TM 11-6625-564-45

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

GS AND DEPOT MAINTENANCE MANUAL

MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK=731/ARC=51X

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

HEADQUARTERS, DEPARTMENT OF THE ARMY

7 JUNE 1965

W A R N I N G

DANGEROUS VOLTAGES EXIST IN THIS EQUIPMENT!

Be careful when working with the 175 and 225-volt dc circuitry. SERIOUS INJURY or DEATH may result from contact with these points.

DON'T TAKE CHANCES!

CAUTION

This equipment is partially transistorized. See paragraphs 2-1, 2-2, and 2-1 before making any measurements.

CHANGES
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *9 June 1972*

Direct Support and Depot Maintenance Manual

MAINTENANCE KITS, ELECTRONIC EQUIPMENT MK-731 /ARC-51 X AND MK-731A/ARC-51X

TM 11-6625-564-45, 7 June 1965 is changed as follows:

1. The title is changed as shown above.
2. Remove old pages and insert new pages as indicated below:

Remove pages-	Insert pages-
3 through 8	3 through 8.2
9 through 12	9 through 12
15 through 18	16 through 18
19 through 24	19 through 24
29 and 30	29 and 30
41 and 42	41 and 42
45 and 46	45 and 46
53 and 54	53 and 54
63 through 66	63 through 66
67 through 74	67 through 74
76 through 82	76 through 82
	Figures 4-6.1, 4-8.1 and 4-9.1
Figures 4-11 and 4-12	Figures 4-11 and 4-12
	Figures 4-13.1 and 4-14.1

2. New or revised material is indicated by a vertical bar.
3. File this change sheet in the front of the manual for future reference.

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
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Chief of Staff.

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The Adjutant General.

Distribution :
To be distributed in accordance with DA Form 12-36 (qty rqr block No. 95) direct and general support maintenance requirements for AN/ARC-51 Equipment.

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To be distributed in accordance with DA Form 12- 36 requirementa for Direct and General Support Maintanance for CH-37B, CH-34C, CH-47A, CV-2A, CV-2B, CV-7A, OV-lA, OV-1B, OV-1C, U-1A, U-6A, U-8F, U-10A, UH-1B and UH-1D, Aircraft.

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TECHNICAL MANUAL
No. 11-6625-564-45

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. 20315, *7 June 1965*

MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-731/ARC-51X

*This manual supersedes TM 11-6625464-45, 7 January 1965.

CHAPTER 1

FUNCTIONING OF MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-731/ARC-51X AND MK-731A/ARC-51X

Section I. GENERAL

1-1. Scope

Note: Maintenance Kit, Electronic Equipment MK-731A/ARC-51X is similar to Maintenance Kit, Electronic Equipment MK-731/ARC-51X. Information in this manual applies to both kits unless otherwise specified.

a. This manual covers general support and depot maintenance for Maintenance Kit, Electronic Equipment MK-731/ARC-51X and MK-731A/ARC-51X (referred to as the maintenance kit). It includes instructions applicable to general support and depot maintenance for troubleshooting, testing, aligning, repairing the equipment, and replacing maintenance parts. It also lists tools, materials, and test equipment for general support and depot maintenance.

b. The purpose, operation, and interoperation of the various circuits (electrical, electronic, and electromechanical) in the maintenance kit are explained in paragraphs 1-4 through 1-30. Familiarity with the equipment, how it works, and why it works the way it does are valuable tools in troubleshooting the equipment rapidly and effectively.

c. The complete technical manual for this equipment includes TM 11-6625-564-12.

Note: For applicable forms and records, see paragraph 1-3 in TM 11-6625-564-12.

1-2. Index of Publications

Refer to the latest issue of DA Pamphlet 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment. Department of the Army Pamphlet No. 310-4 is an index of current technical manuals. technical bulletins, supply manuals (types 7, 8, and 9), supply bulletins, lubrication orders, and modification work orders available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc) and the latest changes to and revisions of each equipment publication.

1-3. Reporting of Equipment Manual Improvements

The direct reporting of errors, omissions, and recommendations for improving this equipment manual, by the individual user, is authorized and encouraged. DA form 2028 will be used for reporting these improvements. This form may be completed by the use of pencil, pen, or typewriter. DA form 2028 will be completed by the individual using the manual and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL MA-AC Fort Monmouth, New Jersey 07703.

1-4. Signal Paths of Simulator, Set, Radio

(fig. 4-8 and 4-8.1)

a. When Simulator, Set, Radio SM-348/ARC-51X and SM-348A/ARC-51X (referred to as radio set simulator) is used in the aircraft in place of the receiver-transmitter, it generates test signals through interconnecting cabling to the associated aircraft equipment. The radio set simulator has various indicators and a meter which show whether the test signals returned from the other units through the aircraft wiring are correct. A TEST SELECT switch, located on the front panel of the radio set simulator (TM 11-6625-564-12), is used to connect the meter into various circuits for monitoring

the potentials. The meter indicates the following:

(1) Output level of the + 27.5-volt direct-current (dc) power source.
(2) Automatic direction finder (adf) control circuit potential and continuity.
(3) Antenna and radiofrequency (rf) circuit potential and continuity.
(4) Shield ground circuit continuity.
(5) Sensitivity control circuit potential and continuity.
(6) Auxiliary audio circuit potential and continuity.

b. The radio set simulator contains power converter module 1A3 that supplies +175-volt dc plate voltage to the ultrahigh frequency (uhf) test generator (does not apply to the MK-731A/ARC-51X) and +225 volts dc to the adf system in the aircraft (if so equipped). With the TEST SELECT switch in the ADF position, the meter is connected to the adf relay circuit to indicate the operating condition of the adf equipment. When the PTT switch is depressed, relay K1 is energized, and +175 volts dc from the power converter is supplied to the uhf generator plate circuit (does not apply to MK-731A/ARC-51X). In MK-731A/ARC-51X only, when the PTT switch is depressed, relay K1 is energized, and +27.5 volts dc from the transient blanker is supplied to the uhf generator circuit. The XMIT lamp lights to indicate the transmit function.

c. A uhf test generator module is located in the radio set simuiator. With the TEST SELECT switch in either VSWR CAL or VSWR TEST, this module generates a 300-megacycle (mc) signal that is applied through a directional coupler to the antenna or dummy load when the PTT switch is depressed. With the TEST SELECT switch in the VSWR CAL position, the meter is connected to the forward output circuit of the directional coupler. The VSWR CAL. control varies the output of the uhf test generator until the meter indicates CAL on the B scale. With the TEST SELECT switch in the VSWR TEST position, the meter is connected to the reflected output circuit of the directional coupler for a standing wave ratio (swr) indication.

d. A frequency readout mechanism is located in the radio set simulator which indicates, through windows on the front panel of the radio set simulator, the exact frequency selected by the radio set control. The radio set control cable is connected to jack J1 of the radio set simulator.

e. Six lamps on the front panel of the radio set simulator indicate continuity of their respective' functions. Following is a listing of the lamps and their functions:

(1) The SQ. DIS lamp lights when the receiver-transmitter squelch circuit is disabled by. the radio set control squelch control. This condition indicates that the path from the +27.5-volt dc supply through the SQ. DIS lamp, through the radio set control cable, through the radio set control squelch control, to ground is continuous
(2) The XMIT LOAD lamp lights when the XMIT LOAD switch is depressed. This condition indicates that the +27.5-volt dc power supply operates under loaded conditions.
(3) The T/R lamp lights when the radio set control function select switch is set to T/R. This condition indicates that the path from the +27.5-volt dc,supply through the T/R lamp and the radio set control cable to the T/R position of the function select switch is continuous.
(4) The T/R+G lamp lights when the radio set control function select switch is set to T/R + G. This condition indicates that the path from the +27.5-volt- dc supply through the T/R + G lamp, relay K1, and the radio set control cable to the T/R+G position of the function select switch is continuous.
(5) The XMIT lamp lights when the PTT switch is depressed. This condition indicates that the radio set simulator is generating a 300-mc test signal.

(6) The +27.5 VDC lamp lights when the POWER switch is set to RESET ON. This condition indicates that the +27.5-volt dc power supply is supplying voltage.

f. The radio set simulator provides a headset jack and two audio amplifiers to enable two-way communication between the technician in the cockpit and the technician at the radio set simulator during in-aircraft testing. Volume may be varied with the AUDIO GAIN control.

1-5. Signal Paths of Test Set, Radio TS-1962/ARC-51X

(fig. 4-10)

a. When. Test Set, Radio TS-1962/ARC-51X is used as a signal source for testing the receiver-transmitter, test signals are coupled through interconnecting cables to the unit being tested. The output of the unit being tested is returned through the interconnecting cables to the test unit. for monitoring. Various other test equipment may be interconnected also, depending on the test being performed. The front panel provides test jacks, indicators, frequency select switches, and a function select switch.

b. Power is supplied to the test unit from the bench through the PWR jack and the POWER switch and circuit breaker. When the FUNCTION SELECT switch is turned to an operating position (either T/R, T/R+G, or ADF), power is applied to the receiver-transmitter for the respective function. The T/R, T/R + G, or ADF lamp of the test unit will light when the FUNCTION SELECT switch is in the respective position.

c. The transmit circuitry of the receiver-transmitter is keyed when the PTT switch on the test unit is set to MOM ON or OS. The SMIT lamp will light with the switch in either position.

d. With the RF DET switch in the OFF position, the main audio from the receiver-transmitter can be 'monitored directly with a headset plugged into the HDSET H-101A U jack. When the RF DET switch is in the ON position, the receiver-transmitter transmits into jack J3 of the test unit. The signal is detected and applied to the HDSET H-101A U jack where the audio can be monitored by a headset. The AUDIO GAIN control varies the volume of the audio applied to the headset.

c. The test unit contains an audio amplifier that amplifies the headset microphone output. This amplified output is applied to the modulator and audio module A4 in the receiver-transmitter.

f. The test unit control head contains the FUNCTION SELECT switch and the AUDIO GAIN control previously described. It also contains FRIEQ SELECT switches and a SENSITIVITY control. The FREQ SELECT switches select the operating frequency on the receiver-transmitter, and the SENSITVITY control varies the receiver senitivity. When the SENSITIVITY control is turned to the extreme clockwise position, marked SQ DIS. the squelch function of the receiver-transmitter is disabled.

Section II. BLOCK DIAGRAM ANALYSIS

1-6. Simulator, Set, Radio

(fig. 4-6 and 4-6.1)

a. Primary Power. When the POWER switch is set to RESET ON, +27.5 VCDC lamp DS5 lights, and + 27.5 volts dc is applied to frequency readout mechanism 1A6, relay K2. and SMIT LOAD switch S4. When the function select switch of the radio set control (not shown in figure 4-6) is set either to T/R, T/R+G. or ADF, relay K2 is energized, and the input voltage is applied to relay K1. to transient blanker module 1A.1. and to TEST SELECT switch S1. When the radio set control function select switch is set to T 'R. T/R lamp DS1 will light to indicate that the receiver-transmitter has +27.5 volts dc with which to operate; when the switch is set to the T/R + G position. T/R + G lamp DS2 will light to indicate that current is flowing through T/R + G lamp DS2, relay K1, and to the guard

+ receiver circuitry; when the switch is set to the ADF position, +27.5 volts dc is applied to the adf relay in the receiver-transmitter. When XMIT LOAD switch S4 is set to ON, +27.5 volts dc is applied through thermostat S5. XMIT LOAD lamp DS4 will light if the aircraft +27.5-volt dc source is regulated correctly. When the TEST SELECT switch is set to +27.5V, meter Ml is connected to the aircraft +27.5-volt dc source. The meter will show a normal indication (green sector) on scale A if the voltage is correct. When PTT switch S2 is depressed and switch S1 is in the VSWR CAL or VSWR TEST position, relay K1 is energized and B+ is applied to uhf test generator module 1A5. This action places the radio set simulator in transmit function, and XMIT lamp DS3 will light. When the squelch disabling switch of the radio set control is activated, the SG DIS lamp DS6 will light.

Caution: **Although the XMIT LOAD switch when set to ON activates the transmit function, do not practice this method of operation.**

b. Transient Blanker Module 1A4 and Power Converter Module 1A3. The + 27.5 volts dc applied to transient blanker module 1A4 is converted into three regulated outputs that include one regulated +18.9-volt dc filament supply, one regulated +27.5-volt dc supply, and one regulated +20-volt dc supply. The +27.5 volts dc is applied to power converter module 1A3 which changes the dc to alternating current (ac), steps up the voltage, converts the ac voltage back to dc, and supplies three outputs (+175 volts, 80 milliamperes (ma) dc; +225 volts, 15 ma dc; and an 9.65-volt ac auxiliary audio signal). The auxiliary audio signal is adjusted by potentiometer R17.

c. Uhf Test Generator Module 1A5 (MK-731/ARC-51X Only). The +175 volts dc generated by power converter module 1A3 is applied to relay K1. When relay K1 is energized by depressing PTT switch S2, the +175 volts dc is applied to VSWR CAL. potentiometer R2 and the plate circuit of uhf test generator module 1A5. The 300-mc output of uhf test generator module 1A5 is controlled and varied by VSWR CAL. potentiometer R2 and applied to the antenna through directional coupler DC1. Directional coupler DC1 provides two points for testing forward and reflected voltages to and from the antenna. The **TEST SELECT** switch (S1) connects forward voltage to meter Ml, when set to VSWR CAL, and reflected voltage to meter Ml when set to VSWR TEST.

c.1. Uhf Test Generator Module 1A5 (MK-731A/ARC-51X Only). The 27.5 volts dc applied to **module** 1A5 is also supplied to relay K1. When relay K1 is energized by depressing PTT switch S2, and TEST SELECT switch S1 is in the VSWR CAL or VSWR TEST position, the +27.5 volts dc is applied to VSWR CAL potentiometer R2. The 300-mc output of uhf test generator module 1A5 is controlled and varied by VSWR CAL potentiometer R2 and applied to the antenna through directional coupler DC1. Directional coupler DC1 provides test points for testing forward and reflected voltages to and from the antenna. The TEST SELECT switch connects forward voltages to meter Ml, when set in VSWR CAL, and reflected voltage to meter Ml when set in VSWR TEST.

d. ADF Supply Circuit. The +225 volts dc generated by power converter module 1A3 is applied through relay K1 (in the deenergized state) to the plate circuits in the adf equipment in the aircraft (if so equipped). When the TEST SELECT switch is set to +225V, meter Ml is connected to the +226-volt dc adf supply circuit to indicate continuity and potential of the circuit to the adf equipment.

e. *Audio Amplifier Modules 1A1 and 1A2.* The output from the pilot's headset microphone is applied to the input of audio amplifier No. 2 module 1A2. The signal is amplified and applied to HEADSET H-101A/U jack where the test headset receives the signal. The volume is varied by AUDIO GAIN potentiometer R23. The output of the test headset microphone is applied to the input of audio amplifier No. 1 module 1A1. This signal is amplified and applied to the pilot's headset. The volume is varied by the volume control on the radio set control.

f. CAR RELAY Switch S3. CAR RELAY switch S3 is used only when testing dual re-

ceiver-transmitter installations. When depressed, the switch completes the circuit to ground for automatic relay operation.

1-7. Test Set, Radio TS-1962/ARC/51X (fig. 4-7)

a. Main Audio. The main audio output signal from the receiver-transmitter is applied to HDSET H-101A/U jack J9 through RF DET switch S1 in the OFF position, AUDIO GAIN control circuit R1 (test unit control head) and transformer T1. The test headset microphone, connected to HDSET H-101A/U jack J9, applies a voice signal to audio amplifier 3A1 and then to MIC SELECT switch S2. When the MIC SELECT switch is set to HDSET, the signal is applied to the modulator and audio module A4 of the receiver-transmitter.

b. Antenna Signal. The modulated rf output of the transmitter is applied to the detector circuit from the receiver-transmitter when RF DET switch S1 is in the ON position. The detector removes the modulated intelligence and applies it to HDSET H-101A/U jack J9 through RF DET switch S1, AUDIO GAIN control, and transformer T1.

c. DUM MIC Input. When an external audio signal is applied to the DUM MIC jacks, the signal is routed to the modulator and audio module A4 of the receiver-transmitter through MIC SELECT switch S2 when the switch is in the DUM MIC position.

d. Power Input. Plus 27.5 volts dc is supplied to the test unit at PWR jack 55. The power is distributed to audio amplifier 3A1 and three lamps (T/R, T/R +G, and XMIT) when POWER circuit breaker CB1 is set to RESET ON.

e. Function SELECT Switch. FUNCTION SELECT switch S4 has four main positions and operations as follows:

(1) *OFF.* No power is being applied to the receiver-transmitter.

(2) *T/R.* A ground is provided for T/R lamp DS1 and power relay K1 in the receiver-transmitter. T/R lamp DS1 and power relay K1 in the receiver-transmitter. T/R lamp DS1 lights.

(3) *T/R+G.* A ground is provided for *T/R+G* lamp DS2 and guard receiver relay K6 in the receiver-transmitter. T/R+G lamp DS2 lights.

(4) *ADF.* The ground provided in the operation in (3) above is removed. The ground is now applied through ADF lamp DS3 to ADF relay K8 in the receiver-transmitter. ADF lamp DS3 lights.

f. PTT Switch. When PTT switch S3 is set to ON or MOM ON, a ground is applied to XMIT lamp DS4 and T R relay K2 in the receiver-transmitter. The XMIT lamp, DS4, lights.

g. SENSITIVITY Control and SQ DIS Switch. The SENSITIVITY control varies the sensitivity of the main receiver in the receiver-transmitter. When the control is turned extremely clockwise to the SQ DIS position, SQ DIS switch S5 provides a ground to squelch relay K1 to remove all squelch action of the receiver-transmitter.

h. FREQ SELECT Switches S1, S2, and S3. The switches provide a ground path for the various frequency selection switches in the mechanical tuner module in the receiver-transmitter. In this way, the function of the radio set control may be simulated for test on the bench.

i. AUX AUDIO. The auxiliary audio power is applied to the auxiliary audio load and AUX AUDIO jacks J10 and J11. Jacks J10 and J11 provide test points to measure auxiliary audio power.

j. Test Jacks. The +225V jack J13 provides a test point at which the adf plate power can be checked. The +27.5V jack J12 provides a test point at which the +27.5-volt dc primary power can be checked. CAR. RELAY jack J15 provides a test point at which receiver-transmitter squelch relay K1 can be checked to determine whether the relay is energized of not. AVC jack J14 provides a test point at which the avc amplifier voltage in the receiver-transmitter can be checked.

Section III. STAGE ANALYSIS OF SIMULATOR, SET, RADIO

1-8. General

This section describes the principles of operation of the radio set simulator, and includes a stage analysis of the various circuits to assist the repairman while troubleshooting the equipment.

1-9. Primary Power Distribution

(fig. 4-8 and 4-8.1)

a. The +27.5 volts dc voltage from the aircraft power source is applied to pins A and B of connector J2. From connector J2, the power is directly applied through meter multiplier resistor R9 to terminal 3 of TEST SELECT switch S1B. When POWER circuit CB1 is placed in RESET ON, +27.5 volts dc is applied to the following circuits in the radio set simulator:

(1) Terminal No. 1 on frequency readout mechanism module 1A6.
(2) XMIT LOAD switch S4.
(3) Terminals 4 and 5 on relay K2.
(4) Plus 27.5 VDC lamp DS5. Lamp DS5 lights.

b. The radio set control function select switch must be in one of the three on-positions (T/R', T/R + G, ADF) in order for relay K2 to be energized and complete distribution of the +27.5 volts dc. When the radio set control is turned on, a path to ground is supplied to terminal 1 of relay K2 through pin T of connector J2. Relay K2 is energized in this manner, and the +27.5 volts dc is now applied to four indicator lamps, DS1, DS2, DS3, and DS6; pin c of connector J2; terminal 1 of relay K1; input terminal El of transient blanker module 1A4; terminals 2, 6, and 7 of., TEST SELECT switch S1B; and through resistors R8, R6, and R5 respectively.

1-10. PTT Switches

(fig. 4-8)

PTT switch S2, when depressed, provides a path to ground for the +27.5 volts dc through the parallel combination of relay K1 and XMIT lamp DS3. The push-to-talk switch on the microphone associated with the radio set control, when depressed, provides a path to ground for the +27.5 volts dc through the same parallel combination mentioned above to pin P of connector J2. Relay K1 is energized, and XMIT lamp DS3 lights if either the test unit PTT switch or the microphone push-to-talk switch is depressed. Whenever relay K1 is energized, the radio set simulator is placed in a simulated transmit condition.

1-11. XMIT LOAD Switch

(fig. 4-8)

Caution: **XMIT LOAD switch S4 should only he set to ON momentarily. Transmit load conditions are simulated when XMIT LOAD switch S4 is set to ON. This setting applies +27.5 volts dc through thermostat S5 across load resistor R19 to XMIT LOAD lamp DS4. Relay K1 is energized, XMIT LOAD lamp DS4 lights, and XMIT lamp DS3 lights.**

1-12. Guard Receiver

(fig. 4-8)

When the radio set control function select switch is set to T/R+G, a ground is provided at pin C of connector J2. This condition provides a path for the +27.5 volts dc through T/R+G lamp DS2 and relay K1 (at pins 13 and 2) to the radio set control through pin C of connector J2. T/R+G lamp DS2 lights.

1-13. Squelch Disable

(fig. 4-8)

When the sensitivity control on the radio set control is turned to the extreme clockwise position (SQ DIS), a path to ground is provided through SQ. DIS lamp DS6 to the radio set control through pin a of connector J2 for primary power of +27.5 volts dc. SQ. DIS lamp DS6 lights.

1-14. Transient Blanker

(fig 4-8 , 4-8.1)

a. Function. In MK-731/ARC-51 X only, the transient blanker circuit protects the transistorized stages within power converter module 1A3 and audio amplifier modules 1A1 and 1A2, and uhf test generator module 1A5. In this module, transient pulses are eliminated from the +27.5-volt dc supply. It also drops the +27.5 volts dc to +18.9 volts dc for the filament circuit of uhf test generator module 1A5 and +20.0 volts dc for the B+ circuit of audio amplifiers 1A1 and 1A2.

a.1. Function. In MK-731A/ARC-51X, the transient blanker circuit protects the transistorized stages within power converter module 1A3, audio amplifier modules 1A1 and 1A2, and uhf test generator module 1A5. In this module, transient pulses are eliminated from the +27.5-volt dc supply. It also drops the +27.5 volts dc to +20.0 volts dc for the B+ circuit of audio amplifiers 1A1 and 1A2.

b. Analysis. The + 27.5 volts dc is applied to transient blanker input terminal E1 through relay K2 when relay K2 is energized. The +27.5 volts dc is applied to the emitter of transistor Q2 and through resistor R1 to the emitter of transistor Q1. When a positive transient pulse appears with the +27.5 volts dc, transistor Q2 conducts more, and thereby increases the voltage drop on resistor R3. The positive base bias of transistor Q1 increases. The effects of the positive transient pulse and the increased positive base bias on transistor Q1 counteract and maintain a constant +27.5 volts dc. This transient protected +27.5 volts dc is applied to the collector of transistor Q3 and to the voltage divider network of R5 and CR2. The voltage at the junction of CR2 and R5 is held at a constant +20 volts dc because of Zener diode action. The +20-volt dc output of cathode follower Q3 is used as a B+ supply for audio amplifier modules 1A1 and 1A2. This +20 volts dc is also applied to resistor RC, which reduces the potential to + 18.9 volts dc, and this voltage is supplied to uhf test generator module 1A5 at terminal El where it serves as a filament voltage supply. Filament voltage is not required for the MK-731A/ARC-51X.

Plus 27.5 volts dc is supplied to power converter module 1A3 at terminal E5 from terminal E2 of transient blanker module 1A4.

c. MK-731A/ARC-51X Only. Plus 27.5 volts dc is also applied to pin 5 of TEST SELECT switch SIC (rear). With TEST SELECT switch S1 in the VSWR CAL or VSWR TEST position, 27.5 volts dc is applied across normally open contacts 14 and 9 of relay K1 as a fixed B+ supply for the uhf test generator. The same voltage is also applied across VSWR CAL variable resistor R2 to provide a variable voltage to the collector circuit of amplifier Q5.

1-15. Power Converter Module 1A3

(fig. 4-8)

Power converter 1A3 operates on transient protected +27.5 volts dc. The power converter provides + 225 volts dc, + 175 volts dc, and 9.65 volts ac.

a. Power Oscillator Circuit. The + 27.5 volt dc input is converted to ac voltage by the power oscillator which includes transistors Q1 and Q2. Transient protected +27.5 volts dc from transient blanker module 1A4 is applied to center tap terminal 2 on the primary of transformer T2 through a filter network composed of inductors L1 and L2 and capacitors C3 through C6. The +27.5 volts dc is applied through the primary windings of transformer T2 to the emitters of transistors Q1 and Q2. The two transistors are connected as a saturable core, square-wave oscillator circuit. A voltage divider circuit, consisting of thermal resistor RT1 and resist& R3, provides bias for both transistors. Thermal resistor RT1 compensates for increases or decreases of collector current caused by temperature variances. The circuit starts to oscillate because of the unbalance in bias that exists between Q1 and Q2. The unbalance is caused by intrinsic differences between apparently identical transistors and the imperfection of the windings in saturable reactor T1. Assume that the bias at the base of Q1 is less negative than at the base of Q2. Transistor Q2 conducts more current, and the core flux created by current flowing through winding 4-5 of reactor T1 increases the forward bias applied to Q2; therefore, the base of Q2 becomes more negative, and Q2 conducts heavily. While this occurs, the opposite is true at the base of Q1. As Q2 conducts, the voltage induced in reactor T1 causes the forward bias at the base of Q1 to decrease. As a result, when Q2 conducts heavily, Q1 is cut off. The principle of saturable core reactor T1 is that, at core saturation, further increase in current flow does not increase the flux in the core. Since the flux remains relatively constant at saturation, no voltage is induced in the windings, and the voltage drops to zero. As a result, base driving current is removed from Q2, and it is cut off. When current stops flowing through winding 4-5, the core flux starts to decrease which induces voltage of the opposite polarity in the windings of reactor T1. As a result, transistor Q1 is driven into conduction by forward bias voltage at its base. As Q1 starts to conduct, current through winding 1-2 causes increases in core flux which increases the forward bias at its base. During this interval, Q1 is conducting heavily, and Q2 is cut off. When negative saturation of the reactor core is attained, switching of transistor Q1 from conduction to cutoff and Q2 from cutoff to conduction occurs, and the cycle repeats.

b. Plus 175 and +225-Volt Dc Supply. The output voltage of the power oscillator circuit is a +55-volt, 800-cycle-per-second (cps) square wave. The frequency of oscillation is determined by the turns ratio and saturation flux of the core of saturable reactor T1. The output voltage appears between the emitters of transistors Q1 and Q2. During each half cycle, the emitter of the conducting transistor is at ground potential, and the emitter of the cutoff transistor is at approximately +27.5 volts dc. Switching from cutoff to conduction is extremely fast to prevent transistor burnout. The +55-volt square wave introduced by the power oscillator is produced in the primary winding of transformer T2. The secondary winding of transformer T2 is connected to a full-wave rectifier consisting of diodes CR1 and CR2. The output of the full-wave rectifier is applied to a filter network composed of resistors R4 through R7 and capacitors Cl and C2. The filter eliminates any 800-cps ripple

that might be present. The plate supply of +225 volts dc at 15 milliamperes is applied to the automatic directjon finder (adf) equipment in the aircraft (if so equipped) from terminal El of power converter module 1A3 through terminals 12 and 10 of relay K1 and pin H of connector 52. In MK-731/ARC-51X only, a plate supply of +175 volts dc at 80 milliamperes is applied to terminal E2, E6 of uhf test generator module 1A5 from terminal E2 of power converter module 1A3 through terminals 8 and 9 of relay K1. These two voltages (+225 and +175 volts dc) are actually supplied from the same point in power converter module 1A3. This condition can be accomplished because the two voltages cannot be simultaneously supplied because of the wiring of relay K1. When relay K1 is energized by depressing the PTT switch, only +175 volts dc can pass through relay K1 to uhf test generator module 1A5. When relay K1 is deenergized, only +225 volts dc can pass through relay K1 to the adf equipment in the aircraft. The difference in voltage is due to the difference in loads being supplied. The +225-volt dc adf plate supply from power converter module 1A3 is also applied to terminal 4 of TEST SELECT switch S1 through resistor R13. Resistor R12 forms a voltage-dividing network with resistor R13. When TEST SELECT switch S1 is set to +225V, meter Ml is connected to the +225-volt dc line for testing purposes.

c. AC Supply, 9.65-Volt. The auxiliary (aux) audio test voltage is applied to the adf equipment in the aircraft (if installed) from terminal 6 of transformer T2 through terminal E4 of power converter module 1A3 and voltage-dropping resistors R8 and R17. Resistor R17 is a variable resistor, so the output can be maintained at 9.65 volts ac. The aux audio voltage is also applied to FUNCTION SELECT switch S1 as a dc voltage. This dc supply also comes from terminal E4 of power converter module 1A3, but it is filtered and rectified in the network including diode CR2, resistor R15, and capacitors C1 and C2. When TEST SELECT switch S1 is in the AUX AUDIO position, this voltage is applied to meter Ml for monitoring.

1-16. Uhf Test Generator Module 1A5 (MK-731/ARC-51X Only)

(fig. 4-8)

The uhf test generator module consists of a crystal-controlled oscillator, a tripler, and two grounded-grid amplifier stages. The grounded-grid amplifiers provide a constant input impedance with excellent signal-plus-noise-to-noise ratio. The oscillator produces a 100-mc cw (continuous-wave) signal which is multiplied to a 300-mc cw signal by the multiplier stage.

a. The first stage is a grounded-grid, tuned-plate, tuned-cathode, crystal-controlled oscillator. Plus 175 volts dc is applied to the plate of tube V1A through the plate tank circuit, and the plate tank circuit begins to resonate. The signal voltage developed in the plate tank circuit is applied to voltage divider capacitors C6 and C7. The voltage across C7 is applied to the cathode tank circuit through crystal Y1 and thereby provides a very selective feedback signal to the cathode of V1A. This signal is amplified by tube V1A and coupled through capacitor C8 to multiplier (tripler) tube V1B.

b. The second stage, tube V1B, multiplies (triples) the output of tube V1A. The + 175 volts dc is applied to the plate of V1B through a plate tank circuit. Negative grid bias is developed across grid-return resistor R3. The amplified 100-mc output of V1A is applied to the grid of V1B. This 100-mc signal is tripled to 300 mc, developed across the plate load tank circuit that is tuned to 300 mc, and coupled through capacitor C12 to the cathode tank circuit of tube V2.

c. The third and fourth stages, V2 and V3, are amplifiers. The 300-mc signal from V1B is applied to the cathode of first amplifier V2. The amplified output from V2 is developed across the plate tank circuit and coupled through capacitor C16 to the cathode of second amplifier V3. The amplified output from V3 is developed across its plate tank circuit and

coupled through C20 to the input of directional coupler DC1.

1-16.1 Uhf Test Generator Module 1A5 (MK-731A/ARC-51X Only)

(fig 4-8.1)

The uhf test generator consists of a crystal-controlled oscillator, a tripler, and four amplifier stages. The oscillator produces a 100-mc cw signal that is multiplied to a 300-mc cw signal by the tripler. The amplifiers provide gain and impedance matching with excellent signal-plus-noise to noise ((S+N)/N) ratio.

a. The first stage is a tuned-collector, tuned-emitter, crystal-controlled oscillator. A positive voltage is applied to the collector of transistor Q1, and the collector circuit begins to resonate. The voltage developed in the collector tank circuit is applied to voltage divider capacitors C3 and C4. The voltage across C3 is applied to the emitter tank circuit through crystal Y1, thus producing a very selective feedback signal to the emitter of transistor Q1. This signal is amplified by transistor Q1 and coupled through capacitor C5 to tuned amplifier Q2.

b. Transistor Q2, tuned for 100 mc, amplifies the signal and couples it through capacitor C8 to tripler amplifier Q3.

c. Transitor Q3, tuned for the third harmonic (300 mc), multiplies the signal and couples it through capacitor C14 to tuned amplifier Q4.

d. Transistor Q4 amplifies the 300 mc and couples it through capacitor C17 to tuned amplifier Q5.

e. Transistor Q5 amplifies the 300-mc signal. The setting of VSWR CAL variable resistor determines the gain of the stage and, thus, the output of the uhf test generator.

f Transistors QS and Q7 function together to provide an impedance match and calibrated 300-mc output signal through capacitor C36 to directional coupler DC1.

1-17. Directional Coupler DC1

(fig.4-8)

The directional coupler consists of a length of nominal 50-ohm transmission line connected to two permanently adjusted coupler assemblies to which meter M1 can be attached for the reading of forward and reflected power. The directional coupler samples rf power and converts it to dc power.

a. The 300-mc signal from uhf test generator module 1A5 is applied to antenna jack J3 through DC1. The directional coupler converts this 300-mc power to dc and applies it to terminal 8 of TEST SELECT switch S1. When TEST SELECT switch S1 is set to VSWR CAL, this voltage is applied to meter MI. This voltage is varied by VSWR CAL potentiometer R2 until meter M1 indicates CAL.

b. The reflected power from the antenna applied to the coupler is also converted to dc by the directional coupler. It is applied to terminal 9 of TEST SELECT switch S1. When TEST SELECT switch S1 is set to VSWR TEST, this voltage is applied to meter MI for an indication of standing wave ratio (swr).

