wave ratio (voltage) (swr). Works in conjunction with POWER/VSWR switch S2. |
| POWER/VSWR (four-position rotary) switch S2. | Applies RF power to the RF POWER meter from the directional coupler.<br>*Switch position* — *Action*<br>FWD — Applies forward power to the RF POWER meter from the directional coupler.<br>REFL — Applies reflected power to the RF POWER meter from the directional coupler.<br>CAL — Applies forward power to the RF POWER meter from the directional coupler through the VSWR CAL potentiometer.<br>VSWR — Applies reflected power to the RF POWER meter from the directional coupler through the VSWR CAL potentiometer. |
| VSWR CAL control (0- to 10,000-ohm potentiometer). | Calibrates the RF POWER meter when the POWER/VSWR switch is at CAL. Used to zero RF POWER meter. |
| FREQUENCY SELECTOR-MC (four-position rotary) switch S3. | Selects the 10-mc setting of the RT-348/ARC-54, SM-349/ARC-54, and CU-942/ARC-54 (or CU-943/ARC-54). |
| FREQUENCY SELECTOR-MC (10-position rotary) switch S4. | Selects the 1-mc setting of the RT-348/ARC-54, SM-934/ARC-54, and CU-942/ARC-54 (or CU-943/ARC-54). |
| FREQUENCY SELECTOR-MC (20-position rotary) switch S5. | Selects the fractional mc setting of the RT-348/ARC-54, SM-349/ARC-54, and CU-942/ARC-54 (or CU-943/ARC-54). |
| VOL control (0- to 150-ohm potentiometer) | Sets the output signal level of the audio amplifier; available at HEADSET connector J9. |
| XMIT indicator | Lights when XMIT/RCV/PTT switch S6 is set to XMIT or PTT. |
| XMIT/RCV/PTT switch S6 (telephone switch), locking in the XMIT position; spring-return in the PTT position; normal in the RCV position. | Applies ground to the push-to-talk bus in the RT-348/ARC-54 when set to XMIT or PTT. When set to RCV, places the RT-348/ARC-54 in the receive mode of operation. |
| SQUELCH (three-position rotary) switch S7. | *Switch position* — *Action*<br>DIS — Disables the squelch circuit in the RT-348/ARC-54.<br>CARR — Enables the carrier signal squelch circuit in the RT-348/ARC-54.<br>TONE — Enables the tone signal squelch circuit in the RT-348/ARC-54. |

| Control, indicator, or connector | Function | |
|---|---|---|
| | *Switch position* | *Action* |
| TONE SECURITY (three-position rotary) switch S8. | TONE | Causes 150-cps signal to be transmitted from the RT-348/ARC-54. |
| | OFF | Opens the tone security circuit in the RT-348/ARC-54. |
| | SEC | Enables the security circuit in the RT-348/ARC-54. |
| RCVR/XMTR FUNCTION (three-position rotary) switch S9. | PTT | Sets up the transmit mode of operation in the RT-348/ARC-54. |
| | TEST | Allows testing and adjustments of the RT-348/ARC-54, using external test equipment. |
| | HOME | Sets up the home mode of operation in the RT-348/ARC-54. |
| RCVR-XMTR jack J2 (BNC connector) | Provides connection of RF signal from the RT-348/ARC-54 through a coaxial relay and RCVR/XMTR jack J12. | |
| DIR COUPLER IN jack J3 (BNC connector). | Applies RF power to the directional coupler. | |
| DIR COUPLER OUT jack J6 (BNC connector). | Provides connection to RF energy from directional coupler. | |
| RCVR TEST jack J4 (BNC connector) | Provides connection to RF signal from the RT-348/ARC-54 through a coaxial relay and RCVR/XMTR jack J12. | |
| LOAD IN jack J5 (BNC connector) | Provides connection to the input of the attenuator/dummy load. | |
| LOAD OUT jack J8 (BNC connector) | Provides connection to the -30-db output of the attenuator or/dummy load. | |
| HEADSET jack J9 (four-contact female connector). | Provides connection for a combination microphone-earphone headset used during voice transmission tests. | |
| TEST FUNCTION SELECTOR (three-position rotary) switch S10. | *Switch position* | *Action* |
| | SIM | Connects the TS-1967/ARC-54 to the SM-349/ARC-54. |
| | RADIO | Connects the TS-1967/ARC-54 to the RT-348/ARC-54. |
| | ANT CPLR | Connects the TS-1967/ARC-54 to the CU-942/ARC-54 (or CU-943/ARC-54). |
| TEST FUNCTION SELECTOR (two-position rotary) switch S11. | *Switch position* | *Action* |
| | TEST SET | Permits the TS-1967/ARC-54 to control tests being performed. |
| | CONT UNIT | Permits the C-3834/ARC-54 to control tests being performed. |
| ANT jack J7 (BNC connector) | Provides connection of the AS-1487/ARC-54 to the —7-db output of the attenuator/dummy load. | |
| ANT COUPLER jack J10 (multipin female connector). | Connects the TS-1967/ARC-54 to the CU-942/ARC-54 (or CU-943/ARC-54). | |
| RCVR/XMTR jacks J11, J12, J13, J14 (one multipin connector and three rf connectors). | Connects the TS-1967/ARC-54 to the RT-348/ARC-54. | |
| ANT COUPLER LOAD jack J15 (BNC connector). | Provides connection to the antenna coupler load resistor. | |
| CONT UNIT TEST (two-position rotary) switch S12. | *Switch position* | *Action* |
| | RADIO | Selects the C-3835/ARC-54 radio-frequency control lines when performing tests. The frequency selected is indicated on the FREQUENCY MC indicator on the SM-349/ARC-54. |
| | ANT CPLR | Selects the CU-942/ARC-54 (or CU-943/ARC-54) radiofrequency control lines when performing tests. The frequency selected is indicated on the FREQUENCY MC indicator on the SM-349/ARC-54. |

| Control, indicator, or connector | Function |
|---|---|
| CONT UNIT jack J16 (multipin female connector). | Connects the CU-942/ARC-54 (or CU-943/ARC-54) to the TS-1967/ARC-54. |
| Tip jacks: | |
| J17 | Provides connection to the retransmit control ground (receive). |
| J18 | Provides connection to the push-to-talk (ptt) ground. |
| J19 | Provides connection to the retransmit audio high (receive). |
| J2 | Provides connection to the retransmit audio high (transmit). |
| J21 | Provides connection to the transmit audio output (low). |
| J22 | Provides connection to the retransmit control ground (transmit). |
| J23 | Provides connection to the retransmit audio low (transmit) |
| J24 | Provides connection to the transmit audio output (high). |
| J25 | Provides connection to the transmit audio input (high). |
| J26 | Provides connection to the retransmit audio low (receive). |
| J27 | Provides connection to the squelch disable ground. |
| J28 | Provides connection to the receive audio output. |
| J29 | Provides connection to the receive audio input. |
| J30 | Provides connection to the audio output of the TS-1967/ARC-54 on the SM-349/ARC-54. |
| J31 GRD | Provides connection to ground. |
| AUDIO IN (five-way binding posts) | Apply input audio signals to the TS-1967/ARC-54 and the SM-349/ARC-54. |
| AUDIO OUT (five-way binding posts) | Provide access to audio output signals from the TS-1967/ARC-54 and the SM-349/ARC-54. |
| POWER indicator | Lights when the POWER ON-OFF circuit breaker is set to ON. |
| POWER ON-OFF circuit breaker (10 amps, 50 volts). | In the ON position, turns on the TS-1967/ARC-54.<br>In the OFF position, turns off the TS-1967/ARC-54. |
| POWER 28V DC jack J32 three-pin male connector). | Connects the TS-1967/ARC-59 to 27.5-volt dc source. |

**Simulator-Test Set SM-349/ARC-54**

| | |
|---|---|
| ODD MC indicator | Lights when an odd mc is selected by the frequency control on the C-3835/ARC-54 or the TS-1967/ARC-54. |
| EVEN MC indicator | Lights when an even mc is selected by the frequency controls on the C-3835/ARC-54 or the TS-1967/ARC-54. |
| FREQUENCY MC indicator | Indicates the frequency selected by the frequency controls on the C-3835/ARC-54 or the TS-1967/ARC-54. |
| HAR-FIL indicator | Lights when the harmonic filter circuit in the RT-348/ARC-54 is actuated. |
| SQUELCH: | |
| TONE indicator | Lights when the tone squelch mode of operation in the RT-348/ARC-54 is selected. |
| SEC indicator | Lights when SQUELCH switch S7 on the TS-1967/ARC-54 is set to DIS. |
| CARR indicator | Lights when the squelch carrier function is selected on the C-3835/ARC-54 or the TS-1967/ARC-54. |
| COAX CONT: | |
| LEFT indicator | Lights to indicate continuity of the left homing antenna and interconnecting coaxial cable. |
| RIGHT indicator | Lights to indicate continuity of the right homing antenna and interconnecting cable. |
| R/T HOME indicator | Lights when the homing function is selected on the TS-1967/ARC-54 or the C-3835/ARC-54. |
| R/T RETRAN CARR-OFF-RETRAN TONE switch S1 (three-position toggle). | *Switch position* — *Action* |
| | RETRAN CARR — Applies a ground to the retransmit carrier line in the RT-348/ARC-54, thereby permitting retransmission. |

| Control, indicator, or connector | Function |
|---|---|
| **R/T RETRAN CARR-OFF-RETRAN TONE switch S1 (three-position toggle)—Continued.** | *Switch position* — *Action*<br>OFF — Ground is removed from either the retransmit carrier line or the retransmit tone line in the RT-348/ARC-54.<br>RETRAN TONE — Applies a ground to the retransmit tone line in the RT-348/ARC-54. |
| **R/T PTT SEC indicator** | Lights when the security push-to-talk or the push-to-talk circuit in the RT-348/ARC-54 is actuated. |
| **R/T PTT INT SEC TONE indicator** | Lights to indicate continuity in the push-to-talk interlock line. |
| **POWER indicator** | Lights when POWER switch S2 is set to ON. |
| **POWER switch S2 (three-position toggle, spring-loaded in the LOAD position; normally in the OFF position).** | *Switch position* — *Action*<br>ON — Applies power to the SM-394/ARC-54.<br>OFF — Disables the switch.<br>LOAD — Connects a resistive load that simulates the load of the RT-348/ARC-54 to the power line. |
| **POWER 28V DC jack J1 (tip jack)** | Provides a connection to the + 28-vdc line. |
| **POWER GRD jack J2 (tip jack)** | Provides a connection to ground. |
| **FUSE (F1)** | Power line fuse. Protects the equipment from damage caused by line surges, application of incorrect voltage, or internal short circuit due to component malfunction. |
| **SEC AUDIO:** | |
| **XMIT jack J3 (tip jack)** | Provides connection to the security audio transmit signal. |
| **REC jack J4 (tip jack)** | Provides connection to the security audio receiver signal. |
| **ST. jack J5 (tip jack)** | Provides connection to the security sidetone and audio input signal. |
| **COM jack J6 (tip jack)** | Provides connection to the security audio signal return. |
| **FUNCTION SELECTOR switch S3 (five-position rotary).** | *Switch position* — *Action*<br>SEC — Checks the security lines.<br>OFF — Disables the switch.<br>LEFT — Applies a homing signal to INDICATOR ID-48/ARN on the TS-1967/ARC-54 to indicate left target heading.<br>RIGHT — Applies a homing signal to INDICATOR ID-48/ARN on the TS-1967/ARC-54 to indicate right target heading.<br>OVER TGT — Applies a homing signal to INDICATOR ID-48/ARN on the TS-1967/ARC-54 to indicate over target heading. |
| **HEADSET VOL control (0- to 150- ohm potentiometer).** | Controls the output signal level of the audio amplifier located in the SM-349/ARC-54. |
| **HEADSET jack J7 (four-contact female connector).** | Provides connection for a combination microphone-earphone headset used during voice transmission tests. |

## 2-5. Types of Operation

*a.* The MK-799/ARC-54 functions as a control switch when the RT-348/ARC-54 or the CU-942/ARC-54 (or CU-943/ARC-54) is tested and as a simulator for the RT-348/ARC-54 when the C-3835/ARC-64 is tested either in a bench setup or an aircraft.

*b.* For any type of operation perform the following procedures:

(1) Preliminary starting procedures (para 2-6).
(2) Procedure for the desired type of operation (para 2-7 through 2-22).
(3) Stopping procedure (para 2-23).

## 2-6. Preliminary Starting Procedures

*a.* Perform the procedures in (1) through (3) below before starting the TS-1967/ARC-54:

(1) Set the POWER (ON-OFF circuit breaker to OFF (fig. 2-2).

(2) Connect the plug on the power cable assembly to POWER 28V DC jack J32.

(3) Connect the alligator clips on the power cable assembly to a 27.5-volt supply.

b. Perform the procedures in (1) through (3) below before starting the SM-349/ARC-54 when it is plugged into the TS-1967/ARC-54

(1) Set R/T RETRAN CARR-OFF-RE TRAN TONE switch S1 to OFF (fig. 2.2).

(2) Set POWER switch S2 to OFF

(3) Set FUNCTION SELECTOR switch S3 to OFF.

*a.* Perform the procedures in (1) through (5) below before starting the SM-349/ARC-54, when tests are being made in an aircraft.

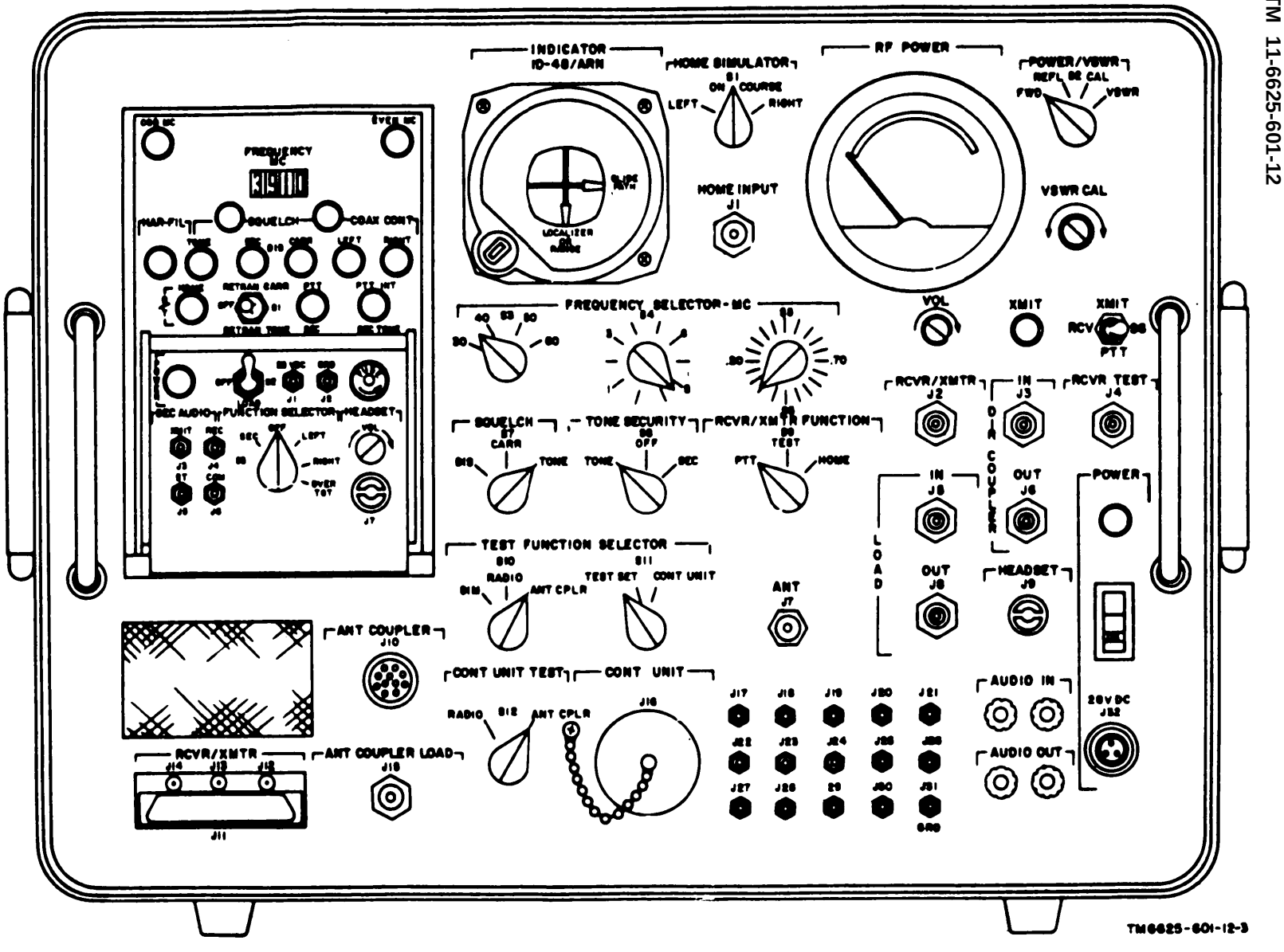



*Figure 2-2. Maintenance Kit, Electronic Equipment MK-733/ARC-54, operating controls, indicators, and connectors.*

Perform the procedures listed in b above.

(2) Remove the SM-349/ARC-54 from the TS-1967/ARC-54 (fig. 1-1). Extend the sliding connector bracket at the rear of the SM-349/ARC-54, and secure it in place by using the two locking pins (fig. 23).

(4) Remove the RT-348/ARC-54 from Mounting MT-1535/ARC-54 in the aircraft.