1-18. Audio Amplifier Module 1A2

(fig. 4-8)

An audio signal is supplied from the pilot's microphone (mike) output through pins E and V of connector J2 of the radio set simulator to terminals El and E2 of audio amplifier module 1A2. This signal is then applied through input transformer T1 to AUDIO GAIN potentiometer R23. AUDIO GAIN potentiometer R23 controls the volume by varying the amplitude of the input signal. This controlled input signal is coupled through capacitor C1 to the base of audio amplifier transistor Q1. The amplified output of Q1 is applied to the primary of transformer T2 and coupled by transformer T2 to the bases of power amplifier transistors Q2 and Q3. The power output of these two transistors is applied to the primary of output transformer T3 and coupled by T3 to HEADSET H-101 A 17 jack J-4. The audio can be listened to with a headset at this jack. Transient blanker module 1A4 supplies the +20 volts dc (para 1-14) for B+. Resistors R1 and R8 form a voltage divider to provide base bias for transistor Q1. Resistors R3 and R11 are feedback resistors which reduce the effect of noise in the power output circuit. Capacitor C3 in a feedback capacitor which suppresses any high-frequency noise present. Resistor R4 and capacitor C3 form a negative feedback path to improve current stability.

1-19. Audio Amplifier Module 1A1

(fig. 4-8)

The output of Handset H-101A/U is connected through HEADSET H-101A/U jack J4 to input transformer T1 of audio amplifier module 1A1 and through coupling capacitor C6 to the base of audio amplifier transistor Q1. The signal is amplified and coupled successively to succeeding stages Q1, Q2, and Q3 for increased amplification. Final voltage amplification stage Q4 develops the audio output across the primary of transformer T2. The output of T2 is applied to both bases of prower output transistors Q5 and Q6. This power output is developed on the primary of transformer T3 and supplied to the radio set control for volume control and output through pins U and R of connector J2. Resistors R5 and R14, R7 and R15, R9 and R17, and R11 and R18 are used as voltage dividers to provide base bins for transistors Q1, Q3, QX and Q4, respectively. Resistors R24 and R25 feed back avc voltages. which are tapped from the voltage-dividing networks formed by resistors R24 and R26, and R25 and R27, to the emitters of amplifier transistors Q1 and Q3. Feedback capacitor C5, connected from the collector to the base of transistor Q4, suppresses any high-frequrncy noise applied to the base of Q.1. Resistor R30, connected across the primary of transformer T2. protects transistor Q4 from transient voltages caused by the collapsing field around transformer T2 when power is removed. Capacitors C1, C2, C3, and C4 are decoupling capacitors used with series resistors R1, R2, and R3 to keep the audio stages from reacting with each other. Resistors R12 and R13 feed back signals to the base of transistors Q5 and Q6 that are 180° out of phase. This feedback keeps the output constant.

1-20. Readout Mechanism

(fig. 4-9)

a. The readout mechanism indicates the frequency selection made by a radio set control. The readout mechanism contains four Autopositioners, each of which is attached to a dial

which indicates a digit of the selected frequency. These four dials indicate the hundreds, tens, units, and tenths digits of the selected frequency. Lamp DS4 indicates the hundredths digit of the selected frequency.

b. An Autopositioner is a motor-driven mechanism which rotates a shaft, and any devices attached to the shaft, to any one of a predetermined number of positions. In the readout mechanism, an Autopositioner circuit includes a frequency-indicating dial, open-circuit seeking switches, motor-control relays, a solenoid, a stop wheel, a pawl, a slip clutch, a dc motor, a gear train, and control wires. Since the four Autopositioners are similar, the operation of only one, the tens-digit Autopositioner, is explained.

c. The tens-digit Autopositioner consists of the tens dial, open-circuit seeking switches S2 and S3, motor-control relays K2 and K5, solenoid L2, a stop wheel, a pawl, a slip clutch, motor B1, a gear train that mechanically couples certain elements of the Autopositioner, and five control wires. The tens dial, switches S2 and S3, and the stop wheel are attached to and rotate with the gear train. The slip clutch allows motor B1, and that portion of the gear train between the slip clutch and motor B1, to operate while the tens dial, switches S2 and S3, and the stop wheel remain stationary. (Each Autopositioner has a slip clutch that is part of the gear train. Motor B1 and the gear train between the slip' clutches and motor B1 is common to all four Autopositioners. A slip clutch allows the mechanically coupled elements of a particular Autopositioner to remain stationary while any of the other Autopositioners are still operating. Motor-control relay K5 is also common to all four Autopositioners.)

d. The five control wires of the tens-digit Autopositioner are connected to the segments of switches S2 and S3. These five control wires, denoted as 10-A, 10-B, 10-C, 10-D, and 10-E (pins V, U, T, c, and b of jack J1, respectively) carry either a ground or no ground for a particular tens-digit frequency selection. Two of these wires are grounded for any particular tens-digit frequency selection, and the other three wires are not grounded. This is known as the *two-out-of-five (2/5)* code. The specific combinations of grounded and not-grounded wires is different for each tens-digit frequency selection. The different corn, binations for all of the control wires of the four Autopositioners and lamp DS4 are explained and shown in e through *g* below.

e. The chart below shows the coding applied to the control wires for hundredsdigit and tens-digit frequency selection. Only two control wires, 200-A and 300-B, are necessary for a hundreds-digit indication, since the hundreds digit can be only a 2 or a 3. The five control wires used for tens-digit frequency selection are designated 10-A through 10-E. An X in any column indicates that that control wire carries a ground for that particular frequency selection. No mark in a column indicates that control wire is not grounded. The two columns designated 200-A and 800-B are referenced to the left-most digit in the *Frequency (mc)* column. The five columns designated IO-A through 10-E are referenced to the second digit from the left in the *Frequency (mc)* column.

Frequency (mc)	Control wires						
	200-A	800-B	10-A	10-B	10-C	10-D	10-E
22X.X	X		X		X		
23X.X	X			X	X		
24X.X	X			X		X	
25X.X	X				X	X	
26X.X	X				X		X
27X.X	X					X	X
28X.X	X		X			X	
29X.X	X		X				X
30X.X		X		X			X
31X.X		X	X	X			
32X.X		X	X		X		
33X.X		X		X	X		
34X.X		X		X		X	
35X.X		X			X	X	
36X.X		X			X		X
37X.X		X				X	X
38X.X		X	X			X	
39X.X		X	X				X

f. The chart below shows the coding applied to the control wires (1-A through 1-E) for a units-digit frequency selection. An X in any column indicates that that control wire

carries a ground for that particular freqrency selection. No marks in a column indicates that that control wire is not grounded.

Frequency	Control wires				
(mc)	1-A	1-B	1-C	1-D	1-E
XX0.X		X			X
XX1.X	X	X			
XX2.X	X		X		
XX3.X		X	X		
XX4.X		X		X	
XX5.X			X	X	
XX6.X			X		X
XX7.X				X	X
XX8.X	X			X	
XX9.X	X				X

g. The chart below shows the coding applied to the control wires for tenths-digit and hundredths-digit frequency selection. The five control wires for tenthsdigit frequency selection are designated .1-A through .1-E, and the single control wire for hundredths-digit frequency selection is designed .00-.05. The five columns designated *.1-A* through *.1-E* are referenced to the first digit to the right of the decimal point in the *Frequency (mc)* column. The single column designated .00-05 is referenced to the second digit to the right of the decimal point in the *Frequency (mc)* column.

Frequency	Control wires					
(mc)	.1-A	.1-B	.1-C	.1-D	.1-E	.00-.05
XXX.00		X			X	X
XXX.05		X			X	
XXX.10	X	X				X
XXX.15	X	X				
XXX.20	X		X			X
XXX.25	X		X			
XXX.30		X	X			X
XXX.35		X	X			
XXX.40		X		X		X
XXX.45		X		X		
XXX.50			X	X		X
XXX.55			X	X		
XXX.60			X		X	X
XXX.65			X		X	
XXX.70				X	X	X
XXX.75				X	X	
XXX.80	X			X		X
XXX.85	X			X		
XXX.90	X				X	X
XXX.95	X				X	

h. For the tens-digit Autopositioner (fig. 4-9) to operate, a ground must be applied through at least one of the tens-digit control wires (10-A through .10-E), through switch segment S2 rear, to motor-control relay K2. This ground through segment S2 rear can be direct from control wires 10-C, 10-D, and 10-E (which are connected directly to segment S2 rear), from control wire 10-A (connected to segment S3 front), or from control wire 10-B (connected to segment S3 rear). When a ground is applied to motor-control relay K2, relay K2 is energized and contacts 4 and 7 of the relay are closed. This condition applies +27.5 volts dc to diode CR2 and to solenoid L2. Diode CR2 then conducts, and the +27.5 volts dc is applied to motor-control relay KS and causes KS to energize and close contacts 4 and 7 of the relay. When contacts 4 and 7 of motor-control relay KS are closed, + 27.5 volts dc is applied to motor B1. Motor B1 then starts, and the motor rotates the gear 'train. When the +27.5 volts dc is applied to solenoid L2, the solenoid energizes and lifts the pawl out of a notch in the stop wheel. This action allows the rotation of the gear train to be coupled through the slip clutch to the segments of switches S2 and S3, and to the tens dial.

i. The gear train rotates the tens dial and the segments of switches S2 and S3 until all groundpaths through S2 and S3 to motor-control relay K2 are open. When all groundpaths are open, motor-control relay K2 deenergizes, and contacts 4 and 7 of the relax open. This condition removes the +27.5 volts dc from solenoid L2, solenoid L2 then deenergizes, and the pawl drops into a notch of the stop wheel to prevent further rotation of the tens dial and switches S2 and S3. The tens dial is now positioned to indicate the tens digit of the new frequency. Also, when motor-control relay K2 deenergizes, diode CR2 ceases to conduct, motor-control relay K5 deenergizes, and contacts 4 and 7 of relay K5 open to cause motor B1 to stop. Any residual energy of the motor coasting to a stop is dissipated by the slip clutch.

j. To illustrate the groundpaths applied through the tens-digit control wires (10-A) through 10-E), assume that the tens-digit Autopositioner is set for a frequency readout of

XIX.XX, as shown in figure 4-9. (Entire frequency setting of readout mechanism in figure 4-9 is 211.10 mc.) The tens dial is positioned to indicate a 1, and the tens-digit Autopositioner is not operating. The tens-digit Autopositioner is not operating because there are no closed groundpaths through switch segment S2 rear to motor-control relay K2. With reference to the chart in e above, the two tens-digit control wires which carry a ground for 31X.XS mc are control wires 10-A and 10-B. With reference to figure 4-9, it is seen that control wire 10-A (pin V of J1) is closed at contact 1 (slider) of switch segment S3 front, and that contact 2 of S3 front provides a groundpath to contact 2 of switch segment S2 rear. At S2 rear, contact 2 of S2 rear is open, and the groundpath is not completed to motor-control relay K2. In the same manner, the groundpath through control wire 10-B (pin U of J1) is completed through switch segment S3 rear, but the path is broken at S2 rear. Since none of the other three control wires (10-C, 10-D, and 10-E) are grounded, there is no groundpath to motor-control relay K2, and the tens-digit Autopositioner is not operating.

k. Now assume that a new frequency selection is made in which the tens digit changes from a 1 to a 3. With reference to the chart in *e.* above, the two tens-digit control wires which carry a ground for 23X.XX are control wires 10-B and 10-C. (Note in the chart that for 33X.XX, control wires 10-B and 10-C are grounded also, since the tens digit is the same.) In figure 4-9, which shows the tens-digit Autopositioner set at 1, there is no groundpath for control wire 10-B to motor-control relay K2; although the 10-B groundpath is completed from pin U of J1 and through contacts 4 and 3 of S3 rear, contact 4 of S2 rear is open. But a groundpath is completed by control wire 10-C from pin T of J1, through contacts 6 and 1 of S2 rear, to motor-control relay K2. This starts the tens-digit Autopositioner, and the Autopositioner operates as explained in h and i above. when open-seeking switches S2 and S3 rotate to the position where the groundpaths for the 10-B and 10-C control wires are both open, the tens-digit Autopositioner comes to rest (i above), and the tens dial indicates a 3.

l. The three other Autopositioners operate in the same manner as does the tens-digit Autopositioner. Any number of the Autopositioners can operate at the same time, and one Autopositioner can come to rest before one or more of the others do. Diodes CR1 through CR4 provide isolation between the solenoids (L1, L2, L3, and L4) of the Autopositioners by preventing the energizing of a solenoid in one Autopositioner from also energizing the solenoids in the other Autopositioners. Lamp DS4 indicates a 0 when ground is applied to control line .00-.05 (pin S of J1) and a 5 when control line .00-.05 is not grounded.

Section IV. STAGE ANALYSIS OF TEST SET, RADIO TS-1962/ARC-51X

1-21. General

This section describes the principles of operation of the test unit, and includes a stage analysis of the various circuits to assist the repairmen while troubleshooting the equipment.

1-22. Primary Power Distribution

(fig. 4-10)

The test unit uses and distributes +27.5-volt dc power. This power is applied from the bench +27.5-volt dc supply to pins A and C of PWR jack J5 (C is- ground). POWER switch CB1 is a circuit-breaker switch that automatically shuts off when overloaded with 15 amperes or more. When POWER switch CB1 is set to RESET ON, the +27.5-volt dc primary power is distributed to the following places:

a. Indicator lamps DS1, DS2, and DS4.

b. Power input terminal E3 of audio amplifier 3A1.

c. Primary power input of the receiver-transmitter under test through pins A and B of connector 52.

d. Test point +27.5V jack J12.

e. Panel light control, pin P of connector J6.

1-23. FUNCTION SELECT Switch S4

(fig. 4-11)

FUNCTION SELECT switch S4 on the test unit control head simulates the action of the function select switch of the radio set control. It has three functioning positions, T/R, T/R + G, and ADF, which are explained in detail below:

a. T/R. When switch S4 is in the T/R position, pin A of connector J6 is grounded. This, in turn, provides a ground through pin T of connector J2 for power relay K1 in the receiver-transmitter so it can be energized and distribute +27.5 volts dc internally in the receiver-transmitter. A path to ground at T/R lamp DS1 is provided for +27.5 volts dc, and T/R lamp DS1 lights.

b. T/R + G. When switch S4. is in the T/R+G position, everything that happened in the T/R position stays the same and the guard receiver is activated. In the T/R + G position, pin D of connector J6 is grounded. This condition, in turn, provides a ground through pin C of connector J2 for guard relay K6 in the receiver-transmitter so it can be energized and distribute +27.5 volts dc to the guard receiver section of the receiver-transmitter. A path to ground at T/R + G lamp DS2 is provided for + 27.5 volts dc, and T/R + G lamp DS1 lights.

c. ADF. When switch S4 is in + the ADF position, pin C of connector J6 is grounded. This condition provides a path to ground for +27.5-volt dc adf power from the receiver-transmitter through ADF lamp DS3. ADF lamp DS3 lights.

1-24. PTT Switch S3

(fig. 4-10)

When PTT switch S3 is set to ON or held to MOM ON, ground is applied through pin P of J2 to relay K2 in the receiver-transmitter which energizes it and sets the receiver-transmitter in the transmit function. SMIT lamp DS4 lights.

1-25. Main Audio

(fig. 4-10)

The main audio from the receiver-transmitter is applied to pins R and U (U is ground) of connector J2. With RF DET switch S1 set to OFF, the signal is applied to pin E of connector J6 through RF DET switch S1. Connector J6 mates with plug P1 of the test unit control head (fig. 4-11). From pin E of plug P1. the signal is applied through AUDIO GAIN potentiometer R1 to transformer T1 through pins F of connector J6 and plug P1. The signal is then coupled through transformer T1 to HDSET H-101A,/U jack J9 where it can be heard with a headset. When RF DET switch S1 is set to ON, the main audio signal is shunted to ground through resistor R3. MAIN AUDIO jacks J7 and J8 are provided to connect test equipment for measurements.

1-26. RF Circuit

(fig. 4-10)

The receiver-transmitter rf signal is applied to rf input jack J3. The dummy load or antenna is connected to ANT jack J4. The rf signal is applied from J3 to RF DET switch S1 through a detector and filter network composed of diode CR1, resistor R2, inductor L1, and capacitors C1 and C2. RF DET switch S1 must be in the ON position. After passing through RF DET switch S1, the rf signal follows the identical path that the main audio signal followed (para 1-25d).

1-27. Audio Amplifier 3A1

(fig. 4-10)

The microphone (mike) signal from Headset H-101A/U is applied to the primary of input transformer T1 through HDSET H-101 A/U jack J9. The signal is then coupled across transformer 3A1T1 through potentiometer R1 and coupling capacitor Cl to the base

of transistor Q1. The output of Q1 is developed across collector load resistor R8 and coupled through capacitor C6 to the base of transistor Q2. The signal is then consecutively amplified by and coupled to succeeding transistor stages Q3 and Q4 and finally to output transformer T2.

a. The +27.5 volts dc supplied to audio amplifier 3A1 is applied to the collectors of transistors Q1, Q2, Q3, and Q4 through voltage-regulating circuit resistor R6 and Zener diode CR1 and voltage-dividing network R2, R3, R4, and R5. Capacitors C2 through C5 are decoupling capacitors used with resistors R2 through R5 to keep the audio stages from interacting with each other. Capacitors C6, C7, C8 are coupling and dc blocking capacitors. Resistors R8, R10, and R12 are collector load resistors.

b. Resistors R7 and R14, R9 and R15, R11 and R17, and R13 and R18 are voltage dividers to provide base emitter forward bias for transistors Q1, Q2, Q3, and Q4, respectively. Resistors, R20, R22, R23, and R25 and capacitor CI2 form an automatic volume control (avc) network for the emitters of transistors Q1 and Q3. When the ac signal output increases at the output of Q4, the net forward bias of Q1 and Q3 is reduced, thereby automatically decreasing the gain. Capacitor C9 suppresses noise that may be present at the base of Q4. Resistors R21, R16, R24, and R19 are emitter-swamping resistors, used to temperature stabilize the emitter current. Capacitors C13, C10, C14, and C11 are for the purpose of bypassing the signal around the emitter-swamping resistors.

c. Output transformer T2 applies the audio signal, to MIC SELECT switch S2. When this switch is set to HDSET, the audio signal from audio amplifier module 1A3 is connected by MIC SELECT switch S2 to the modulator and audio module A4 in the receiver-transmitter through pins E and V of connector J2. When MIC SELECT switch S2 is in the DUM MIC position, the audio amplifier module is disconnected from, and DUM MIC jacks J16 and 517 are connected to, pins E and V on connector J2. An external audio signal, such as that produced in an audio oscillator, may be injected to the modulator and audio module in the receiver-transmitter in this manner.

1-28. Auxiliary Audio

(fig. 4-10)

The auxiliary (aux) audio signal produced in the receiver-transmitter is applied through pin L of connector J2 to a simulated adf load consisting of capacitor C3, resistors R4 and R5, and diodes CR2 and CR3. AUX AUDIO jacks J10 and J11 (J11 is ground) serve as test points to check aux audio voltage across the load.

1-29. SENSITIVITY Control and Squelch Disable

(fig. 4-11)

SENSITIVITY potentiometer R4 is connected to the sensitivity control in the receiver-transmitter through pins B of plug P1 and connector J6 and pin Z of connector J6. The sensitivity of the receiver-transmitter can be varied by rotating SENSITIVITY potentiometer R4. When SENSITIVITY potentiometer R4 is rotated to its extreme clockwise position, SQ. DIS switch S5 is closed and applies a ground to squelch relay K1 in the receiver-transmitter through pins H of plug P1 and connector J6 and pin a of connector J2. This disables the squelch action of the receiver-transmitter.

1-30. Frequency Selection Action

(fig. 4-11)

The control head portion of the test unit contains three FREQ SELECT switches: S1, S2, and S3. These switches perform identically as their counterparts in the radio set control. The switches apply a ground potential to the relays of the mechanical tuner in the receiver-transmitter through pins K, W, V, U, Z, X, *M, a, d, T, c, b, g, f, j,* Y, *h and s of plug,* P1 and connector J6, and pins X, P, V, U, T, *c, b,* L, M, K, N, J, Y, F, Z, H, *a,* and S of connector J1. FREQ SELECT switch S1 changes the receiver-transmitter frequency in

10-mc steps, FREQ SELECT switch S2 changes the receiver-transmitter frequency in 1-mc steps, and FREQ SELECT switch S3 changes the receiver-transmitter frequency in 0.1-mc steps. The wires that are either grounded or not grounded for particular frequency selections are explained and shown in paragraphs 1-20 *e, f,* and *g.*

1-31. Difference in Models

Difference	MK-731/ARC-51X	MK-731A/ARC-51X
Uhf test generator 1A5	Contains vacuum tubes.	Replaces vacuum tubes with transistors.
Dummy load	Mounted on removable mounting tray.	Stored in transit case cover.
+175 volts dc	Used.	Not used.
Chassis wiring	+175 volts is connected to uhf test generator 1A5.	+27.5 volts is connected to uhf test generator 1A5.

CHAPTER 2

TROUBLESHOOTING

Section I. GENERAL TROUBLESHOOTING TECHNIQUES

Warning: **During servicing of the maintenance kit, be careful when working with the** +225- and +175-volt dc plate supply circuits. The +175-volt dc plate supply voltage is not used in the MK-731A/ARC-51X except at power converter 1A3 output.

2-1. Introduction

Troubleshooting at general support and depot maintenance levels includes all the techniques outlined for organizational maintenance and any special or additional techniques required to isolate a defective part. The general support maintenance and depot procedures are not complete in themselves but supplement the procedures described in TM 11-6625-564-12. The systematic troubleshooting procedure, which begins with the operational checks that can be performed at an organizational level, must be completed by means of localizing and isolating techniques. Paragraphs 2-2 through 2-9 provide intraunit (within the unit) troubleshooting procedures and describe the localizing and isolating techniques that must be performed at general support level.

2-2. Organization of Troubleshooting Procedures

a. General. The first step in servicing a defective maintenance kit is to localize the fault. Localization means tracing the fault to a defective stage or circuit responsible for the abnormal condition. Some faults, such as burned-out resistors, arcing, and shorted transformers, can often be located by sight, smell, and hearing. The majority of faults, however, must be localized by voltage and resistance checks.

b. Localization. The tests listed below will aid in isolating the trouble. First, localize the trouble to a single stage or circuit, and then isolate the trouble within that circuit by voltage, resistance, and continuity measurements.

(1) *Visual inspection.* The purpose of visual inspection is to locate faults without testing or measuring circuits. All meter readings, lamp indications, or other visual signs, should be observed, and an attempt made to localize the fault to a particular circuit.

(2) *Operational tests.* Operational tests frequently indicate the general localization of trouble. In many cases, the tests will help in determining the exact nature of the fault.

(3) *Voltage and resistance measurements.* This equipment is partially transistorized. Observe all precautions given to prevent transistor damage. Make voltage and resistance measurements in this equipment only as specified. When measuring voltages, use tape or sleeving to insulate the test probe except for the extreme tip. A momentary short circuit can ruin a transistor. Use the resistor and capacitor color code charts (fig. 4-4 and 4-5) to find the value of the parts. Use the voltage and resistance diagrams (fig. 2-13 through 2-16, and 4-13) to compare normal values with readings taken.

(4) *Troubleshooting chart.* The trouble symptoms listed in the charts (para 2-5 and 2-8) will aid in localizing trouble to a part or circuit.

(5) *Intermittent troubles.* In all these tests, the possibility of intermittent troubles should not be overlooked.

If present, this type of trouble often may be made to appear by tapping or jarring the equipment. Check the cables, wiring, and connections of the maintenance kit.

(6) *Stage gain procedures.* The stage gain procedures given in paragraphs 2-5 and 2-8 will aid the technician in locating the troublesome stage quickly.

23. Tools and Test Equipment Required

The following tools and test equipment are required for troubleshooting the maintenance kit. The associated technical manuals and assigned common names are also listed.

Test equipment	Technical manual	Common name
Multimeter ME-26B/U	TM 11-6626-200-12	Dc voltmeter
Test Set, Transistor TS-1336/U		Transistor teat set
Tool Kit, Radar and Radio Repair TK-87/U	SM 11-4-5180-R08	Toolkit
Headset H-101A/U		Headset
Audio Oscillator TS-421/U		Audio oscillator
Voltmeter, Meter ME-30(*)/Ua	TM 11-6626-320-12	Ac voltmeter
Test Set, Electron Tube TV-7/U	TM 11-6626-274-12	Tube tester

a. Includes Vo1tmeter, Meter ME-30A/U and Voltmeters, Electronic ME-80B/U and ME-8OC/U.

Section II. TROUBLESHOOTING SIMULATOR-TEST SET, RADIO SM-348/ARC-51X

2-4. Resistance and Continuity Measurements

Make the resistance and continuity measurements indicated below. If results other than those indicated are obtained, isolate the faulty part by further resistance measurements before making further tests or applying power.

Cautions:

1. **This equipment is partially transistorized. Observe all precautions to prevent transistor damage. Make resistance measuremnts in the radio set simulator only as specified.**

2. Do not attempt removal or replacement of parts before reading the instructions given in paragraph 3-1.

Note: Unless otherwise indicated, references to test points, jacks, connectors, and switches apply to the radio net simulator.

a. Disconnect all cables from the radio set simulator.

b. Remove the dust cover from the radio set simulator.

c. Set the switch or switches shown in the *Switch* column to the positions shown in the *Position* column. Connect the dc voltmeter between the terminal in the *Terminals* column. Refer to figure 4-8, radio set simulator schematic diagram, figure 4-12, radio set simulator wiring diagram; and to the figures referenced in the Figure column for terminal and component location. All resistance readings should be within 10 percent of those shown in the *Resistance* column. These measurements are to be made before applying power to the unit to insure complete chassis wiring continuity and to localize the trouble before detailed troubleshooting is performed.

Switch	Position	Figure	Terminals	Resistance (ohms)
POWER TEST SELECT	RESET ON OFF	2-1	A of J2 to 6 of relay K2 ----------	0
		2-1	A of J2 to 4 of relay K2 ----------	0
		2-1 and 2-3	A of J2 to point No. 1 of readout mechanism.	0
		2-1	A of J2 to 3 switch S1B ----------	28,700
		2-1	A of 52 to T of 52 ----------	300

Switch	Position	Figure	Terminals	Resistance (ohms)
POWER	RESET ON	2-1	1 of relay K1 to 7 of relay K1----------	500
		2-1	Across indicator lamps DS2 thru DS6	700
		2-1	Across indicator lamp DS1----------	125
POWER	OFF	2-1	A of J2 to 5 of relay K2 ----------	Infinity
		2-1 and 2-3	A of J2 to point No. 1 of readout mechanism.	Infinity
POWER	OFF	2-6	E1 of 1A4 to c of J2 ----------	0
TEST SELECT	OFF	2-6	E1 of 1A4 to ground ----------	37,000
		2-1 and 2-6	E1 of 1A4 to 2, 6, or 7 of switch S1B.	28,700
		2-6	E2 of 1A4 to E6 of 1A3 ----------	0
		2-6	E2 of 1A4 to ground ----------	9,200
		2-6 and 2-1	E2 of 1A4 to L of J2 ----------	108,200
		2-4 and 2-6	E4 of 1A4 to E1 of 1A6 ----------	0
		2-6 and 29	E5 of 1A4 to E3 of 1A2 ----------	0
		2-6 and 2-7	E5 of 1A4 to E3 of 1A1----------	0
POWER	OFF	2-4 and 2-1	E2, 6 of 1A6 to 9 of relay K1----------	0
TEST SELECT	OFF	2-4	E2, 6 of 1A6 to E3 of 1A6. (Rotate VSWR CAL control, and note variation in resistance.)	0 to 7,600
		2-4	E6 of 1A6 to ground ----------	0
		2-1	J1 to P2 (directional coupler) _____	0
		2-1	J3 to P3 ----------	0
POWER	OFF	2-1	9 of switch S1B to DC1 reflected output.	0
TEST SELECT	OFF	2-1	8 of switch S1B to DC1 forward OUTPUT.	0
		2-1	7 of switch S1B to 10 of switch S1C.	12,100
		2-1	6 of switch S1B to Z of J2 ----------	0
		2-1	6 of switch S1B to ground ----------	15,000
		2-1 and 2-11	5 of switch S1B to E4 of 1A3 ----------	90,000
		2-1	4 of switch S1B to ground _____	11,000
		2-1	4 of switch S1B to H of J2 ----------	383,000
		2-1 and 2-11	4 of switch S1B to E1 of 1A3----------	383,000
		2-1	3 of switch S1B to ground ----------	8,250
		2-1	2 of switch S1B to ground ----------	8,250
			1 of switch S1B to ground ----------	0
		2-1	10 of switch S1B to 1 of switch S1A.	0
		2-1	1 of switch S1A to 5, 8, and 9 of switch S1A.	0
		2-1	2 of switch S1A to 3, 4. 6, and 7 of of switch S1A.	0
		2-1	2 of switch S1A to 1 of switch S1A.	237,000
		2-1	2 of switch S1A to 10 of switch S1B.	237,000
		2-1	10 of switch S1A to positive of M1 --	0
		2-1	3 of switch S1C to D of J2 ----------	0
		2-1	7 of switch S1C to around ----------	0
		2-1 and 2-11	6 of switch S1C to E2 or E5(A model)of 1A3	
		2-1	8 of switch S1C to 8 of relay K1 ----	0
POWER	OFF	2-1	Positive of M1 to negative of Ml (with diode CR1 disconnected).	5,000
TEST SELEC'I	OFF			
POWER	OFF	2-11 and 2-1	E1 of 1A3 to H of J2----------	0
TEST SELECT	VSWR CAL	2-11 and 2-1	E2 of 1A3 to 8 of relay K1----------	Infinity
		2-11	E3 to 1A3 to ground _____	0
		2-11 and 2-1	E4 to 1A3 to L of J2. (Vary R17 to note continuity of potentiometer and variance in resistance.)	0 to 50,000

Switch	Position	Figure	Terminals	Resistance (ohms)
POWER	OFF	2-7	El of 1A1 to 1 of HEADSET H-101A/U jack J4.	0
TEST SELECT	OFF	2-7	E2 of 1A1 to 3 of HEADSET H-101A/U jack J4.	0
		2-7	E4 of 1A1 to U of J2----------	0
		2-7 and 2-1	E5 of 1A1 to R of J2 ----------	0
		2-7	E6 of 1A1 to ground ----------	0
POWER	OFF	2-9 and 2-1	E1 of 1A2 to V of J2 ----------	0
TEST SELECT	OFF	2-9 and 2-1	E2 of 1A2 to E of J2----------	0
		2-9 and 2-1	E4 of 1A2 to 2 of HEADSET H-101A/U jack J4.	0
		2-9 and 2-1	E5 of 1A2 to 4 of HEADSET H-101A/U jack J4.	0
		2-9	E6 to 1A2 to ground ----------	0
		2-9	E7 of 1A2 to ground ----------	0
		2-9	E7 of 1A2 to E8 of 1A2 ----------	10,000
		2-9	E7 of 1A2 of E9 of 1A2. (Rotate AUDIO GAIN control to note variation in resistance.)	0 to 10,000
		2-9	E8 of 1A2 of E9 of 1A2. (Rotate AUDIO GAIN control to note variation in resistance.)	0 to 10,000

2-5. Localizing Troubles

a. General Instructions. In the trouble-shooting chart in b below, procedures are outlined for localization of trouble by operation of the radio set simulator with the test unit in a self-testing mode. Connect the equipment as shown in the interconnecting block diagram in figure 3-1 in TM 11-6625-564-12. The radio set simulator parts locations are, in figures 2-1 through 2-12. The radio set simulator voltage and resistance measurements are shown in figures 2-13 through 2-16 and 4-13. The radio set simulator chassis resistance and continuity measurements are given in paragraph 2-4c. If operational symptoms are not known or if they indicate possibility of short or open circuits, perform the resistance and continuity tests given in paragraph 2-4c before proceeding.

Note: If the symptoms indicate trouble in one of the audio amplifiers 1A1 or 1A2, proceed to c below before making voltage and resistance measurements.

b. Radio Set Simulator Troubleshooting Chart.

Step No.	Symptom	Probable trouble	correction
	Indicator lamps do not light.	Lamps may be burned out.	Replace lamps.
2	a. +27.5 VDC lamp does not light.	a. POWER switch CR1 is defective.	a Replace switch CB1.
When lamps are not burned out.	b. XMIT LOAD lamp does not light.	h. XMIT LOAD switch S4 is defective.	h. Replace XMIT LOAD switch S4.
		XMIT LOAD thermostat S5 is defective.	Replace XMIT LOAD thermostat S5.
		Resistor R19 is defective.	Replace resistor R19.
		Power switch CB1 is defective.	Replace switch CB1.

Step No.	Symptom	Probable trouble	Correction
	c. XMIT lamp does not light when PTT switch is depressed.	c. Power switch CBl is defective. Relay K1 is defective. Relay K2 is defective. PTT switch S2 is defective.	*c.* Replace switch CB1. Replace relay K1. Replace relay K2. Replace PTT switch S2.
	d. T/R lamp does not light.	d. POWER switch CBl is defective. Resistor Rl is defective. Relay K1 is defective. Relay K2 is defective.	*d.* Replace switch CB1. Replace resistor R1. Replace relay K1. Replace relay K2.
	e. T/R+G lamp does not light.	*e.* POWER switch CB1 is defective. Relay K1 is defective. Relay K2 is defective.	*e.* Replace switch CB1. Replace relay K1. Replace relay K2.
	f. SQ. DIS lamp does not light.	*f.* POWER switch CBl is defective. Relay K2 is defective.	f. Replace switch CB1. Replace relay K2.
3	*a.* Audio from test unit no good in headset at radio set simulator.	*a.* A component of audio amplifier 1A2 is defective.	*a.* Use voltage and resistance readings given in figure 2-14 to isolate trouble. Replace defective part.
		A component of transient blanker 1A4 may be defective and, therefore, may not be supplying the correct voltage to the amplifier.	Use voltage and resistance readings given in figure 2-16 to isolate trouble. Replace defective part.
	b. Audio of a above is not varied when AUDIO GAIN is controlled.	*b.* AUDIO GAIN potcntiometer is defective.	*b.* Replaces AUDIO GAIN potentiometer R23.
4	Audio from headset at radio set simulator not good in headset at test unit	A componet of audio amplifier 1A1 id defective.	Use voltage and resistance readings given in figure 2-13 to isolate trouble. Replace defective part.
		A component of transient blanker 1A4 may be defective and, therefore, may not be supplying the correct voltage to the amplifier.	Use voltage and resistance readings given in figure 2-16 to isolate trouble. Replace defective part.
5	Positive 225 volts dc not present at pin H of J2, with PTT switch pot depressed.	Relay K1 defective.	Replace relay K1.
		A component of power converter 1A3 is defective.	Use voltage and resistance readings (fig. 2-15) to isolate trouble. Replace defective part.
		A component of transient blanker 1A4 may be defective; and therefore may not be supplying the correct voltage to the amplifier.	Use voltage and resistance readings given in figure 2-16 to isolate trouble. Replace defective part.
6	Positive 9.65 volts + 1 volt ac PP is not present at pin L of J20.	A component of power converter 1A3 is defective.	Use voltage and resistance readings (fig. 2-15) to isolates trouble. Replace defective part.
		R17, CR3, or CR4 may be defective.	Replace defective part.
7	Meter M1 does not indicate in the green sector of scale A when TEST SELECT switch Sl is set to ADF.	Diode CR1 is defective. Meter M1 is defective. TEST SELECT switch S1 is defective.	Replace diode CR1. Replace meter M1. Replace switch S1.
		A component of power converter lA3 is defective.	Use voltage and rcsistance readings (fig. 2-15) to isolate trouble. Replace defective part.

Step No.	Symptom	Probable trouble	Correction
		Resistor R8 or R10 may be defective. Relay K2 or POWER switch CB1 may be defective. Resistor R3 may be defective.	Replace defective resistor. Replace defective part. Replace defective resistor.
8	deter M1 does not indicate in the green sector of scale A when TEST SELECT switch S1 is set to +27.5V.	Diode CR1 is defective. Meter M1 is defective. TEST SELECT switch S1 is defective. Bench +27.5-volt dc supply may be defective. Resistor R9 or R11 may be defective.	Replace diode CR1. Replace meter M1. Replace switch S1. Adjust or replace +27.5-volt dc supply. Replace defective resistor.
9	deter M1 does not indicate in the green sector of scale A when TEST SELECT switch S1 is set to +225V.	Diode CR1 is defective. Meter M1 is defective. TEST SELECT switch S1 is defective. A component of power converter 1A3 is defective. A component of transient blanker 1A4 may be defective, and therefore, may not be supplying the correct voltage to the amplifier. Resistor R12 or R13 may be defective.	Replace diode CR1. Replace meter M1. Replace switch S1. Use voltage and resistance readings (fig. 2-15) to isolate trouble. Replace defective part. Use voltage and resistance readings given in figure 2-16 to isolate trouble. Replace defective part. Replace defective resistor.
10	Meter M1 indicator does not sweep from 0-8 as the SENSIVITY control on the test unit is rotated when TEST SELECT switch S1 is set to REMOTE SENS.	Diode CR1 defective. Meter M1 is defective. TEST SELECT switch S1 is defective. Resistor R6 or R7 may be defective.	Replace diode CR1. Replace meter M1. Replace switch S1. Replace defective resistor.
11	Meter M1 does not indicate in the green sector of scale A when TEST SELECT switch S1 is set to SHIELD GND.	Diode CR1 is defective. Meter M1 is defective. TEST SELECT switch S1 is defective. Resistor R4, R5, or R14 may be defective. Relay K2 or POWER switch CR1 may be defective.	Replace diode CR1. Replace meter M1. Replace switch S1. Replace defective resistor. Replace defective part.
12	Meter M1 does not indicate CAL on scale B with TEST SELECT switch S1 in VSWR CAL and while rotating VSWR CAL control R2 with PTT switch S2 depressed.	Diode CR1 is defective. Meter Ml is defective. TEST SELECT switch S1 in defective. A component of power converter 1A3 is defective. A component of transient blanker 1A4 may be defective and, therefore, may not be supplying the correct voltage to the amplifier. Relay K1 or K2 may be defective.	Replace diode CR1. Replace meter M1. Replace switch S1. Use voltage and resistance readings (fig. 2-16) to isolate trouble. Replace defective part. Use voltage and resistance readings given in figure 2-16 to isolate trouble. Replace defective part. Replace defective relay.
		PTT switch S2 or POWER switch CB1 may be defective. VSWR CAL potentiometer R2 may be defective. Uhf test generator 1A5 may have a defective component.	Replace defective switch. Replace R2. Use voltage and resistance readings (fig. 4-13) to isolate trouble. Replace defective component.

Step No	Symptom	Probable trouble	Correction
		Directional coupler DC1 may be defective.	Replace DC1.
		The dummy load or antenna connected to J3 may be defective.	Replace defective component.
13	Meter M1 does not indicate in the green sector of scale B with TEST SELECT switch S1 in VSWR TEST with the PTT switch S2 depressed	Same as 12 above.	Same as 12 above,
14	The readout mechanism does not indicate the correct frequency when the test unit FREQ SELECT :		
	a. lo-megacycle control is rotated.	*a.* 1A6S1, 1A6S2, or 1A6S3 is defective.	*a.* Replace defective switch.
		1A6K1,1A6K2, or 1A6K5 is defective.	Replace defective relay.
		1A6L1 or 1A6L2 is defective.	Replace defective Autopositioner.
		1A6C1 is defective.	Replace 1A6C1.
		1A6CR1 or 1A6CR2 is defective.	Replace defective diode.
		Motor 1A6B1 is defective.	Replace motor 1A6B1.
	b. 1-megacycle control is rotated.	*b.* 1A6S4 or 1A6S5 is defective.	*b.* Replace defective switch.
		1A6K3 or 1A6K5 is defective.	Replace defective relay.
		1A6L3 is defective.	Replace defective Autopositioner.
		1A6C1 is defective.	Replace 1A6C1.
		1A6CR3 is defective.	Replace defective diode.
		Motor 1A6B1 is defective.	Replace motor 1A6B1.
	c. 0.1-megacycle control is rotated.	*c.* 1A6S6 or 1A6S7 is defective.	*c.* Replace defective switch.
		1A6K4 or 1A6K5 is defective.	Replace defective relay.
		1A6L4 is defective.	Replace defective Autopositioner.
		1A6C1 is defective.	Replace 1A6C1.
		1A6CR4 is defective.	Replace defective diode.
		Motor 1A6B1 is defective.	Replace motor 1A6B1.

c. Stage Gain Measurements. Use the procedures given below when either audio amplifier 1A1 or 1A2 is believed to be defective. Stage gain test points are indicated in figures 2-17 and 2-18. Parts locations are indicated in figures 2-1 through 2-12.

(1) For audio amplifier 1A1, connect the equipment as shown in figure 2-17. Adjust Audio Oscillator TS421/U for 0.1 volt ac at 3 kilocycles (kc). Use the ME-30B/U, and measure the voltage between the test points, listed in the chart below, and chassis ground. Compute the gain by dividing the output voltage by the input voltage. The stage gain should be as listed below.

Audio amplifier 1A1

Stage	Test points (fig. 2 17)		Stage gain
	Input	Output	
Q1	1	2	1.4
Q2	3	4	3.3
Q3	5	6	2.7
Q4	7	8	2.9
Q5	9	10	14.0
Q6	11	12	14.0

(2) For audio amplifier 1A2, connect the equipment as shown in figure 2-18. Adjust Audio Oscillator TS-421/U

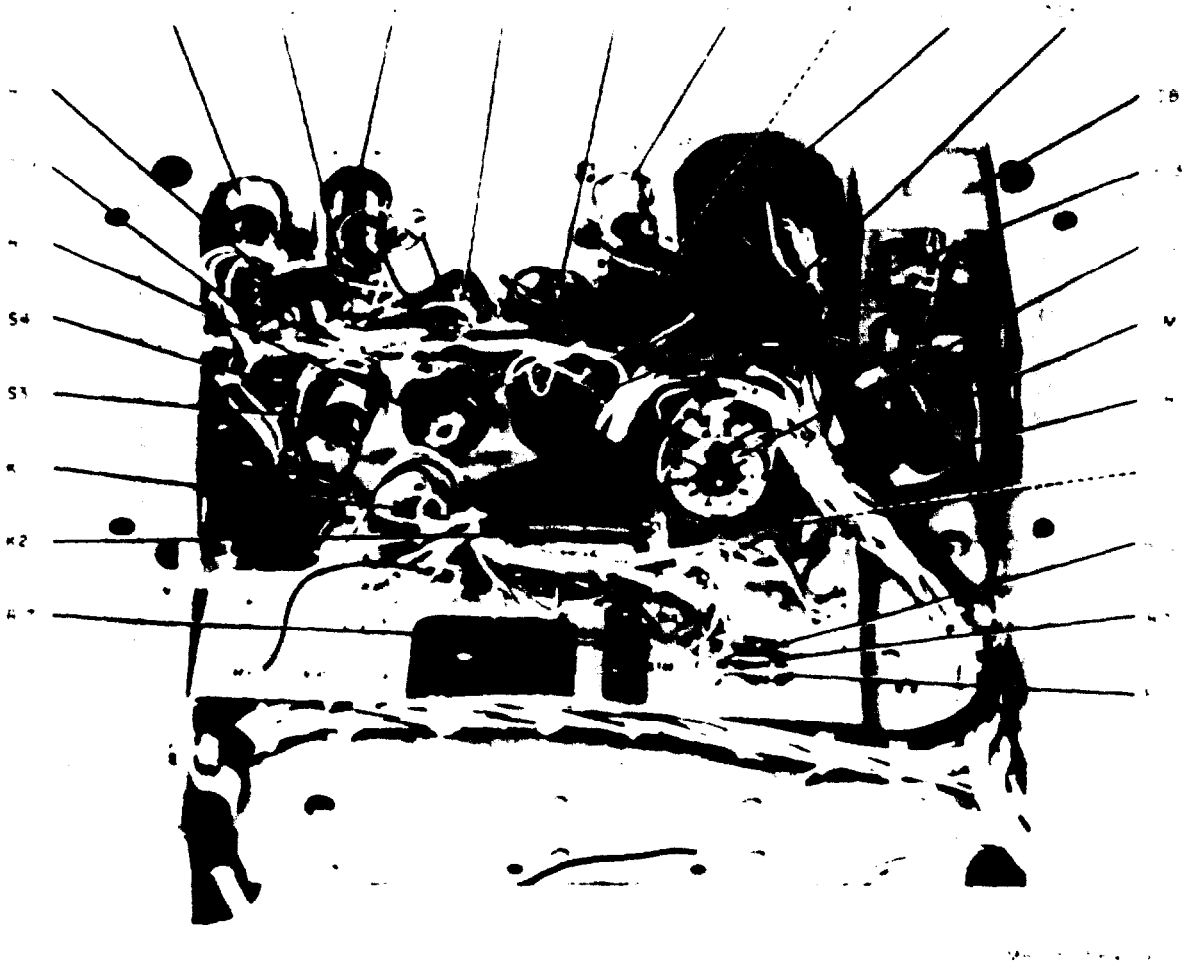


Figure 2-1. Radio set simulator chassis assembly, rear view, showing location of parts.

for 0.1 volt ac at 3 kc. Use the ME-30B,/U, and measure the voltage between the test points, listed in the chart below, and chassis ground. Compute the gain in the same manner as in (1) above.

Audio amplifier 1A2			
Stage	Test points (fig. 2-18)		Stage gain
	Input	Output	
Q1	1	2	19.0
Q2	3	4	14.0
Q3	5	6	14.0

(3) If the gains of the stages are abnormally low, use isolating techniques (para 2-6) to determine the defective part within the stage.

2-6. Isolating Troubles

When trouble has been localized to a subassembly, use the techniques listed below to isolate the defective part.

a. Take voltage measurements at the terminals of the subassembly as indicated in applicable figures 2-13 through 2-16, or 4-13.

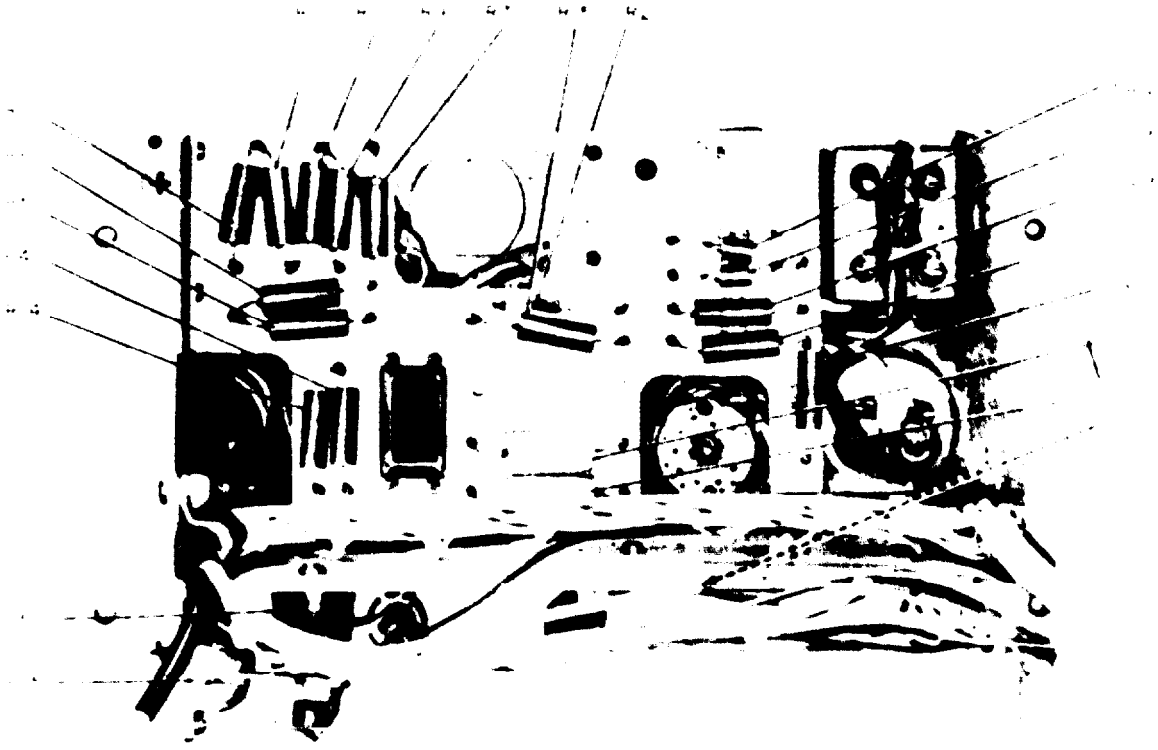


Figure 2-2. Radio set simulator chassis terminal board (TB1), front view, showing location of parts.

Each subassembly has a separate voltage and resistance diagram.

b. If the voltage indications are normal, take resistance measurements to isolate open or short circuits. Refer to the same figure as in a above. Refer also to the resistance and continuity chart (para 2-4c) and to the dc resistance of transformers *(c* below).

c. Use the schematic diagrams (fig. 4-8 and 4-9) and the wiring diagrams (fig. 2-19 through 2-22, 4-12, and 4-14) to trace circuits and further isolate the faulty part.

Caution : **Take resistance readings only with Multimeter, ME-26B/U. The dc source in some multimeters can destroy the transistors by causing excessive current through them.**

d. The dc resistances of the transformers in the radio set simulator should be less than 10 ohms. An infinite reading indicates an open winding.

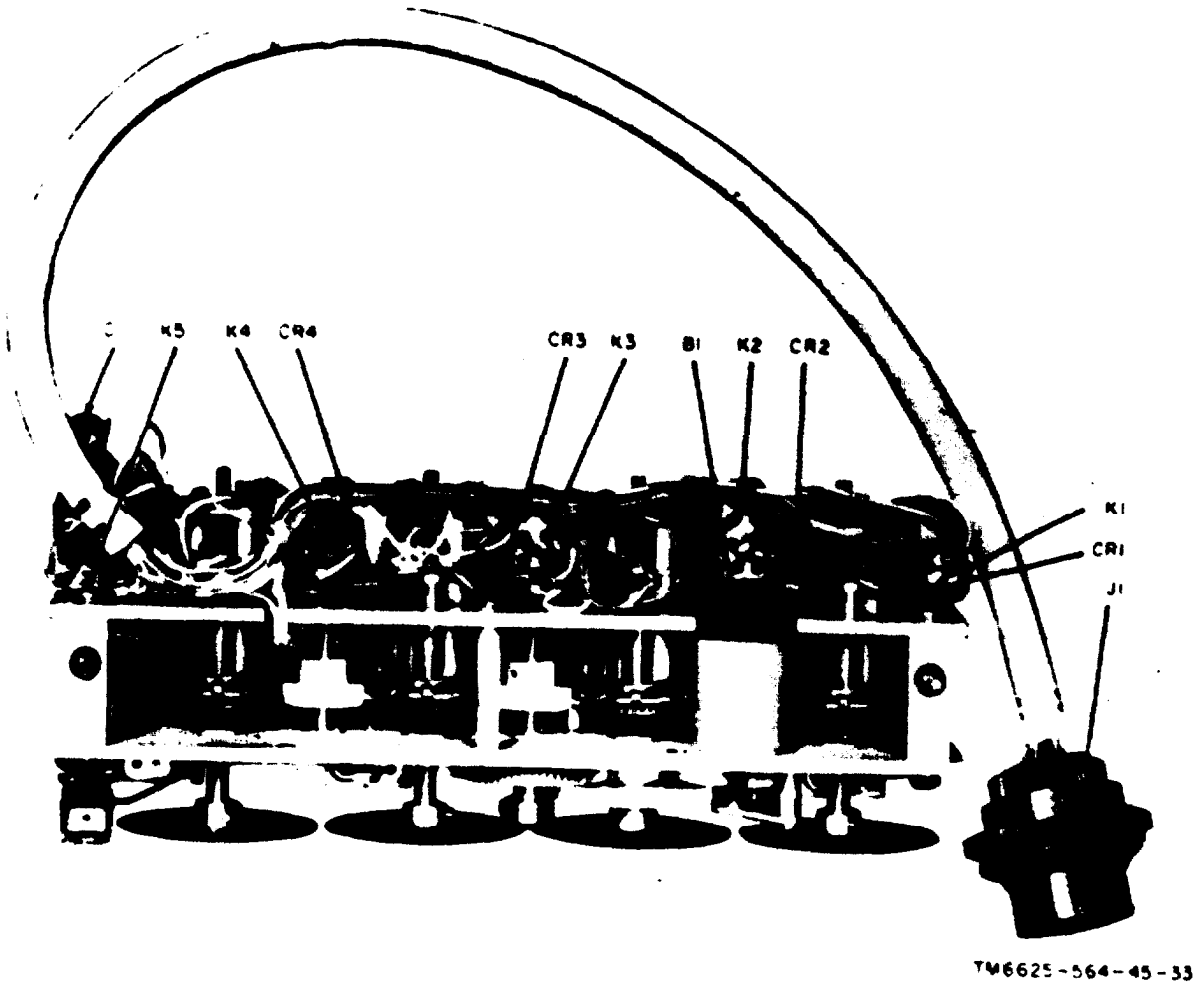


Figure 2-3. Radio set simulator readout mechanism 1A6, bottom view, showing location of parts.

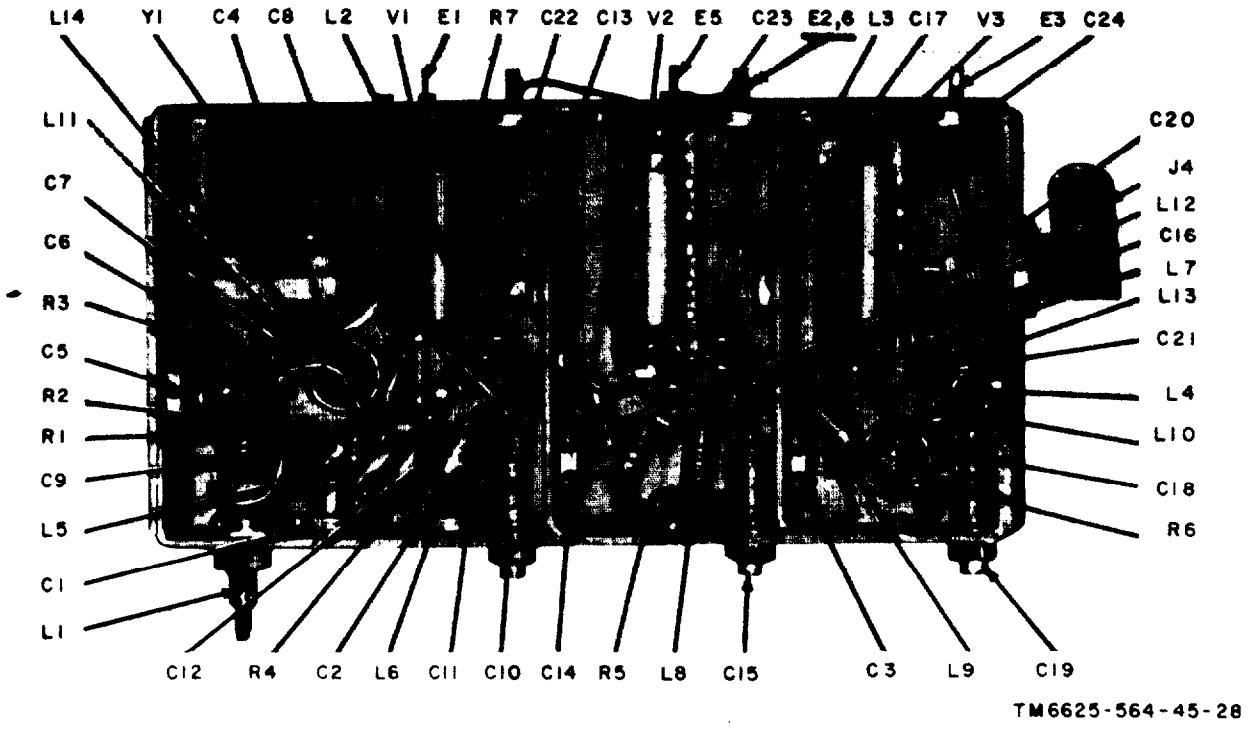


Figure 2-4. Radio set simulator uhf test generator module 1A5 (MK-731/ARC-51X only) top view, parts location.

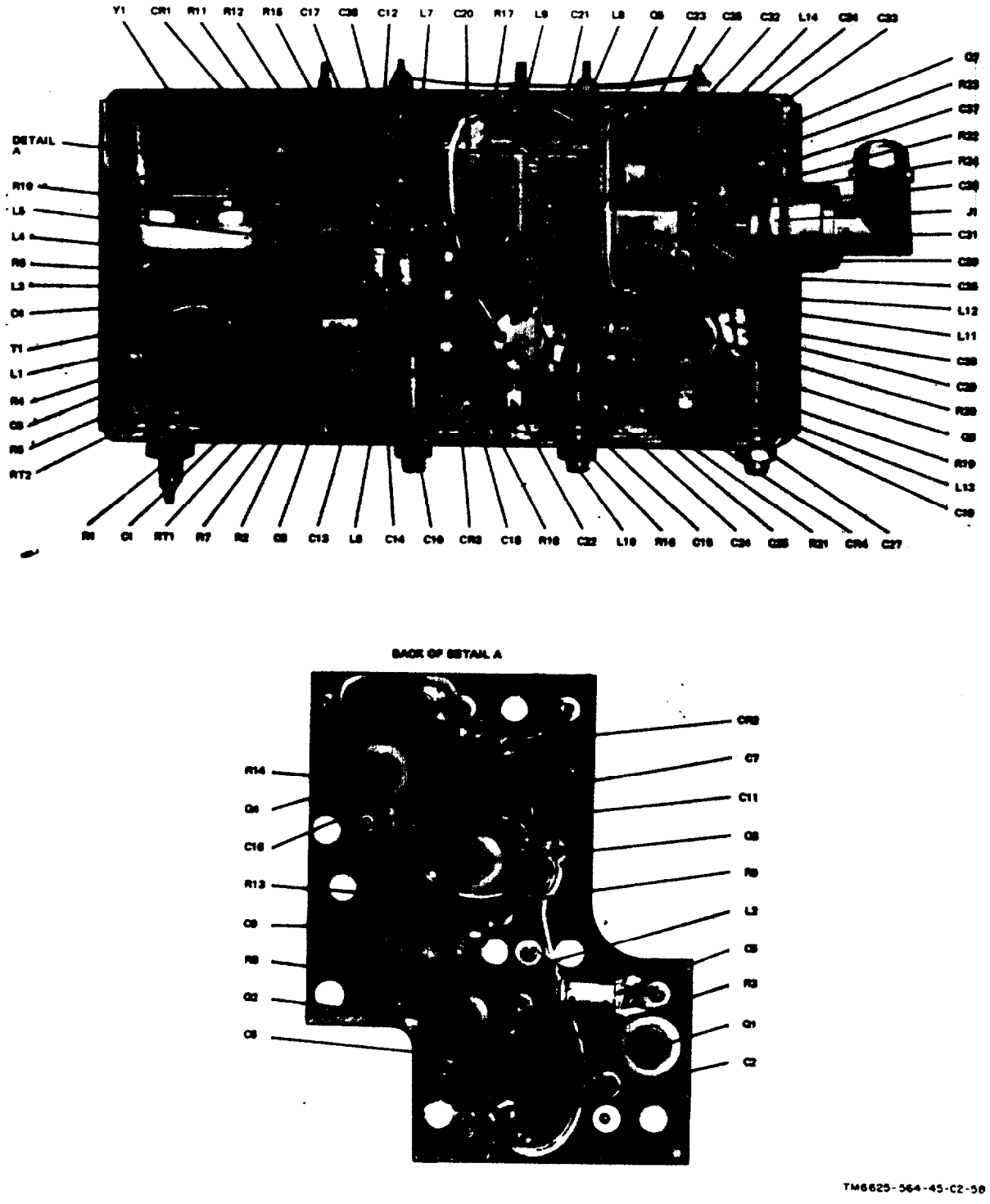
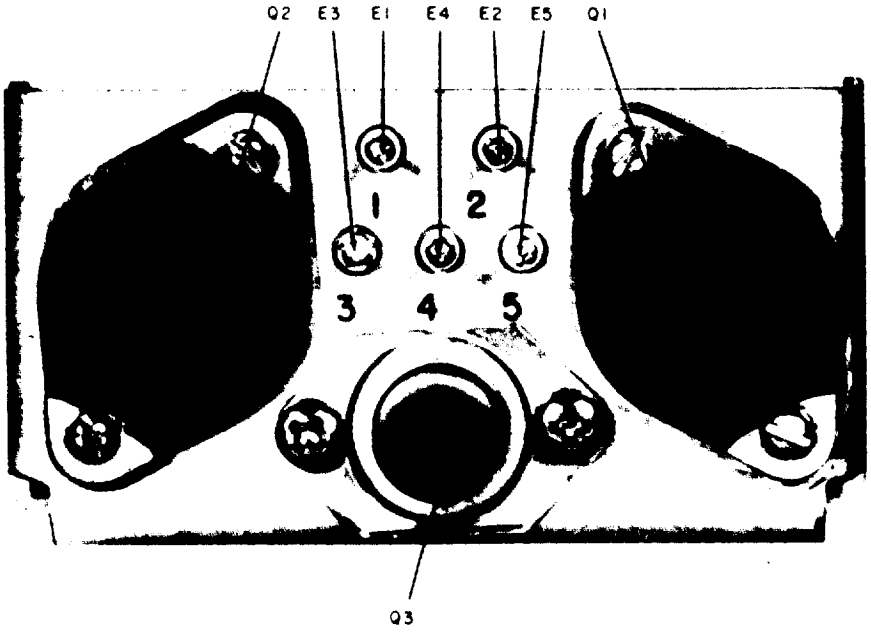


Figure 2-4.1 Radio set simulator uhf test generator module 1A5 (MK-731A/ARC-51X only) top view, parts location.



Figures-2-5. Radio set simulator transient blanker module 1A4 front view, parts location.

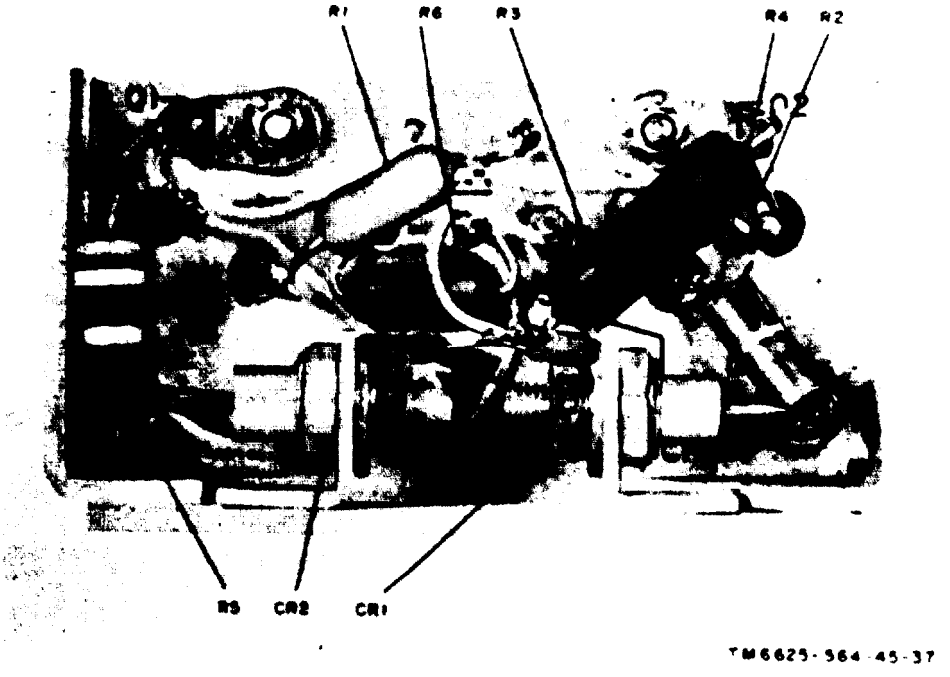


Figure 4-6. Radio set simulator transient blanker module 1A4, rear view, showing location of parts.

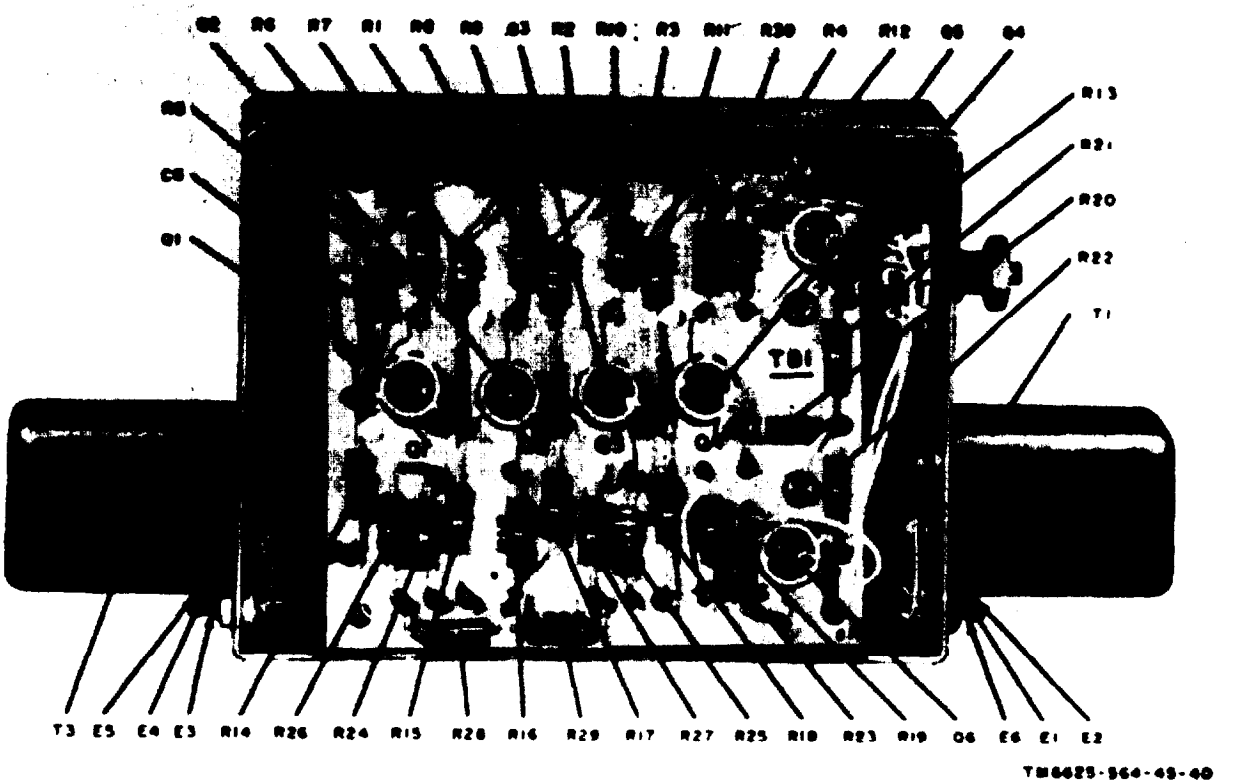


Figure 2-7. Radio set simulator audio amplifier module 1A1, front view, showing location of parts.