(5) Install the SM-349/ARC-54 into the MT-1535/ARC-54 in place of the RT-348/ARC-54 (fig. 2-4).

## 2-7. Testing Receiver-Transmitter, Radio RT-348/ARC-54

The tests listed in paragraphs 2-8 through 2-19 are used to check the performance of the RT-348/ARC-54. The tests are complete individual 'tests and may be performed in any sequence. The preliminary starting procedure and equipment interconnection figure reference is given at the start of each test. Any additional equipment interconnection is given in the procedures.

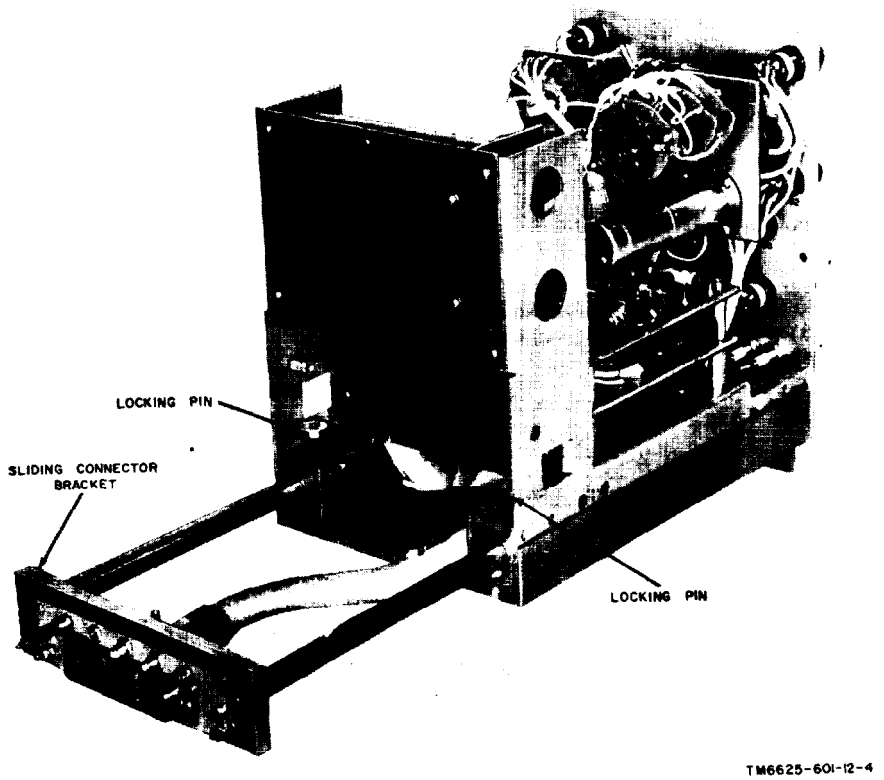



Figure 2-3. Simulator-Test Set SM-349/ARC-54, sliding-connector bracket extended.

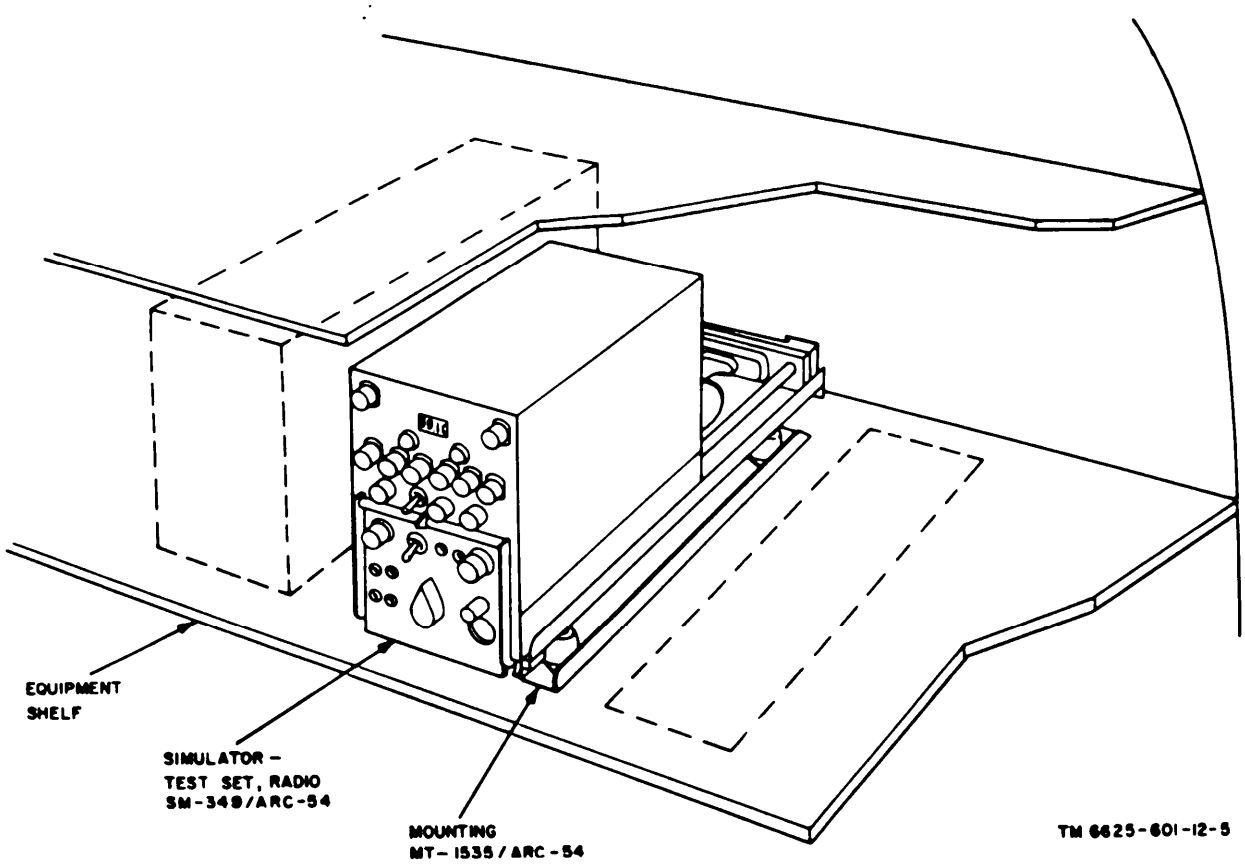



*Figure* **2-4.** *Simulator-Test Set, SM-349/ARC-54 installed in Receiver-Transmitter shockmount (MT-1535/ARC-54) in aircraft.* *T-348/ARC4-54*

*Note.* If the normal indications given for each test (para 2-8 through 2-19) are not obtianed, troubleshooting of the RT-348/ARC-54 is required.

*a.* Test meter test (para 2-6).

*b.* Audio output test (para 2-9).

Transmitter power output test (para 2-10).

*d.* Transmitter distortion test (para 2-11).

*e*. Transmitter tone deviation test (para 2-12).

*f*. Transmitter carrier noise (para 2-13).

*g.* Reciver sensitivity, quieting, and limiting test (para 214).

*h.* Receiver squelch adjustment (para 2-15).

*i.* Tone squelch teat (para 2-16).

*j.* Receiver center frequency test (para 2-17).

*k.* Receiver selectivity - (para 2-18)

*l.* Homing test (para 219).

## 2-8. Test Meter Test for RT-348/ARC-54

Perform the preliminary darting procedure (para 2-6a) and equipment interconnection/ (fig. 2-5).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: DIS<br>S8: Any<br>S9: PTT<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | Successively set the TEST SWITCH on the RT-348/ARC-54 to each of its 12 positions. Note the indication on the RT-348/ARC-54 TEST METER at each position. | *TEST METER position:* — *TEST METER reading:*<br>1-4 — 50 ±30 microamperes.<br>5 — Not more than 20 microamperes.<br>6 — 50 ±30 microamperes.<br>7-12 — Not more than 5 microamperes. |
| 2 | S4: 4<br>S5: 0.10<br>S6: XMIT | *a.* Successively set the TEST SWITCH on the RT-348/ARC-54 to each of its 12 positions. Note the indication on the RT-348/ARC-54 TEST METER at each position. | *a. TEST SWITCH position:* — *TEST METER reading:*<br>1-6 — 50 ±30 microamperes.<br>7 — Not less than 5 microamperes.<br>8 — Not less than 20 microamperes.<br>9 — 50 ±30 microamperes.<br>10 — Not less than 20 microamperes.<br>11 — Not more than 5 microamperes. |
| | | *b.* Set switch S6 on the TS-1967/ARC-54 to RCV. | *b.* None. |
| | | *c.* Remove the jumper from J2 on the TS-1967/ARC-54. | *c.* None. |
| | | *d.* Set the TEST SWITCH on the RT-348/ARC-54 to 11. | *d.* None. |
| | | *e.* Set switch S6 on the TS-1967/ARC-54 to PTT. Note the indication on the RT-348/ARC-54 TEST METER. | *e.* 50 ±30 microamperes. |

## 2-9. Audio Output Test for RT-348/ARC-54

Perform the preliminary darting procedure (para 2-6a) and equipment interconnection (fig. 2-6).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: DIS<br>S8: OFF<br>S9: TEST | *a.* Set the output signal level of the AN/URM-48 for 100 microvolts, 31 mc, externally modulated ±10 kc at 1,000 cps by the TS-382/U. | *a.* None. |
| | | *b.* Tune the AN/URM-48 until minimum distortion is indicated on the TS-723A/U. (This is the RT-348/ARC-54 receive frequency.) | *b.* None. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | S10: RADIO<br>S11: TEST SET<br>S12: Any | c. Adjust potentiometer R135 on the RT-348/ARC-54 for an audio output of 2.73 volts rms as indicated on the ME-30B/U. | c. Audio output is 2.73 volts rms. |
| 2 | Same as step No. 1 | Maintaining the ±10-Kc deviation, set the output frequency of the TS-382/U for 300 cps. Measure the audio output indication on the ME-30B/U. | a. Audio output measures 1.93 to 3.06 volts rms. |
| | | b. Repeat steps No. 2a with the output frequency of the TS-382/U set to 6,000 cps. | b. Audio output measures 0.815 to 1.62 volts rms. |
| 3 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat steps No. 1 and 2. | Same as steps No. 1 and 2. |
| 4 | Same as step No. 3. | a. Adjust the primary power of the TS-1967/ARC-54 for 24 volts. | a. None. |
| | | b. Repeat steps No. 1 and 2. | b. Same as steps No. 1 and 2. |
| 5 | S3: 30<br>S4: 1<br>S5: 00 | Repeat steps No. 1 and 2. | Same as steps No. 1 and 2. |
| 6 | Same as step No. 5. | a. Adjust the primary power of the TS-1967/ARC-54 for 29 volts. | a. None. |
| | | b. Repeat steps No. 1 and 2. | b. Same as steps No. 1 and 2. |
| 7 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat steps No. 1 and 2. | Same as steps No. 1 and 2. |

## 2-10. Transmitter Power Output Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6) and equipment interconnections (fig. 2-7).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: FWD<br>S3: 30<br>S4: 0<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: Any<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | Select each of the following frequencies, using S3, S4, and S5 on the TS-1967/ARC-54. At each frequency, set S6 to PTT and note the indication on the TS-1967/ARC-54 RF POWER meter.<br>30.00 40.25 49.25 0.75<br>32.05 42.30 52.55 62.50<br>34.10 44.35 54.60 64.85<br>36.15 46.40 56.65 66.90<br>38.20 48.45 58.70 69.95 | The RF POWER meter indicates not less than 10 watts at each frequency selected. |