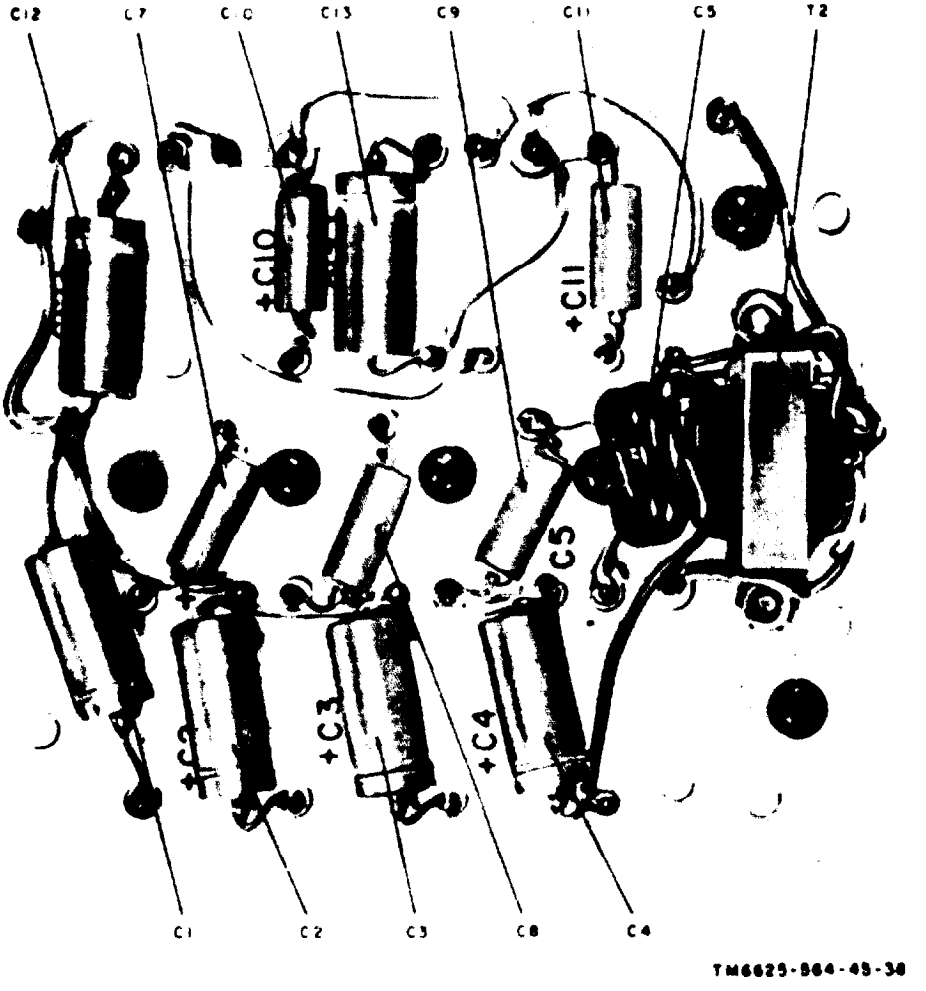


Figure 4-8. Radio set simulator TB1 of audio amplifier 1A1, rear view, showing location of parts.

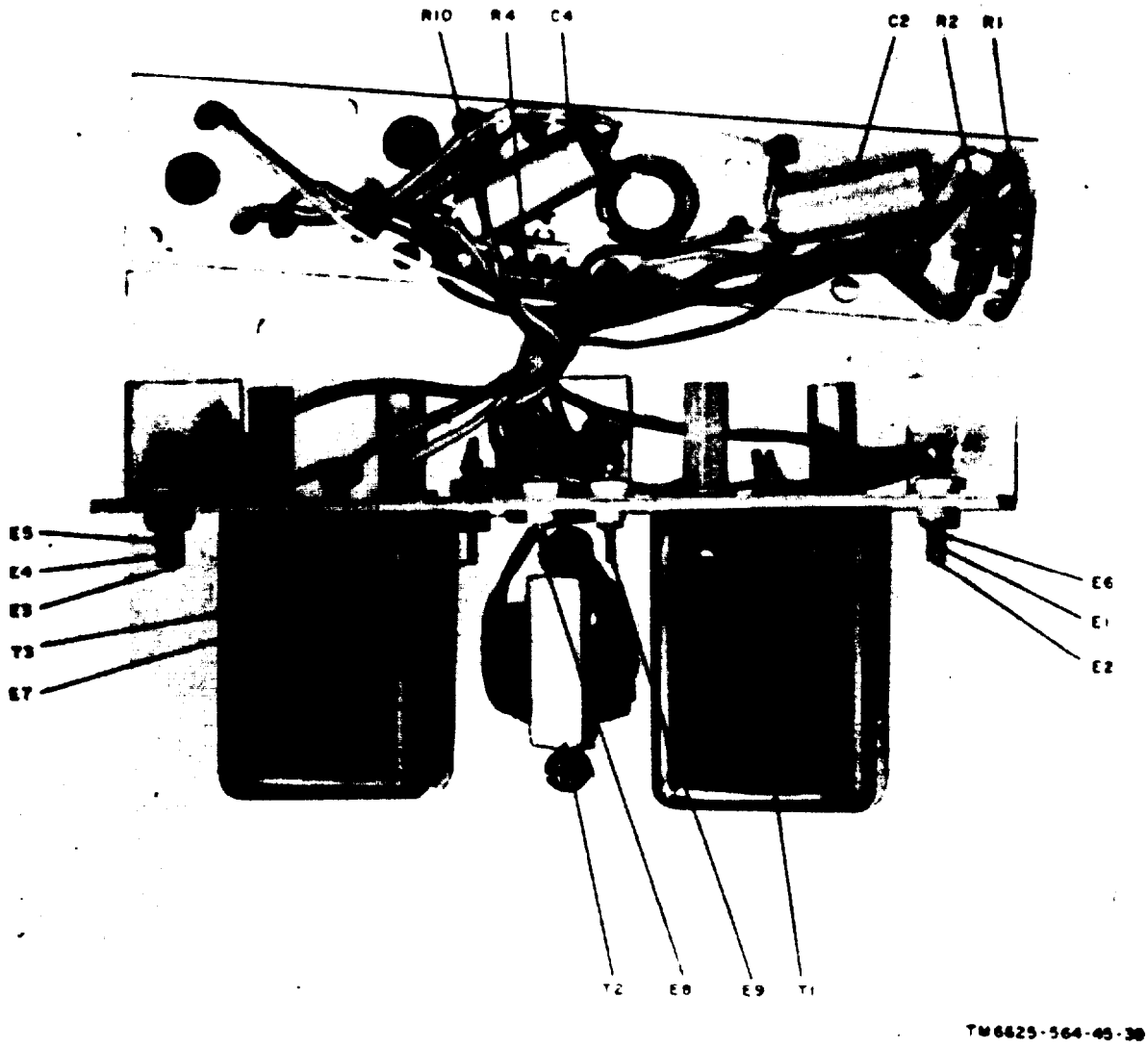


Figure 2-9. Radio set simulator audio amplifier 1A2, front view, showing location of parts.

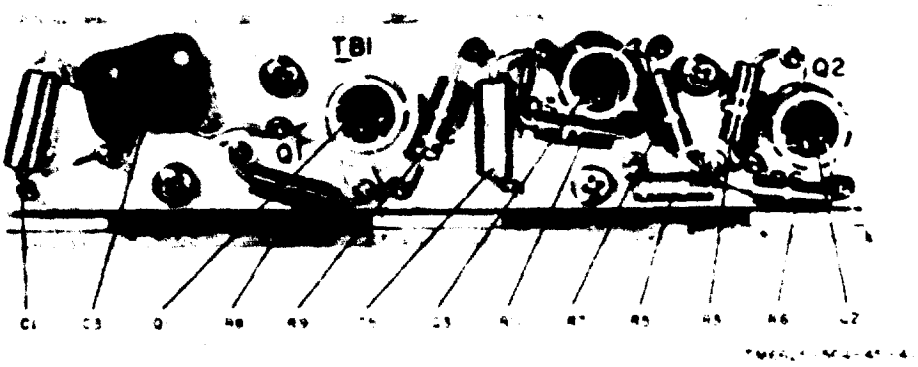


Figure 2-10. Radio set simulator TB1 of audio amplifier 1A2, rear view, showing location of parts.

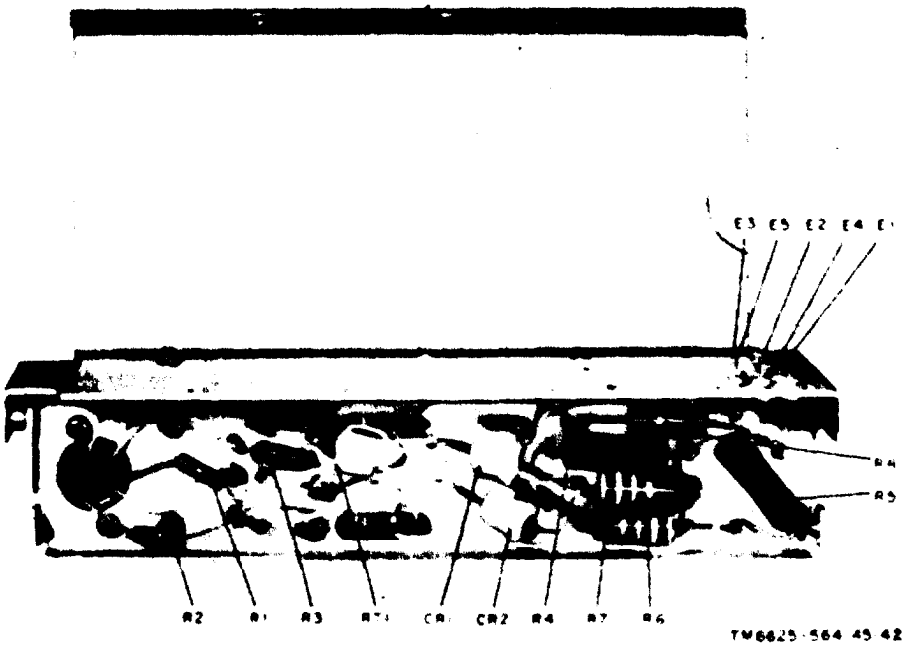


Figure 2-11. Radio set simulator power converter module 1A3, rear view, showing location of parts

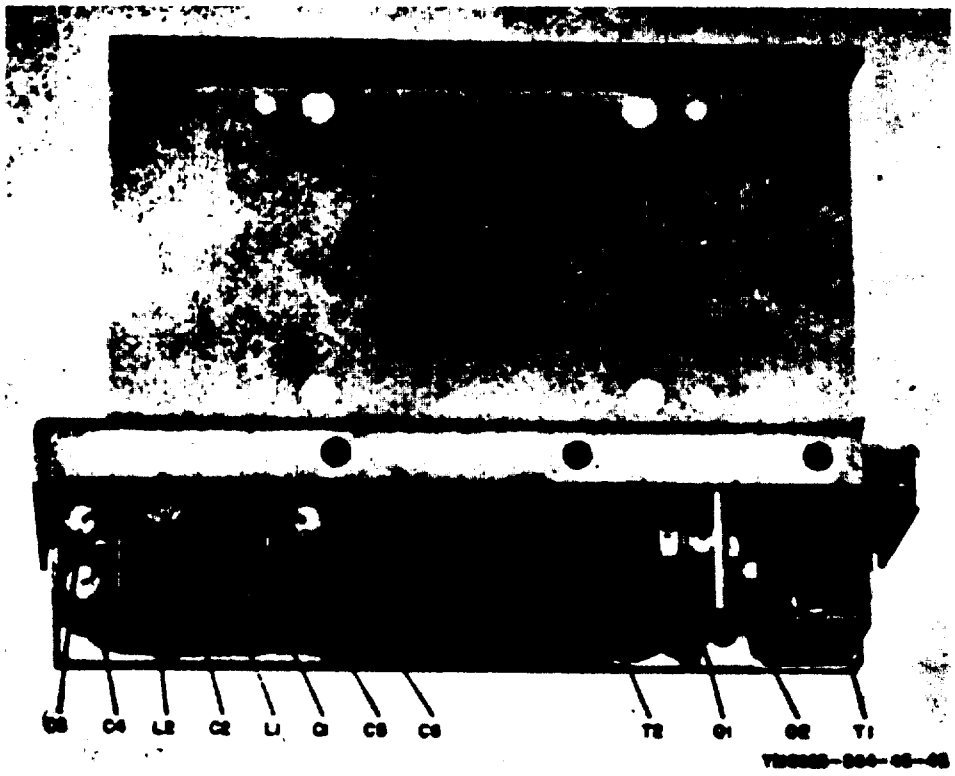
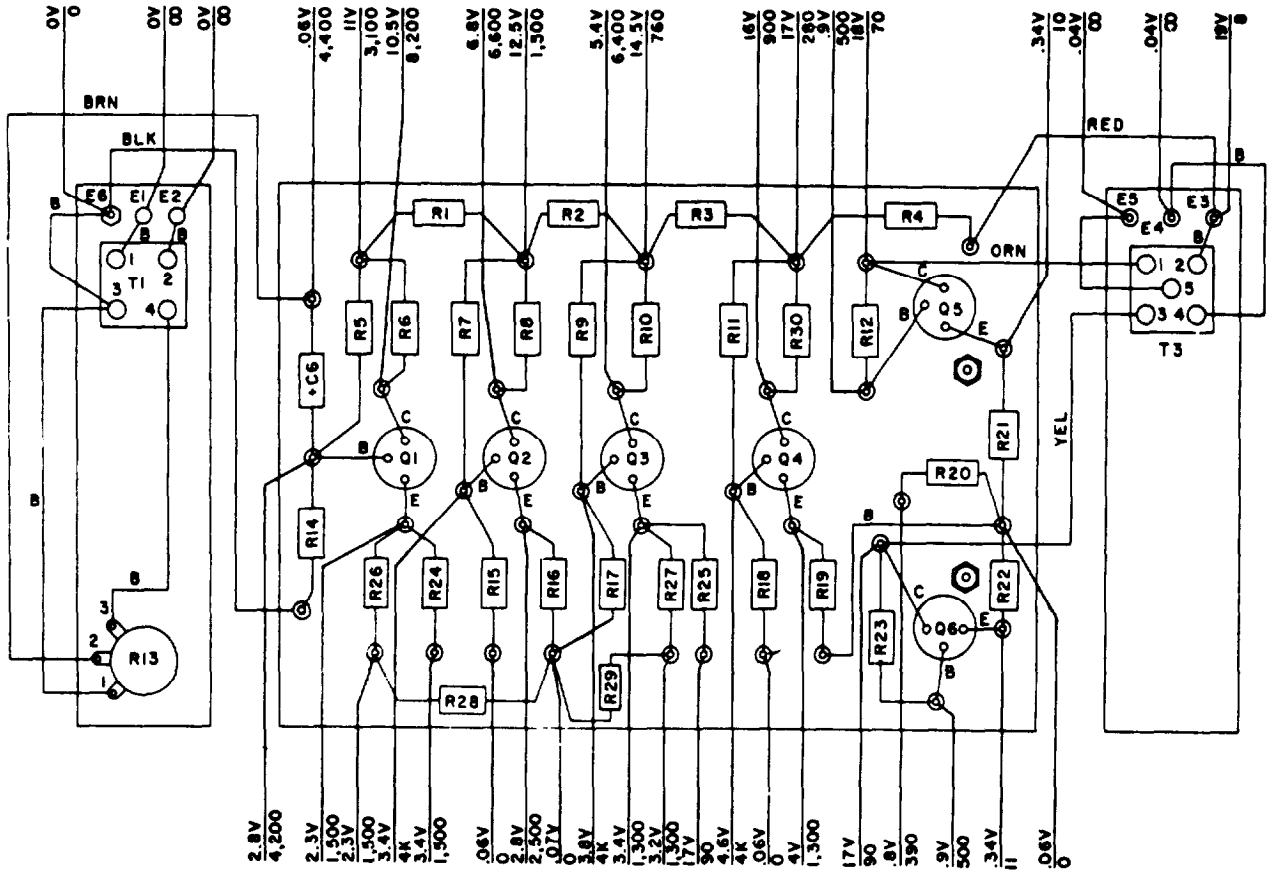


Figure 2-12. Radio set simulator power converter module 1A3, front view, showing location of parts.



NOTES:
1. VOLTAGE READINGS ARE ABOVE THE LINE, RESISTANCE READINGS ARE BELOW.
2. UNLESS OTHERWISE INDICATED, ALL VOLTAGES ARE DC, AND ALL RESISTANCE VALUES ARE IN OHMS.
3. DO NOT ATTEMPT TO MAKE RESISTANCE MEASUREMENTS WITH POWER ON
4. ALL RESISTANCE MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-268/U.
5. ALL DC MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-268/U AND NO SIGNAL INPUT.

TM6625-564-45-50

Figure 2-13. Radio set simulator, audio amplifier 1A1, voltage and resistance measurement diagram.

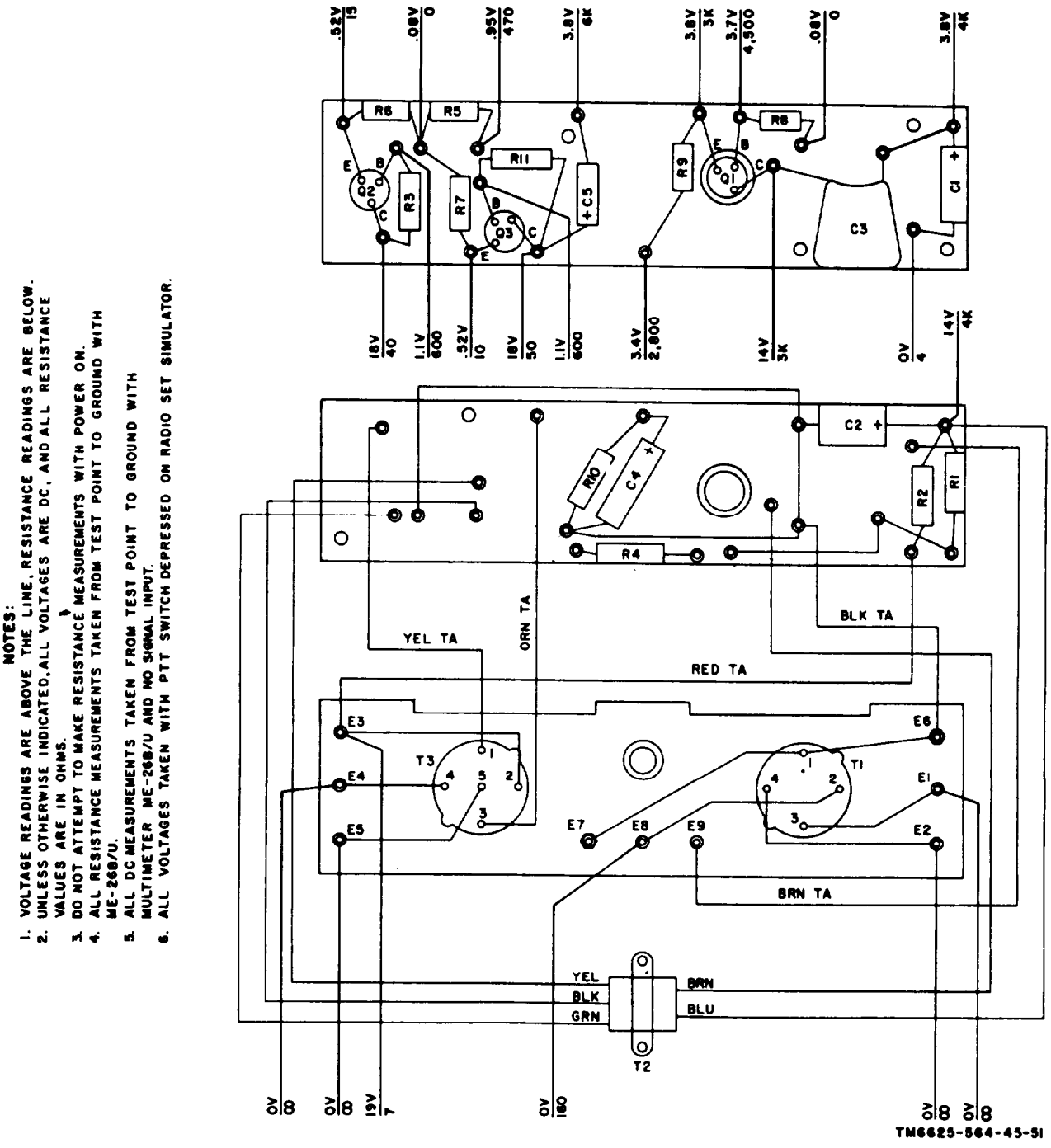


Figure 2-14. Radio set simulator, audio amplifier 1A2, voltage and resistance measurement diagram.

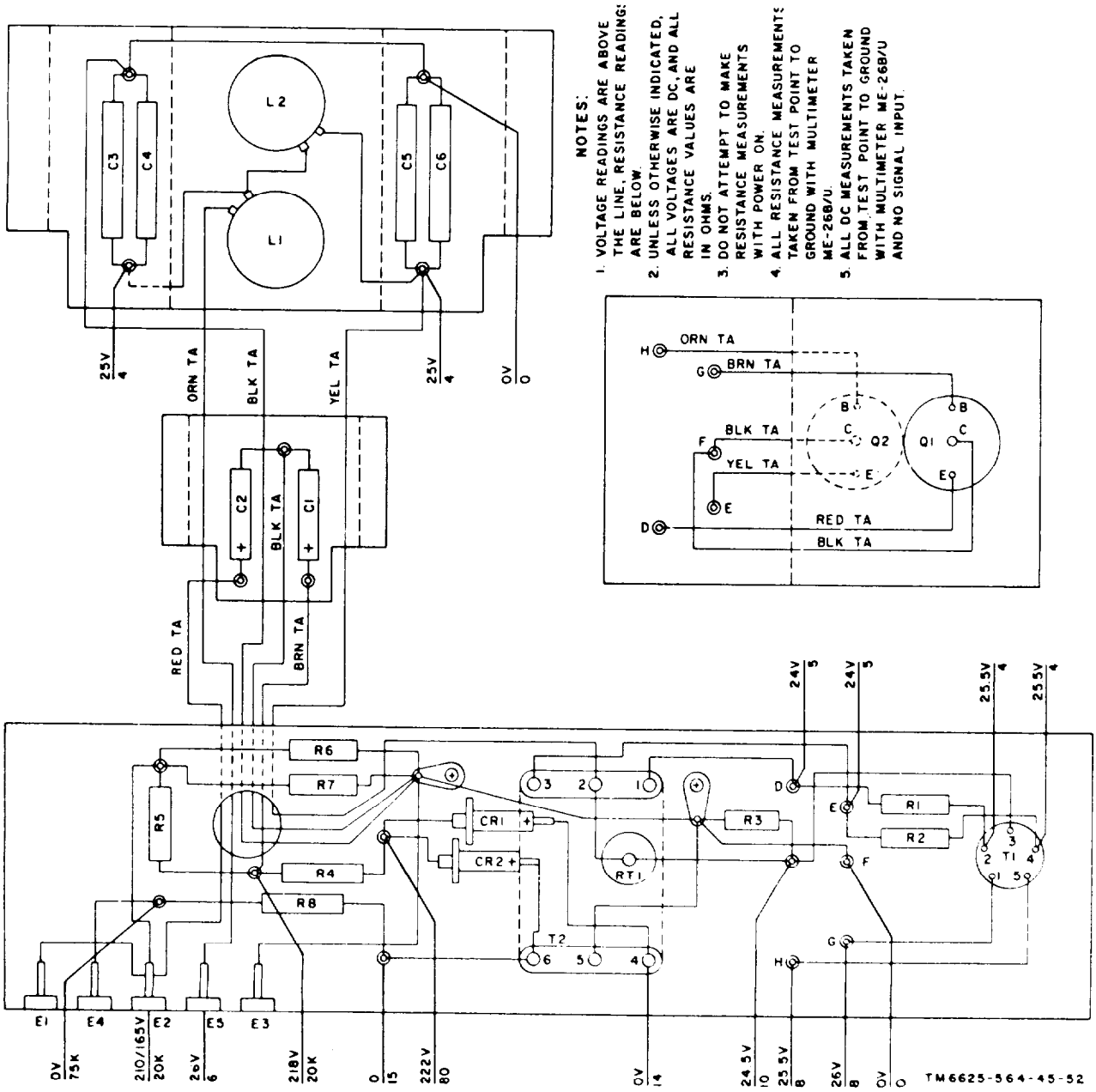
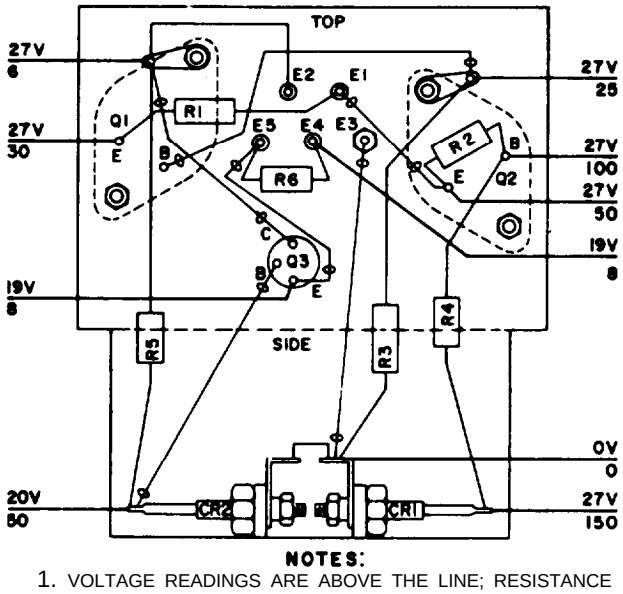


Figure 2-15 Radio set simulator, audio amplifier 1A2, voltage and resistance measurement digram



NOTES:

1. VOLTAGE READINGS ARE ABOVE THE LINE; RESISTANCE READINGS ARC BELOW.
2. UNLESS OTHERWISE INDICATED. ALL VOLTAGES ARE DC, AND ALL RESISTANCE VALUES ARE IN OHMS.
5 DO NOT ATTEMPT TO MAKE RESISTANCE MEASUREMENTS WITH POWER ON.
4. ALL RESISTANCE MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26B/U.
5. ALL DC MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26B/U AND NO SIGNAL INPUT.

TM6625-564-45-53

Fiqure 2-16. Radio set simulator, transient blanker module IA4, voltage and resistance measurement diagram.

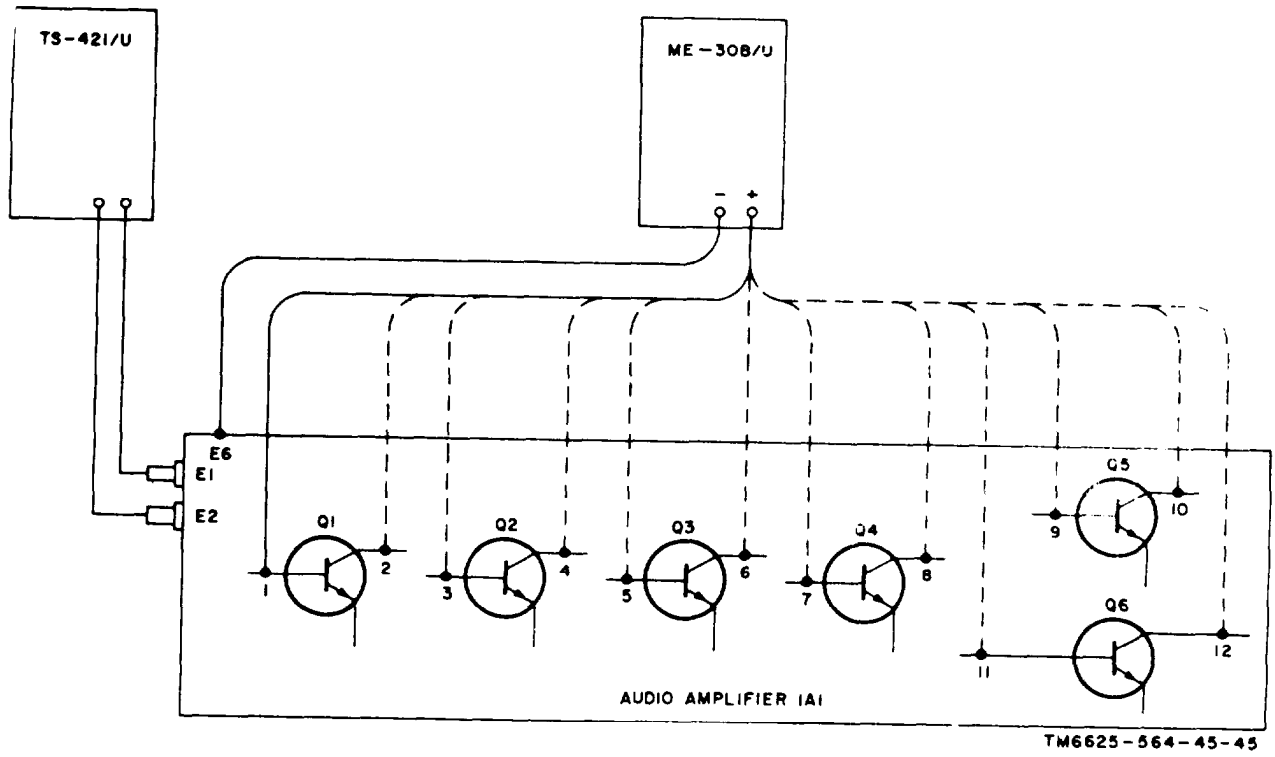


Figure 2-17. Radio set simulator, audio amplifier 1A1 stage gain test setup diagram.

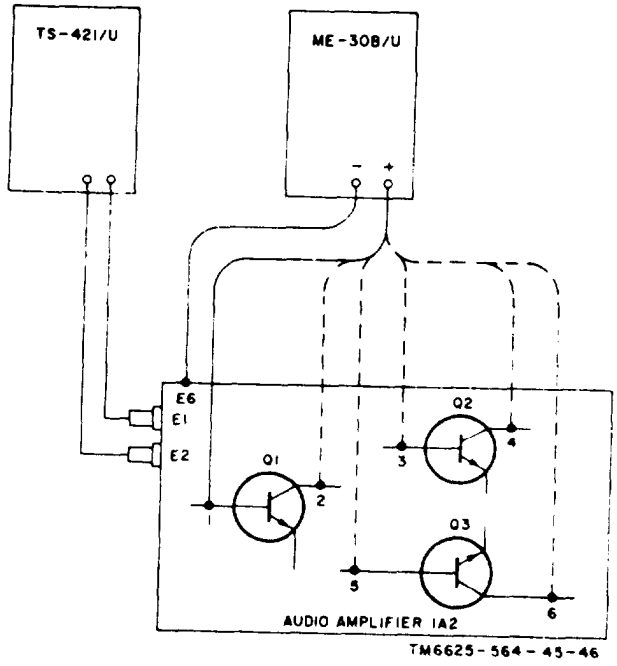
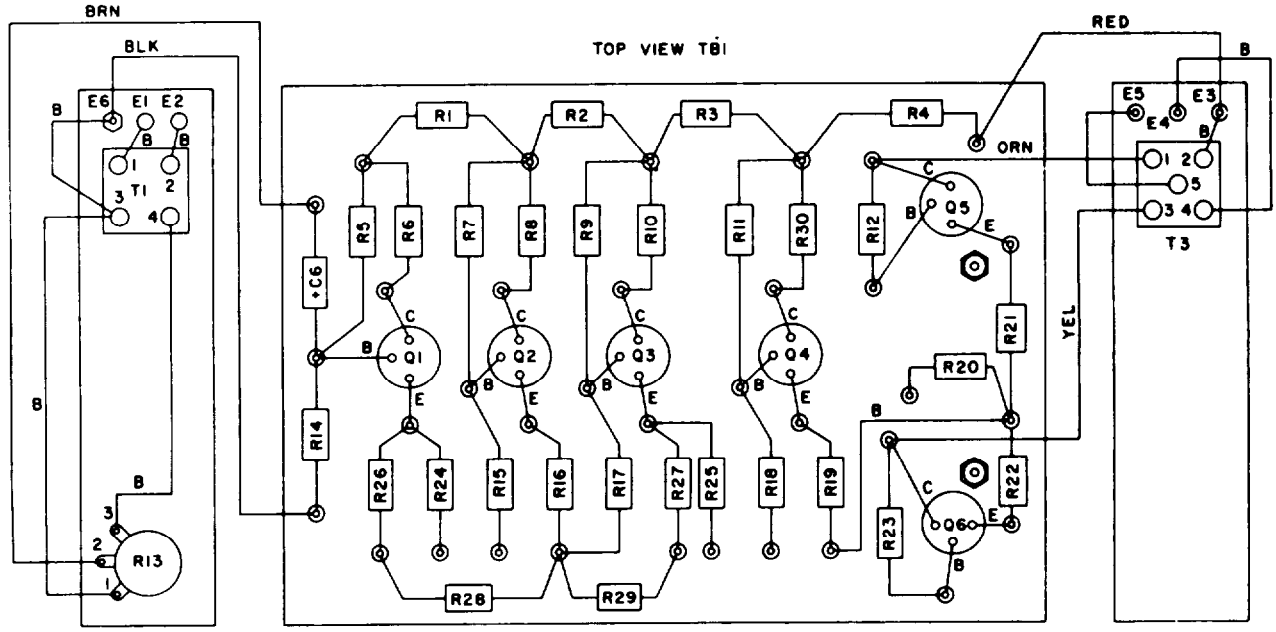
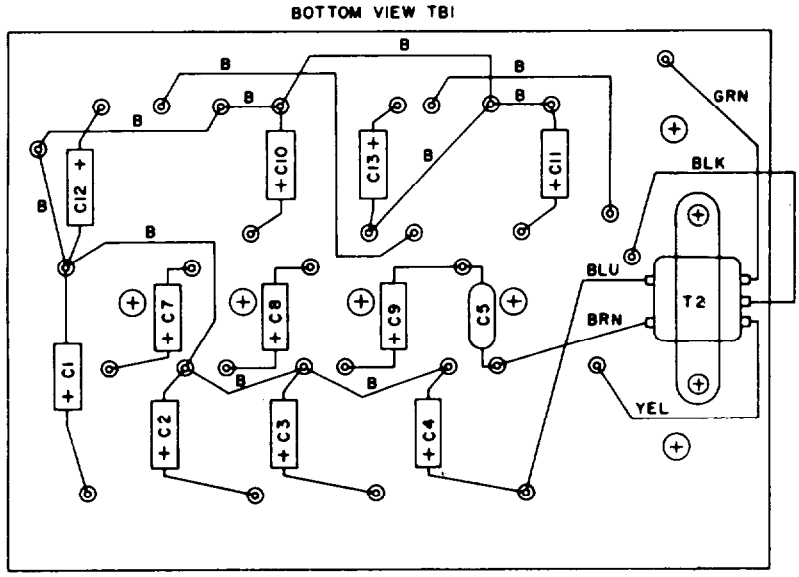


Figure 2-18. Radio set simulator, audio amplifier 1A2 stage gain test setup diagram.





NOTES:

1. WIRES NOT OTHERWISE SPECIFIED ARE HOOKUP WIRE, STRANDED, 22 AWG TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR.
2. B DENOTES 22 AWG BUS WIRE, SOLID, WITH 22 AWG TEFLON SLEEVING.

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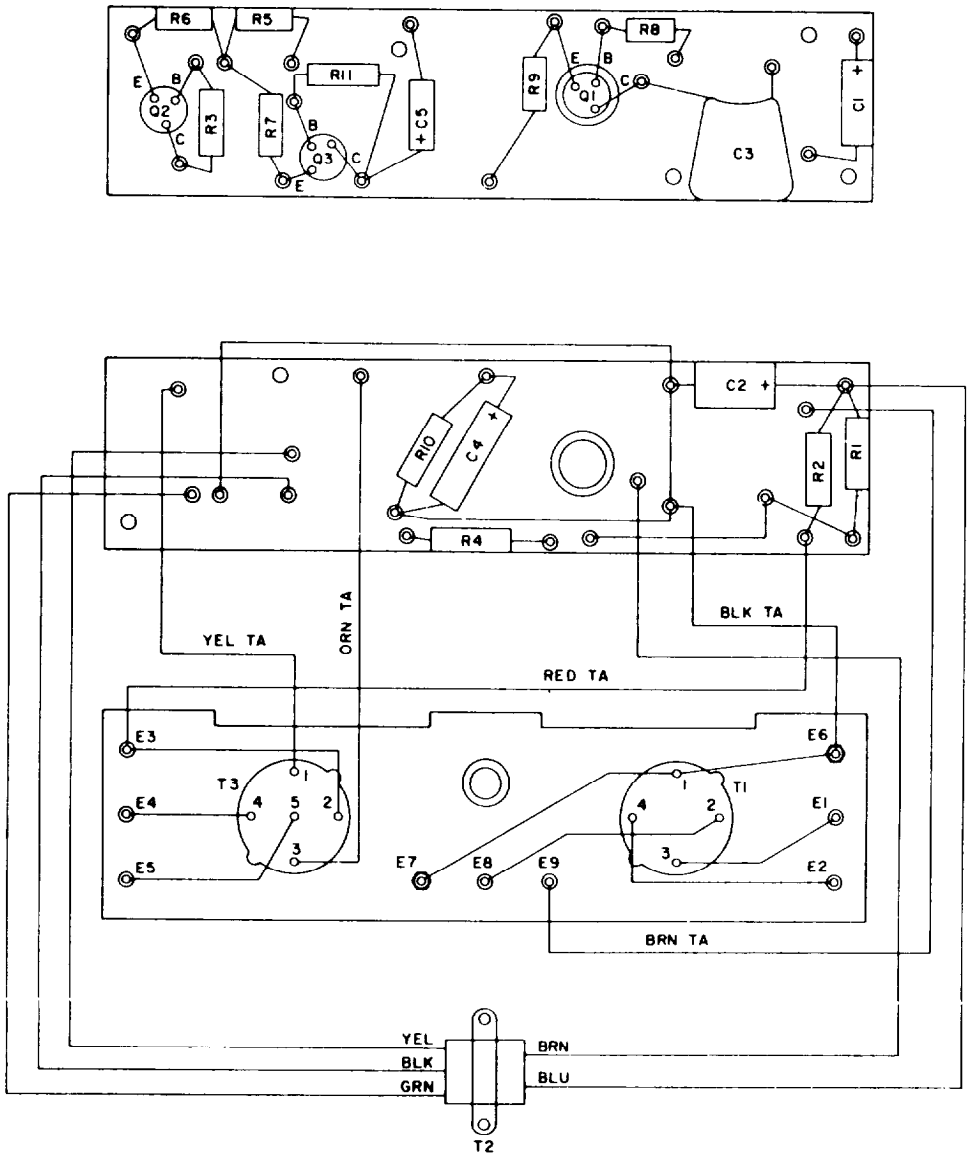
Figure 2-19. Radio set simulator, audio amplifier **1A1** wiring diagram.



NOTES:

1. ALL POINT TO POINT WIRING TO BE 22 AWG, TIN-COATED ROUND COPPER, QQ-W-343, TYPE S, TEFLON SLEEVING
2. TA DENOTES 22 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR

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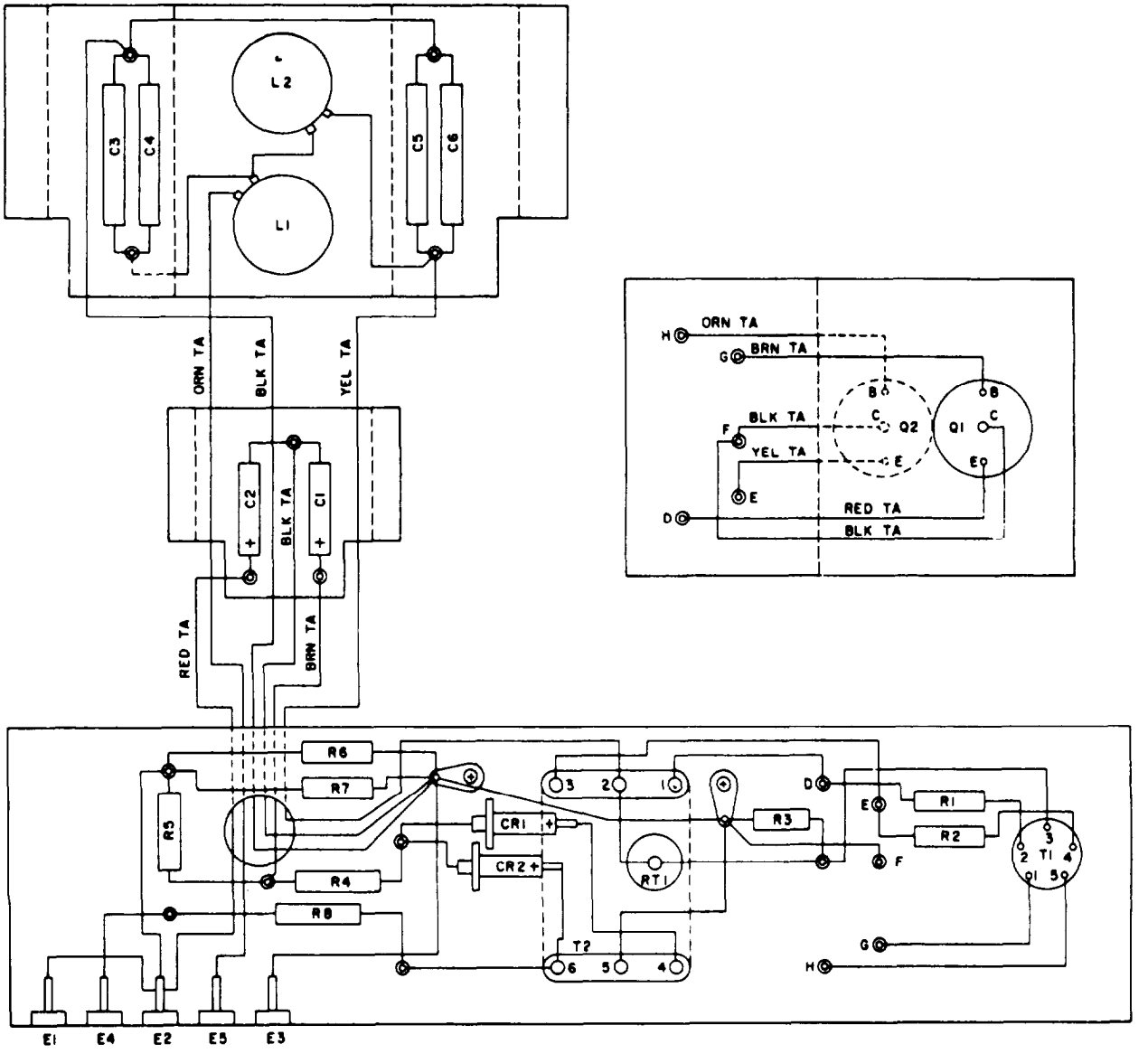
Figure 2-20. Radio set simulator, audio amplifier 1A2, wiring diagram.



NOTES:

1. UNLESS OTHERWISE SPECIFIED ALL WIRES ARE UNINSULATED 22 AWG, TIN-COATED ROUND SOFT COPPER, QQ-W-343, TYPE S, TEFLON SLEEVING.
2. TA DENOTES TEFLON, TYPE E (600 VOLTS), 22 AWG, MIL-W-16878, SILVER COATED.
3. DOTTED COMPONENTS AND WIRES ARE ON OPPOSITE SIDE OF BOARD.

TM6625-564-45-4

Figure 2-21. Radio set simulator, power converter 1A3, wiring diagram.

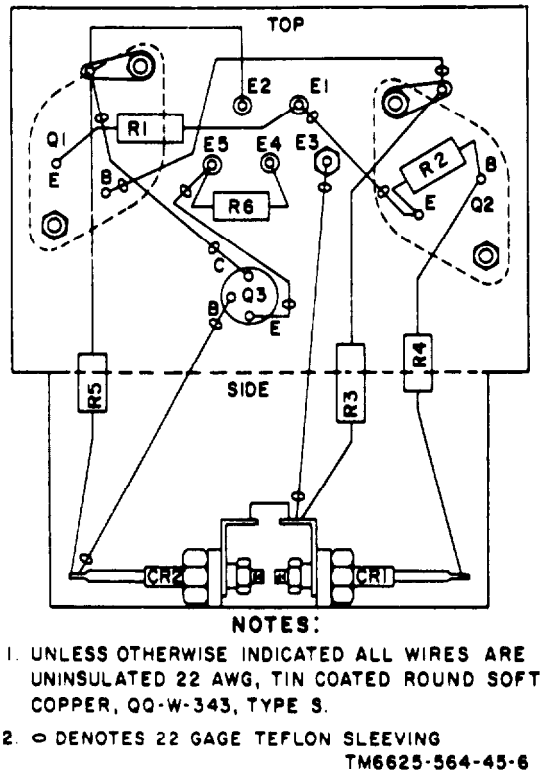


Figure *2-22.* Radio *set simulator,* transient *blanker* 1A4, wiring diagram.

Section III. TROUBLESHOOTING TEST SET, RADIO TS-1962/ARC-51X

2-7. Resistance and Continuity Measurements

Make the resistance and continuity measurements indicated below. If results other than those indicated are obtained, isolate the faulty part by resistance measurements before making tests or applying power.

Cautions :

1. This equipment is partially transistorized. Observe all precautions to prevent transistor damage. Make resistance measurements in the test unit only as specified.

2. Do not attempt removal or replacement of parts before reading the instructions given in paragraph 3-1.

Note: Unless otherwise indicated, references to test points, jacks, connectors, and switches apply to the test unit.

a. Disconnect all cables from the test unit.

b. Remove the dust cover from the test unit.

c. Set the switch, or switches, shown in the *Switch* column of the chart (c below) to the position shown in the *Position* column. Connect the dc voltmeter between the terminals in the Terminals column. Refer to figure 4-10, test unit schematic diagram, and figure 4-15, test unit wiring diagram, and to the figures referenced in the *Figure* column for terminal and component location. All resistance readings should be within 10 percent of those shown in the Resistance column. These measurements are to be made before applying power to the unit to insure complete chassis wiring continuity and to localize the trouble before detailed troubleshooting is performed.

Switch	Position	Figure NO.	Terminal	Resistance (ohms)
POWER	RESET ON	2-23 and 2-26	A of J5 to E3 of 3A1.	0
All others	Off	2-23	A of J5 to +27.5V jack J12.	0
		2-23	A of J5 to P of J6.	0
		2-23	A of J5 to A of J6.	700
		2-23	A of J5 to D of J6.	700
		2-23	A of J5 to A, or B, of J2.	0
All switches	Off	2-23	A of J5 to A of J2.	Infinity
MIC SELECT	HD SET	2-26 and 2-23	E1 of 3A1 to 1 of HDSET H-101A/U jack J9.	0
		2-26 and 2-23	E2 of 3A1 to 3 of HDSET H-101A/U jack J9.	0
		2-26 and 2-23	E4 of 3A1 to E of J2.	0
		2-26 and 2-23	E5 of 3A1 to V of J2.	0
		2-26	E6 of 3A1 to ground.	0
MIC SELECT	DUM MIC	2-23	J16 to V of J2.	0
		2-23	J17 to E of J2.	0
All switches	Off	2-23	J7 to F of J6.	0
		2-23	J8 to ground.	0
		2-23	3 of T1 to 2 of HDSET H-101A/U jack J9.	0
		2-23	3 of T1 to 4 of HDSET H-101A/U jack J9.	0
		2-23	L of J2 to ground.	Very high resistance
		2-23	L of J2 to J10.	0
		2-23	J11 to ground.	0
		2-23 and 2-26	J3 to J19.	0
		2-23 and 2-26	J4 to J18.	0
		2-23	R of J2 to E of J6.	0
		2-23	M of J6 to X of J1.	0
		2-23	K of J6 to P of J1.	0
		2-23	U of J6 to V of J1.	0
		2-23	V of J6 to U of J1.	0
		2-23	W of J6 to T of J1.	0
		2-23	X of J6 to c of J1.	0
		2-23	Z of J6 to ***b*** of J1.	0
		2-23	a of J6 to L of J1.	0
		2-23	b of J6 to ***M*** of J1.	0
		2-23	c of J6 to K of J1.	0
		2-23	d of J6 to N of J1.	0
		2-23	T of J6 to J of J1.	0
		2-23	f of J6 to Y of J1.	0
		2-23	g of J6 to F of J1.	0
		2-23	h of J6 to Z of J1.	0
		2-23	i of J6 to H of J1.	0
		2-23	Y of J6 to a of J1.	0
		2-23	S of J6 to S of J1.	0
		2-23	H of J6 to a of J2.	0
		2-23	c of J2 to C of J6.	700
		2-23	Z of J2 to B of J6	0
		2-23	D of J2 to H of J2.	15,000
		2-23	D of J2 to +225V jack J13.	15,000
		2-23	b. of J2 to AVC jack J14.	0
		2-23	S of J2 to CAR RELAY jack J15.	0
		2-23	C of J5 to ground.	0

Switch	Position	Figure NO.	Terminal	Resistance (ohms)
PTT	ON	2-23	+27.5V jack J12 to ground.	700
PTT	MOM ON	2-23	+27.5V jack J12 to ground.	700

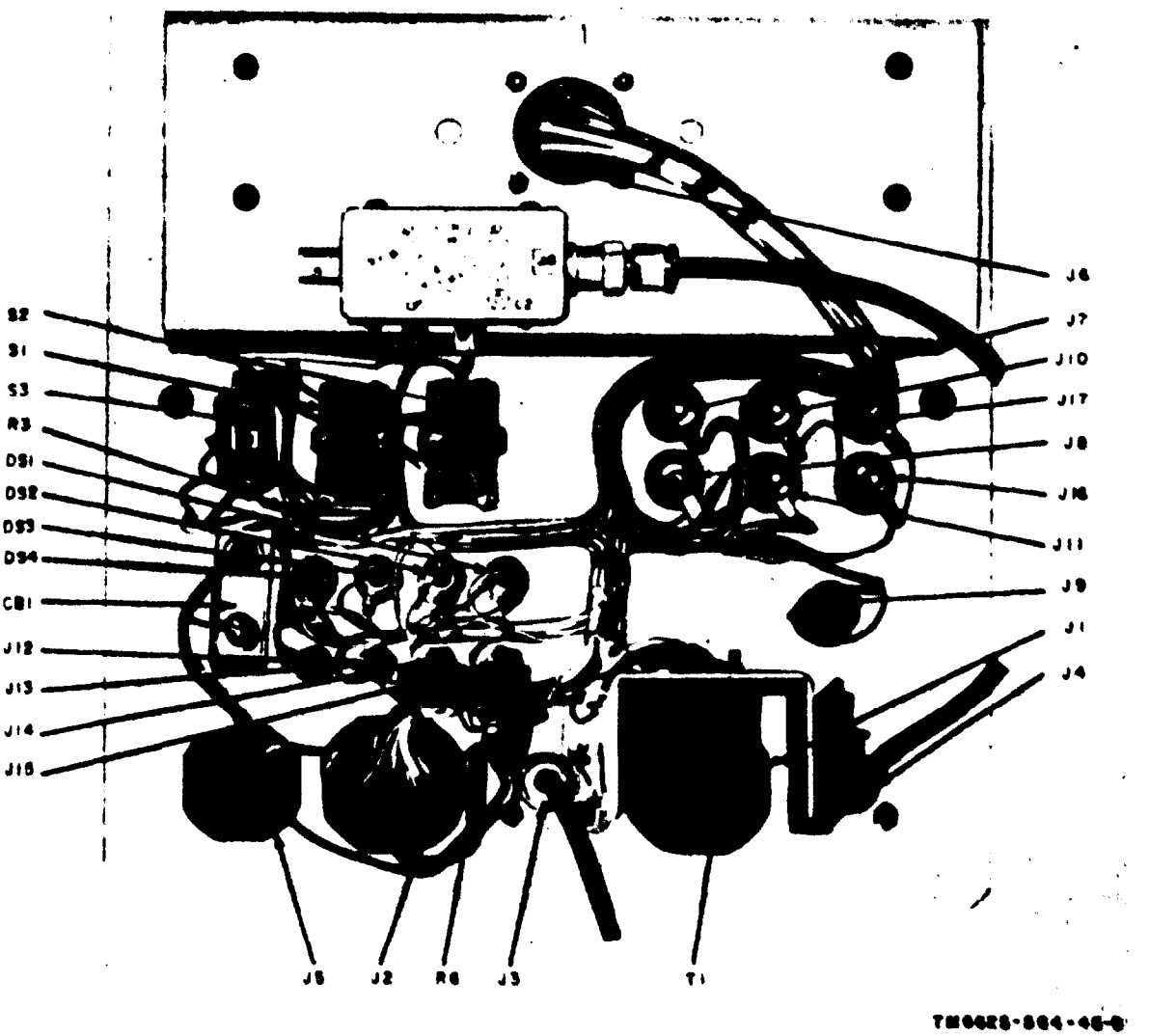


Figure 2-23. Test unit chassis, rear view, *showing* location of parts

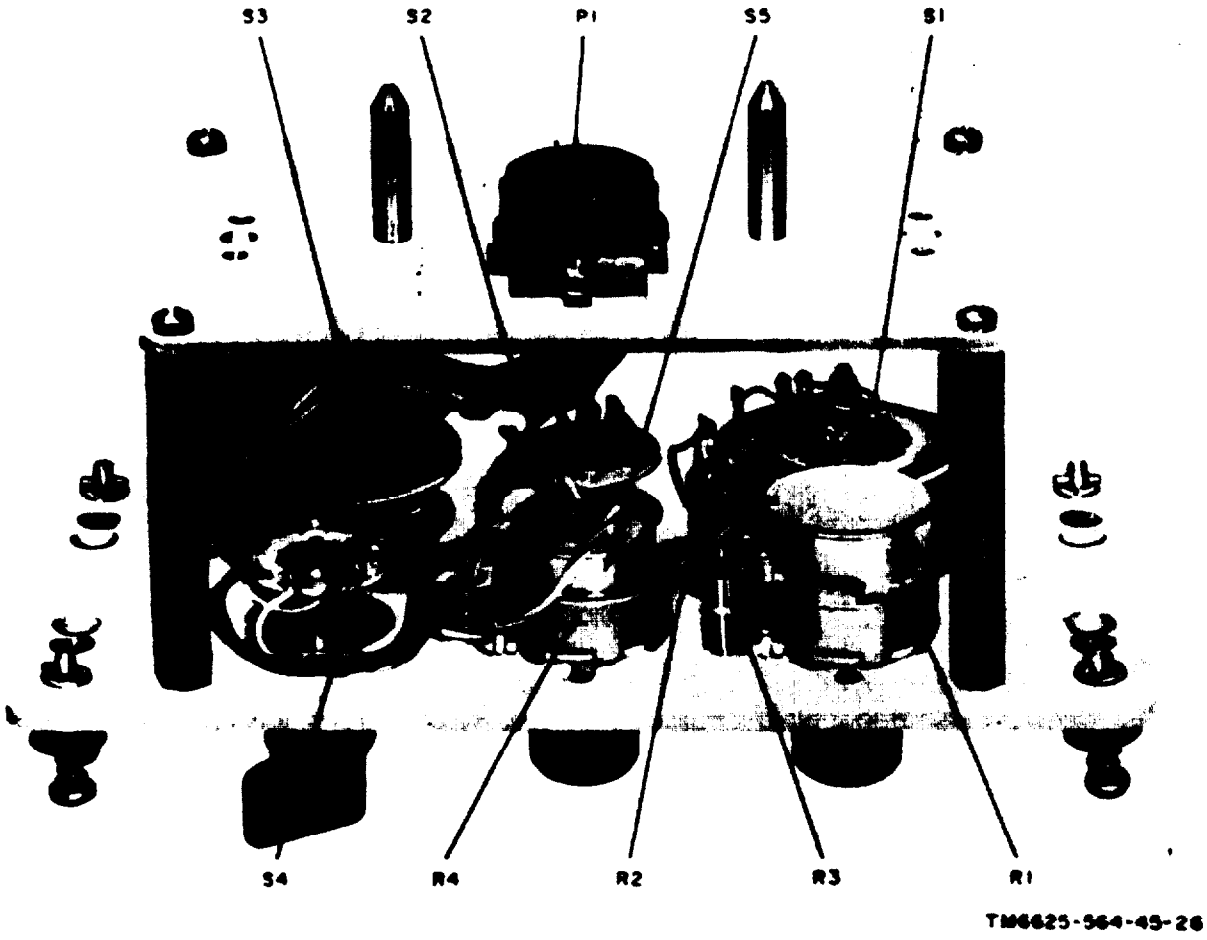


Figure 2-24. Test unit *control head,* rear view, *showing* location *of parts.*

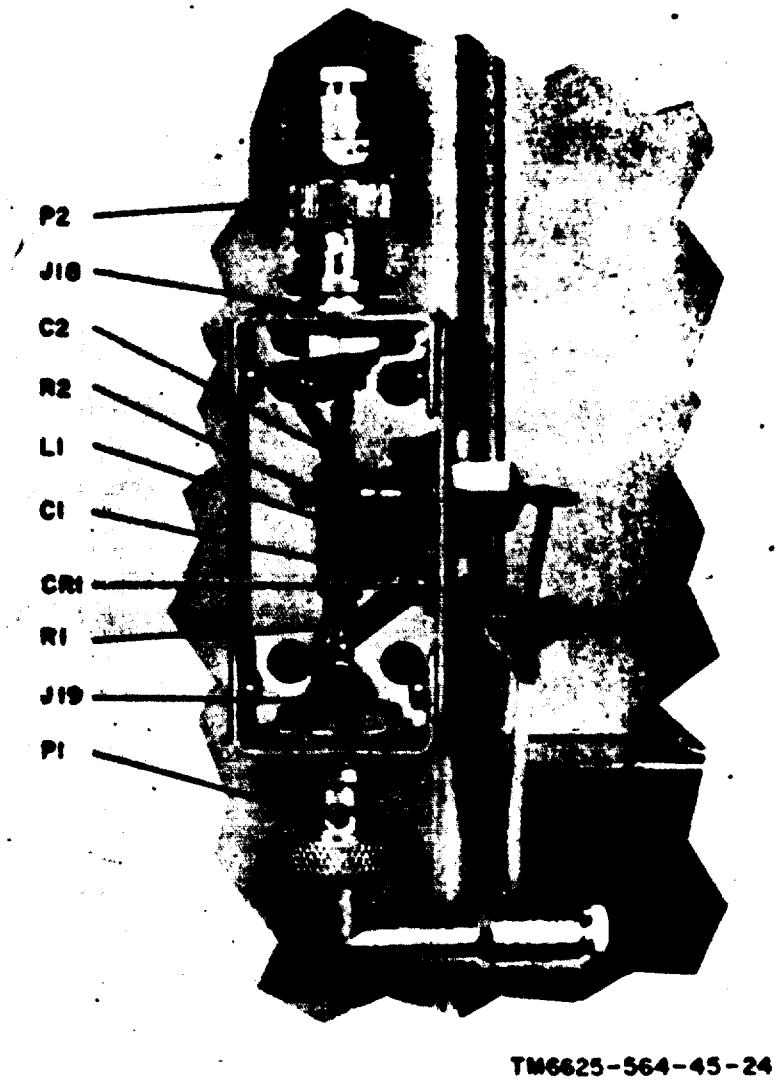


Figure 2-25. *Test* unit *rf detector, cover removed, showing location of parts.*

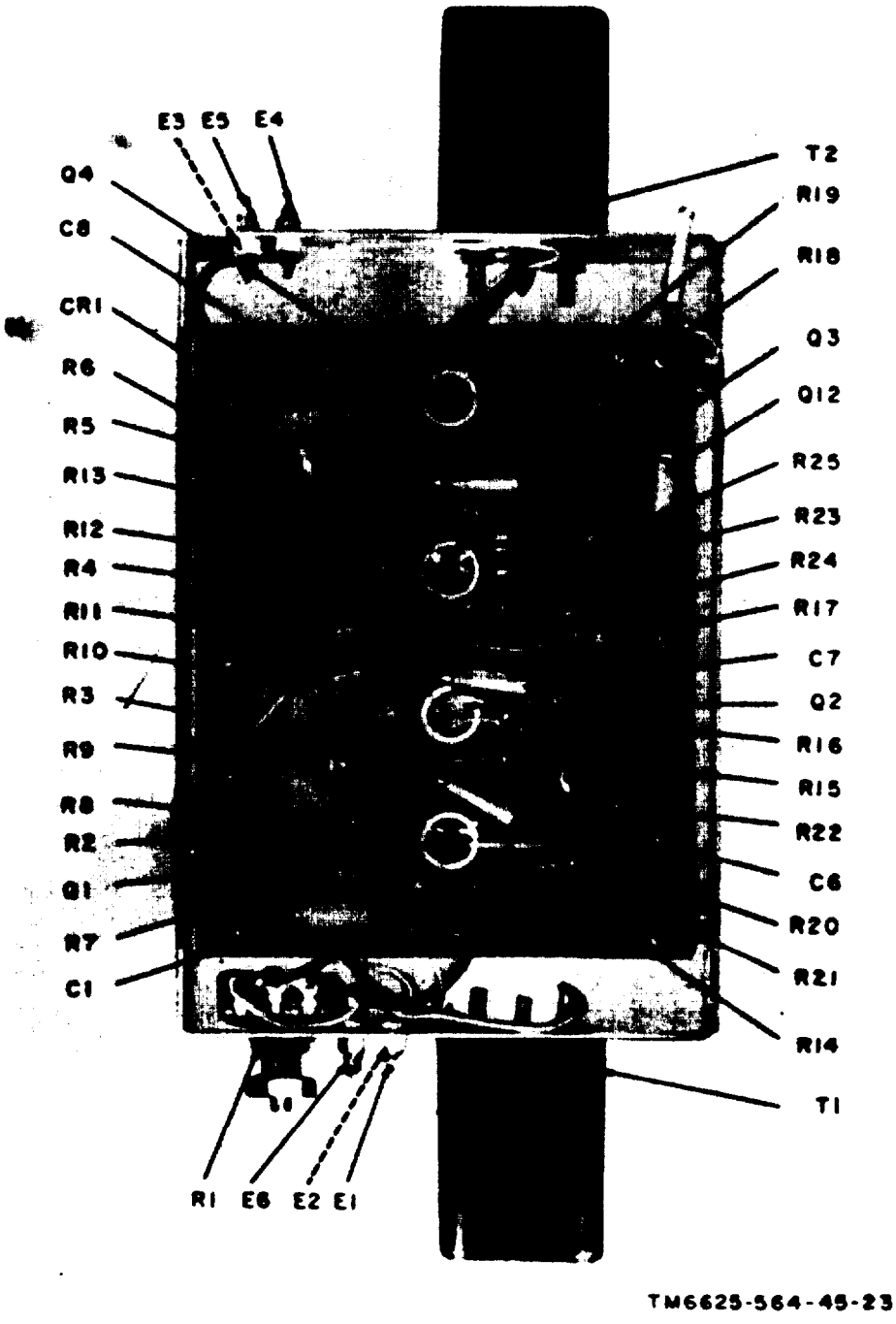


Figure 2-26. *Test* unit audio *amplifier 3A1, front* view, *showing* location *of* parts.

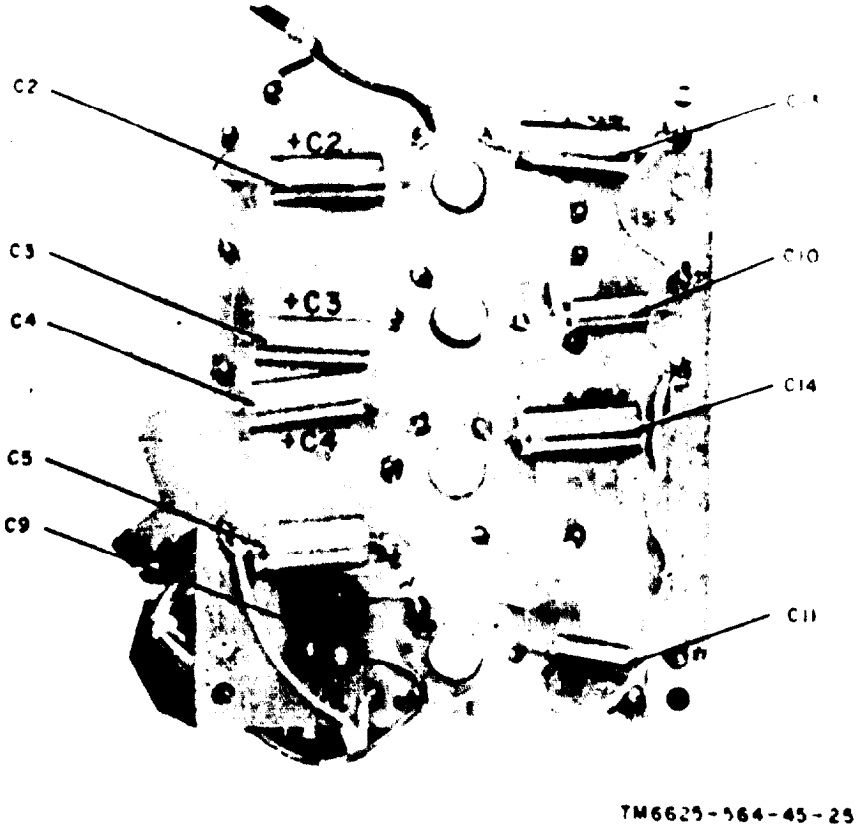


Figure 2-27. Test unit TB1 of audio amplifier *3A1, rear view, showing* location *of parts.*

Figure 2-28. Component bracket on test unit chassis, showing location of parts.

2-8. localizing Troubles

a. General Instructions. In the trouble-shooting chart in b below, procedures are outlined for localization of trouble by operation of the test unit with the radio set simulator in a self-testing mode. Connect the equipment as shown in the interconnecting block diagram in figure 3-1, TM 11-6625-564-12. The parts locations of the test unit are given in figures 2-23 through 2-28. The test unit voltage and resistance measurement diagram for audio amplifier 3A1 is figure 2-29. Chassis resistance and continuity measurement procedures for the test unit are given in paragraph 2-7c. If operational symptoms are not known or if they indicate possibility of short or open circuits, make the resistance and continuity tests indicated in paragraph 2-7c before proceeding.

Note: If the symptoms indicate trouble in audio amplifier 3A1, proceed to paragraph 2-8c before making voltage and resistance measurements.

Step No.	Symptom	Probable trouble	Correction
	Indicator lamp does not light.	Lamps may be burned out.	Replace lamps.
2	*a.* T/R lamp does not light when Function SELECT switch S4 is set to T/R.	a. POWER switch CB1 is defective. FUNCTION SELECT switch S4 is defective.	a. Replace CB1. Replace S4.
When lamps are not burned out.	h. T/R&G lamp does not light when FUNCTION SELECT switch S4 is set to T/R+G.	b. POWER switch CB1 is defective. FUNCTION SELECT switch S4 is defective.	*b.* Replace CB1. Replace S4.