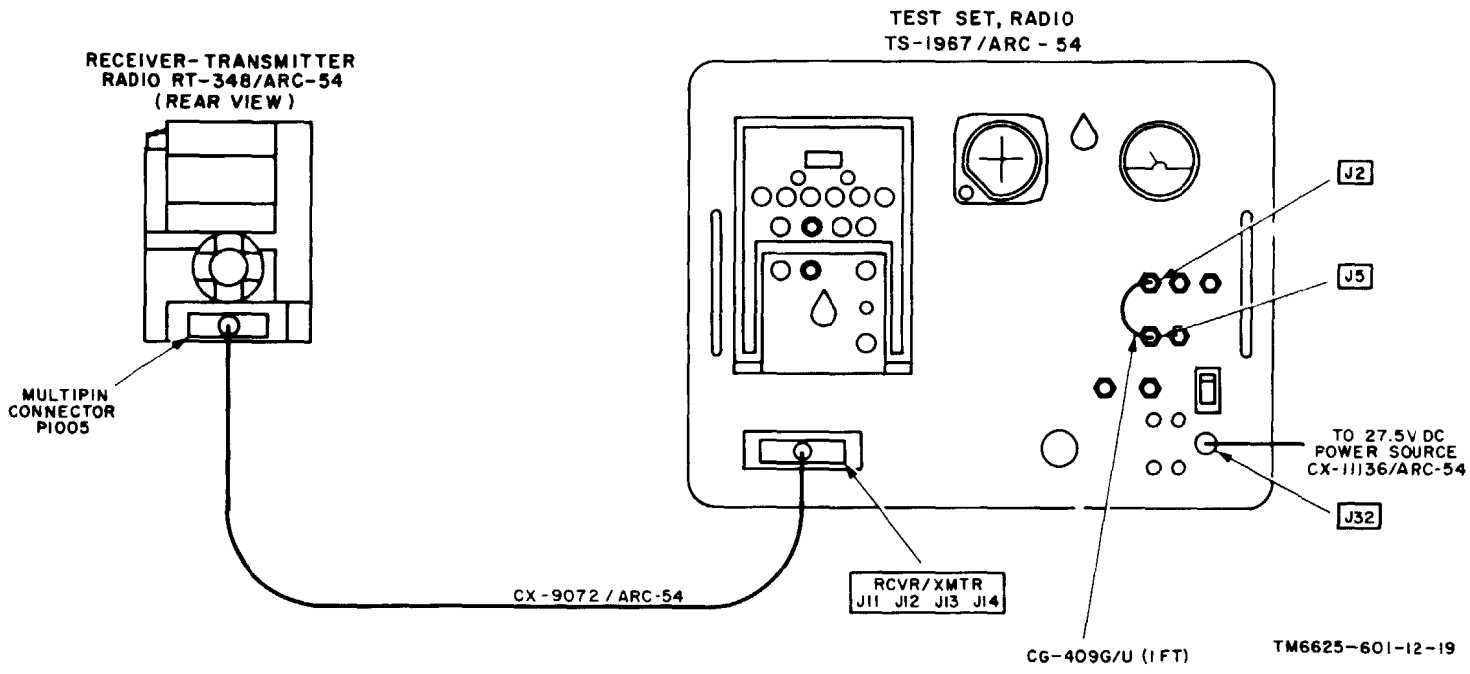



*Figure 2-5. Test meter test connections.*

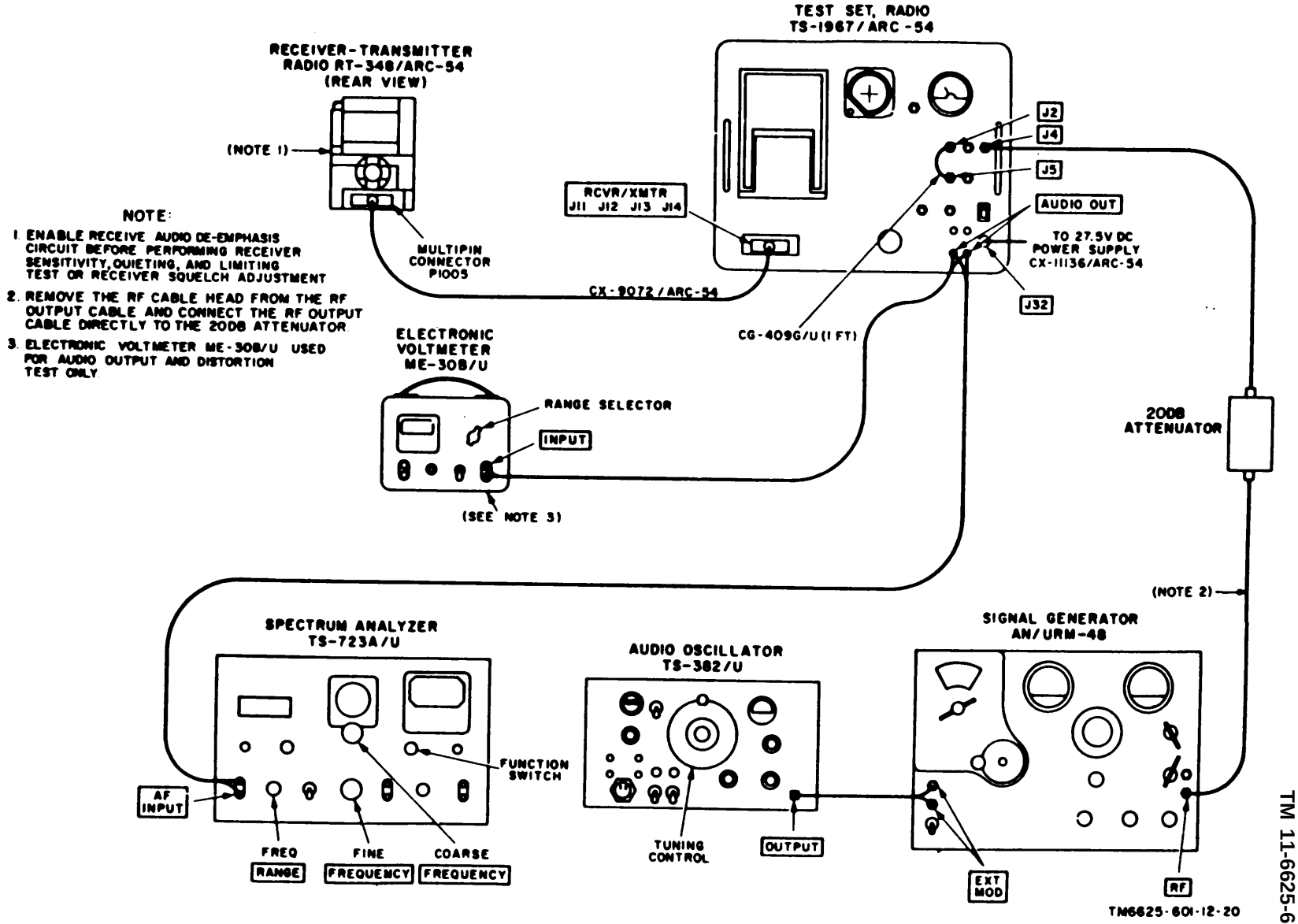



*Figure 2-6. Audio output test connections.*

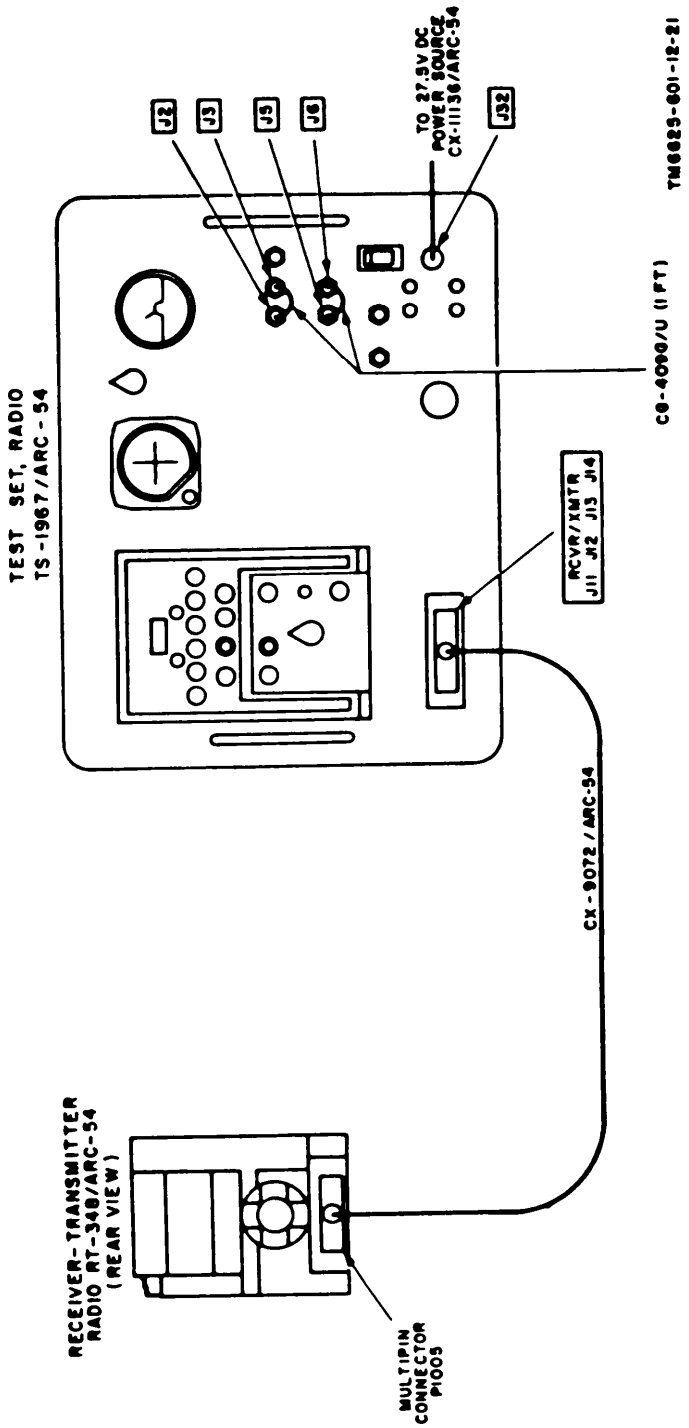



*Figure 2-7. Transmitter power output test connections.*

## 2-11. Transmitter Distortion Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-8).

| Step No. | TS-1967/ARC-54 switch positions | Performance standard | Test procedure |
|---|---|---|---|
| 1 | S1: Any<br>S2: FWD<br>S3: 30<br><br>S4: 0<br>S5: 0.00<br>S6: XMIT<br><br><br>POWER ON-OFF: ON<br>S7: Any<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | a. Set the output frequency of the TS-382/U to 1,000 cps at a level of 0.37 volts ac as indicated on the ME-30B/U.<br>b. Adjust R1402 (AUDIO) on the RT-348/ARC-54 transmit audio module for a ±10-kc deviation as indicated on the ME-57/U.<br>c. Measure the amount of distortion indicated on the TS-723A/U. | a. None.<br><br><br><br>b. None.<br><br><br><br>c. The amount of distortion is not more than 7%. |

## 2-12. Transmitter Tone Deviation Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-9).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: FWD<br>S3: 50<br>S4: 0<br>S5: 0.50<br>S6: XMIT<br>POWER ON-OFF: ON<br>S7: Any<br>S8: TONE<br>S9: Test<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | a. Measure the tone deviation indication on the ME-57/U.<br>b. Measure the tone frequency by use of the AN/USM-26. | a. Tone deviation indication is 3000 ±500 cps.<br>b. Tone frequency measures 150 ±3 cps. |

## 2-13. Transmitter Carrier Noise Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-10).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | Set the following switches on both TS-1967/ARC-54's to the positions indicated. | a. Set the control on the HP-355B to 40 db.<br>b. Set S6 on TS-1967/ARC-54 No. 1 to XMIT. | a. None.<br><br>b. None |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: Any<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *c.* Set the output frequency of the TS-382/U at 1,000 cps for a ±10-kc deviation at 1,000 cps indication on the ME-57/U.<br>*d.* Adjust the receive audio GAIN potentiometer (R1315) on the RT-348/ARC-54 for a 2.73-volt rms indication on the ME-30B/U.<br>*e.* Turn off the TS-382/U, and measure the ac voltage indication on the ME-30B/U. | *c.* None<br>*d.* None.<br>*e.* Ac voltage measures not less than 2.73 mv rms. |
| 2 | Set the following switches on both TS-1967/ARC-54's to the positions indicated:<br>S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step No. 1. | Same as step No. 1. |
| 3 | Set the following switches on both TS-1967/ARC-54's to the positions indicated:<br>S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 1. | Same as step No. 1. |