Step No.	Symptom	Probable trouble	Correction
	c. ADF lamp doer not light when FUNCTION SELECT switch S4 in ret to ADF.	a. POWER switch CB1 is defective. FUNCTION SELECT switch S4 is defective.	c. Replace CB1. Replace S4.
	d. XMIT lamp doer not light when FUNCTION SELECT switch S4 is ret to T/R or T/R+G with PTT switch S3 ret to either ON or MOM ON.	*d.* POWER SWITCH is defective. FUNCTION SELECT S4 is defective. PTT switch S3 is defective (fig. 2-23).	d. Replace CB1. Replace S4. Replace S3.
3	Audio to radio ret simulator headset from test unit headset not good.	MIC SELECT switch S2 is defective (fig. 2-23). A component of 3A1 is defective.	Replace switch S2. Use voltage and resistance readings (fig. 2-29) to isolate trouble. Replace defective part.
4	Audio signal applied to DUM MIC jacks J16 and J17, with MIC SELECT switch S2 in DUM MIC position, is not heard in radio ret simulator headset.	MIC SELECT switch S2 is defective (fig. 2-23).	Replace switch S2.
5	Audio to test unit headset from radio net simulator headset not good. RF DET switch S1 in OFF position.	RF DET switch S1 is defective (fig. 2-23). AUDIO GAIN potentiometer R1 defective (fig. 2-24). Resistor R2 or R3 defective (fig. 2-24). Transformer T1 is defective (fig. 2-23).	Replace switch S1. Replace potentiometer R1. Replace defective resistor. Replace transformer T1.
6	Radio ret simulator TEST SELECT switch S1 set to REMOTE SENS. When SENSITIVITY control is rotated, meter needle on radio set simulator doer not deflect smoothly across meter face.	SENSITIVITY potentiometer R4 is defective (fig. 2-24).	Replace potentiometer R4.
7	SQ DIS lamp on radio set simulator does not light when SENSITIVITY control is turned to SQ DIS.	SQ DIS switch S5 is defective (fig. 2-24).	Replace switch S5.
8	The readout mechanism on the radio set simulator does not indicate the frequency selected when : a. The FREQ SELECT 10-megacycle control is rotated.	a. Switch FREQ SELECT S1 is defective (fig. 2-24).	a. Replace switch S1.

Step No.	Symptom	Probable trouble	Correction
	b. The FREQ SELECT l-megacycle control is rotated.	b. Switch FREQ SELECT S2 is defective (fig. 2-24).	b. Replace switch S2.
	c. The FREQ SELECT 0.1-megacycle control is rotated.	c. Switch FREQ SELECT S3 is defective (fig. 2-24).	c. Replace switch S3.

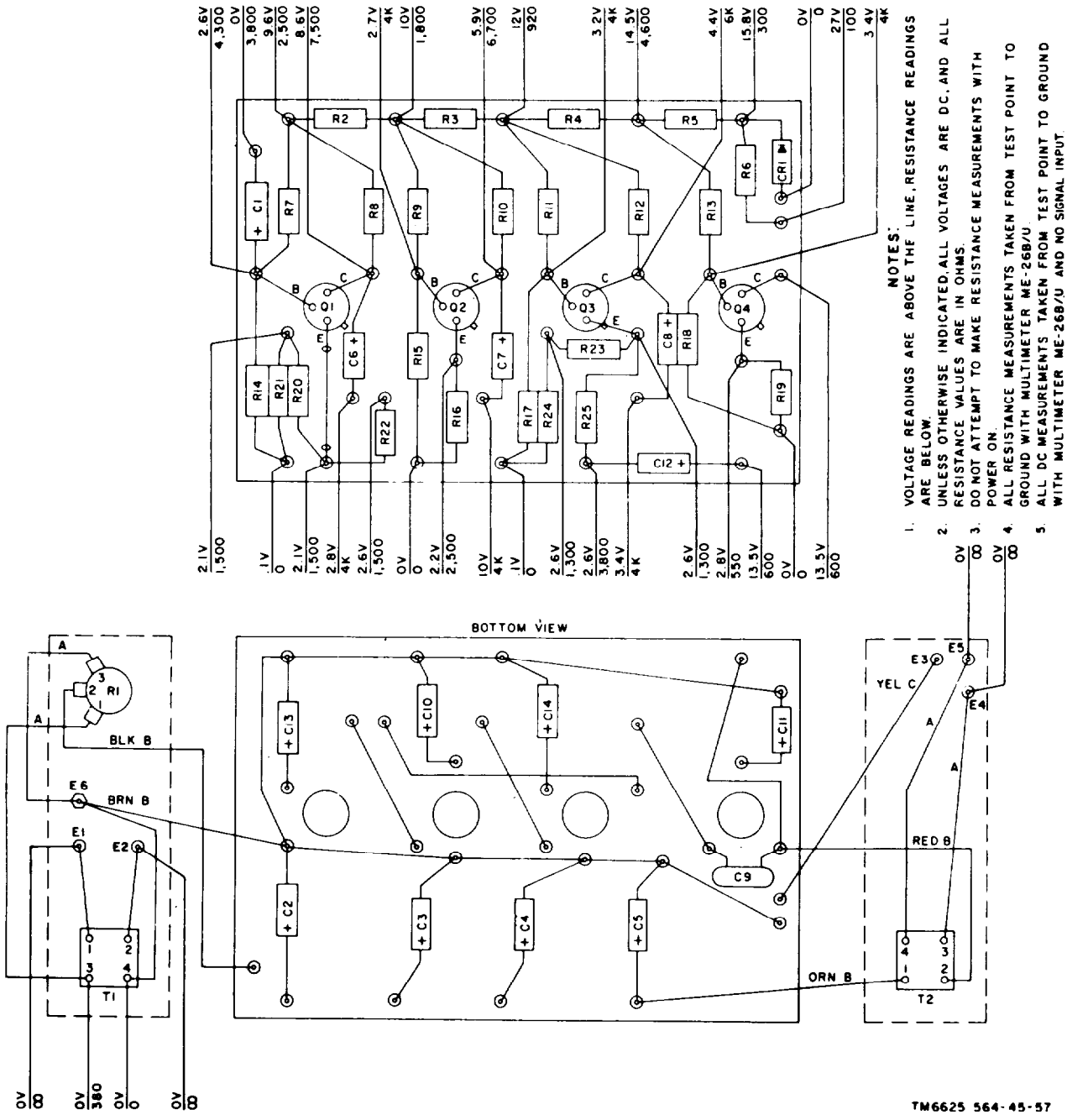


Figure 2-29. Test unit amplifier 3A1, voltage and resistance measurements diagram.

c. Stage Gain Measurements. Use the procedures given below when audio amplifier 3A1 is believed to be defective. Stage gain test points are indicated in figure 2-30. Parts location are given in figures 2-26 and 2-27.

(1) Connect. the equipment as shown in figure 2-30. Use the ME-SOB/U and measure between the test points, listed in the chart below, and chassis ground. Adjust the audio oscillator for 0.1-volt ac output at. 3 kc. Compute the gain for each stage by dividing the measured *Output voltage* by the measured *Input voltage.* The gain should be as listed in the chart below.

Audio amplifier 3A1			
stage	Test points (fig. 2-30)		Stage gain
	Input	Output	
Q1	1	2	2.5
Q2	3	4	2.8
Q3	5	6	1.3
Q4	7	8	5.3

(2) If the gains of the stages are abnormally low, use isolating techniques (para 2-9) to determine the defective part within the stage.

2-9. Isolating Troubles

When trouble has been localized to audio amplifier 3A1, use the techniques listed below to isolate the defective part:

a. Take voltage measurements at the terminals of 3A1 as indicated in figure 2-29.

b. If the voltage indications are normal, take resistance measurements (fig. 2-29) to isolate open or short circuits. Refer to the resistance and continuity chart (para 2-7c) and to the dc resistance of transformers d below.

c. Use the schematic diagrams (fig. 4-10 and 4-11) and the wiring diagrams (fig. 2-31, 4-15, and 4-16) to trace circuits and further isolate the faulty part.

Caution: Take resistance readings only with Multimeter ME-26B/U. The de source in some multimeters can destroy the transistors by causing excessive current through them.

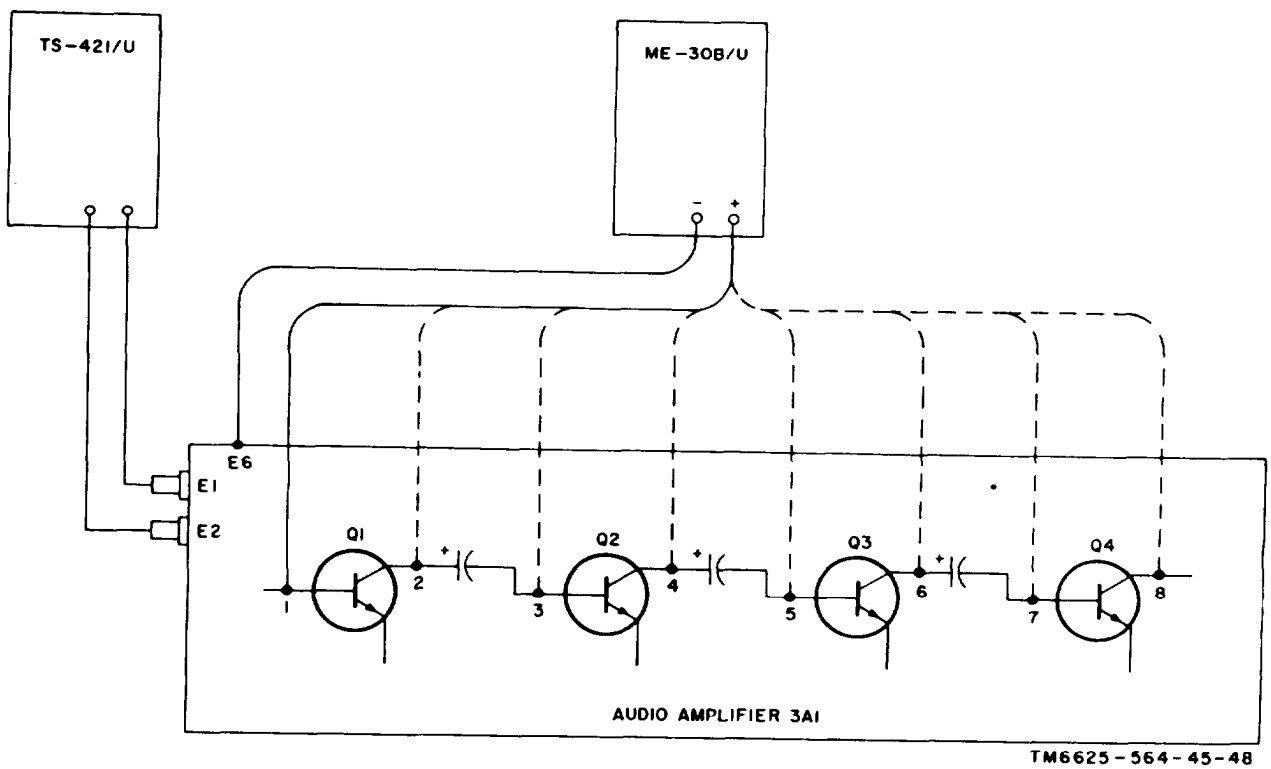


Figure 2-30. Test unit audio amplifier 3A1, stage gain test setup diagram.

d. The dc resistances of the transformers in the test unit should all be less than 10 ohms. An infinite reading will show an open winding.

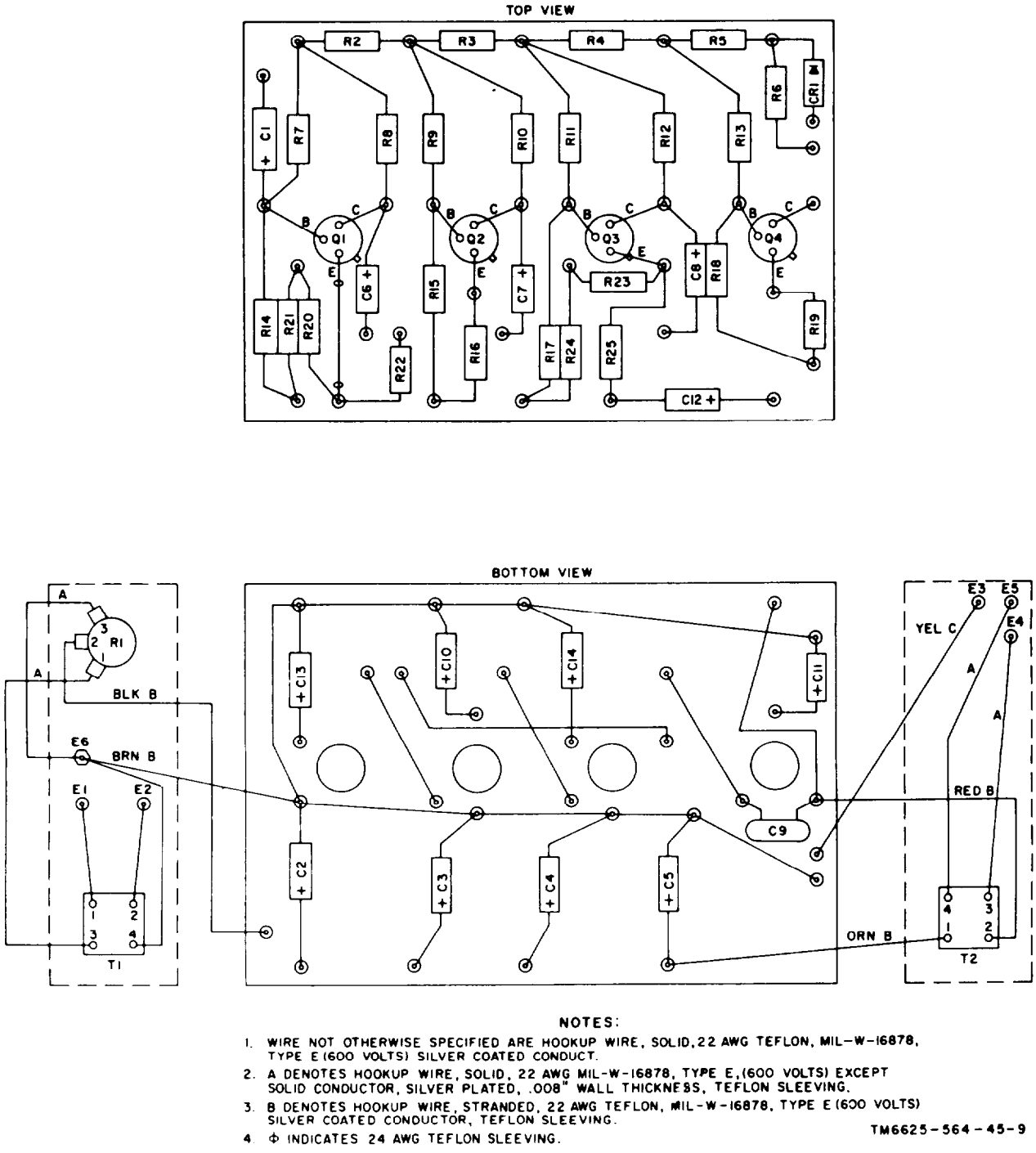


Figure 2-31. Test unit audio amplifier 3A1. wiring diagram.

CHAPTER 3

REPAIRS AND ALIGNMENT

Section I. REPAIRS

3-1. General Parts Replacement Techniques

No special procedures are required for disassembly and reassembly of the maintenance kit except for the readout mechanism of the radio set simulator. The procedures for disassembly, reassembly, and adjustment of the readout mechanism are given in paragraph 3-3. General parts replacement techniques are given in a through h below.

a. Do not- disassemble any portions of the maintenance kit other than those necessary to perform repairs.

b. Before a part is removed, note the position of the part, and label all leads where necessary. Install replacement parts in the same position as the original parts. This action is especially important in the removal and replacement of multisegment wafer switches. Observe polarity markings when replacing polorized capacitors and diodes.

c. When replacing parts in transistorized circuits, use a pencil-type soldering iron with a maximum capacity of 25 watts. If the soldering iron must be used with an ac source, use an isolating transformer between the iron and the line. Do not use a soldering gun; damaging voltages can be induced in the circuits.

d. Solder quickly when soldering transistor or diode leads. When wiring permits, use a heat sink (such as long-nosed pliers) between the soldered joint and the transistor or diode. Use the same length and dress of leads as used originally.

Note: Before unsoldering parts, thoroughly remove the insulating varnish with varnish remover. Before resoldering, brush the connections with flux cleaner. Use rosin-core solder for all soldering on printed circuit boards, and recoat with insulating varnish (FSN 5970-285-0270).

e. Do not attempt to repair a printed circuit board other than replacing attached parts and resoldering part connections. Replace a printed circuit board if more extensive damage has occurred.

f. Do not attempt to repair relays, transformers, and potentiometers. Replace these parts if they are defective.

g. If repairs on module extender cables W1 through W13 or the two cable adapters are necessary, refer to figure 4-18 for point-to-point wiring.

h. Point-to-point wiring of the rigid module extenders is shown in figure 4-19. Refer to figure 4-19 when replacing wires or connectors to assure that the correct connections are made.

3-2. Removal and Replacement

All modules, assemblies, and subassemblies are easily removed and replaced. Note the cabling connections when removing items so that the proper connections can be made on replacement.

3-3. Disassembly, Reassembly, and Adjustment of Readout Mechanism

a. Disassembly (fig. 4-17)

(1) Loosen two setscrews (189) and remove hundreds megacycle dial (188).

(2) Loosen two setscrews (167) and remove tens megacycle dial (166).
(3) Loosen two setscrews (161) and remove units megacycle dial (162).
(4) Loosen two setscrews (159) and remove tenths megacycle dial (160).
(5) Loosen two setscrews (163) and remove gear clamp (164).
(6) Remove shim washers (168) from shaft of tens megacycle clutch (110). Note the number of washers.
(7) Remove 22-tooth and 66-tooth gear cluster (169).
(8) Remove additional shim washers (168) from shaft of tens megacycle clutch (110). Note the number of washers.
(9) Remove 62-tooth spur gear (165) from drive shaft (97).
(10) Remove two machine screws (179), two lockwashers (178), small gear plate (177), and two sleeve spacers (175).
(11) Remove 18-tooth and 110-tooth gear shaft (174) from front gear plate (134).
(12) Remove ball bearing (176) from small gear plate (177), and remove ball bearing (173) from front gear plate (134).
(13) Remove machine screw (145) and lockwasher (146) from indicator holder (147), and remove indicator DS4 (148).
(14) Remove two machine screws (150) and two lockwashers (149), and remove indicator holder (147).
(15) Remove three machine screws (171), and remove motor B1 (105) from gear plate (134).
(16) Remove two machine screws (136), two lockwashers (135), and one flathead screw (170) that attached to three sleeve nuts (two 64, one 88) at top edge of front gear plate (134).
(17) Remove two machine (191) and two lockwashers (190) that attach to two square spacing posts (127) at bottom edge of front gear plate (134).
(18) Remove flathead screw (172) that attaches to sleeve nut (102) at bottom edge of front gear plate (134).
(19) Remove front gear plate (134).
(20) Remove two machine screws (84) and two lockwashers (85) that hold lamp DS1 assembly (137 through 144) to front gear plate (134).
(21) Disassemble lamp DS1 assembly by removing machine screw (144), electrical contact (143), lamp DS1 (141), No. 2 nut (137), flat washer (138), and two bushing insulators (139 and 142).
(22) Remove two machine screws (86) and two lockwashers (87) that hold lamp DS2 assembly (151 through 158) to front gear plate (134); then disassemble lamp DS2 assembly in same manner as for lamp DS1 assembly ((21) above).
(23) Remove two machine screws (103) and two lockwashers (104) that hold lamp DS3 assembly (180 through 187) to front gear plate (134); then disassemble lamp DS3 assembly in the same manner as for lamp DS1 assembly ((21) above).
(24) Remove seven sleeve bearings (70, 77, 83, 101, 111, 119, 133) from front gear plate (134). Note that six sleeve bearings (70, 77, 83, 101, 111, 133) have a 3/16-inch inner diameter, and one sleeve bearing (119) has a 1/8-inch inner diameter.
(25) Remove tenths, units, tens, and hundreds megacycle clutches (69, 82, 110, 132) from their respective solenoids (66 79, 107 129)
(26) Remove No. 2 idler shaft assembly (72 through 76). If necessary remove retaining rings (72, 76) from No. 2 idler shaft (73), remove spring pin (74), and slide 32-tooth spur gear (75) off shaft.
(27) Remove drive shaft assembly (96 through 100). If necessary, remove retaining rings (96 and 100) from drive shaft (97). remove spring pin (98), and slide 32-tooth spur gear (99) off shaft.

(28) Remove No. 1 idler shaft assembly (115 through 118). If necessary, remove retaining ring (115) from No. 1 idler shaft, remove spring pin (118), and slide 38-tooth spur gear (117) off shaft.

(29) Remove two pivot screws (68) from solenoid L4 (66), and remove pawl (67).

(30) Remove six pivot screws (two 81, two 109, two 131) from other three solenoids (79, 107, 129), and remove respective pawls (80, 108, 130).

(31) Remove four pawl springs (89, 94, 113, 121) from four pawl spring guides (90, 93, 112, 120).

(32) Remove two machine screws (1) two fiber washers (2), two ceramic posts (4), two ceramic posts (6), two fiber washers (7), switch S7 (3), and switch S6 (5).

(33) Remove switch S4 and S5 assembly (10 through 16) in same manner as given in (32) above.

(34) Remove switch S2 and S3 assembly (17 through 23) in same mariner as given in (32) above.

(35) Remove two machine screws (34), two fiber washers (35), two ceramic posts (37), two fiber washers (38), and switch S1 (36).

(36) Remove three machine screws (56), three lockwashers (57), relay bracket (53), and three sleeve, nuts (two 64, one 88).

(37) Remove three machine screws (8) and three lockwashers (9), and remove solenoid L4 (66) from rear gear plate (31).

(38) Remove nine machine screws (three 29, three 27, three 32), nine lockwashers (three 30, three 28, three 33) from other three solenoids (79, 107, 129), and remove solenoids..

(39) Remove four pawl spring guides (90 93, 112, 120) from rear gear plate (31).

(40) Remove seven sleeve bearings (65, 71, 78, 95, 106, 114, 124) from real gear plate (31). Note that three sleeve bearings (71, 95, 114) have a 3/16-inch inner diameter, and four sleeve bearings (65, 78, 106, 124) have a 1/8-inch inner diameter.

(41) Remove two machine screws (40), two lockwashers (41), two square spacing posts (127), machine screw (24), lockwasher (25), and one sleeve nut (102) from lower edge of rear gear plate (31).

(42) Remove captive screw spring (128), modified machine screw (125), and lockwasher (126) from each of two square spacing posts (127).

(43) Remove two machine screws (92 and 123), two lockwashers (91 and 122), and two stud terminals (26 and 39) from rear gear plate (31).

(44) Remove two nuts (55), two lockwashers (54), and relay K1 (52) from relay bracket (53).

(45) In the same manner as given in (44) above, remove eight nuts (two 58, two 60, two 62, two 44), eight lockwashers (two 59, two 61, two 63, two 45), and four relays 47, 49, 50. 51).

(46) Remove nut (42), lockwasher (43), and terminal (48) from relay bracket (53).

(47) Push out feedthrouah terminal (46) from relay bracket (53).

b. General Reassembly Tehniques.

(1) Inspection. Inspect all retaining rings for their original shape and for proper closing; replace all defective retaining rings.

(2) *Locking screws.* Apply Glyptal (General Electric Co.) or equivalent to the threads of all screws where no locking device is provided. The term “glyp” included with the item number indicates that Glyptal should be applied before mounting the screw.

Caution : Except for the ball bearings, keep all other items of the readout mechanism free of lubricant at all times.

(3) Lubrication. Lubricate the ball hearings (173, 176, fig. 4-17) with 1 drop of Lubricating Oil, Instrument

(MIL-L-6085). Remove all excess oil with a clean lint-free cloth.

c. *Reassembly* (fig. 4-17).

(1) Insert six sleeve bearings (70, 77, 83, 101, 111, 124) in front gear plate (134). Three six sleeve bearings have a 3/16-inch diameter. Insert each sleeve bearing so that the large flange of the sleeve bearing is on the inside of the front gear plate (toward the rear gear plate (31)).

(2) Insert one sleeve bearing (119) in front gear plate (134), large flange to the inside. This sleeve bearing has a 1/8-inch inner diameter.

(3) Place lamp DS4 (141) in lamp bracket (140). Hold lamp DS1 in place, insert two bushing insulators (139 and 142) in lamp bracket, and attach electrical contact (143) with one flat washer (138), one machine screw (144), and one No. 2 nut (137, glyp).

(4) Assemble lamp DS2 assembly (151 through 158) in same manner as given in (3) above.

(5) Assemble lamp DS3 assembly (180 through 187) in same manner as given in (3) above.

(6) Mount lamp DS1 assembly ((3) above) to front gear plate (134) with two lockwashers (85) and two machine screws (84).

(7) Mount lamp DS2 assembly ((4) above) to front gear plate (134) with two lockwashers (87) and two machine screws (86).

(8) Mount lamp DS3 assembly ((5) above) to front gear plate (134) with two lockwashers (104) and two machine screws (103).

(9) Mount motor B1 (105) to front gear plate (134) with three machine screws (171, glyp).

(10) Mount two square spacing posts (127) to lower edge of front gear plate (134) with two lockwashers (190) and two machine screws (191). The post not shown mounts to the hole in the lower right corner of the front gear plate (134), outside edge of the front gear plate facing the repairman.

(11) Mount one sleeve nut (102) to the lower edge of front gear plate (134) with one flathead screw (172, glyp).

(12) Insert modified machine screw (125) and lockwasher (126) into each square spacing post (127); then attach captive screw spring (128) to each machine screw (127); then attach captive screw spring (128) to each machine screw (125).

(13) Mount indicator holder (147) to front gear plate (134) with two machine screws (150) and two lockwashers (149).

(14) Loosely mount one machine screw (145) and one lockwasher (146) to indicator holder (147).

(15) Insert indicator DS4 (148) in indicator holder (147). Adjust indicator DS4 so that there is 13/16-inch spacing between outer edge of indicator DS4 and front edge of front gear plate (134); then tighten machine screw (145).

(16) Mount four pawl spring guides (90, 93, 112, 120) to the inside of the rear gear plate (31).

(17) Insert three 3/16-inch inner diameter sleeve bearings (71, 95, 114) in rear gear plate (31), with the large flange of the sleeve bearings toward the inside of the rear gear plate (toward front gear plate (134)).

(18) Insert four 1/8-inch inner diameter sleeve bearings (65, 78, 106, 124) in rear gear plate (31), with the large flange toward the inside.

(19) Mount solenoid L4 (66) to rear gear plate (31) with three machine screws (8) and three lockwashers (9).

(20) Mount solenoid L3 (79), solenoid L2 (107). and solenoid L1 (129) to rear gear plate (31) with three machine screws (29) and three lockwashers (30) for L3, three machine screws (27) and three lockwashers (28) for L2, and three machine screws (32) and three lockwashers (33) for L1.

(21) Place a paw1 spring (89, 94, 113, 121) over each of the four paw1 spring guides (90, 93, 112, 120).

(22) Mount paw1 (67) to solenoid L4 (66) with two pivot screws (68, glyp). Be sure that paw1 spring (89) rests against the extending arm of the paw1 and exerts pressure on the pawl.

(23) Mount three pawls (80, 108, 130) to their respective solenoids (79, 107, 129), each with two pivot screws (81, 109, 131, glyp), in the same manner as given in (22) above. Check paw1 springs (94, 113, 121) for proper positioning ((22) above).

(24) Mount stud terminal (26) to rear gear plate (31) with machine screw (92) and lockwasher (91), and mount stud terminal (39) to the rear gear plate with machine screw (123) and lockwasher (122).

(25) Place tenths, units, tens, and hundreds megacycle clutches (69, 82, 110, 132) in their respective sleeve bearings in front gear plate (134). The ends of clutches that have split locknuts and retaining rings go toward the front gear plate.

(26) If spring pin (74) and 32-tooth spur gear (75) were disassembled from No. 2 idler shaft (73), slide the spur gear onto the shaft, and insert the spring pin flush to the surface of hub on spur gear.

(27) Place retaining ring (72) in slot at end of No. 2 idler shaft (73) and place retaining ring (76) in the slot at opposite end of shaft.

(28) If spring pin (98) and 32-tooth spur gear (99) were disassembled from drive shaft (97), slide the spur gear onto the shaft, and insert the spring pin flush to the surface of hub on spur gear.

(29) Place retaining ring (96) in slot at end of drive shaft (97), and place retaining ring (100) in slot at opposite end of shaft.

(30) If spring pin (118) and 38-tooth spur gear (117) were disassembled from No. 1 idler shaft (116), slide spur gear onto shaft and insert spring pin flush to the surface of hub on spur gear.

(31) Place retaining ring (115) in slot at end of No. 1 idler shaft (116).

(32) Place shafts of the four clutch assemblies (69, 82, 110, 132) into their respective sleeve bearings in front gear plate (134).

(33) Place shafts of three spur gear assemblies ((26) through (31) above) into their respective sleeve bearings in the front gear plate. Mesh the three spur gears with gears of four clutches ((32) above).

(34) Place rear gear plate (31) over the shafts of the three spur gear assemblies an d four clutch assemblies ((33) above). Work the rear gear plate down on the shafts, but do not force.

(35) Rotate the four clutch assemblies so that the tip of each paw1 (67, 80, 108, 130) engages a notch in the 12-notch stop wheel of each clutch assembly:

(36) Fasten rear gear plate (31) by attaching machine screw (40) and lockwasher (41) to each square spacing post (127) at two lower corners of the rear gear plate, and attaching machine screw (24) and lockwasher (25) to the sleeve nut at the center of lower edge of rear gear plate.

Note: Switches S1 through S7 **((37) through (44) below) have a red mark on one side that identifies the top front of the switch. This red mark must be oriented properly when the switches are mounted.**

(37) Place switch S1 (36) on shaft of hundreds megacycle clutch (132). The red mark on the switch must be to the outside (away from rear gear. plate (31)) and toward the upper edge of the rear gear plate.

(38) Mount switch S1 ((37) above) to the rear gear plate with two machine screws (34, glyp), two fiber washers (35), two 1/4-inch long ceramic posts (37), and two fiber washers (38).

(39) Place switch S2 (21) on the shaft of tens megacycle clutch (110), with the red mark toward the outside and toward the upper edge of rear gear plate.

(40) Align the two movable segments (front and rear) of switch S3 (19) so that the slots in the segments are in the same position. Each slot, into which the shaft of the tens megacycle clutch (110) is inserted, has a small indentation, or cutout, on one side; the small indentation in the two slots must be aligned with each other.

(41) Align the identation in the movable segments of switch S3 ((40) above) with the indentation in the slot of the single segment of switch S2 ((39) above); then place switch S3 on shaft of tens megacycle clutch (110), with the red mark to the outside and toward the upper edge of the rear gear plate. Check to see that the indentations in the segments of switch S3 are positioned on the same side of the clutch shaft as the indentation in switch S2.

(42) Mount switch S2 (21) and switch S3 (19) to rear gear plate (31) with two machine screws (17, glyp), two fiber washers (18), two 3/8-inch long ceramic posts (20), two 1/4-inch long ceramic posts (22), and two fiber washers (23).

(43) slign and mount switches S4 (14) and S5 (12) on the shaft of units megacycle clutch (82) in same manner as described for switches S2 and S3 ((34) through (42) above). Switch S4 is placed inside switch S5. Check to see that the red mark on each switch is properly oriented and that indentations on all segments are aligned on the same side of clutch shaft. Glyp two machine screws (10).

(44) Align and mount switches S6 (5) and S7 (3) on the shaft of tenths megacycle clutch (69) in the same manner as described for switches S2 and S3 ((34) through (42) above). Switch S6 is placed inside of switch S7. Check to see that the red mark on each switch is properly oriented and that indentations on all segments are aligned on the same side of clutch shaft. Glyp two machine screws (1).

(45) Mount two sleeve nuts (64) to corners of upper edge of front gear plate (134) with two machine screws (136) and two lockwashers (135).

(46) Mount sleeve nut (88) to front gear plate (134) with flathead screw (170, glyp).

(47) Mount noninsulated terminal (48) to relay bracket (53) with nut (42) and lockwasher (43).

(48) Press feedthrough terminal (46) firmly into relay bracket (53).

(49) Mount relay K5 (47) to relay bracket (53) with two nuts (44) and two lockwashers (45).

(50) Mount relays K4, K3, K2, and K1 (49, 50, 51, 52 respectively) to relay bracket (53) in the same manner as for relay K5 ((49) above).

(51) Mount relay bracket (53) to rear gear plate (31) with three machine screws (56) and three lockwashers (57).

52) Mount ball bearing (173) to front gear plate (134).

53) Mount ball bearing (176) to small gear plate (177).

54) Place 18-tooth and 110-tooth gear shaft (174) in ball bearing (173) with 110-tooth gear toward front gear plate (134). Mesh 110-tooth gear with gear of motor B1 (105).

(55) Mount small gear plate (177) to front gear plate (134) with tow machine screws (179), two lockwashers (178), and two spacers (175). Position shaft of 18-tooth and 110-tooth gear shaft (174) in ball bearing in small gear plate while mounting.

(56) Place 62-tooth spur gear (165) on drive shaft (97), hub to outside.

(57) Place shim washers (168) on shaft of tens megacycle clutch (110). Use the same number of washers on the inside of the 22-tooth and 66-tooth gear

cluster (169) as were noted in disassembly procedure (a(8) above).

(58) Place 22-tooth and 66-tooth gear cluster (169) on shaft of tens megacycle clutch (110) with Z-tooth gear toward front gear plate (134). Mesh 22-tooth gear with 62-tooth spur gear ((56) above), and mesh 66-tooth gear with 18-tooth gear ((54) above).