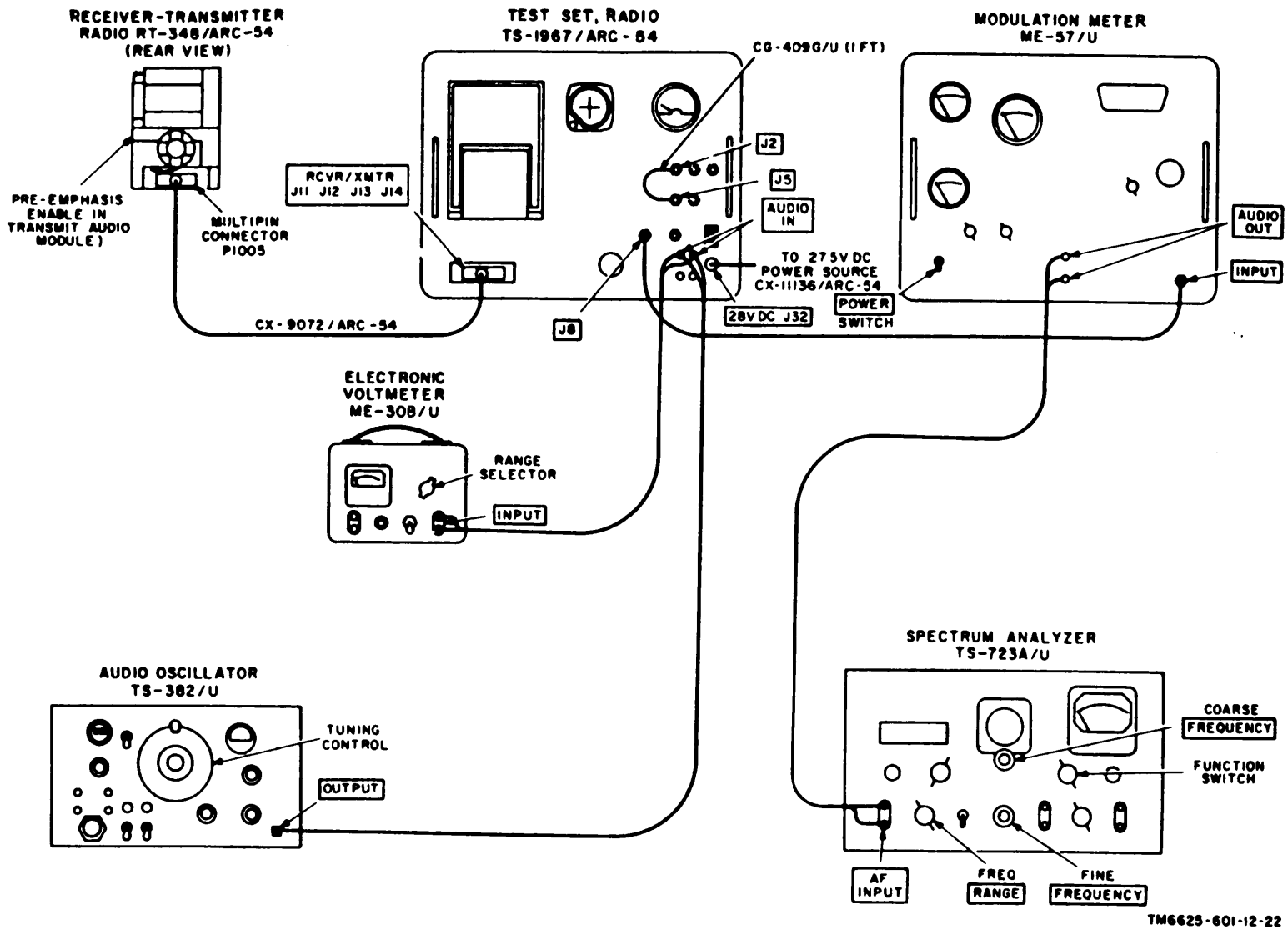



*Figure 2-8. Transmitter distortion test connections.*

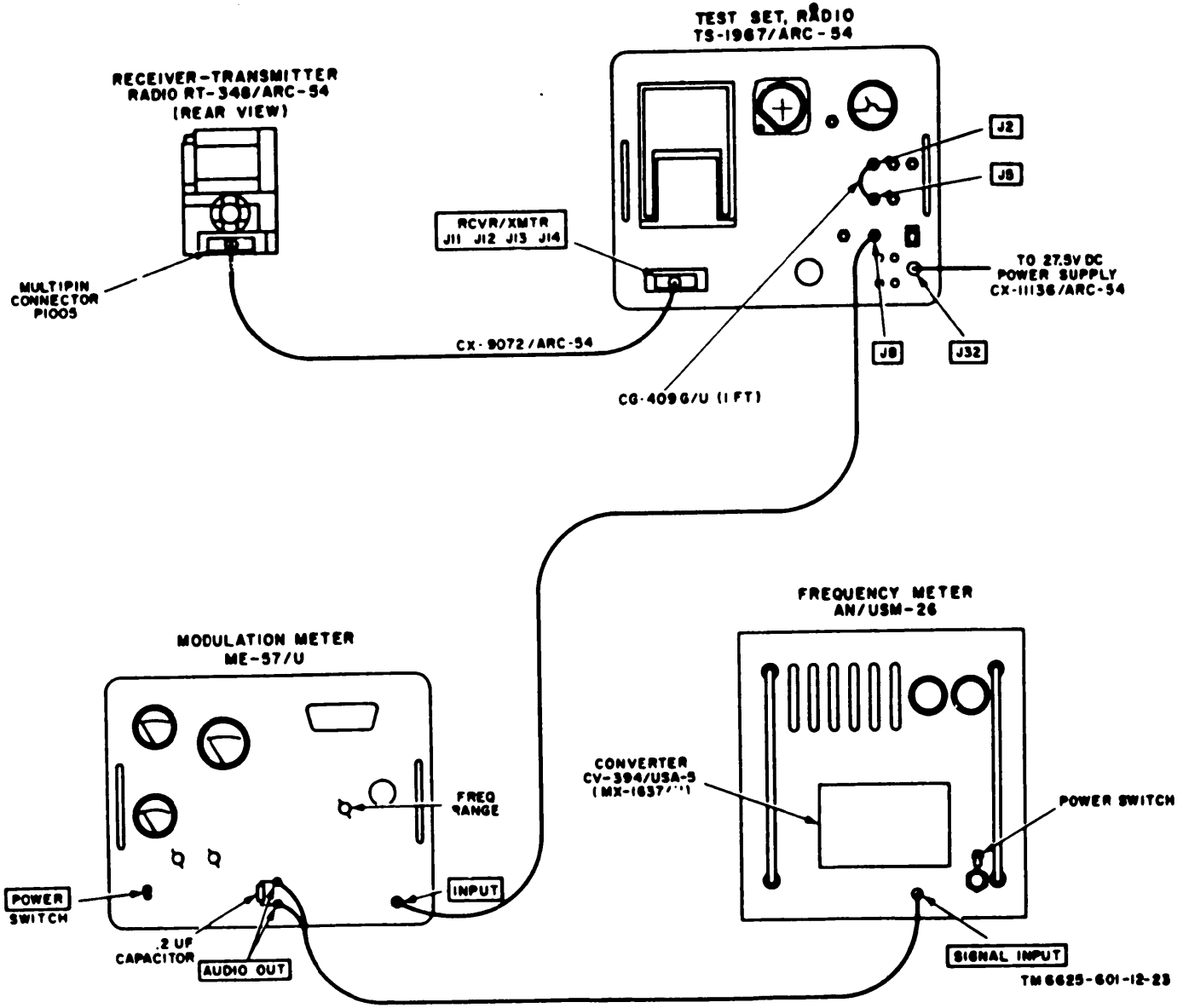



*Figure 2-9. Transmitter tone deviation test connections.*

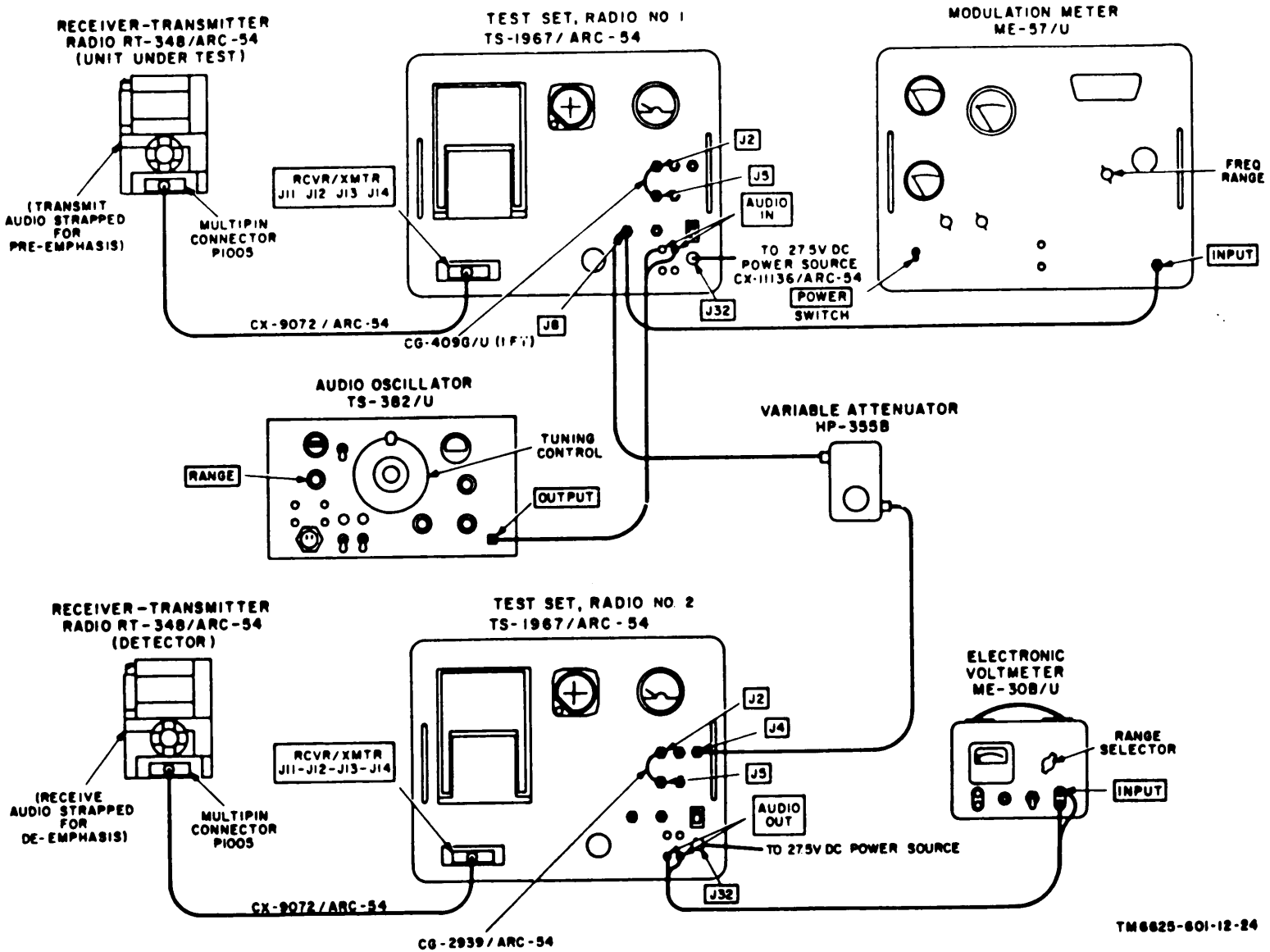



*Figure 2-10. Transmitter carrier noise test connections.*

## 2-14. Receiver, Sensitivity, Quieting, and Limiting Test for RT-348/ARC-54

Perform the preliminary starting procedure (para 2-6a) and equipment interconnection (fig. 2-6).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: DIS<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *a.* Set the output frequency of the AN/URM-48 to 31.0 mc.<br>*b.* Set the output frequency of the TS-382/U to 1,000 cps, and adjust for a reading of 10-kc deviation on the AN/URM-48.<br>*c.* Set the output signal level of the AN/URM-48 for 100 microvolts, and tune for a null on the TS-723A/U meter.<br>*d.* Adjust the receive audio GAIN potentiometer on the RT-348/ARC-54 for a 2.73-volt rms indication on the TS-723A/U meter.<br>*e.* Set the output signal level of the AN/URM-48 for 1.2 microvolts.<br>*f.* Turn off the TS-382/U. Note the db indication on the TS-723A/U meter. | *a.* None.<br>*b.* None.<br>*c.* None.<br>*d.* The TS-723A/U meter indicates 2.73 volts rms.<br>*e.* Note the reading on the TS-723A/U meter.<br>*f.* Indication is at least 10 db below the meter reading noted in *e* above. |
| 2 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step No. 1, except change the frequency of the AN/URM-48 to 50.50 mc. | Same as step No. 1. |
| 3 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 1, except change the frequency of the AN/URM-48 to 68.95 mc. | Same as step No. 1. |
| 4 | Same as step No. 1. | *a.* Repeat step No. 1, except set the output signal level of the AN/URM-48 for 120 microvolts. (Do not change the setting of the AUDIO potentiometer).<br>*b.* Turn off the TS-723A/U. Note the indication on the TS-723A/U meter. | *a.* None.<br>*b.* The TS-723A/U meter indicates an audio output decrease at least 40 db. |
| 5 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step No. 4. | Same as step No. 4. |
| 6 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 4. | Same as step No. 4. |
| 7 | Same as step No. 1. | *a.* Set up the equipment as instructed in step No. 1. Turn on the TS-382/U.<br>*b.* Vary the output signal level of the AN/URM-48 from 6 to 12,000 microvolts. Note the indication on the TS-723A/U meter. | *a.* None.<br>*b.* The indication should not vary more than 2 db. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 8 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step No. 7. | Same as step No. 7. |
| 9 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 7. | Same as step No. 7. |

## 2-15. Receiver Squelch Adjustment for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-6).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: CARR<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *a.* Set the output of the AN/URM-48 for 1.2 microvolts modulated ±10 kc at 1,000 cps. | *a.* None. |
| | | *b.* Tune output frequency of the AN/URM-48 for minimum distortion indication on the TS-723A/U meter. (This is the RT-348/ARC-54 receiver frequency.) | *b.* None. |
| | | *c.* Decrease the output signal level of the AN/URM-48 to 0.1 microvolt. | *c.* None. |
| | | *d.* Slowly increase the output signal level of the AN/URM-48 to the point at which the RT-348/ARC-54 receiver unsquelches. (Unsquelching is obtained when a sharp increase in ac voltage is noted on the TS-723A/U meter.) | *d.* Output from the AN/URM-48 is not more than 1.2 microvolts. |
| 2 | Same as step No. 1. | *a.* Set the output signal level of the AN/URM-48 to 0.1 microvolt. Note the indication on the TS-723A/U meter. | *a.* TS-723A/U indicates not more than 15.4 millivolts. |
| | | *b.* Adjust the RT-348/ARC-54 SQ ADJ to the point where the receiver barely squelches. | *b.* None. |
| | | *c.* Slowly increase the output signal of the AN/URM-48, and note the point at which the receiver unsquelches. | *c.* Output from the AN/URM-48 is not more than 1.2 microvolts. |
| | | *d.* Reduce the output signal level of the AN/URM-48 to the point where the receiver again squelches. Note the amount of signal reduction required to squelch the receiver. | *d.* Signal reduction required is not more than 6 db from the reading obtained in step No. 1*c* above. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 3 | Same as step No. 1. | *a.* Set the input primary power to the TS-1967/ARC-54 to 24 volts. | *a.* None. |
| | | *b.* Repeat steps No. 1 and 2. | *b.* Same as steps No. 1 and 2. |
| | | *c.* Set the input primary power to the TS-1967/ARC-54 to 29 volts. | *c.* None. |
| | | *d.* Repeat steps No. 1 and 2. | *d.* Same as steps No. 1 and 2. |
| 4 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step No. 3. | Same as step No. 3. |
| 5 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 3. | Same as step No. 3. |

## 2-16. Tone Squelch Test for RT-348/ARC-54

Perform the preliminary starting procedure (para 2-6a) and equipment interconnections (fig. 2-6).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>S7: TONE<br>S8: OFF<br>S9: TEST<br>POWER ON-OFF: ON<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *a.* Set the output frequency of the TS-382/U to 150 cps at 3-kc deviation (as indicated on the (AN/URM-48). | *a.* None. |
| | | *b.* Set the modulated output signal level of the AN/URM-48 to 0.1 microvolt. | *b.* None. |
| | | *c.* Slowly increase the output signal level of the AN/URM-48, and note the point at which the RT-348/ARC-54 receiver unsquelches (a sudden increase of ac voltage indicated on the TS-723A/U meter). | *c.* Output from the AN/URM-48 not more than 1.2 microvolts. |
| 2 | S3: 50<br>S4: 0<br>S5: 0.50 | *a.* Repeat step No. 1. | *a.* Same as step No. 1. |
| | | *b.* Set the TS-1967/ARC-54 primary input power to 24 volts. | *b.* None. |
| | | *c.* Repeat step No. 1. | *c.* Same as step No. 1. |
| | | *d.* Set the TS-1967/ARC-54 primary input power to 29 volts. | *d.* None. |
| | | *e.* Repeat step No. 1. | *e.* Same as step No. 1. |
| 3 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step No. 2. | Same as step No. 2. |
| 4 | Same as step No. 1. | *a.* Set the output signal level of the AN/URM-48 to 120 microvolts. | *a.* None. |
| | | *b.* Vary the output frequency of the TS-382/U from 145 to 155 cps. | *b.* Receiver should remain unsquelched. |

### 17. Receiver Center Frequency Test for RT-348/ARC-54

Perform preliminary starting procedure (para 2-6a) and equipment interconnections (fig. 2-11).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: DIS<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *a.* Set the output frequency of the AN/USM-44A to 31.0 mc. | *a.* None. |
| | | *b.* Set the signal level control on the AN/USM-44A for minimum output. Note the indication on the ME-30B/U meter. | *b.* None. |
| | | *c.* Increase the output signal level of the AN/USM-44A until the reading on the ME-30B/U is reduced 5 db from the value noted in step 1*b* above. | *c.* None. |
| | | *d.* Vary the output frequency of the AN/USM-44A until a minimum reading is indicated on the ME-30B/U. | *d.* None. |
| | | *e.* Repeat steps *c* and *d* above until no further change is noted on the ME-30B/U | *c.* None. |
| | | *f.* Connect the AN/USM-26 as shown in figure 2-11. | *f.* None. |
| | | *g.* Increase the output signal level of the AN/USM-44A until the AN/USM-26 is triggered. Note the frequency indicated on the AN/USM-26. | *g.* AN/USM-26 indicates 31.0 mc ±5.0 kc. |
| 2 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step 1, except change the frequency of the AN/USM-44A to 50.50 mc. | AN/USM-26 indicates 50.50 mc ±5.0 kc. |
| 3 | S3: 60<br>S4: 8<br>S5: 0.95 | Repeat step 1, except change the frequency of the AN/USM-44A to 68.95 mc. | AN/USM-26 indicates 68.95 mc ±5.0 kc. |

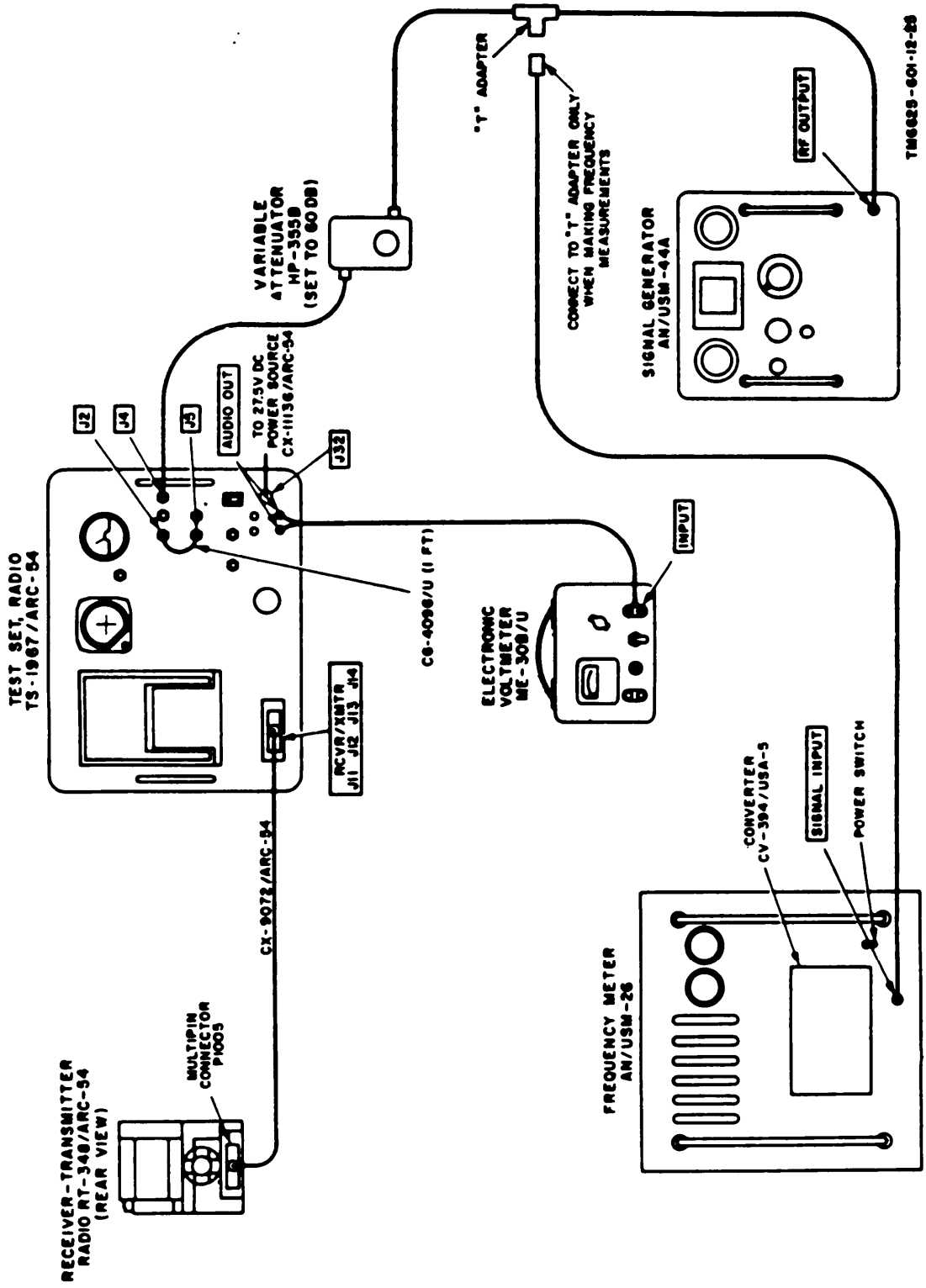



*Figure 2-11. Receiver center frequency test connections.*

## 18. Receiver Selectivity Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-12).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: DIS<br>S8: OFF<br>S9: TEST<br>S10: RADIO<br>S11: TEST SET<br>S12: Any | *a.* Set the output frequency of the AN/USM-44A to 31.0 mc. | *a.* None. |
| | | *b.* Set the signal level control on the AN/USM-44A for minimum output. Note the indication on the ME-30B/U meter. | *b.* None. |
| | | *c.* Increase the output signal level of the AN/USM-44A until the reading on the ME-30B/U is reduced 5 db from the value noted in step *b* above. | *c.* None. |
| | | *d.* Vary the output frequency of the AN/USM-44A until a minimum reading is indicated on the ME-30B/U. | *d.* None. |
| | | *e.* Repeat steps *c* and *d* above until no further change is noted on the ME-30BU. AN/USM-44A is now tuned to the center frequency of the RT-348/ACR-54 receiver. | *e.* None. |
| | | *f.* Set the TEST METER switch on the RT-348/ARC-54 to 6. | *f.* None. |
| | | *g.* Increase the attention of the HP-355B until the signal indication on the RT-348/ARC-54 TEST METER stops increasing. Record the amount of attenuation of the HP-355B. | *g.* None |
| | | *h.* Measure the signal level at J1203 of the RT-348/ARC-54 fixed if. module by use of the ME-26A/U. Record this measurement for use as a reference level. | *h.* None. |
| | | *i.* Decrease the attenuation of the HP-355B to 6 db. | *i.* None. |
| | | *j.* Connect the AN/USM-26 as shown in figure 2-12. | *j.* None. |
| | | *k.* Vary the output frequency of the AN/USM-44A above and below the center frequency of the RT-348/ARC-54 receiver to the points where the reference level recorded in step 1*h* above is obtained. Note the frequency indicated on the AN/USM-26 at each point. | *k.* The difference between the two frequencies should not be less than 30 kc. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | | *l.* Set the attenuation of the HP-355B to 60 db below the attenuation recorded in step above. | *l.* None. |
| | | *m.* Repeat step above. | *m.* The difference between the two frequencies should not be more than 55 kc. |
| | | *n.* Set the attenuation of the HP-355B to 80 db below the attenuation recorded in step *g* above. | *n.* None. |
| | | *o.* Repeat step *k* above. | *o.* The difference between the two frequencies should not be more than 100 kc. |
| 2 | S3: 60<br>S4: 0<br>S5: 0.50 | Repeat step 1, except change the frequency of the AN/USM-44A to 50.50 mc. | Same as step 1. |
| 3 | S3: 60<br>S5: 0.95<br>S4: 8 | Repeat step 1, except change the frequency of the AN/USM-44A to 68.95 mc. | Same as step 1. |

## 2-19. Homing Test for RT-348/ARC-54

Perform the preliminary starting procedures (para 2-6a) and equipment interconnections (fig. 2-13).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: 30<br>S4: 1<br>S5: 0.00<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: CARR<br>S8: OFF<br>S9: HOME<br>S10: RADIO<br>S11: TEST SET<br>S12: Any<br>Set the following switches on the SM-349/ARC-54 to the position indicated:<br>S1: OFF<br>S2: ON<br>S3: OFF | *a.* Set the output frequency of the AN/URM-48 to 31.0 mc unmodulated at a level of 35 microvolts. | *a.* None. |
| | | *b.* Vary the frequency of the AN/URM-48 until minimum signal indication is noted on the ME-30B/U. Observe the flags on INDICATOR ID-48/ARN (located on the TS-1967/ARC-54). | *b.* Flags actuate. |
| | | *c.* Set switch S1 on the TS-1967/ARC-54 to LEFT. | *c.* The vertical pointer on INDICATOR ID-48/ARN swings to the left. |
| | | *d.* Set switch S1 or the TS-1967/ARC-54 to ON COURSE. | *d.* The vertical pointer on INDICATOR ID-48/ARN swings to the middle position. |
| | | *e.* Set switch S1 on the TS-1967/ARC-54 to RIGHT. | *e.* The vertical pointer on INDICATOR ID-48/ARN swings to the right. |
| | | *f.* Reduce the output signal level of the AN/URM-48 while observing the INDICATOR ID-48/ARN horizontal pointer. | *f.* The horizontal pointer on INDICATOR ID-48/ARN swings down. |
| | | *g.* Set the output frequency of the TS-382/U to 150 cps. | *g.* None. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | | *h.* Increase the output signal level of the TS-382/U until a ±3-kc deviation is noted on the AN/URM-48. | *h.* None. |
| | | *i.* Set the output signal level of the AN/URM-48 to 35 microvolts. | *i.* None. |
| | | *j.* Set switch S7 on the TS-1967/ARC-54 to TONE. Observe the flags on INDICATOR ID-48/ARN. | *j.* Flag actuate. |
| | | *k.* Set the TS-1967/ARC-54 primary input power to 24 volts, and repeat step *a* through *j* above. | *k.* Same as steps *a* through *j* above. |
| | | *l.* Set the TS-1967/ARC-54 primary input power to 29 volts, and repeat steps *a* through *j* above. | *l.* Same as steps *a* through *j* above. |
| 2 | S3: 50<br>S4: 0<br>S5: 0.50 | Repeat step 1. | Same as step 1. |
| 3 | S3: 60<br>S4: 9<br>S5: 0.95 | Repeat step 1. | Same as step 1. |

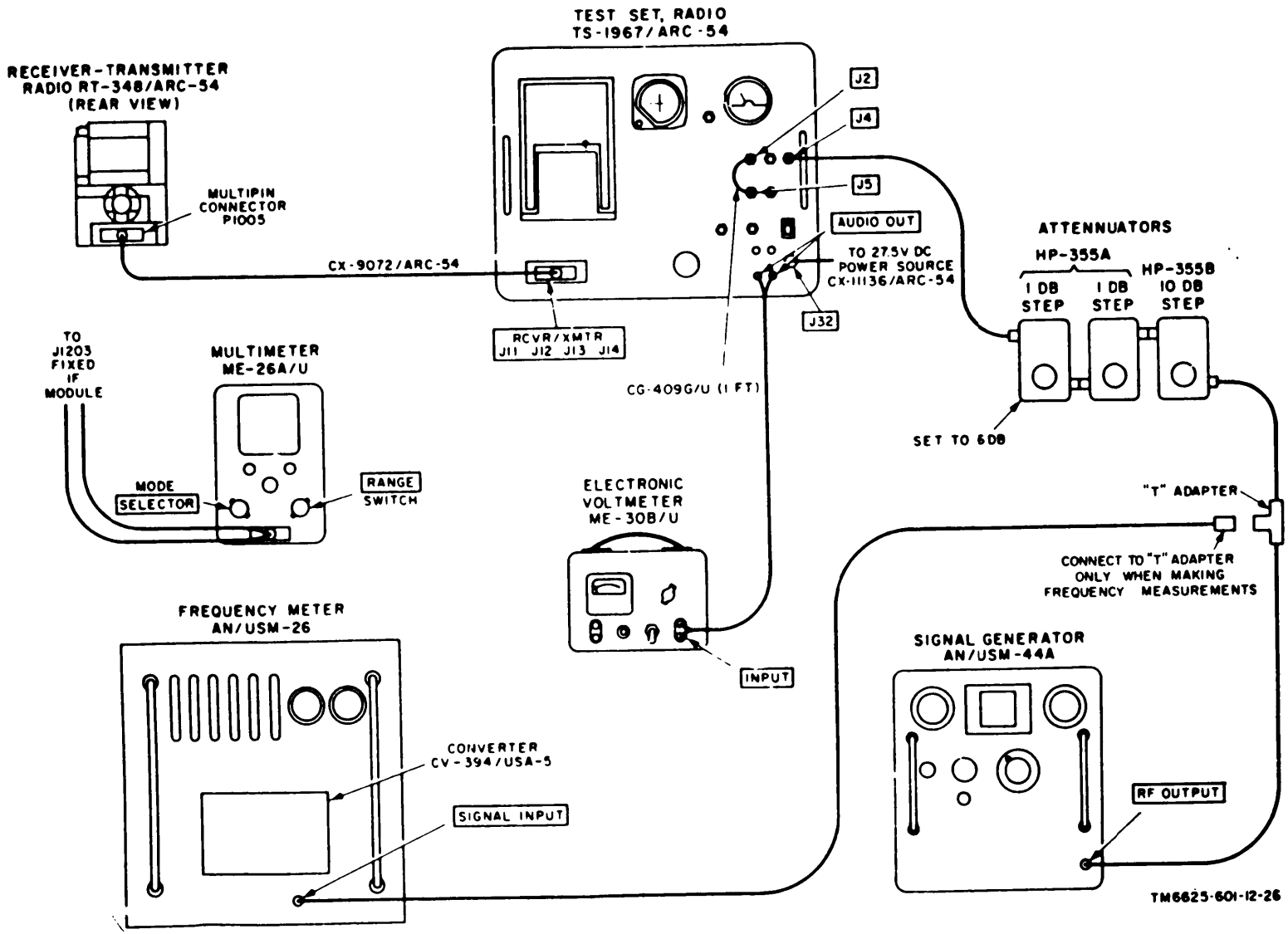



*Figure 2-12. Receiver selectivity test connections.*

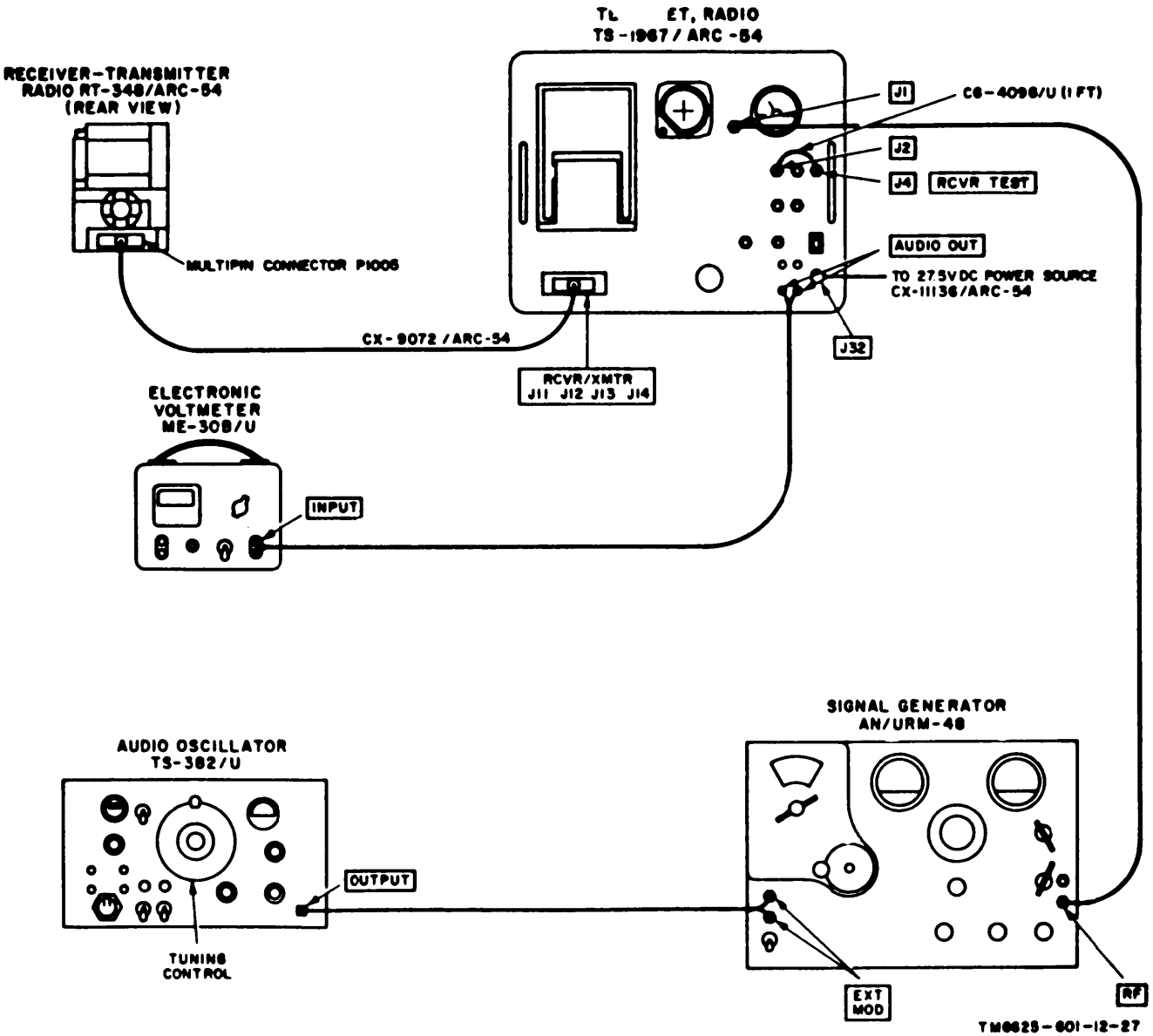



*Figure 2-13. Homing test connections.*

## 2-20. Testing Control, Radio Set C-3835/ARC-54

*a. General.* The tests listed in (1) through (4) below are used to check the performance of the C-3835/ARC-54. The tests are complete individual tests and may be performed in any sequence. The applicable paragraph and figure number of the preliminary starting procedure and equipment interconnection is given at the start of each test. Any additional equipment interconnection is given in the procedure.

*Note.* If the normal indications given for each test ( (1) through (4) below) are not obtained, trouble shooting the C-3835/ARC-S4 is required.

(1) Homing test *(b* below).
(2) Audio, PTT, and squelch circuits continuity test *(c* below).
(3) Retransmit circuit test *(d* below).
(4) Frequency selection and panal lamp test *(e* below).

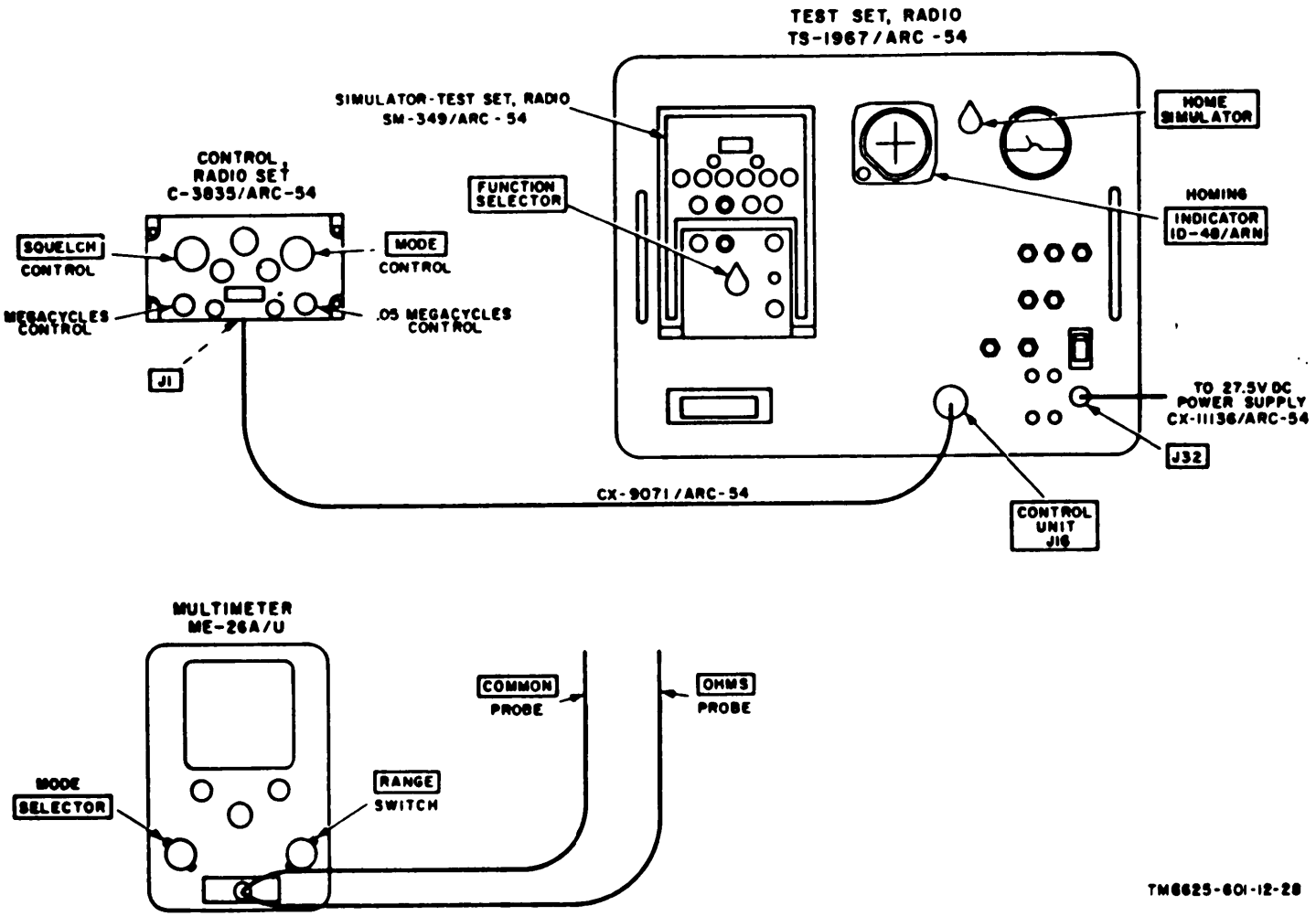



*Figure 2-14. Control, Radio Set C-3835/ARC-54, operational test connections.*

*b. Homing Test.* Perform the preliminary starting procedures (para 2-6a and b) and equipment interconnections (fig. 214).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: Any<br>S4: Any<br>S5: Any<br>S6: RCV<br>POWER ON-OFF: ON<br>S7: Any<br>S8: Any<br>S9: Any<br>S10: SIM<br>S11: CONT UNIT<br>S12: RADIO<br>Set the following switches on the SM-349/ARC-54 to the position indicated:<br>S1: RETRAN CARR<br>S2: ON<br>S3: OFF | *a.* Set the SQUELCH control on the C-3835/ARC-54 to CARR.<br>*b.* Set the mode control on the C-3835/ARC-54 to HOME. Observe the INDICATOR ID-48/ARN flags (located on the TS-1967/ARC-54) and the R/T HOME indicator lamp (located on the SM-349/ARC-54). | *a.* None.<br>*b.* Flags actuate, and R/T HOME indicator lamp lights. |
| 2 | Set S3 on the SM-349/ARC-54 to LEFT. | Observe the vertical pointers on Indicator ID-48/ARN. | The vertical pointer swings to the left. |
| 3 | Set S3 on the SM-349/ARC-54 to OVER TGT. | Observe the horizontal pointer on Indicator ID-48/ARN. | The horizontal pointer should swing down. |

*c. Audio, PTT, and Squelch Circuits Continuity Test.* Perform the preliminary starting procedures (para 2-6a and *b)* and equipment interconnections (fig. 2-14).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: Any<br>S4: Any<br>S5: Any<br>S6: XMIT<br>POWER ON-OFF: OFF<br>S7: Any<br>S8: Any<br>S9: Any<br>S10: SIM<br>S11: CONT UNIT<br>S12: RADIO<br>Set the following switches on the SM-349/ARC-54 to the position indicated:<br>S1: OFF<br>S2: ON<br>S3: OFF | *a.* Set the mode control on the C-3835/ARC-54 to PTT.<br>*b.* Connect an ME-26A/U between jacks J18 and J31 on the TS-1967/ARC-54, and check for continuity. | *a.* None.<br>*b.* Maximum resistance shall not be more than 1.0 ohm. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 2 | S6: RCV | a. Connect an ME-26A/U between jacks J24 and J25 on the TS-1967/ARC-54, and check for continuity. | a. Maximum resistance shall not be more than 1.0 ohm. |
| | | b. Connect an ME-26A/U between jacks J21 and J31, and check for continuity. | b. Maximum resistance shall not be more than 1.0 ohm. |
| | | c. Connect an ME-26A/U between jacks J28 and J31, and check the resistance. | c. Resistance measures 162 ±16 ohms. |
| | | d. Connect an ME-26A/U between jacks J30 and J31, and measure the resistance while rotating the VOL control on the C-3835/ARC-54. | d. Resistance measures from 12 to 162 ohms. |
| | | e. Set the mode control on the C-3835/ARC-57 to RETRAN. | e. None. |
| | | f. Connect an ME-26A/U between jacks J26 and J29, and check for continuity. | f. Maximum resistance shall not be more than 1.0 ohm. |
| 3 | POWER ON-OFF: ON | a. Set the mode control on the C-3835/ARC-54 to PTT. | a. None. |
| | | b. Set the SQUELCH control on the C-3835/ARC-54 to CARR. Observe the SQUELCH CARR indicator on the SM-349/ARC-54. | b. Indicator lights. |
| | | c. Set the SQUELCH control on the C-3835/ARC-54 to TONE. Observe the SQUELCH TONE indicator on the SM-349/ARC-54. | c. Indicator lights. |
| | | d. Set the SQUELCH control on the C-3835/ARC-54 to DIS. Observe the SQUELCH DIS indicators on the SM-349/ARC-54. | d. Indicator lights. |

*d. Retransmit Circuit Test.* Perform *preliminary* starting procedures (para 2-6a and *b)* and equipment interconnection (fig. 2-14).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: Any<br>S2: Any<br>S3: Any<br>S4: Any<br>S5: Any<br>S6: XMIT<br>POWER ON-OFF: OFF<br>S7: Any<br>S8: Any<br>S9: Any<br>S10: SIM<br>S11: CON UNIT | a. Set the mode control on the C-3835/ARC-54 to RETRAN. | a. None. |
| | | b. Connect an ME-26A/U between jacks J22 and J31 on the TS-1967/ARC-54. | b. Maximum resistance shall not be more than 1.0 ohm. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | S12: Any<br>Set the following switches on the SM-349/ARC-54 to the position indicated:<br>S1: OFF<br>S2: ON<br>S3: OFF | | |
| 2 | S6: RCV<br>Set S1 on the SM-349/ARC-54 to R/T RETRAN CARR. | a. Set the SQUELCH control on the C-3835/ARC-54 to CARR. | a. None. |
| | | b. Connect an ME-26A/U between jacks J17 and J31 on the TS-1967/ARC-54, and check for continuity. | b. Maximum resistance shall not be more than 1.0 ohm. |
| 3 | Set S1 on the SM-349/ARC-54 to RETRAN TONE. | a. Set the SQUELCH control on the C-3835/ARC-54 to TONE. | a. None. |
| | | b. Connect an ME-26A/U between jacks J17 and J31 on the TS-1967/ARC-54, and check for continuity. | b. Maximum resistance shall not be more than 1.0 ohm. |
| | | c. Connect an ME-26A/U between jacks J28 and J19, and check for continuity. | c. Maximum resistance shall not be more than 1.0 ohm. |
| | | d. Connect an ME-26A/U between jacks J26 and J31, and check for continuity. | d. Maximum resistance shall not be more than 1.0 ohm. |
| | | e. Connect an ME-26A/U between between jacks J23 and J31, and check for continuity. | e. Maximum resistance shall not be more than 1.0 ohm. |
| | | f. Connect an ME-26A/U between jacks J20 and J24, and measure the resistance. | f. Resistance measures 330 ±33 ohms. |

*e. Frequency Selection and Panel Lamp Test.* Perform the preliminary starting procedhures (para 2-6a and b) and equipment interconnections (fig. 2-14).