(59) Place shim washer (168) on shaft of tens megacycle clutch (110). Use the same number of washers on the outside of the 22-tooth and 66-tooth gear cluster (169) as were noted in the disassembly procedure (n(6) above).

(60) Check to see that at least three-*fourths* of the width of the 66-tooth gear is meshed with the 18-tooth gear ((58) above). If mesh is less than three-fourths, remove shim washers (168), as necessary, from between front gear plate (134) and gear cluster (169), and add washers to outside of gear cluster. Mesh should not be such that 66-tooth gear comes into contact with 110-tooth gear of gear shaft ((54) above).

(61) Place gear clamp (164) on split hub of 62-tooth spur gear ((56) above), and tighten two setscrews (163). Tighten setscrews on solid portions of split hub, not on openings.

(62) Place tenths megacycle dial (160) on shaft of tenths megacycle clutch (69). Position dial so that front edge of dial is 3/4 inch from front edge of front gear plate (134); then tighten two setscrews (159).

(63) Place units megacycle dial (162), tens megacycle dial (166), and hundreds megacycle dial (188) on their respective clutch shafts. Position dials so that front edge of each dial is 3/4 inch from front edge of front gear plate (134); then tighten two setscrews for each dial.

d. Adjustment of Dials.

(1) Replace all modules on the chassis of the radio set simulator, and reconnect all cabling and wiring. Do not replace the dust cover.

(2) Connect the test setup shown in figure 3-1. Cables W1, W2, and W5, and the test unit are part of the maintenance kit. Charger, Battery PP-1451/U serves as the power source.

(3) Set the following switches on the test unit to the positions indicated:

(n) POWER switch to OFF.

(h) FUNCTION SELECT switch to OFF.

(4) Set the following switches on the radio set simulator to the positions indicated:

(n) POWER switch to OFF.

(b) TEST SELECT switch to OFF.

(c) XMIT LOAD switch to OFF.

(5) Turn on Charger, Battery PP-1451/U, and adjust the output for 27.5 volts dc.

(6) Set the POWER switch on the test unit to RESET ON.

(7) Set the POWER switch on the radio set simulator to RESET ON.

(8) Use the FREQ SELECT switches on the front panel of the test unit to channel the readout mechanism, and channel the readout mechanism so that access is provided to the setscrews that hold each dial (160, 162, 166, 188, fig. 4-17) to its respective clutch shaft; then loosen the two setscrews that hold each dial.

(9) Push each of the four clutches (69, 82, 110, 132) toward the front panel of the radio set simulator. This action places the shaft of each clutch at its maximum forward axial position.

(10) Rotate the four dials so that the numbers on the dials are centered in the windows on the front panel of the radio set simulator and that the numbers agree with the hundreds, tens, units, and tenths selections of the FREQ SELECT switches on the test unit.

(11) Adjust each dial on its clutch shaft so that there is a forward axial clearance of 0.025 to 0.035 inch between the front of each dial and the edge of

the bracket on which the readout mechanism is mounted.

(12) Apply glyptal (b (2) above) to the setscrews, and tighten the two setscrews on each dial. If necessary, channel the readout mechanism to different frequency settings to make the setscrews accessible. Always recheck the dials for centering of the correct numerals ((10) above) and for axial clearance ((11) above) after channeling.

(13) Set the POWER switch on the test unit and the POWER switch on the radio set simulator to OFF.

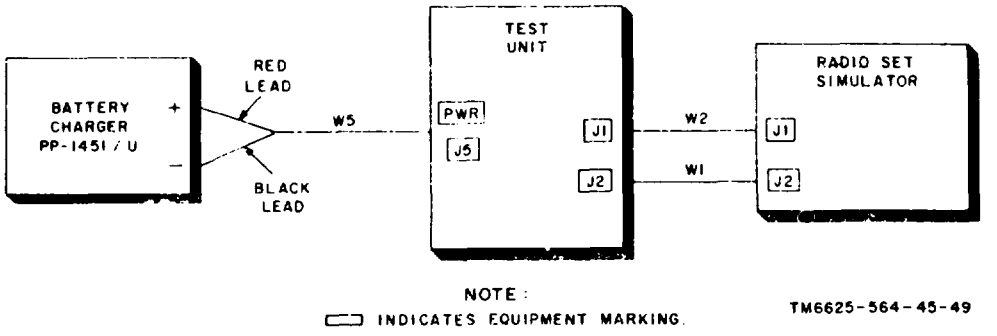


Figure 3-1. Radio set simulator, readout mechanism dial adjustment, test setup..

Section II. ALIGNMENT

3-4. General

This section contains alignment procedures for the maintenance kit. Only uhf test generator 1A5 of the radio set simulator requires alignment.

3-5. lest Equipment Required for Alignment

Charger, Battery PP-1451/U (battery charger) is the only test equipment required for alignment of the uhf test generator. All additional equipment that is required is part of the maintenance kit.

3-6. Uhf lest Generator Alignment (fig. 3-2)

a. Remove radio set simulator dust cover and disassemble until uhf. test generator is accessible. Set the switches on the front panel of the test unit as follows:

(1) POWER switch to OFF.
(2) FUNCTION SELECT switch to OFF.

b. Set the controls and switches on the front panel of the radio simulator as follows:

(1) POWER switch to OFF.
(2) XMIT LOAD switch to OFF.
(3) TEST SELECT switch to VSWR CAL.
(4) VSWR CAL. control to midrange.

c. Connect the equipment as shown in figure 3-2.

d. Place test unit POWER switch to RESET ON.

e. Place radio set simulator power switch to RESET ON.

f. Adjust output of PP-1451/U to 27.5 volts dc.

Note: If necessary, the procedure given in g below, adjust radio set simulator VSWR CAL. control to keep the needle of the meter on the front panel of the radio set simulator in approximate center of the meter scales.

g. In the following order, adjust coil L1, capacitor C10, capacitor C15, and capacitor C19 (fig. 2-4) for maximum power output at indicated on the meter on the radio set simulator. Repeat these adjustments several times starting with coil L1 each time.

h. Place test unit POWER switch and radio set simulator POWER switch to OFF. Disconnect all cables.

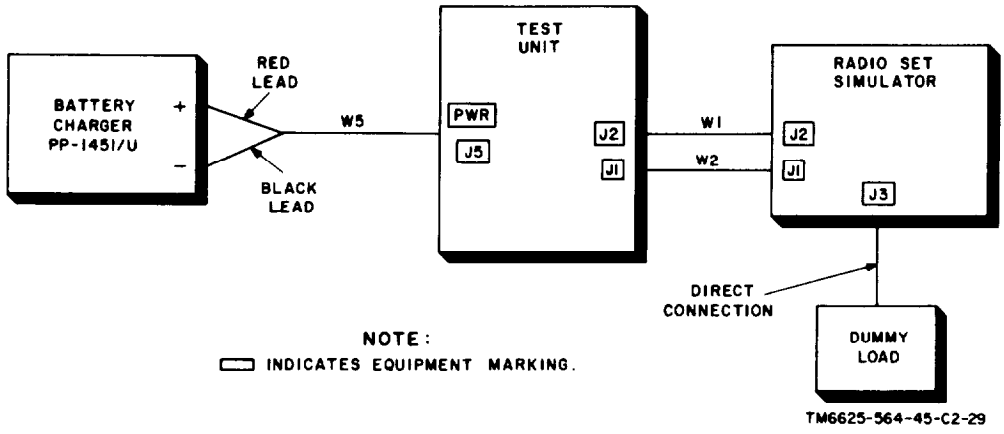


Figure 3-2. Radio set simulator uhf test generater, alignment test setup.

CHAPTER 4

GENERAL SUPPORT AND DEPOT TESTING PROCEDURES

4-1. General

a. Testing procedures are prepared for use by Signal Field Maintenance Shops and Signal Organizations responsible for general support and depot maintenance of electronic equipment to determine the acceptability of repaired electronic equipment. These procedures set forth specific requirements that repaired electronic equipment *must* meet before it is returned to the using organization. These procedures may also be used as a guide to test equipment repaired by direct support maintenance personnel if the proper tools and test equipment are available. A summary of the performance standards is given in paragraph 4-7.

b. Comply with the instructions preceding each chart before proceeding to the chart. Perform each test in sequence. Do not vary the sequence. For each step, perform all of the actions required in the *Control setting* column; then perform each specific test procedure, and verify it against its performance standard.

4-2. Test Equipment and Materials Required

All test equipment, material, and other equipment required to perform the testing procedures given in this chapter are listed in the following charts and are authorized under TA 11-17, Signal Field Maintenance Shops, and TA 11-100 (11-17), Allowance of Signal Corps Expendable Supplies for Field Maintenance Shops.

a. Test Equipment.

Nomenclature	Federal stock No.	Technical manual
Charger, Battery PP-1451/U		
Audio Oscillator TS-421/U	6625-643-1568	
Multimeter ME-26B/U	6625-646-9409	TM 11-6625-200-12
Voltmeter, Meter ME-30(*)/Ua	6625-669-0742	TM 11-6625-320-12

a Indicates Voltmeter. Meter ME-30A/U. and Voltmeters. Electronic ME-30B/U and ME-30C/U.

b. Materials.

(1) Resistor, 9.5-ohm, 1/2-watt carbon, 2 ea.
(2) Resistor, 150-ohm, 1/2-watt, carbon, 1 ea.
(3) Resistor, 5-ohm, 1/2-watt, 1 percent, carbon, 1 ea.
(4) Resistor, 600-ohm, 1/2-watt, 1 percent, carbon, 1 ea.
(5) Resistor, 27-ohm, 1/2-watt, 1 percent, carbon, 1 ea.
(6) Resistor, 123-ohm, 1/2-watt, 1 percent, carbon, 1 ea.
(7) Resistor, 573-ohm, 1/2-watt, 1 percent, carbon, 1 ea.
(8) Sheet metal, aluminum, 3/4 x 1-1/2 in., 4 ea.
(9) Sheet metal, aluminum, 3/4 x 1-3/4 in., 4 ea.
(10) Sheet metal, aluminum, 4-1/2 x 1-3/4 in., 4 ea.

4-3. lest Facilities

Power to Charger, Battery PP-1451/U must be supplied from an external source. Two matching pads must be fabricated; fabrication details are shown in figure 4-1, and the materials that are required are listed in paragraph 4-2.

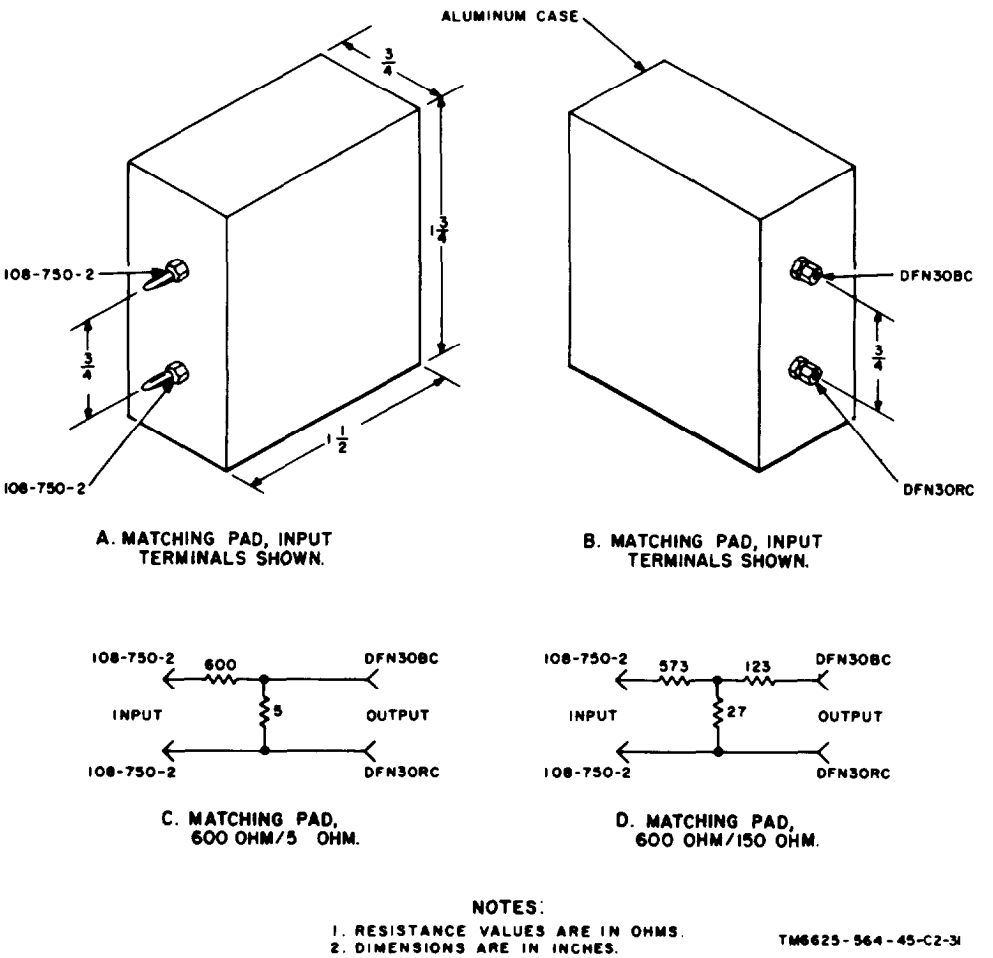


Figure 4-1. Matching pads, fabrication details.

4-4. Physical Tests and Inspection

a. Test Equipment and Materials. Light Assembly, Electric MK-1292/PAQ.

b. Test Connections and Conditions.

(1) No connections necessary.

(2) Remove the dust covers from the test unit and from the radio set simulator.

c. Procedure.

Step No.	Control settings: Teat equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	None ---------	Controls may be in any position.	*a.* Inspect case and chassis for damage, missing parts, and condition of paint. ***Note*** : Touchup painting is recommended instead of refinishing whenever practical; screw heads, binding posts, receptacles, and other plated arts will not be painted or polished with abrasives. *b.* Inspect all controls and assemblies for loose or missing screws, bolts, and nuts. c. Inspect all connectors, sockets, receptacles, and meters for looseness, damage, or missing parts. d. Inspect maintenance kit for missing items.	a. No damage evident or parts missing. External surfaces intended to be painted will not show bare metal. Panel lettering will be legible. *b.* Screws, bolts, and nuts will be tight. No missing items. c. No loose parts or damage. No missing parts. d. No missing items.
2	None ---------.	Controls may be in any position.	a. Rotate all panel controls throughout their limits of travel. h. Inspect dial stops for operation. c. Operate all switches d. Connect all cables to their respective receptacles.	a. Controls will rotate freely without binding or excessive looseness. b. Stops will operate properly. No evidence of damage. c. Switches will operate properly. d. All cables will connect smoothly; *no* binding or forcing required.
3	*MX-1292/PAQ* a. Connect mercury vapor lamp. *b.* Install wide transmission filter in lamp	Controls may be in any position.	Turn on mercury vapor lamp, and expose to direct *rays* of lamp portion of equipment that has been repaired or disturbed.	*Note:* Moisture-fungiproof varnish glows gray-green under rays of a mercury vapor lamp. All repaired or disturbed electrical components and chassis surfaces will be covered. There must be no varnish on switch contacts or moving parts of mechanical assemblies.

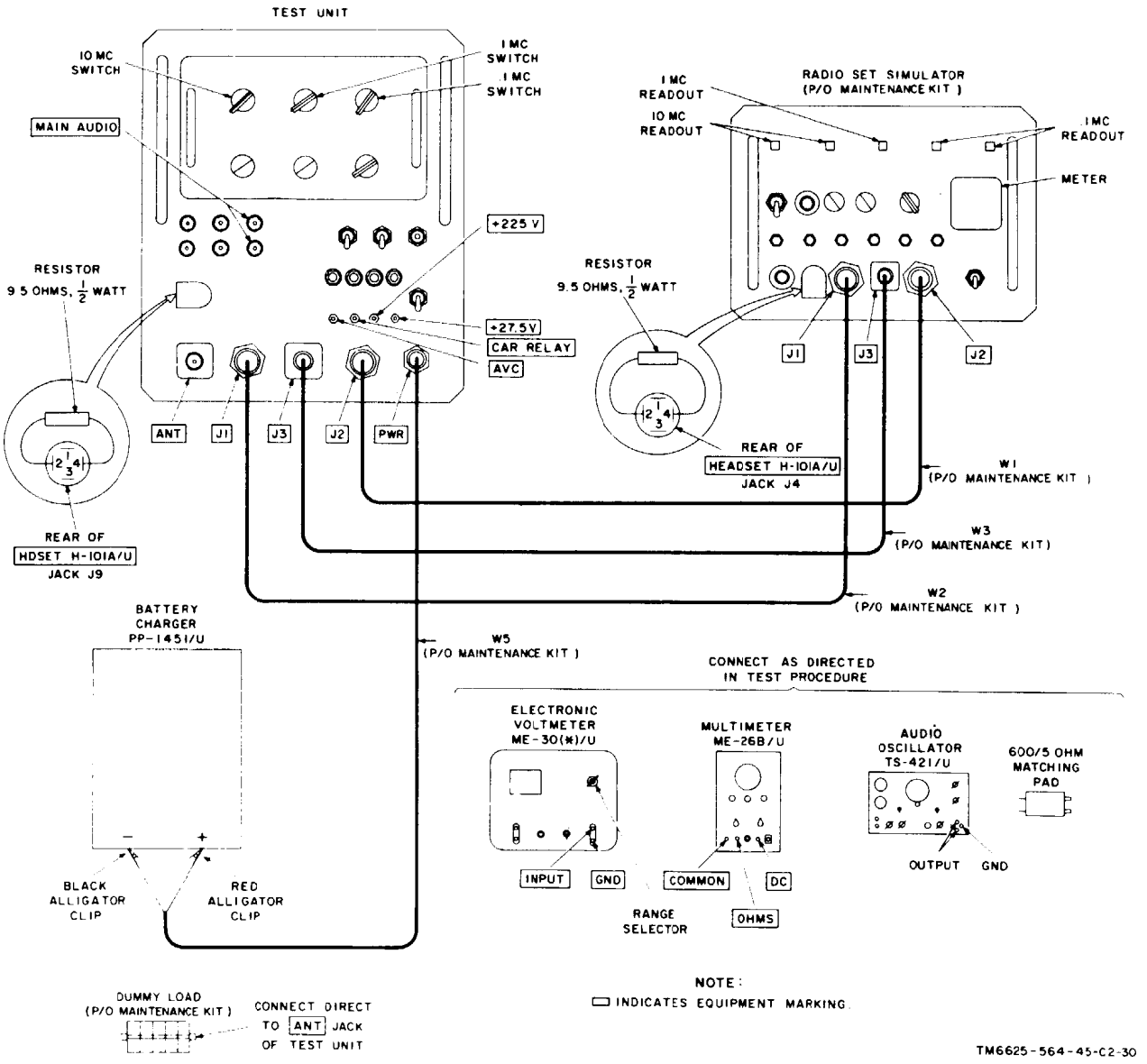


Figure 4–2. Test unit, test setup.

4-5. Test Unit Test

a. Test Equipment and Materials.

(1) Voltmeter, Meter ME-30(*)/U.
(2) Multimeter ME-26B/U.
(3) Audio Oscillator TS-421/U.
(4) Charger, Battery PP-1451/U.
(5) Matching pad, 600-ohm/5-ohm (C, fig. 4-1).
(6) Resistor, 9.5-ohm, 1/2-watt (two required).
(7) Radio set simulator (part of maintenance kit).
(8) Dummy load (part of maintenance kit).
(9) Cables W1, W2, W3, W5 (part of maintenance kit).

b. Test Connections and Conditions.

(1) Remove the dust covers from the test unit of a radio set simulator known to be good.
(2) Connect the test setup as shown in figure 4-2.
(3) Set the switches and controls on the front panels of the test unit and the radio set simulator as indicated in the chart below.

Item	Switch or control	Position
Test unit	POWER switch	OFF
Test unit	PTT switch	OFF
Test unit	RF DET switch	OFF
Test unit	MIC SELECT switch	HDSET
Test unit	FUNCTION SELECT switch	OFF
Test unit	AUDIO GAIN control	Fully clockwise
Radio set simulator	POWER switch	OFF
Radio set simulator	XMIT LOAD switch	OFF
Radio set simulator	TEST SELECT switch	OFF
Radio set simulator	AUDIO GAIN control	Fully clockwise

c. Procedure.

Step NO.	Control setting: Test Equipment	Control setting: Equipment under test	Test procedure	Performance standard
1	*Radio set* simulator a. POWER: RESET ON. *b.* TEST SELECT: REMOTE SENS.	*Test Unit* a. POWER: RESET ON. b. FUNCTION SELECT: T/R.	a. Turn on battery charger and adjust output for +27.5 vdc. *b.* Observe T/R indicator on test unit and T/R indicator on radio set simulator.	a. None. b. T/R indicators will light.
2	Controls remain as at end of step 1.	Controls remain as at end of step 1.	a. Vary setting of test unit SENSITIVITY control, and observe meter on radio set simulator. b. Rotate test unit SENSITIVITY control to SQ DIS, and observe SQ. DIS indicator on radio set simulator.	a. Meter must read in green band of scale A at some setting of SENSITIVITY control. *b.* SQ. DIS indicator will light.
3	*ME-26B/U* Set to the +300 vdc scale.	Controls remain as at end of step 1.	a. Observe meter on radio set simulator.	a. Meter must read in green band of scale A.

step NO	Control setting: Test Equipment	Control setting: Equipment under test	Test procedure	Performance standard
	Radio set simulate TEST SELECT : + 225V.		b. Connect ME-26B/U to +225V test jack and ground on test unit.	b. ME-26B/U must read between +215 and +235 vdc.
4	ME-26B/U Set to measure +3 vdc. Radio set simulator. Controls remain as at end of step 3.	Controls remain as at end of step 1.	Connect ME-26B/U to AVC test jack and ground on test unit.	ME-26B/U must read between +2.5 and +3.5 vdc.
5	ME-26B/U Set to measure resistance. Radio set simulator CAR RELAY: Depressed.	Controls remain as at end of step 1.	a. Connect ME-26B/U between CAR RELAY test jack and ground on teat unit. b. Release CAR RELAY switch.	a. ME-26B/U must read 0 ohm. b. ME-26B/U must read infinite ohms.
6	Radio set simulator Controls remain as at end of step 5.	PTT : Depressed.	a. Observe XMIT indicator on test unit and XMIT indicator on radio set simulator. b. Hold test unit PTT switch in MOM ON, and observe XMIT indicators. c. Release test unit PTT switch.	a. XMIT indicators will light. b. XMIT indicators will remain lighted. c. None.
7	ME-26B/U Set to measure +27.5 vdc. Radio set simulator TEST SELECT: + 27.5V.	Controls remain as at end of step 6.	a. Connect ME-26B/U to +27.5V test jack and ground on test unit. h. Observe meter on radio set simulator.	a. ME-26B/U will indicate between +27 and +28 vdc. b. Meter will read in green band of scale A.
8	ME-30(*)/U Set to measure 9.65 vac (peak). Radio set simulator TEST SELECT: AUX AUDIO.	Controls remain ‘as at end of step 6.	a. Connect ME-30(*)/U to red AUX AUDIO test jack and ground on test unit. b. Observe meter on radio set simulator.	a. ME-30(*)/U will indicate between 8.65 and 10.65 vac (peak). b. Meter will read in green band of scale A.
9	Radio set Simulator Controls remain as at end of step 8.	Three FREQ SELECT switches to any position.	a. Turn test unit FREQ SELECT 10-megacycle switch to all of its positions, and observe readout mechanism of radio set simulator. b. Turn test unit FREQ SELECT 1-megacycle switch to all its positions, and observe readout mechanism.	I. Two far left numbers on readout mechanism of radio set simulator will read same as setting of switch. b. Middle number on readout mechanism will read same as setting of switch.

Step No.	Control setting: Teat Equipment	Control setting: Equipment under test	Test procedure	Performance standard
			c. Turn test unit FREQ SELECT 0.1-megacycle switch to all of its positions, and observe readout mechanism.	c. Two far right numbers on readout mechanism will read same as setting switch.
10	Radio *set simulator* Controls remain a at end of step 8	FUNCTION SELECT: T/R+G.	a. Observe T/R+G indicator on radio set simulator. *b.* Turn test unit FUNCTION SELECT switch to ADF, and observe T/R+ G indicators and test unit ADF indicator.	a. T/R+G indicators will light. h. T/R+ G indicators will extinguish, and ADF indicator will light.
11	*ME-26B/U* Set to measure resistance. *Radio set* simulator POWER: OFF.	POWER: OFF. RF DET: ON.	a. Disconnect cable W3 from J3 on test unit. Disconnect dummy load from ANT jack J4 on test unit. *b.* Connect negative probe of ME-26B/U to center conductor of jack J3 on test unit; connect positive probe to center conductor of ANT jack J4 on test unit. c. Same as b, except connect positive probe to ground. d. Same as b, except connect positive probe to red MAIN AUDIO test jack on test unit. c. Return RF DET switch to OFF. Reconnect cable W3 to J3 and dummy load to ANT jack J4 on test unit.	a. None. b. ME-26B/U must read 0 ohm. c. ME-26B/U must read between 20,000 and *26,000* ohms. d. ME-26B/U must read between 1,000 and 3,000 ohms. c. None.
12	TS-421/U a. OUTPUT ATTENUATOR 63 dbm. b. IMPEDANCE *600* ohms. c. FREQUENCY 1;000 cps. d. OUTPUT LEVEL meter: +26.8 dbm (maintain this level).	POWER: RESET ON.	a. Connect 600-ohm input of 600-ohm/5-ohm matching pad (C, fig. 4-2) to output of TS-421/U. Connect 5-ohm output of pad to terminals 1 and 3 of HDSET H-101A/U jack J9 on test unit. Connect a ground bus between case of pad and case of audio oscillator.	a. None.

Step NO.	control setting		Test procedure	Performance standard
	Test Equipment	Equipment under test		
	ME-30(*)/U Set to measure minimum of 2 vac. *Radio* set simula-*tor* POWER: RESET ON.		*b.* Connect ME-30(*)/U to terminals 2 and 4 of HEADSET H-101A/U jack J4 on radio set simulator.	ME-30(*)/U must read 2 vac minimum.
13	*TS-421/U* Controls remain as at end of step 12. *ME-30(*)/U* Set to measure maximum of 4 vac. *Radio set* simula-*tor* Controls remain as at end of step 12.	Controls remain as at end of step 12.	a. Connect 5-ohm output of matching pad to terminals 1 and 3 of HEADSET H-101A/U jack J4 on radio set simulator. Connect ME 30(*)/U to red MAIN AUDIO test jack and ground on test unit. b. Vary test unit AUDIO GAIN control, and observe ME-30(*)/U. c. Connect ME-30 (*)/U between terminals 2 and 4 of HDSET H-101A/U jack J9 on test unit. Rotate test unit AUDIO GAIN control fully clockwise.	None. ME-30(*)/U must vary from 0 to 3.8 vac. ME-30(*)/U must read 0.92 vac minimum.

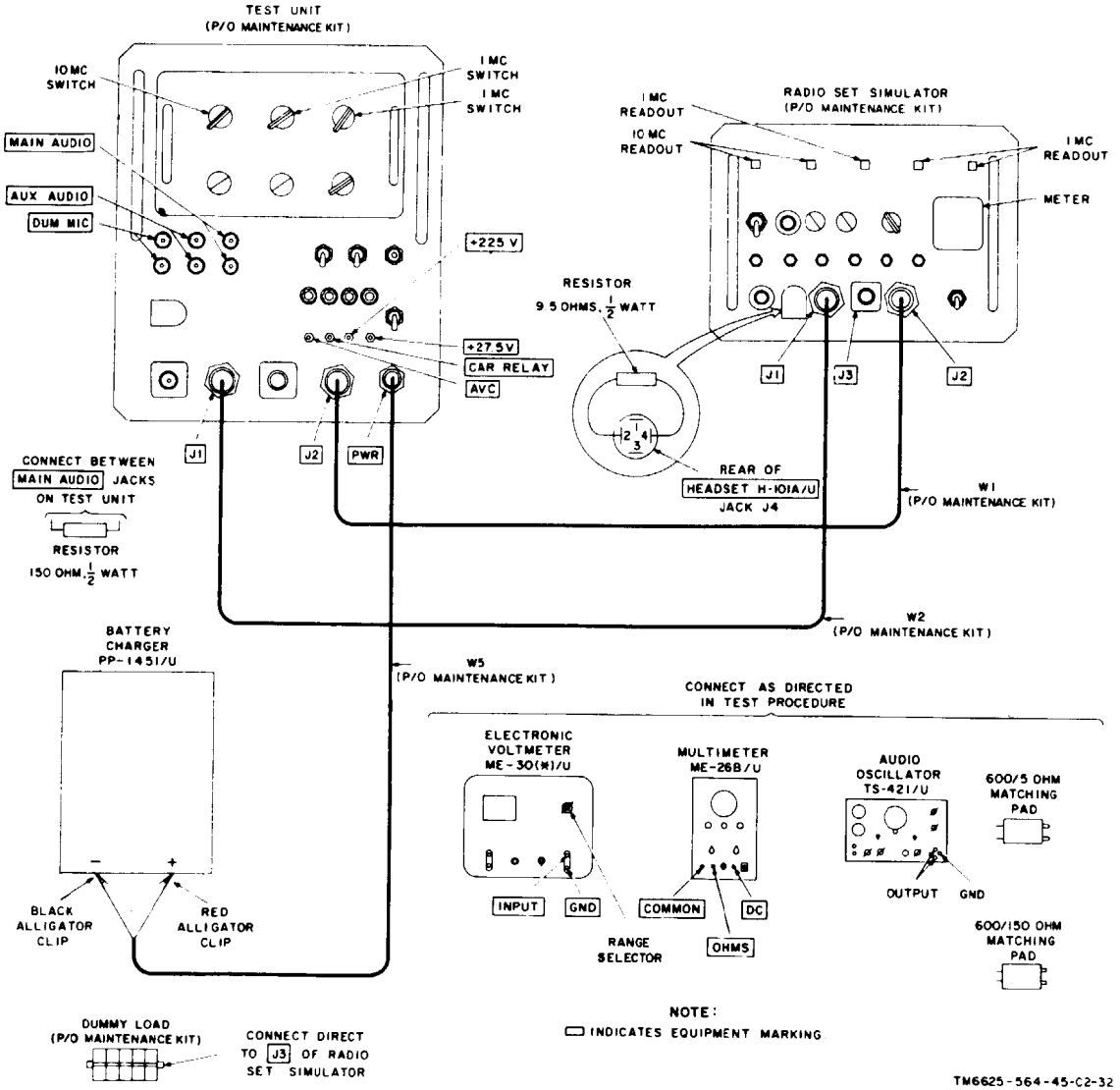


Figure 4–3. Radio set simulator, test setup.

4-6. Radio Set Simulator Test

a. Test Equipment and Materials.

(1) Voltmeter, Meter ME-30(*)/U.
(2) Multimeter ME-26B/U.
(3) Audio Oscillator TS-421/U.
(4) Charger, Battery PP-1451/U.
(5) Matching pad, 600-ohm/5-ohm (C, fig. 4-1).
(6) Matching pad, 600-ohm/150-ohm (D, fig. 4-1).
(7) Resistor, 150-ohm, 1/2-watt.
(8) Resistor, 9.5-ohm, 1/2-watt.
(9) Test unit (part of maintenance kit).
(10) Dummy load (part of maintenance kit).
(11) Cables W1, W2, W5 (part of maintenance kit).

b. Test Connections and Conditions.

(1) Remove the dust cover from the radio set simulator.
(2) Connect the test setup shown in figure 4-3.
(3) Set the switches and controls on the front panels of the radio set simulator and the test unit as indicated in the chart below.

Item	Switch or control	Position
Test unit	POWER switch	OFF
Test unit	PTT switch	OFF
Test unit	RF DET switch	OFF
Test unit	MIC SELECT switch	HDSET
Test unit	FUNCTION SELECT switch	OFF
Test unit	AUDIO GAIN control	Fully clockwise
Radio set simulator	POWER switch	OFF
Radio set simulator	XMIT LOAD switch	OFF
Radio set simulator	TEST SELECT switch	OFF
Radio set simulator	AUDIO GAIN control	Fully clockwise

c. Procedure.

Step No.	Control setting: Test Equipment	Control setting: Equipment under test	Test procedure	Performance standard
1	a. POWER: RESET ON.	a. POWER: RESET ON.	a. Turn on battery charger, and adjust output for +27.5 vdc.	a. None.
	b. FUNCTION SELECT : T.R.	b. TEST SELECT: ADF.	*b.* Observe meter on radio set simulator.	b. Meter must read in green band of scale A.
			c. Observe T/R indicator and + 27.5V indicator on radio set simulator.	c. T/R indicator and +27.5V indicator will light.
2	Test unit Three FREQ SELECT switches to any position.	Controls remain as at end of step 1.	a. Turn test unit FREQ SELECT 10-megacycle switch to all of its positions, and observe readout mechanism of radio set simulator.	a. Two far left numbers of readout mechanism will read same as setting of switch.