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | S11: CONT UNIT<br>S12: RADIO<br>Set the following switches on the SM-349/ARC-54 to the positions indicated:<br>S1: OFF<br>S2: ON<br>S3: OFF | *d.* Successively select each odd megacycle setting on the C-3835/ARC-54, beginning at 31 megacycles. Observe the FREQUENCY MC counter and ODD MC indicator on the SM-349/ARC-54. | *d.* The frequency indicated on the SM-349/ARC-54 counter should be the same as the frequency selected on the C-3835/ARC-54. The ODD MC indicator should light at each odd megacycle. |
| 2 | S12: ANT CPLR | Repeat step 1. | Same as step 1. |
| 3 | S6: XMIT<br>S12: RADIO | Repeat step 1. | Same as step No. 1. Note that the HAR-FIL indicator on the SM-349/ARC-54 lights at all frequencies below 46 megacycles. |
| 4 | S6: RCV | Successively select each 0.05-megacycle setting on the C-3835/ARC-54, beginning at 0.00 megacycle. Observe the FREQUENCY MC counter on the SM-349/ARC-54. | The frequency indicated on the SM-349/ARC-54 counter should be the same as the frequency selected on the C-3835/ARC-54. |

## 2-21. Testing Coupler. Antenna CU-942/ ARC-54 (or CU-943/ARC-54)

*a. General.* This teat (b below) is used to check the performance of the CU-942/ARC-54 (or CU-943/ARC-54). Perform the preliminary starting procedures (para 2-6a and *b)* and equipment interconnections (fig. 2-16) before starting the test.

*Note.* If the normal indications given are not obtained, troubleshooting the CU-942/ARC-54 (or CU-943/ARC-54) in required.

*b. Performance Test*

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: ON COURSE<br>S2: FWD<br>S3: 50<br>S4: 0<br>S5: 0.50<br>S6: RCV | *a.* Set the output frequency of the AN/USM-44A to 50 megacycles at maximum signal level. Note the frequency indicated on the AN/USM-26. | *a.* The AN/USM-26 indicates 50.5 megacycles ±1 kc. |
| | POWER ON-OFF: ON<br>S7: DIS<br>S8: TONE | *b.* Tune the AN/URM-85 for maximum indication on the MICROVOLT meter. | *b.* None. |
| | S9: PTT<br>S10: ANT CPLR<br>S11: TEST SET<br>S12: ANT CPLR | *c.* Tune the Admittance Meter GR-1602-B susceptance and conductance adjustments for null indication on the AN/URM-85. | *c.* None. |
| | | *d.* Note the setting of the susceptance and conductance adjustments. | *d.* CU-942/ARC-54: Susceptance setting is between −2.3 and −3.7. Conductance setting is between 6.3 and 7.7.<br>CU-943/ARC-54: Susceptance setting is between −1.8 and −3.2. Conductance setting is between 7.1 and 8.5. |

## 2-22. Testing Radio Set AN/ARC-54 System in Aircraft

*a. General.* This test (b below) is used to check the performance of the AN/ARC-54 system (except the RT-348/ARC-54) in the aircraft by use of the SM-349/ARC-54. Perform the preliminary starting procedure (para 2-6c) before starting the test. Switches should remain in the positions given in step No. 1 for the duration of the test unless otherwise instructed.

*Note.* If the normal indications given are not obtained, troubleshooting the AN/ARC-54 system is required.

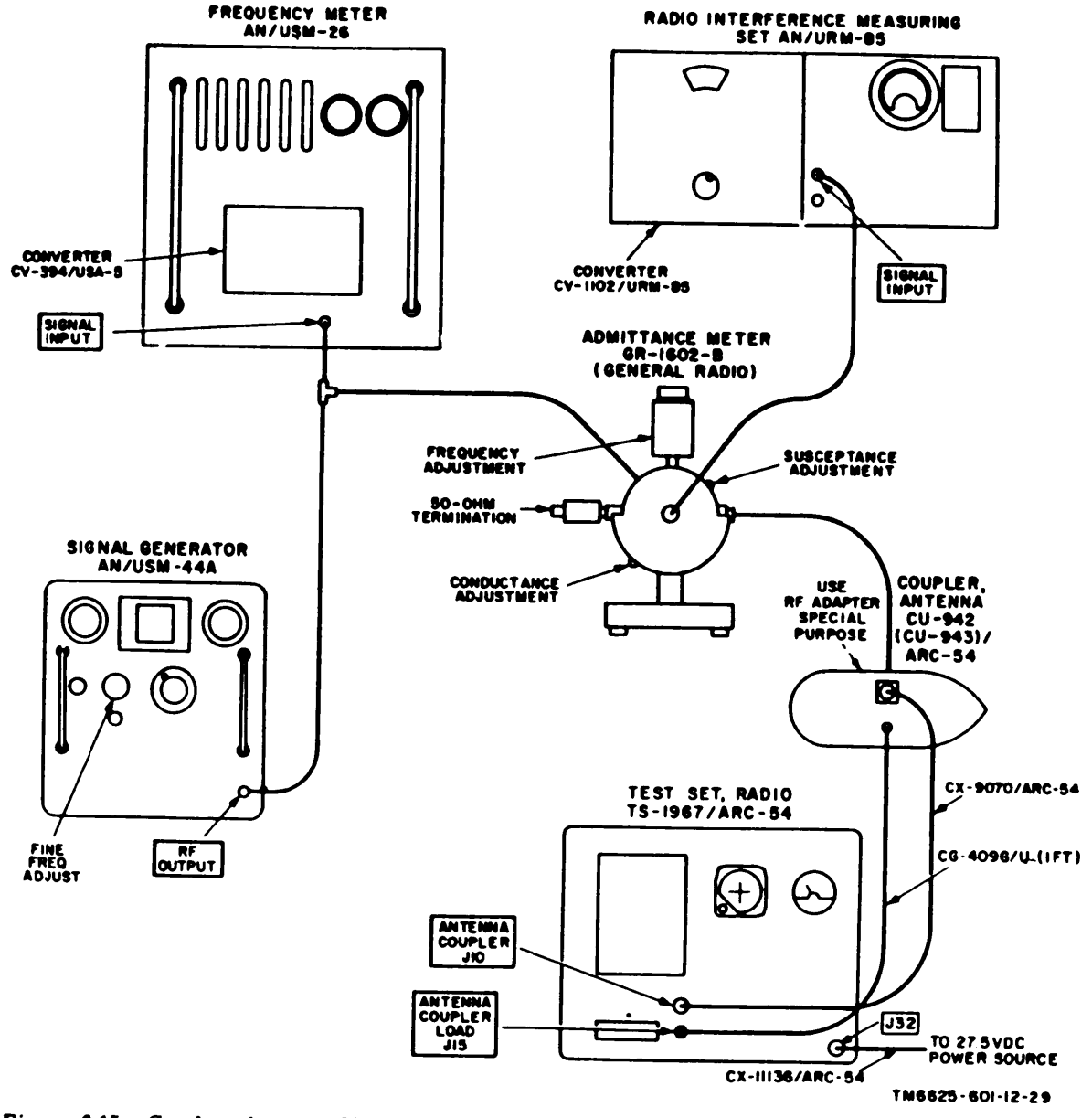



*Figure 2-15. Coupler, Antenna CU-942/ARC-54 (or CU-943/ARC-54), operational test connections.*

*b. Performance Test.*

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| 1 | S1: OFF<br>S2: ON<br>S3: OFF | *a.* Plug Headset/Microphone H-101/U into J7 on the SM-349/ARC-54. | *a.* None. |
| | | *b.* Set the mode control on the C-3835/ARC-54 to PTT. | *b.* None. |
| | | *c.* Set the intercommunication set mode control to VHF COMM, and depress the transmit button. Observe the R/T PTT SEC and R/T PTT INT SEC TONE indicators on the SM-349/ARC-54. | *c.* Both indicators should light. |
| | | *d.* Connect an ME-26A/U (dc range) between J1 and J2 on the SM-349/ARC-54. | *d.* Indication is between 24 and 29 volts dc. |
| | | *e.* Momentarily press S2 on the SM-349/ARC-54 to LOAD, and note the voltage indicated on the ME-26A/U. Return S2 to ON. | *e.* The ME-26A/U indicates between 24 and 29 volts dc. |
| | | *f.* Set the SQUELCH control on the C-3835/ARC-54 to DIS. Observe the SQUELCH DIS indicators on the SM-349/ARC-54. | *f.* Both indicators should light. |
| | | *g.* Set the SQUELCH control on the C-3835/ARC-54 to CARR. Observe the SQUELCH CARR indicator on the SM-349/ARC-54. | *g.* Indicator lights. |
| | | *h.* Set the SQUELCH control on the C-3835/ARC-54 to TONE. Observe the SQUELCH TONE indicator on the SM-349/ARC-54. | *h.* Indicator lights. |
| 2 | Same as step No. 1 | *a.* Successively select each even megacycle setting on the C-3835/ARC-54, beginning at 30 megacycles. Observe the FREQUENCY MC, EVEN MC, and HAR-FIL indicators on the SM-349/ARC-54. | *a.* The frequency indicated on the SM-349/ARC-54 counter should be the same as the frequency selected on the C-3835/ARC-54. The EVEN MC indicator should light at each even megacycle. Note that the HAR-FIL indicator lights at all frequencies below 46 megacycles. |
| | | *b.* Successively select each odd megacycle setting on the C-3835/ARC-54 beginning at 31 megacycles. Observe the FREQUENCY MC, ODD MC, and HAR-FIL indicators on the SM-349/ARC-54. | *b.* The frequency indicated on the SM-349/ARC-54 counter should be the same as the frequency selected on the C-3835/ARC-54. The ODD MC indicator should light at each odd megacycle. Note that the HAR-FIL indicator lights at all frequencies below 46 megacycles. |

| Step No. | TS-1967/ARC-54 switch positions | Test procedure | Performance standard |
|---|---|---|---|
| | | *c.* Successively select each 0.05-megacycle setting on the C-3835/ARC-54, beginning at 0.00 megacycle. Observe the FREQUENCY MC counter on the SM-349/ARC-54. | *c.* The frequency indicated on the SM-349/ARC-54 counter should be the same as the frequency selected on the C-3835/ARC-54. |
| 3 | Same as step No. 1 | *a.* Set the mode control on the C-3835/ARC-54 to HOME. | *a.* None. |
| | | *b.* Set the SQUELCH control on the C-3835/ARC-54 to CARR. Observe the COAX CONT indicators on the SM-349/ARC-54. | *b.* Both indicators light if the aircraft has a homing antenna system. |
| | | *c.* Set switch S1 on the SM-349/ARC-54 to RETRAN CARR. Observe the R/T HOME indicator on the SM-349/ARC-54 and the ID-48/ARN flags on the aircraft instrument panel. | *c.* Indicator lights, and the ID-48/ARN flags actuate. |
| | | *d.* Set the SQUELCH control on the C-3835/ARC-54 to TONE. | *d.* None. |
| | | *e.* Set switch S1 on the SM-349/ARC-54 to RETRAN TONE. Observe the ID-48/ARN flags. | *c.* Flags actuate. |
| | | *f.* Set switch S1 on the SM-349/ARC-54 to RETRAN CARR. | *f.* None. |
| | | *g.* Set switch S3 on the SM-349/ARC-54 to LEFT. Observe the vertical pointer on Indicator ID-48/ARN. | *g.* Vertical pointer swings left. |
| | | *h.* Set switch S3 on the SM-349/ARC-54 to RIGHT. Observe the vertical pointer on Indicator ID-48/ARN. | *h.* Vertical pointer swings right. |
| | | *i.* Set switch S3 on the SM-349/ARC-54 to OVER TGT. Observe the horizontal pointer on Indicator ID-48/ARN. | *i.* Horizontal pointer swings down. |
| 4 | S3: SEC | *a.* Set tht SQUELCH control on the C-3835/ARC-54 to DIS. | *a.* None. |
| | | *b.* Activate the security device. Observe the SQUELCH SEC, the R/T PTT SEC, and the R/T PTT INT SEC TONE indicators on the SM-349/ARC-54. | *b.* The three indicators light. |
| | | *c.* Disconnect the security device, and connect a jumper between H, C, E, and B of the plug and ground. | *c.* None. |
| | | *d.* Connect an ME-26A/U between J3 on the SM-349/ARC-54 and ground, and check for continuity. | *d.* Maximum resistance shall not be more than 1.0 ohm. |
| | | *e.* Connect an ME-26A/U between J4 on the SM-349/ARC-54 and ground, and check for continuity. | *e.* Maximum resistance shall not be more than 1.0 ohm. |
| | | *f.* Connect an ME-26A/U between J5 on the SM-349/ARC-54 and ground, and check for continuity. | *f.* Maximum resistance shall not be more than 1.0 ohm. |
| | | *g.* Connect an ME-26A/U between J6 on the SM-349/ARC-54 and ground, and check for continuity. | *g.* Maximum resistance shall not be more than 1.0 ohm. |

## 2-23. Stopping Procedure

*a.* To stop the TS-1967/ARC-54, set the POWER ON-OFF circuit breaker to OFF.

*b.* To stop the SM-349/ARC-54, set POWER switch S2 to OFF.

# CHAPTER 3
# MAINTENANCE INSTRUCTIONS

## 3-1. Scope of Maintenance

The maintenance duties assigned to the operator and organizational repairman of the MK-733/ARC-54 are listed below together with a reference to the paragraph covering the specific maintenance functions. The replacement of items on the MK-733/ARC-54 is limited to easily replaceable front panel items such as knobs and indicator lamps. No special tools or test equipments are required for operator and organizational maintenance of the MK-733/ARC-54.

*a.* Daily and weekly preventive maintenance checks and services (para 3-3 and 3-4).

*b.* Monthly preventive maintenance checks and services (para 3-5 and 3-6).

*c.* Visual inspection (para 3-7).

*d.* Quarterly preventive maintenance checks and services (para 3-6 and 3-9).

*e.* Cleaning (para 3-10).

*f.* Touchup painting instructions (para 3-11).

*g.* Troubleshooting (para 3-12 and 8-18).

*h.* Repairs:

(1) Replacement of indicator lamps (para 3-14a).

(2) Replacement of front panel knobs (para 8-14b).

(3) Replacement of fuse (para 3-14c).

## 3-2. 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 3-3 through 3-11 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment

*b. Preventive Maintenance Check and Services.* The preventive maintenance checks and services charts (para 3-4, 3-6, and 3-9) outline functions to be performed at specific intervals. These checks and services are to maintain the MK-733/ARC-54 in a combat serviceable condition; that is, in good general condition. To assist operators in maintaining combat serviceability, the charts indicate what to check, how to check, and what the normal conditions are; the *references* column lists the illustrations, paragraph, or manuals that contain detailed repair or replacement procedures. If the defect cannot be remedied by performing the corrective action indicated, higher category of maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

## 3-3. Daily and Weekly Preventive Maintenance Checks and Services

Preform the maintenance functions indicat ed in the daily and weekly preventive maintenance checks and services chart (para 3-4) daily and weekly or under the special conditions listed below:

*a.* When the equipment is initially received.

*b.* When the equipment has been returned to service after higher category maintenance.

*c.* At least once each month if the equipment is maintained in a standby condition.

### 3-4. Daily and Weekly Preventive Maintenance Checks and Services Chart

| Sequence No. | Item | Procedure | References |
|---|---|---|---|
| 1 | Exterior surfaces | Clean the MK-733/ARC-54 (fig. 1-1) exterior surface and meter glass. If meter glass is broken, refer to higher category maintenance for repair. | Para 3-10. |
| 2 | Switches, controls, knobs, indicators, and connectors. | Check switches, controls, knobs, indicators, and connectors for loose or insecure fastenings; tighten if required. Replace cracked or broken knobs and indicator lamps. | Para 3-14. |
| 3 | Power cable RF jumper, cables, and adapters. | Check the cables and adapters (fig. 1-1) for cuts, kinks, and frayed insulation. Repair as necessary. If the cables and adapters cannot be repaired with the tools and supplies available, refer to higher maintenance category. | None. |

### 3-5. Monthly Preventive Maintenance Checks and Services

*a.* Perform the maintenance functions indicated in the monthly preventive maintenance checks and services chart (para 3-6) once each month in addition to those given in the daily and weekly preventive maintenance checks and services chart (para 3-4). A monthly interval is defined as approximately 30 calendar days of 8-hour-per-day operation. If the equipment is operated 16 hours a day, the monthly preventive maintenance checks and services should be performed at 15-day intervals. Adjustment of the maintenance interval must be made to compensate for any unusual operating conditions. Equipment used less than 8 hours per day or maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks performed on it. Equipment in limited storage (requires services before operation) does not require monthly preventive maintenance.

*b.* The monthly preventive maintenance checks and services chart contains functional tests for the MK-733/ARC-54. These tests, in addition to the requirements in *a* above, should be performed when the equipment is initially received and at any time that trouble is suspected. The tests involve checking the various modes of operation with the SM-349/ARC-5 plugged into the TS-1967/ARC-54 and using the front panel indicators and frequency counters. If trouble is encountered in performing the functional tests, visually inspect the equipment as detailed in paragraph 3-7. If trouble still exists, refer to the applicable procedure in the troubleshooting chart (para 3-13). The steps are to be performed in the sequence given. Switch positions and equipment setup given in each step should not be changed unless otherwise instruction in later steps.

### 3-6. Monthly Preventive Maintenance Checks and Services Chart

| Sequence No. | Item | Procedure | References |
|---|---|---|---|
| 1 | Primary power input to the TS-1967/ARC-54. | a. Connect the power cable to POWER 28V DC jack J32 on the TS-1967/ARC-54, and apply 27.5 volts input power. | a. None. |
| | | b. Set the POWER circuit on the TS-1967/ARC-54 to ON, and check to see that the POWER indicator lights. | b. Para 3-13. |
| 2 | Primary power input to the SM-349/ARC-54. | Set POWER switch S2 on the SM-349/ARC-54 to ON, and check to see that the POWER indicator lights. | Para 3-13. |

| Sequence No. | Item | Procedure | References |
|---|---|---|---|
| 3 | Security squelch, carrier, and transmit test circuits. | *a.* Set the following switches on the TS-1967/ARC-54 to the positions indicated:<br>S1: ON COURSE — S4: 0<br>S2: FWD — S5: 0.00<br>S3: 30 — S6: PTT<br>S7: DIS — S10: SIM<br>S8: TONE — S11: TEST SET<br>S9: PTT — S12: RADIO | *a.* None. |
| | | *b.* Set switches S1 and S3 on the SM-349/ARC-54 to OFF. | *b.* None. |
| | | *c.* Check to see that the EVEN MC, SQUELCH SEC and SQUELCH CARR indicators on the SM-349/ARC-54 and the XMIT indicator on the TS-1967/ARC-54 light. | *c.* Para 3-13. |
| 4 | Carrier squelch test circuit. | Set switch S7 on the TS-1967/ARC-54 to CARR. Check to see that the SQUELCH SEC indicator goes off. | Para. 3-13. |
| 5 | Tone squelch test circuit. | Set switch S7 on the TS-1967/ARC-54 to TONE. Check to see that the SQUELCH CARR indicator on the SM-349/ARC-54 goes off and the SQUELCH TONE indicator lights. | Para. 3-13. |
| 6 | Security squelch test circuit. | Set switch S8 on the TS-1967/ARC-54 to SEC. Check to see that the SQUELCH TONE indicator on the SM-349/ARC-54 goes off and the SQUELCH SEC indicator lights. | Para. 3-13. |
| 7 | Transmit test circuit. | Set switch S6 on the TS-1967/ARC-54 to XMIT. Check to see that the HAR-FIL, the R/T PTT SEC, and the R/T PTT INT SEC TONE indicators on the SM-349/ARC-54 light. | |
| 8 | Frequency selector test circuit. | *a.* Set switches S3 and S4 on the TS-1967/ARC-54 to each megacycle setting, starting at 30 megacycles. Check to see that the FREQUENCY MC counter on the SM-349/ARC-54 indicates the frequency selected by S3 and S4, that the EVEN MC indicator on the SM-349/ARC-54 lights on even megacycles and the OFF MC indicator lights on the odd megacycles, and that the HAR-FIL indicator on the SM-349/ARC-54 lights at all frequencies below 46 megacycles. | *a.* Para 3-13. |
| | | *b.* Successively set switch S5 on the TS-1967/ARC-54 to each fractional megacycle setting, starting at 0.95. Check to see that the FREQUENCY MC counter on the SM-349/ARC-54 indicates the frequency selected by S5. | *b.* Para 3-13. |
| 9 | Homing test circuits ..... | Set switch S6 on the TS-1967/ARC-54 to RCV and switch S9 to HOME. Check to see that the HOME indicator on the SM-349/ARC-54 lights. | Para 3-13. |
| 10 | ID-48/ARN test ..... | *a.* Set switch S3 on the SM-349/ARC-54 to RIGHT. Check to see that the vertical pointer on Indicator ID-48/ARN swings to the right. | *a.* Para 3-13. |
| | | *b.* Set switch on the SM-349/ARC-54 to LEFT. Check to see that the vertical pointer on Indicator ID-48/ARN swings to the left. | *b.* Para 3-13. |
| | | *c.* Set switch S3 on the SM-349/ARC-54 to OVER TGT. Check to see that the horizontal pointer on Indicator ID-48/ARN swings down. | *c.* Para 3-13. |
| | | *d.* Set switch S7 on the TS-1967/ARC-54 to CARR. | *d.* None. |
| | | *e.* Set switch S1 on the SM-349/ARC-54 to RETRAN CARR. Check to see that the flags on Indicator ID-48/ARN retract. | *e.* Para 3-13. |
| | | *f.* Set switch S7 on the TS-1967/ARN-54 to TONE. | *f.* None. |
| | | *g.* Set switch S1 on the SM-349/ARC-54 to RETRAN CARR. Check to see that the flags on Indicator ID-48/ARN appear. | *g.* Para 3-13. |

| Sequence No. | Item | Procedure | References |
|---|---|---|---|
| 11 | Audio amplifiers | a. Set switch S9 on the TS-1967/ARC-54 to TEST. | a. None. |
| | | b. Plug a headset/microphone into HEADSET jack J7 on the SM-349/ARC-54 and a headset/ microphone into HEADSET jack J9 on the TS-1967/ARC-54. | b. None. |
| | | c. Carry on a conversation by use of the two headset/ microphones. Check to see that the VOL controls on the SM-349/ARC-54 and the TS-1967/ ARC-54 operate satisfactorily. Also check to see that a sidetone is present. | c. Para 3-13. |
| 12 | Security transmit test circuit. | a. Set switch S7 on the TS-1967/ARC-54 to DIS and switch S9 to PTT. | a. None. |
| | | b. Set switch S3 on the SM-349/ARC-54 to SEC. Check to see that the R/T PTT SEC and R/T PITT INT SEC TONE indicators on the SM-349/ARC-54 light. | b. Para 3-13. |
| 13 | Homing antennas conti-unity test circuit. | Remove the SM-349/ARC-54 from the TS-1967/ ARC-54, and plug it into RCVR/XMTR jacks J11, J12, J13, and J14. Check to see that the COAX CONT LEFT and RIGHT indicators on the SM-349/ARC-54 light. | Para 3-13. |
| 14 | Blowers | Set switch S6 on the TS-1967/ARC-54 to PTT, and check to see that the blower operates. | Para 3-13. |

## 3-7. Visual Inspection

*a.* When the equipment fails to perform properly, turn off the power and check all the items listed below.

**Warning:**

Do not check any item with the power on. Damage to personnel from high voltage exists when the power is turned on.

(1) Check to see that the switches and controls have been set properly.

(2) Check to see that the power and rf jumper cables are connected properly.

(3) Check to see that the power circuit breaker on the TS-1967/ARC-54 is on.

6. If the checks in *a* above do not locate the trouble, perform the procedures given in the troubleshooting chart.

## 3.8. Quarterly Preventive Maintenance Checks and Services

Perform the maintenance function indicated in the quarterly preventive maintenance checks and services chart (para 3-9) in addition to those given in the daily and monthly preventive maintenance checks and services charts (para 3-4 and 3-6). A quarterly interval is defined as approximately 90 calender days of 8-hour-per-day operation. Adjustment of the maintenance interval must be made for any unusual operating conditions. Equipment used less than 8 hours per day or maintained in a standby (ready for immediate operation) condition requires quarterly preventive maintenance. Equipment in limited storage (requires service before operation) does not require quarterly preventive maintenance.

## 3-9. Quarterly Preventive Maintenance Checks and Services Chart

| Sequence No. | Item | Procedure | References |
|---|---|---|---|
| 1 | Completeness | See that the MK-733/ARC-54 is complete | Appx B. |
| 2 | Publications | Check to see that all pertinent publications are complete, serviceable, and current. | DA Pam 310-4. |
| 3 | Modification work orders. | Check to see that all URGENT MWO's have been applied and that all NORMAL MWO's have been scheduled. | DA Pam 310-4 and TM 38-750. |

## 3-10. Cleaning

Inspect the exterior of the MK-733/ARC-54. The exterior surfaces should be free of dirt, grease, and fungus.

*a.* Remove dust and other loose dirt with a clean. soft cloth.

**WARNING**

The fumes of TRICHLOROETHANE are toxic. Provide thorough ventilation whenever it is used; avoid prolonged or repeated breathing of vapor. Do not use near an open flame or hot surface;

trichoroethane is nonflammable but heat converts the fumes to a highly toxic phosgene gas the inhalation of which could result in serious injury or death. Prolonged or repeated skin contact with tri chloroethane can cause skin inflammation. When necessary, use gloves, sleeves and aprons which the solvent cannot penetrate.

*b.* Remove grease, fungus, and ground-in dirt from the cabinet and cover; use a cloth dampened (not wet) with trichloroethane (Federal Specification O-T-620C).

*c.* Remove dust and other 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 dirt is difficult to remove, dampen the cloth with water; use mild soap if necessary.

*e.* Remove rust or corrosion with a light grade of sandpaper (No. 000), and repaint the exposed metal surface (para 3-11).

## 3-11. Touchup Painting Instructions

Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to applicable cleaning and refinishing practices specified in TB SIG 364 and SB 11-573.

## 3-12. General Troubleshooting Procedures

Troubleshooting procedures for the MK-733/ ARG-54 are based upon the operational check in the monthly preventive maintenance checks and services chart (para 3-6). To troubleshoot the equipment, perform aIl functions in sequence in the monthly preventive maintenance checks and services chart until an abnormal condition or result is observed. When an abnormal condition or result is observed, refer to the applicable procedure in the troubleshooting chart (para 3-13). Perform the checks and corrective actions indicated in the troubleshooting chart. If the corrective measures indicated do not correct the trouble, higher category of maintenance is required. Paragraph 3-14 contains information that is supplementary to the troubleshooting chart. When a trouble sympton indicates the use of additional procedures, reference to this paragraph will be made in the *checks and corrective measures* column of the troubleshooting chart.

## 3-13. Troubleshooting Chart

| Item No. | Trouble sympton | Probable trouble | Checks and corrective measures |
|---|---|---|---|
| 1 | POWER indicator in the TS-1967/ARC-54 fails to light. | *a.* Power cable is defective. | *a.* Inspect the power cable for signs of damage. Check for electrical continuity of the cable wires. Replace if defective. |
| | | *b.* POWER indicator lamp is defective. | *b.* Remove lamp (para 3-14*a*) and check for electrical continuity. Replace if defective. |
| 2 | POWER indicator on the SM-349/ARC-54 fails to light. | *a.* POWER indicator lamp is defective. | *a.* Remove lamp (para 3-14*a*), and check for electrical continuity. Replace if defective. |
| | | *b.* POWER fuse is defective. | *b.* Remove fuse (para 3-14*c*) and check for electrical continuity. Replace if defective. |
| | | *c.* The connector at the rear of the SM-349/ ARC-54 is not mating correctly with its receptacle on the TS-1967/ ARC-54. | *c.* Remove the SM-349/ARC-54 from the TS-1967/ARC-54, and check the connector for bent pins. Plug the SM-349/ARC-54 back into the TS-1967/ARC-54 after straightening any bent pins. |
| 3 | EVEN MC, SQUELCH SEC, or SQUELCH CARR indicator on the SM-349/ ARC-54 or the XMIT indicator on the TS-1967/ ARC-54 fails to light. | EVEN MC, SQUELCH SEC, SQUELCH CARR, or XMIT indicator lamp is defective. | Remove each lamp (para 3-14*a*), and check for electrical continuity. Replace if defective. |
| 4 | SQUELCH SEC indicator on the SM-349/ARC-54 remains lighted. | Switch S7 on the TS-1967/ ARC-54 is defective. | Switch S7 requires repair by higher maintenance category. |

| Item No. | Trouble symptom | Probable trouble | Checks and corrective measures |
|---|---|---|---|
| 5 | SQUELCH TONE indicator on the SM-349/ARC-54 fails to light. | *a.* SQUELCH TONE indicator lamp is defective. | *a.* Remove lamp (para 3-14*a*), and check for electrical continuity. Replace if defective. |
| | | *b.* Switch S7 on the TS-1967/ARC-54 is defective. | *b.* Switch S7 requires repair at higher maintenance category. |
| 6 | SQUELCH TONE indicator on the SM-349/ARC-54 remains lighted. | Switch S8 on the TS-1967/ARC-54 is defective. | Switch S8 requires repair at higher maintenance category. |
| 7 | HAR-FIL, R/T PTT SEC, or R/T PTT INT SEC TONE indicator on the SM-349/ARC-54 fails to light. | *a.* HAR-FIL, R/T PTT SEC, or T/T PTT INT SEC TONE indicator lamp is defective. | *a.* Remove each lamp (para 3-14*a*), and check for electrical continuity. Replace if defective. |
| | | *b.* Switch S6 on the TS-1967/ARC-54 is defective. | *b.* Switch S6 requires repair at higher maintenance category. |
| 8 | *a.* ODD MC or EVEN MC indicator on the SM-349/ARC-54 fails to light.<br>*b.* FREQUENCY MC counter on the SM-349/ARC-54 does not indicate the frequency selected by switch S3, S4, or S5 on the TS-1967/ARC-54. | *a.* ODD MC or EVEN MC indicator lamp is defective.<br>*b.* Switch S3, S4, or S5, or the FREQUENCY MC counter is defective. | *a.* Remove each lamp (para 3-14*a*), and check for electrical continuity. Replace if defective.<br>*b.* Switch S3, S4, or S5, or the FREQUENCY MC counter requires repair at higher maintenance category. |
| 9 | R/T HOME indicator on the SM-349/ARC-54 fails to light. | R/T HOME indicator lamp is defective. | Remove lamp (para 3-14*a*), and check for electrical continuity. Replace if defective. |
| 10 | Abnormal operation of Indicator ID-48/ARN. | Indicator ID-48/ARN is defective. | Refer to higher maintenance category. |
| 11 | *a.* VOL control on the TS-1967/ARC-54 or HEADSET VOL control on the SM-349/ARC-54 does not operate. | *a.* VOL or HEADSET VOL control knob is loose. | *a.* Tighten the setscrews on the knob. If the setscrew will not tighten, replace knob (para 3-14*b*). |

| Item No. | Trouble symptom | Probable trouble | Checks and corrective measures |
|---|---|---|---|
| | b. No audio or sidetone is present. | b. HEADSET jack J7 on the SM-349/ARC-54 or HEADSET jack J9 on the TS-1967/ARC-54 is defective. | b. HEADSET jack J7 or J9 requires repair at higher maintenance category. |
| 12 | R/T PTT SEC and R/T PTT INT SEC TONE indicators fail to light. | Switch S3 on the SM-349/ARC-54 is defective. | Switch S3 requires repair at higher maintenance category. |
| 13 | COAX CONT LEFT or RIGHT indicator fails to light. | COAX CONT LEFT or RIGHT indicator lamp is defective. | Remove each lamp (para 3-14a), and check for electrical continuity. Replace if defective. |
| 14 | Blower does not operate | Blower is defective | Blower requires repair at higher maintenance category. |

## 3-14. Repairs

(fig. l-l)

*a. Replacement of Indicator Lamps.*

(1) Rotate the indicator jewel counterclockwise, and remove it from the indicator light assembly.

(2) Remove the defective lamp from the indicator jewel.

(3) Replace the defective lamp with a new one of identical rating.

(4) Replace the indicator jewel.

*b. Replacement of Knobs.*

(1) Set the control or switch to its extreme counterclockwise position.

(2) Loosen the setscrews on the defective knob, and remove the knob from its shaft.

(3) Replace the new knob on its shaft, and tighten the setscrews.

*c. Replacement of Fuse.*

(1) Press in on the fuseholder cap, and rotate it counterclockwise to unlock it.

(2) Pull the fuseholder cap and the fuse out of the fuseholder.

(3) Remove the defective fuse from the fuseholder cap.

(4) Replace the defective fuse with a new one of the same rating.

(5) Insert the fuse and fuseholder cap in the fuseholder. Push in on the fuseholder cap, and rotate it clockwise to lock it.

# CHAPTER 4
# SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

## Section I. SHIPMENT AND LIMITED STORAGE

### 4-1. Disassembly of Equipment

Prepare the MK-733/ARC-54 for shipment and storage as follows:

*a.* Disconnect the cables.

*b.* Roil up the cables, and place them in the cable storage space provided inside Cover, Maintenance Kit CW-711/ARC-54.

*c.* Place the tools in the tool kit bag provided.

*d.* Place Tool Kit Electronic Equipment TK-156/ARC-54; Antenna AS-1487/ARC-54; Extenders, Modules MX-4930/ARC-54, MX-4931/ARC-54, MX-4932/ARC-54, MS-4933/-ARC-54, MX-4934/ARC-54; Adapter, Connector UG-1678/U; and the technical manual in the compartment provided.

*e.* Place the TS-1967/ARC-54 in the space provided in the transit case. Fasten it in place with the screws provided.

*f.* Place the cover on the lower half of the transit case.

*g.* Secure the four twistlock clamps located on the sides of the transit case.

### 4-2. Repackaging for Shipment and Limited Storage

The exact procedure for repackaging depends on the material available and the conditions under which the equipment is to be shipped *(b* below) or stored *(c* below). Adapt the procedures outlined below whenever circumstances permit. The information concerning the original packaging (para 2-1) will also be helpful.

*a. Material Requirements.* The following materials are required for packaging the MK-733/ARC-54 (two sets) for shipment For stock numbers of materials, consult SB 38-100.

| Material | Quantity |
|---|---|
| Protective cushions | 24½ x 19½ x 2 inches, 4 each. |
| Protective cushions | 24½ x 22 x 2 inches, 4 each. |
| Protective cushions | 22 x 19½ x 2 inches, 4 each. |
| Corrugated cartons | 24½ x 19½ x 22 inches, 2 each. |
| Pressure-sensitive tape | 30½ x 2 inches, 4 strips. |
| Pressure-sensitive tape | 25½ x 2 inches, 6 strips. |
| Pressure-sensitive tape | 44½ x 2 inches, 2 strips. |
| Wooden packing case | 53½ x 21⅝ x 23¾ inches. |
| Metal straps | 97 x ¾ inches, 3 each. |

*b. Packaging for Shipment.* Refer to paragraph 2-1 for detailed packaging instructions.

*c. Packaging for Limited Storage.* The transit case provides adequate protection for the other components of the MK-733/ARC-54 during limited storage. The case is corrosive-resistant and is sealed by a rubber gasket which makes the case interior airtight and moisture-proof.

## Section II. DEMOLITION OF MATERIAL TO PREVENT ENEMY USE

### 4-3. Authority for Demolition

The demolition procedures given in paragraph 4-4 will be used to prevent the enemy from using or salvaging this equipment. Demolition of the equipment will be accomplished only upon the order of the commander.

### 4-4. Methods of Destruction

The tactical situation and time available will determine the method to be used when destruction of equipment is ordered. In most cases, it is preferable to demolish completely some portions of the equipment rather than to par-

tially destroy all the equipment units.

*a. Smash.* Use sledges, axes, hammers, crowbars, and any other heavy tools available to smash the interior units of the set.

(1) Use the heaviest tool on hand to smash the connectors, meter, knobs, dials, switches, lamps, antenna, dummy load, and modules.

*Note.* Heavy tools will effectively destroy the external parts mentioned in (1) above, but the remainder of the exposed surfaces of the equipment are constructed of steel plate; attempts to damage it by smashing will be useless.

(2) Remove the units from the transit case. With a heavy hammer or bar, smash as many of the exposed parts of the various chassis as possible.

*b. Cut.* Use axes, handaxes, machetes, and similar tools to cut cabling and wiring. Use a heavy axe or machete to cut the power cable. Cut all cords and cables in a number of places.

*Warning:* Be extremely careful with explosives and incendiary devices. Use these items only when the need is urgent.

*c. Burn.* Burn the technical manuals first. Burn as much of the equipment as is flammable; use gasoline, oil, flamethrowers, and similar materials. Pour gasoline on the cut cables and internal wiring and ignite it. Use a flamethrower to burn spare parts or pour gasoline on the spares and ignite them. Use incendiary grenades to complete the destruction of the unit.

*d. Explode.* Use explosives to complete demolition or to cause maximum damage, before burning, when time does not permit complete demolition by other means. Powder charges, fragmentation grenades, or incendiary grenades may be used. Incendiary grenades usually are most effective if destruction of small parts and wiring is desired.

(1) Use a fragmentation grenade to destroy the interior of the MK-733/-ARC-54. Remove the test unit enough to provide room, and drop the grenade into the interior.

(2) For quick destruction' of the MK-733/ARC-54, explode an incendiary grenade on the front panels of the unit.

*e. Dispose.* Bury or scatter the destroyed parts, or throw them into nearby waterway, This is particularly important if a number of parts have not been completely destroyed.

# APPENDIX A
# REFERENCES

Following is a list of applicable references that are available to the operator and organizational maintenance personnel of Maintenance Kit, Electronic Equipment MK-733/ARC54.

| | |
|---|---|
| DA Pam 310-4 | Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins and Lubrication Orders. |
| DA Pam 310-7 | US Army Index of Modification Work Orders. |
| SB 11-573 | Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment. |
| SB 38-100 | Preservation, Packaging, Packing and Marking Materials, Supplies, and Equipment Used by the Army. |
| TB 43-0118 | Field Instructions for Painting and Preserving Electronics Command Equipment Including Camouflage Pattern Painting of Electrical Equip ment Shelters. |
| TM 11-1257 | Signal Generator AN/URM-48. |
| TM 11-6625-255-14 | Operator's, organizational, direct support, and general support maintenance manual: Spectrum analyzers TS-733A/U, TS-723B/U, TS-723C/U and TS-723D/U (NSN 6625-00-668-9418) |
| TM 11-6625-200-15 | Operator's, Organizational, DS, GS, and Depot Maintenance Manual: Multimeters ME-26A/U, ME-26B/U, ME-26C/U, and ME-26D/U. |
| TM 11-6625-212-16 | Operator, Organizational, DS, GS, and Depot Maintenance Manual Including Repair Parts and Special Tool Lists: Frequency Meters AN/USM-26 and AN/USM-26A. |
| TM 11-6625-261-12 | Operator's and Organizational Maintenance Manual: Audio Oscillators TS-382A/U, TS-382B/U, TS-382D/U, TS-382E/U, and TS-382F/U. |
| TM 11-6625-320-12 | Operator and Organizational Maintenance Manual: Voltmeter, Meter ME-30A/U, and Voltmeters, Electronic ME-30B/U, ME-30C/U, and ME-30E/U. |
| TM 11-6625-351-12 | Operator and Organizational Maintenance Manual: Radio Interference Measuring Set AN/URM-85. |
| TM 11-6625-400-12 | Operator and Organizational Maintenance Manual: Meter, Modulation ME-57/U. |
| TM 11-6625-508-10 | Operator's Manual: Signal Generators ANA/USM-44 and AN/USM-44A. |
| TM 38-750 | The Army Maintenance Management Systems (TAMMS). |
| TM 740-90-1 | Administrative Storage of Equipment. |
| TM 750-244-2 | Procedures for Destruction of Electronics Materiel To Prevent Enemy Use (Electronics Command). |

# APPENDIX B

# BASIC ISSUE ITEMS LIST (BIIL) AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST (ITIAL)

## Section I. INTRODUCTION

### B-1. Scope

This appendix lists only basic issue items required by the crew/operator for installation, operation, and maintenance of Maintenance Kit, Electronic Equipment MK-733/ARC-54.

### B-2. General

This Basic Issue Items and Items Troop Installed or Authorized List is divided into the following sections:

*a. Basic Issue Items List-Section II.* A list, in alphabetical sequence, of items which are furnished with, and which must be turned in with the end item.

*b. Items Troops Installed or Authorized List-Section III.* Not applicable.

### B-3. Explanation of Columns

The following provides an explanation of columns found in the tabular listings:

*a. Illustration.* This column is divided as follows:

(1) *Figure number.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number.* Not applicable.

*b. Federal Stock Number.* Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

*c. Part Number.* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements, to identify an item or *range* of items.

*d. Federal Supply Code for Manufacturer (FSCM).* The FSCM is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., and is identified in SB 708-42.

*e. Description.* Indicates the Federal item name and a minimum description required to identify the item.

*f. Unit of Measure (U/M).* Indicates the standard of basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation, (e.g., ea, in., pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

*g. Quantity Furnished with Equipment (Basic Issue Items Only).* Indicates the quantity of the basic issue item furnished with the equipment.

SECTION II. BASIC ISSUE ITEMS LIST

| (1) ILLUSTRATION (A) FIG. NO. | (1) ILLUSTRATION (B) ITEM NO. | (2) FEDERAL STOCK NUMBER | (3) PART NUMBER | (4) FSCM | (5) DESCRIPTION USABLE ON CODE | (6) UNIT OF MEAS | (7) QTY FURN WITH EQUIP |
|---|---|---|---|---|---|---|---|
| 1-1 | | 6625-906-1171 | 566-9746-004 | 13499 | COVER, MAINTENANCE CW-711/ARC-54 | EA | 1 |

# APPENDIX C
# MAINTENANCE ALLOCATION

## Section I. INTRODUCTION

### C-1. General.

This appendix provides a summary of the maintenance operations for MK-733/ARC-54. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

### C-2. Maintenance Function.

Maintenance functions will be limited to and defined as follows:

*a. Inspect.* To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

*b. Test.* To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

*c. Service.* Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

*d. Adjust.* To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

*e. Align.* To adjust specified variable elements of an item to bring about optimum or desired performance.

*f. Calibrate.* To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

*g. Install.* The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment or system.

*h. Replace.* The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

*i. Repair.* The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

*j. Overhaul.* That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

*k. Rebuild.* Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipments/components.

### C-3. Column Entries.

*a. Column 1, Group Number.* Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

*b. Column 2, Component/Assembly.* Column *2* contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

*c. Column 3, Maintenance Functions.* Column 3 lists the functions to be performed on the item listed in column *2.* When items are listed without maintenance functions, it is solely for purpose of having the group numbers in the MAC and RPSTL coincide.

*d. Column 4, Maintenance Category.* Column 4 specifies, by the listing of a "worktime" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures will be shown for each category. The number of task-hours specified by the "worktime"

figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to" a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time-required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 areas follows:

C — Operator/Crew
O — Organizational
F — Direct Support
H — General Support
D — Depot

*e. Column 5, Tools and Equipment.* Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

*f. Column 6, Remarks.* Column 6 contains an alphabetic code which leads to the remark in section IV, Remarks, which is pertinent to the item opposite the particular code.

## C-4. Tool and Test Equipment Requirements (See III)

*a. Tool or Test Equipment Reference Code.* The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

*b. Maintenance Category.* The codes in this column indicate the maintenance category allocated the tool or test equipment.

*c. Nomenclature.* This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

*d. National/NATO Stock Number.* This column lists the National/NATO stock number of the specific tool or test equipment.

*e. Tool Number.* This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

## C-5. Remarks (Sec IV)

*a. Reference Code.* This code refers to the appropriate item in section II, column 6.

*b. Remarks.* This column provides the required explanatory information necessary to clarify items appearing in section II.

SECTION II MAINTENANCE ALLOCATION CHART
FOR

MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54

| (1) GROUP NUMBER | (2) COMPONENT ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE CATEGORY C | O | F | H | D | (5) TOOLS AND EQPT. | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 00 | MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54 | Inspect | | 0.5 | | | | | A |
| | | Test | | 1.0 | | | | 3,11 | B |
| | | Service | | 0.5 | | | | | |
| | | Replace | | 1.0 | | | | | |
| | | Repair | | 1.4 | | | | | C |
| | | Repair | | | 1.0 | | | 3,11 | |
| | | Rebuild | | | | | 20.0 | | |
| 01 | EXTENDER MODULE MX-4930/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | | Test | | | 1.0 | | | 3,11 | D |
| | | Repair | | | 1.0 | | | 11 | |
| 02 | EXTENDER MODULE MX-4931/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | | Test | | | 1.0 | | | 3,11 | D |
| | | Repair | | | 1.0 | | | 11 | |
| 03 | EXTENDER MODULE MX-4932/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | | Test | | | 1.0 | | | 3,11 | D |
| | | Repair | | | 1.0 | | | 11 | |
| 04 | EXTENDER MODULE MX-4933/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | | Test | | | 1.0 | | | 3,11 | D |
| | | Repair | | | 1.0 | | | 11 | |
| 05 | EXTENDER MODULE MX-4934/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | | Test | | | 1.0 | | | 3,11 | D |
| | | Repair | | | 1.0 | | | 11 | |
| 06 | CABLE ASSEMBLY CX-9070/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Test | | 0.25 | | | | 3,11 | F |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.25 | | | | | |
| | | Repair | | | 1.0 | | | 3,11 | |
| 07 | CABLE ASSEMBLY CX-9071/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Test | | 0.25 | | | | 3,11 | H |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.25 | | | | | |
| | | Repair | | | 1.0 | | | 3,11 | |
| 08 | CABLE ASSEMBLY CX-9072/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Test | | 0.25 | | | | 3,11 | F |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.25 | | | | | |
| | | Repair | | | 1.0 | | | 3,11 | |
| 09 | CABLE ASSEMBLY CX-1136/ARC-54 | Inspect | | 0.25 | | | | | |
| | | Test | | 0.25 | | | | 3,11 | F |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.25 | | | | | |
| | | Repair | | | 1.0 | | | 3,11 | |
| 10 | CABLE ASSEMBLY CG-409G/U (I-F) | Inspect | | 0.25 | | | | | |
| | | Test | | 0.25 | | | | 3,11 | L |
| | | Service | | 0.25 | | | | | |
| | | Replace | | 0.25 | | | | | |
| | | Repair | | | 1.0 | | | 3,11 | |
| 11 | TEST SET, RADIO TS-1967/ARC-54 | Inspect | | 0.5 | | | | | |
| | | Test | | 0.5 | | | | 3,11 | K |
| | | Service | | 0.5 | | | | | |
| | | Replace | | 1.0 | | | | 11 | |
| | | Repair | | 0.2 | | | | 3,11 | C |
| | | Repair | | | 0.5 | | | 3,11 | |
| | | Rebuild | | | | | 20.0 | | |

SECTION II MAINTENANCE ALLOCATION CHART
FOR

MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54

| (1) GROUP NUMBER | (2) COMPONENT ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE CATEGORY C | O | F | H | D | (5) TOOLS AND EQPT. | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1101 | FRONT PANEL ASSEMBLY (SMB-504958) | Inspect | | | 1.0 | | | | |
| | | Test | | | 1.0 | | | 3,11 | |
| | | Service | | | 1.0 | | | 3,11 | |
| | | Repair | | | 2.0 | | | 3,11 | |
| 110101 | INDICATOR ID-48/ARN | | | | | | | | E |
| 110102 | AUDIO AMPLIFIER A1 | Inspect | | | 1.0 | | | | |
| | | Test | | | 1.0 | | | 1,2,3,4, 5,8,9,20, 11 | |
| | | Service | | | 1.0 | | | 3,11 | |
| | | Replace | | | 2.0 | | | 11 | |
| | | Adjust | | | | 1.0 | | 1 thru 12 | |
| | | Repair | | | | 2.0 | | 12 thru 12 | |
| 1102 | SIMULATOR, TEST SET SM-349/ARC-54 | Inspect | | 0.5 | | | | | |
| | | Test | | 0.5 | | | | 3,11 | B |
| | | Service | | 0.5 | | | | | |
| | | Replace | | 1.0 | | | | 11 | |
| | | Repair | | 1.0 | | | | 11 | C |
| | | Repair | | | 2.0 | | | 11 | |
| | | Rebuild | | | | | 10.0 | | |
| 110201 | ELECTRONIC COMPONENT ASSEMBLY A2 | Inspect | | | 1.0 | | | | |
| | | Test | | | 1.0 | | | 1,2,3,4, 5,8,9,10, 11 | |
| | | Replace | | | 2.0 | | | 11 | |
| | | Repair | | | | 2.0 | | 1 thru 12 | |
| 110202 | AUDIO AMPLIFIER A1 | Inspect | | | 1.0 | | | | |
| | | Test | | | 1.0 | | | 1,2,3,4, 5,8,9,10, 11 | |
| | | Service | | | 1.0 | | | | |
| | | Replace | | | 2.0 | | | 11 | |
| | | Repair | | | | 2.0 | | 1 thru 12 | |
| 110203 | FRONT PANEL ASSEMBLY (SMB-504943) | Inspect | | | 1.0 | | | | |
| | | Test | | | 1.0 | | | 3,11 | |
| | | Service | | | 1.0 | | | 3,11 | |
| | | Repair | | | 2.0 | | | 3,11 | |
| 12 | CASE, MAINTENANCE KIT CW-711/ARC-54 | Replace | | 0.5 | | | | | |
| | | Repair | | | 1.0 | | | 11 | |

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR

MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-733/ARC-54

| TOOL OR TEST EQUIPMENT REF CODE | MAINTENANCE CATEGORY | NOMENCLATURE | NATIONAL NATO STOCK NUMBER | TOOL NUMBER |
|---|---|---|---|---|
| 1 | H,D | GENERATOR, SIGNAL AN/URM-127 | 6625-00-783-5965 | |
| 2 | H,D | GENERAL, SIGNAL AN/GRM-50 | 6625-00-868-8353 | |
| 3 | O,F | MULTIMETER TS-352B/U | 6625-00-242-5032 | |
| 4 | H,D | OSCILLOSCOPE AN/USM-140A | 6625-00-066-2525 | |
| 5 | H,D | POWER SUPPLY PP-351/U | 6130-00-565-0706 | |
| 6 | H,D | TEST SET, TRANSISTOR TS-1836/U | 6625-00-893-2628 | |
| 7 | H,D | VOLTMETER, ELECTRONIC AN/URM-145 | 6625-00-973-3986 | |
| 8 | H,D | MULTIMETER, ELECTRONIC ME-30/U | 6625-00-643-1670 | |
| 9 | H,D | TEST SET, RADIO AN/ARM-5 | 6625-00-669-0272 | |
| 10 | H,D | TEST SET, RADIO AN/ARM-63 | 6625-00-868-8323 | |
| 11 | F,H,D | TOOL KIT ELECTRONIC EQUIPMENT TK-100/G | 5180-00-605-0079 | |
| 12 | O | TOOLS AND TEST EQUIPMENT NORMALLY AVAILABEL TO THE REPAIR PERSON USER. | | |

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## SECTION IV. REMARKS

| REFERENCE CODE | REMARKS |
|---|---|
| A | Organizational maintenance will be performed by direct support personnel. |
| B | Organizational test will be limited to equipment operation continuity testing. |
| C | Organizational repair will be limited to replacement of knobs, lenses, lamps, and components indicated. |
| D | Continuity test on. |
| E | For maintenance, refer to TM 11-5840-210-24-1. |



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

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