Step NO.	Control setting: Tut Equipment	Control setting: Equipment under test	Test procedure	Performance standard
			b. Turn test unit FREQ SELECT 1-megacycle switch to all of its positions, and observe readout mechanism. c. Turn test unit FREQ SELECT 0.1-megacycle switch to all of its positions, and observe readout mechanism.	*b.* Middle number of readout mechanism will read same as setting of switch. c. Two far right numbers of readout mechanism will read same as setting of switch.
3	ME-26B/U Set to measure +27.5 vdc. *Test unit* Controls remain as at end of step 2.	TEST SELECT: +27.5V.	a. Connect ME-26B/U to +27.5V test jack and ground on test unit. b. Observe meter on radio set simulator.	a. ME-26B/U will indicate between +27 and +28 vdc. *b.* Meter will read in green band of scale A.
4	*ME-26B/U* Set to measure + 27.5V vdc. *Test!* unit Controls remain as at end of step 2.	Caution: Perform this teat quickly to avoid excessive heating of the radio set simulator. Return XMIT LOAD switch to OFF position as soon as possible. XMIT LOAD: ON.	a. ME-26B/U connections remain same as step 3. b. Observe XMIT LOAD indicator on radio test simulator. c. Return radio set simulator XMIT LOAD switch to OFF.	a. ME-26B/U will indicate between + 27 and +28 vdc. b. LOAD indicator will light. c. None.
5	*ME-26B/U* Set to measure +225 vdc. *Test* unit Controls remain as at end of step 2.	TEST SELECT: +225V.	a. Observe meter on radio set simulator. b. Connect ME-26B/U to +225V test jack and ground on test unit.	a. Meter must read in green band of scale A. b. ME-26B/U must read between +215 and +235 vdc.
6	*ME-30(*)/U* Set to measure 9.65 vac (peak). Test unit Controls remain as at end of step 2.	TEST SELECT: AUX AUDIO.	a. Observe meter on radio set simulator. b. Connect ME-30(*)/U to AUX AUDIO test jack and ground on test unit.	a. Meter must read in green band of scale A. b. ME-30(*)/U must read between 8.65 and 10.65 vac (peak).
7	*Test unit* Controls remain as at end of step 2.	TEST SELECT: REMOTE SENS.	a. Vary setting of test unit SENSITIVITY control, and observe meter on radio set simulator. b. Rotate test unit SENSITIVITY control fully clockwise to SQ DIS, and observe SQ. DIS indicator on radio set simulator.	a. Meter must read in green band of scale 'A at some setting of SENSITIVITY control. b. SQ. DIS indicator will light.

Step NO.	Control setting: Test Equipment	Control setting: Equipment under test	Tat procedure	Performance standard
8	*Test unit* Controls remain as at end of step 2.	TEST SELECT: SHIELD GND.	Observe meter on radio set simulator.	Meter must read in green band of scale A.
9	*ME-26B/U* Set to measure +3 vdc. *Test unit* Controls remain as at end of step 2.	Controls remain as at end of step 8.	Connect ME-26B/U to AVC test jack and ground on test unit.	ME-26B + U must read between +2.5 and +3.5 vdc.
10	*ME-26B/U* Set to measure resistance. *Test unit* Controls remain as at end of step 2.	CAR RELAY : Depressed.	a. Connect ME-26B/U to CAR RELAY test jack on test unit. b. Release CAR RELAY switch on radio set simulator.	a. ME-26B/U must read 0 ohm. b. ME-26B/U must read infinite ohms.
11	*Test unit* Controls remain as at end of step 2.	TEST SELECT: VSWR CAL.	a. Depress PTT switch on radio set simulator and adjust VSWR CAL. control *on* radio set simulator for full scale deflection of meter on radio set simulator. b. Place radio set simulator TEST SELECT switch *on* VSWR TEST, and observe meter on radio set simulator. c. With radio set simulator PTT switch still depressed, observe XMIT indicator on radio set simulator. *d.* Release radio set simulator PTT switch.	a. None. *b.* Meter will read below 1 on numbered scale. c. XMIT indicator will light. *d. None.*
12	*Test unit* FUNCTION SELECT: T/R.	Controls remain as at end of step 11.	a. Observe T/R indicator on radio set simulator *b.* Place test unit FUNCTION SELECT switch to T/R+G, and oberve T/R indicator and T/R+G indicator on radio set simulator.	a. T/R indicator will light. *b.* T/R and T/R+G indicators will light.

Step NO.	Control setting: Test Equipment	Control setting: Equipment under test	Tat procedure	Performance standard
13	TS-421/U a. OUTPUT ATTENUATOR: 63 dbm. *b.* IMPEDANCE: *600* ohms. c. FREQUENCY: 1,000 cps. d. OUTPUT LEVEL meter: +26.8 dbm (maintain this level). *ME-30(*)/U* Set to measure minimum of *3.8* vac. Test unit Controls remain as at end of step 12.	Controls remain as at end of step 11.	a. Connect 600-ohm input of 600-ohm/5-ohm matching pad (C, fig. 4-2) to output of TS-421/U. Connect 5-ohm output of pad to terminals 1 and 3 of HEADSET H-101A/U jack J4 on radio set simulator. Connect a ground bus between case of audio oscillator. *b.* Connect ME-30(*)/U to red MAIN AUDIO test jack and ground on test unit. Note: Ensure 150-ohm resistor is connected between J7 and J8 on test unit.	a. None. *b.* ME-30(*)/U must read 3.6 vac minimum.
14	*TS-421/U* a. OUTPUT ATTENUATOR: 0 dbm. *b.* All other controls remain as at end of 13. *ME-30(*)U* Set to measure minimum of 2 vac. *Test* unit MIC SELECT: DUM MIC.	Controls remain as at end of step 11.	a. Disconnect 600-ohm/5-ohm matching pad. Connect 600-ohm input of 600-ohm/150-ohm matching pad (D, fig. 4-2) to output of TS-421/U. Connect 150-ohm output of pad to DUM MIC test jacks on test unit. Connect ground bus between case of pad and case of audio oscillator. *Note:* Ensure 9.5-ohm resistor is connected between terminals 2 and 4 of J4 on radio set simulator. *b.* Connect ME-30(*)/U between 2 and 4 of HEADSET H-101A/U jack J4 on radio set simulator.	a. None. *b.* ME-30(*)/U *must* read 1.75 vac minimum.

4-7. Test Data Summary

Personnel may find it convenient to arrange the checklists in a manner similar to that below. The data included in the checklists may then be used as a check against the test results the next time the tests are performed.

1. TEST UNIT TESTS

Note: The references in the Step No. column below are references to the steps in the Step No. column in **paragraph 4-5.**

Step No.	Tut Indication
1b	T/R indicators: On.
2a	Meter: Green hand of scale A

Step NO.	Test indication
2b	SQ. DIS indicator: On.
3a	Meter: Green band of scale A.
3b	Multimeter: +215 to +235 vdc.
4	Multimeter: +2.5 to +3.5 vdc.
5a	Multimeter: 0 ohm.
5b	Multimeter: Infinite ohms.
6a	XMIT indicators: On.
6b	XMIT indicators: On.
7a	Multimeter: +27 to +28 vdc.
7b	Meter: Green band of scale A.
8a	Voltmeter: 8.65 to 10.65 vac (peak)
8b	Meter: Green band of scale A.
9a	10-megacycyle frequency read out : Corresponds.
9b	1-megacycle frequency readout: Corresponds.
9c	0.1-megacycle frequency readout: Corresponds.
10a	T/R+G indicators: On.
10b	T/R+G indicators: Off; ADF indicator: On.
11b	Multimeter: 0 ohm.
11c	Multimeter: 20,000 to 26,000 ohms
11d	Multimeter: 1,000 to 3,000 ohms.
12b	Voltmeter: 2 vac minimum.
13b	Voltmeter: 0 to 3.8 vac.
13c	Voltmeter: 0.92 vac minimum.

2. RADIO SET SIMULATOR TESTS

Note. The references in the Step No. column below are references to the steps in the Step No. column in paragraph 4-6.

Step No.	Test indication
16	Meter: Green band of scale A.
1c	T/R and +27.5V indicators: On.
2a	10-megacycle frequency readout: Correspond.
2b	1-megacycle frequency readout: Corresponds.
2c	0.1-megacycle frequency readout: Corresponds.
3a	Multimeter: +27 to +28 vdc.
3b	Meter: Green band of scale A.
4a	Multimeter: +27 to +28 vdc.
4b	XMIT LOAD and XMIT indicators: On.
5a	Meter: Green band of scale A.
5b	Multimeter: +215 to +235 vdc.
6a	Meter: Green band of scale A.
6b	Voltmeter: 8.65 to 10.65 vac (peak)
7a	Meter: Green band of scale A.
7b	SQ. DIS indicator: On.
8	Meter: Green band of scale A.
9	Multimeter: +2.5 to +3.5 vdc.
10a	Multimeter: 0 ohm.
10b	Multimeter: Infinite ohms.
11b	Meter: Below 1 on numbered scale.
11c	XMIT indicator: On.
12a	T/R indicator: On.
12b	T/R and T/R+G indicators: On.
13b	Voltmeter: 3.8 vac minimum.
14b	Voltmeter: 1.75 vac minimum

APPENDIX I

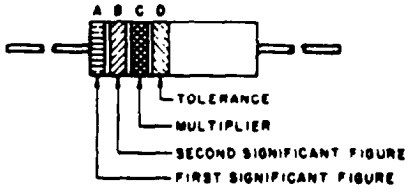
REFERENCES

Following is a list of publications available to general support and depot maintenance repairman of Maintenance Kit, Electronic Equipment MK-731/ARC-51X:

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
SM 11-4-5180-R08	Tool Kit, Radar and Radio Repairman TK-87/U.
TM 11-5820-518-12	Operator and Organizational Maintenance Manual, Radio Set AN/ARC-51X and AN/ARC-51BX.
TM 11-6625-200-12	Operator and Organizational Maintenance Manual: Multimeters ME-26A/U, ME-26B/U, and ME-26C/U.
TM 11-6625-274-12	Operator's and Organizational Maintenance Manual: Test Sets, Electron Tube TV-7/U, TV-7A/U, TV-7B/U, and TV-7D/U.
TM 11-6625-320-12	Operator's and Organizational Maintenance Manual: Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U and ME-30C/U.
TM 11-6625-564-12	Operator and Organizational Maintenance Manual: Maintenance Kit, Electronic Equipment MK-731/ARC-51X.
DA Pam 310-6	Index of Supply Catalogs and Supply Manuals
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.

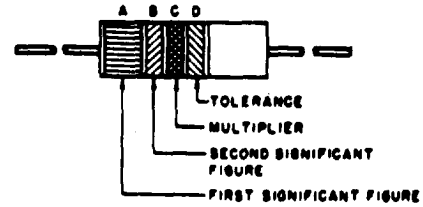
COLOR CODE MARKING FOR MILITARY STANDARD RESISTORS

COMPOSITION-TYPE RESISTORS



BAND A— Equal Width Band Signifies Composition-Type

WIREWOUND-TYPE RESISTORS

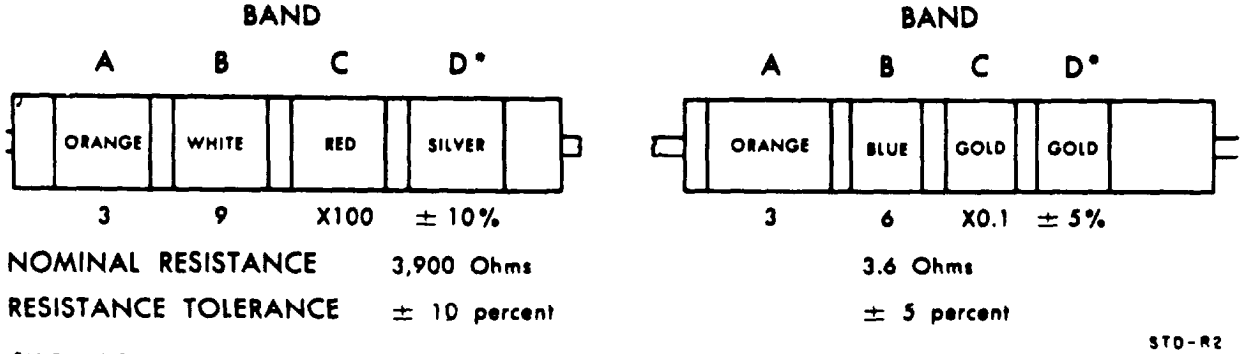


BAND A— Double Width Signifies Wire-wound Resistor

COLOR CODE TABLE

BAND A		BAND B		BAND C		BAND D*	
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)
BLACK	0	BLACK	0	BLACK	1		
BROWN	1	BROWN	1	BROWN	10		
RED	2	RED	2	RED	100		
ORANGE	3	ORANGE	3	ORANGE	1,000		
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	± 10
GREEN	5	GREEN	5	GREEN	100,000	GOLD	± 5
BLUE	6	BLUE	6	BLUE	1,000,000		
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7				
GRAY	8	GRAY	8	SILVER	0.01		
WHITE	9	WHITE	9	GOLD	0.1		

EXAMPLES OF COLOR CODING



*If Band D is omitted, the resistor tolerance is ± 20%, and the resistor is not Mil-Std.

Figure 4-4. Color-code marking for MIL-STD resistors.

APPENDIX II

GENERAL SUPPORT AND DEPOT REPAIR PARTS LIST

Section I: INTRODUCTION

A2-1. General

a. This appendix lists the quantities of repair parts for general support maintenance and is a basis for requisitioning authorized parts. It is also a guide for depot maintenance in establishing initial levels of spare parts.

b. Columns are as follows:

(1) *Source, maintenance, and recoverability code.* Source, maintenance, and recoverability codes indicate the Commodity Command responsible for supply, maintenance category at which an item is stocked, categories at which an item is installed or repaired, and whether an item is repairable or salvageable. The source code column is divided into four parts.

(a) Column A. This column indicates the materiel code and designates the area of responsibility for supply. AR 310-1 defines the basic numbers used to identify the materiel code. If the part is Signal materiel responsibility, the column is left blank.

(b) Column B. This column indicates the point within the maintenance system where the part is available. "P1" indicates that the repair part is a low mortality part; procured by Commodity Commands, stocked only in and supplied from Command key depots, and authorized for installation at indicated maintenance categories, "A" applies to assemblies which are not procured or stocked as such but are made up of two or more units, each of which carry individual stock numbers and descriptions and are stocked and can be assembled by units at indicated maintenance categories. "X1" applies to repair parts which are not procured or stocked, the requirement for which will be supplied by use of the next higher component or assembly. "X2" applies to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain from salvage. If not obtainable from salvage, such parts will be requisitioned with supporting justification through normal supply channels.

(c) *Column* C. This column indicates the lowest maintenance category authorized to install the part.

"O"-Organizational maintenance (operator and organizational).

"H"-general s u p p o r t maintenance.

(d) Column *D.* The symbols in this column indicate whether the item is repairable or salvageable, as follows :

"R"-indicates that the part or assembly is economically repairable and is supplied, when available, on an exchange basis.

(2) *Federal stock number.* This column lists the 11-digit Federal stock number.

(3) Designation by model. Not used.

(4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

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

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

(7) *Quantity incorporated in unit.* This column lists' the quantity of each part found in a given assembly, component, or equipment.

(8) *Direct support.* Not used.

(9) *General support.* The numbers in this column indicate quantities of repair parts authorized for initial stockage for use in general support maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

(10) *Depot.* The numbers in this column indicate quantities of repair parts authorized for depot maintenance and for initial stockage for mainteance, and for supply support to lower categories. The entries are based on the quantity required for rebuild of 100 equipments.

(11) *Illustration.* The "Item No." column lists the reference designations that appear on the part in the equipment. These same designations are also used on any illustrations of the equipment. The numbers in the "Figure No." column refer to the illustrations where the part is shown

A2-2. Parts for Maintenance

When this equipment is used by signal service organizations organic to theater headquarters or communication zones to provide theater communications, those repair parts authorized up to and including general support are authorized for stockage by the organization operating this equipment.

A2-3. Electeron lubes

The consumption rates given for tubes are conservative theoretical estimates and are provided for use only when more complete information, such as data based on operating experience, is not available. These figures are based on levels and requirements for equipment actually in use, not on authorizations or equipment stored in depots.

A2-4. Maintenance Float Requirements

Supply Bulletin 11-244 is the authorizing document for maintenance float. It authorizes a number of major components which are installed in Army aircraft and states in part.

"A careful review will be made by the responsible maintenance officer to limit maximum percentage of maintenance float to only those items that exhibit high failure rates. Items authorized for stockage as maintenance float will be included on the theater or installation authorized stockage list in accordance with AR 711-16, coded to indicate that stockage is for maintenance float."

"In the case of avionics maintenance float, the field maintenance officer is encouraged to locate the float at Army airfields in order to obtain maximum utilization."

A2-5. Arrangement of List

This list is arranged in top-down breakdown order and contains the following groups :

A2-6 Vendor Code Index

Following is a list of manufacture's codes and addresses :

Code	Vendor
No code No.	Flex Products Corporation 445 Industrial Road Carlstadt, New Jersey
00213	Sage Electronics Corporation Rochester, New York
00853	Sangamo Electric Company Pickens Division Pickens, South Carolina
01526	Speciality Control Department of General Electric Company Waynesboro, Virginia
02374	Allard Instrument Corporation Mineola, New York
04713	Motorola Incorporated Semiconductor Products Division Phoenix, Arizona
94740	Duramark, Incorporated Port Washington, New York
06540	Amatom Electronic Hardware Company, Incorporated New Rochelle, New York
07688	Joint Electronic Tube Engineering Council Washington, D. C.
07707	United Shoe Machinery Corporation Fastener Division Shelton, Connecticut
08864	The Bristol Company Waterbury, Connecticut
08717	Sloan Company Sun Valley, California
98730	Vemaline Products Company Hawthorne, New Jersey
09026	Babcock Relays, Incorporated Costa Mesa, California
09922	Burndy Corporation Norwalk, Connecticut
10646	The Carborundum Company Niagara Falls, New York
12014	Chicago Rivet and Machine Co. Bellwood, Illinois
12615	V. S. Terminals, Incorporated Cincinnati, Ohio
13499	Collins Radio Company Cedar Rapids, Iowa
15409	Thermotech Industries Booker and Wallestad Division Hopkins, Minnesota
15814	C. R. Daniels, Incorporated Danels, Maryland
16758	Delco Radio Division of General Motors Corporation Kokoma, Indiana
17875	The Dill Manufacturing Company Cleveland, Ohio
25140	Globe Industries, Incorporated Dayton, Ohio
43334	New Departure Division of General Motors Corporation Bristol, Connecticut
44655	Ohmite Manufacturing Company Skokie, Illinois
49956	Raytheon Company Lexington, Massachusetts
53021	Sangamo Electric Company Springfield, Illinois
56289	Sprague Electric Company North Adams, Massachusetts
53800	Atlas Hoist and Body Incorporated Montreal, Quebec, Canada

Code	Vendor
56289	Sprague Electric Company North Adams, Massachusetts
58474	The Superior Electric Company Bristol, Connecticut
70276	Allen Manufacturing Company Hartford, Connecticut
70674	Audio Development Company Minneapolis, Minnesota
70998	Bird Electronics Corporation Cleveland, Ohio
71279	Cambridge Thermionic Corporation Cambridge, Massachusetts
71286	Camloc Fastener Corporation Paramus, New Jersey
71450	Chicago Telephone Supply Company Elkhardt, Indiana
71468	Cannon Electric Company Los Angeles, California
72653	G. C. Electronics Manufacturing Company Rockford, Illinois
72794	Dzus Fastener Company, Incorporated Babylon, New York
72962	Elastic Stop Nut Corporation of America Union, New Jersey
72982	Erie Resistor, Corporation Erie, Pennsylvania
73386	Freed Transformer, Company Brooklyn, New York
73680	Garlock. Incorporated Palmyra. New York
73899	J. F. D. Electronics Corporation Brooklyn, New York
74193	Heinemann Electric Company Trenton, New Jersey
74284	Skydyne, Incorporated Port Jervis. New York
75042	International Resistance Company Philadelphia. Pennsylvania
75237	Kayner Manufacturing Company Pico-Rivera, California
76545	Mueller Electric Company Cleveland, Ohio
76854	Oak Manufacturing Company Crystal Lake, Illinois
77147	Patton MacGuyer Company Providence, Rhode Island
77820	Bendix Corporation Scintilla Division Sidney, New York
78189	Shakeproof Division of Illinois Tool Works Elgin, Illinois
78947	Ucinite Company Newtonville, Massachusetts
79497	Western Rubber Company Goshen, Indiana
80058	Joint Electronic Type Designation System
80223	United Transformer Company New York, New York
90294	Bourns Laboratories, Incorporated Riverside, California
80813	Dimco Gray Company Dayton, Ohio
81349	Military Specifications
82647	Metals and Controls, Incorporated Spencer Products Attleboro, Massachusetts
83330	Herman H. Smith, Incorporated Brooklyn, New York
85675	Midland Manufacturing Company, Incorporated Kansas City, Missouri
86577	Precision Metal Products of Malden, Incorporated Stoneham, Massachusetts
88063	Communication Accessories Company Lees Summit, Missouri
88245	U. S. Engineering Company Van Nuys, California
89462	Waldes Kohinoor, Incorporated Cambridge, Massachusetts
90030	United Shoe Machinery Corporation Beverly, Massachusetts
91146	Cannon Electric Company Eastern Division Salem, Massachusetts
91506	Augat Brothers, Incorporated Attleboro, Massachusetts
94375	Automatic Metal Products Company Brooklyn, New York
94916	Wac Line, Incorporated Dayton, Ohio

Code	Vendor
94991	Sylvania Electric Products, Incorporated Parts Division Warren, Pennsylvania
96881	Thomson Industries, Incorporated New Hyde Park Long Island, New York
96996	Military Standards
97965	Stancor Electronics Corporation Chicago 18, Illinois
98278	Microdot Incorporated South Pasadena, California
98291	Sealectro Corporation Mamaronck, New York
98427	Jaco Products Company Cleveland, Ohio
98978	International Electronic Research Corporation Burbank, California
99378	Atlas E-E Corporation Woburn, Massachusetts

A2-7. Requisitioning Information.

a. The allowance factors are based on 100 equipments. In order to determine the number of parts authorized for initial stockage for the specific number of equipments supported, the following formula will be used and carried out to two decimal places.

$$\text{Specific number of equipments supported} \times \frac{\text{allowance factor}}{100} = \text{Number of parts authorized for initial stockage.}$$

b. Fractional values obtained from above computation will be rounded to whole numbers as follows:

(1) When the total number of parts authorized is less than 0.5, the quantity authorized will be zero.

(2) When the total number of parts authorized is between 0.5 and 1.0, the quantity authorized will be one.

(3) For all values above one, fractional values below 0.5 will revert to the next lower whole number and fractional value 0.5 and above will advance to the next higher whole number.

c. The quantities determined in accordance with the above computation represent the initial stockage for a 15-day period.

SECTION II. FUNCTIONAL PARTS LIST

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D	6625-082-4057							MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK 731/ARC-51X		NX	1				1-1	
											GROUP I EXTENDER, MODULE MX-4911/ARC-51X								
	P1	O	R	6625-738-5982							EXTENDER, MODULE MK-4911/ARC-51X		NX	1		1.2	10.0	1-4	
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 761-7013-001			1					
	X2	H									CHASSIS 13499, 756-8943-001			1					
	X2	H									PIN LOCATING: 13499, 756-8927-001 (Authorized allowances based on a total of 8.)			2					
	X2	H									PIN, SPRING: 96906, MS16562-189 (Authorized allowances based on a total of 41.)			4					
	X2	H									. JACK TIP: 98291, SKT41WHT (Authorized Allowances based on a total of 90.)			13					
	X2	H									JACK TIP: 98291, SKT41WHT (Authorized Allowances based on a total of 90.)			2					TP1,3-8,10-15
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8942-001			1					TP2,9
	X2	H									COVER: 13499, 756-8942-002			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499 756-8938-001			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (Authorized allowances based on a total of 28.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (Authorized allowances based on a total of 16.)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (Authorized allowances based on a total of 24.)			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X..(continue								
	P1	H		5305-909-1949							SCREW, MACHINE, MODIFIED: 13499 756-8924-001 (Authorized allowances based on a total of 24.)			4		5.2	7.0		
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (Authorized allowances based on a total of 26.			4					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (Authorized allowances based on a total of 34.)			4					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (Authorized allowance based on a total of 40.)			8					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (Authorized allowances based on a total of 91.)			8					
	X2	H									WIRING HARNESS, ELETRICAL: 13499, 761-7014-001			1					
	X2	H									CONNECTOR, RECRPTAL, ELECTRICAL: 71468, DA15P (Authorized allowances based on a total of 6.)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAF15S (Authorized allowances based on a total of 6.)			1					J6
	X2	H									CABLE ASSEMBLY, RF: 13499, 761-7003-002 (Authorized allowances based on a total of 8.)			3					
	X2	H									CONNECTOR, PLUG, ELECTRICAL: 71468, DM53740-5000 (Authorized allowances based on a total of 12.)			1					
	X2	H									CONNECTOR INSERT COAXIAL: 71468 DM53740-5000 (Authorized allowances Based on a total of 12.)			1					
	X2	H									SHAFT, COUPLER: 13499, 761-7006-002 (Authorized allowances based on a total of 6.			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC- 51X (continued)								
	X2	H									PIN, SPRING:96906, MS16562-189 (For authorized allowances see first appearance this group.)			1					
	X2	H									SHAFT: 13499, 756-8929-002 (Authorized allowances based on a total of 6.)			1					
	X2	H									RETAINER, COUPLING: 13499, 756-8926-001 (Authorized allowances based on a total of 6.)			1					
	X2	H									RING, PLASTIC: 96906, MS35216-00-2303 (Authorized allowances based on a total of 34.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-11 (Authorized allowances based on a total of 34.)			4					
	X2	H									PLATE, RETAINING: 13499, 756-8922-001 (Authorized allowances based on a total of 4.)			1					
	X2	H									WASHER, LOCK: 96906, MS35337-78 (Authorized allowances based on a total of 38.)			4					
	X2	H									INSERT, COUPLING: 13499, 549-3856-002 (Authorized allowances based on a total of 3.)			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAM3W3P			1					P3
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL 71468, DAMF3W3S			1					J21
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (Authorized allowances based on a total of 40.)			2					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 98278, 51-258			1					J24

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									GROUNDING SHEILD: 98278, 53-315			2					
	X2	H									WASHER, FLAT: 13499, 756-8937-001			1					
	X2	H									BUSHING, THREAD: 13499, 756-8936-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 98278, 052-0249			1					P5
											GROUP II								
	P1	O	R	6625-738-5981							EXTENDER, MODULE MX-4910/ARC-51X								
	X2	H									EXTENDER, MODULE MX-4910/ARC-51X		NX	1		1.2	10.0	1-4	
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 761-7011-001			1					
	X2	H									CHASSIS: 13499, 156-8919-001			1					
	X2	H									PIN, LOCATING: 13499, 756-8927-001 (For authorized allowances see Group I.)			2					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For authorized allowances see Group I.)			4					
	X2	H									JACK, TIP: 98291, M SKT41WHT (For authorized allowances see Group I.)			8					TP1-3, 5-9
	X2	H									JACK, TIP: 98291, SKT41RED (For authorized allowances see Group I.)			1					TP4
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8916-001			1					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8916-002			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8911-001			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For authorized allowances see Group I.)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances Group I.)			3					
	P1	H		5305-909-1949							SCREW, MACHINE, MODIFIED: 13499, 756-8924-001 (For authorized allowances Group I.)			3					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For Authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For Authorized allowances see Group I.)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowances see Group I.)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I.)			4					
	X2	H									SHAFT, COUPLER: 13499, 761-7006-002 (For authorized allowances see Group I.)			1					
	X2	H									PIN, SPRNG: 96906, MS16562-189 (For authorized allowances see Group I.)			1					
	X2	H									SHAFT: 13499, 756-8929-002 (For authorized allowances see Group I.)			1					
	X2	H									RETAINER, COUPLING: 13499, 756-8926-001 For authorized allowances see Group I.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I.)			6					
	X2	H									RING, PLASTIC: 78189, 213-141216-00-2303 (For authorized allowances see Group I.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-11 (For authorized allowances see Group I.)			4					
	X2	H									PLATE, RETAINING: 13499, 756-8922-001 For authorized allowances see Group I.) Group I.)			1					
	X2	H									WASHER, LOCK: 96906, MS35337-78 (For authorized allowances see Group I.)			4					
	X2	H									PLATE, END: 13499, 756-8912-001			2					
	X2	H									INSERT, COUPLING: 13499, 549-3856-002 (For authorized allowances see Group I)			1					
	X2	H									WIRING HARNESS, ELECTRICAL: 13499 761-7012-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X								
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 714568, DAMF11W1S (Authorized allowances based on a total of 3.)			1					J5
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL, ELECTRICAL 71468, DAM11W1P (Authorized allowances based on a total of 3.)			1					P1
	X2	H									CABLE ASSEMBLY, RF: 13499, 761-7003-002 (For authorized allowances see Group I.)			1					
	X2	H									CONNECTOR, PLUG, ELECTRICAL: 71468, DM53740-5000 (For authorized allowances see Group I.)			1					
	X2	H									CONNECTOR, INSERT, COAXIAL: 71468, DM53742-5000 (For authorized allowances see Group I.)			1					
											GROUP III								
											EXTENDER, MODULE MX-4909/ARC-51X					1.2	10.0	1-4	
	P1	O	R	6625-738-5980							EXTENDER, MODULE MX-4909/ARC-51X		NX	1					
	X2	H									CHASSIS, MDULE EXTENDER: 13499, 761-7009-001			1					
	X2	H									CHASSIS: 13499, 756-8955-001			1					
	X2	H									PIN, LOCATING: 13499, 756-8927-002 (For authorized allowances see Group I.)			2					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For authorized allowances see Group I.)			4					
	X2	H									JACK, TIP: 98291, SKT41WHT (For authorized allowances see Group I.)			13					TP3-15
	X2	H									JACK, TIP: 98291, SKT41RED (For authorized allowances see Group I.)			2					TP1, 2
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8952-001 (Authorized allowances based on a total of 2.)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8952-002 (Authorized allowances based on a total of 2.)			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8958-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For authorized allowances see Group I.)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I.)			4					
	P1	H		5905-909-1949							SCREW, MACHINE. MODIFIED: 13499, 756-8924-001 (For authorized allowances see Group I.)			4					
	X3	H									SCREW, MACHINE: 96906, MS35200-3 (For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowances see Group I.)			8					
	X2	H									NUT, PLAIN, HEXAGON: 96906, MS35649-24 (For authorized allowances see Group I.)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-2 (Authorized allowances see total of 14).			4					
	X2	H									PLATE, END:13499, 756-8948-001			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I.)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7010-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DA15P (For authorized allowances see Group I.)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAF15S (For authorized allowances see Group I.)			1					J4
											GROUP IV EXTENDER, MODULE MX-4908/ARC-51X								
	P1	O	R	6625-738-5979							EXTENDER, MODULE MX-4908/ARC-51X		NX	1		1.2	10.0	1-4	
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowances see Group I.)			4					
	X2	H									WASHER, LOCK: 96906, MS35337-79)For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906 MS35216-1 (For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I.)			2					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8902-001			1					
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 761-7007-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									JACK, TIP: 98291, SKT41WHT (For Authorized allowances see Group I.)			15					TP1-15
	X2	H									PIN, LOCATING: 13499, 756-8927-002 For authorized allowances see Group I.)			2					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For Authorized allowances see Group I.)			4					
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 756-8908-001			1					
	X2	H									CHASSIS: 13499, 756-8907-001			1					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8905-001			1					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8905-002			1					
	P1	H		5305-909-1949							SCREW, MACHINE, MODIFIED: 13499, 756-8924-001 (For authorized allowances see Group I.)			2					
	X2	H									WIRING HARNESS, ELECRICAL: 13499, 761-7008-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DA15P (For authorized allowances see Group I.)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAF15S (For authorized allowances see Group I.)			1					J3
	X2	H									NUT, PLAIN, HEX: 96906, MS35649-24 (For Authorized allowances see Group I.)			4					
											GROUP V								
	X2	H									EXTENDER, MODULE MX-4907/ARC-51X								
	P1	O	R	6625-738-5978							EXTENDER, MODULE MX-4907/ARC-51X		NX	1		1.2	10.0	1-4	

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 761-7004-001			1					
	X2	H									CHASSIS: 13499, 756-8967-001			1					
	X2	H									CHASSIS: 13499, 756-8965-001			1					
	X2	H									PIN, SPRING: 96906, NS16562-189 (For authorized allowances see Group I.)			4					
	X2	H									JACK, TIP: 98291-, SKT41WHT (For authorized allowances see Group I.)			10					TP1-10
	X2	H									PIN, LOCATING: 13499, 756-8927-001 (For authorized allowances see Group I.)			2					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8964-001			1					
	X2	H									COVER, MODULE EXTENDER: 756-8963-001			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8958-001 (For authorized allowances see Group III.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For authorized allowances see Group I.)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I.)			3					
	P1	H		5305-909-1949							SCREW,MACHINE, MODIFIED: 13499, 756-8924-001 (For authorized allowances see Group I.)			3					
	X2	H									SCREW, M,ACHINE: 96906, MS35200-3 (For authorized allowances see Group I.)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowances see Group I.)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I.)			4					
	X2	H									SHAFT, COUPLER: 13499, 761-7006-002 (For authorized allowance see Group I.)			3					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For authorized allowances see Group I.)			1					
	X2	H									SHAFT: 13499, 756-8929-002 (For authorized allowances see Group I.)			1					
	X2	H									RETRAINER, COUPLING: 13499, 756-8926-001 (For authorized allowances see Group I.)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I.)			2					
	X2	H									RING, PLASTIC: 78189, 213-141216-00-2303 (For authorized allowances see Group I.)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-11 (For authorized allowances see Group I.)			10					
	X2	H									PLATE, RETAINING: 13499, 756-8922-001 (For authorized allowances see Group I.)			1					
	X2	H									PLATE, RETAINING: 13499, 756-8922-001			2					
	X2	H									WASHER, LOCK: 96906, MS35337-78 (For authorized allowances see Group I.)			10					
	X2	H									INSERT, FLEXIBLE COUPLING: 13499, 549-3662-002			3					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7005-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBMF13W3S (Authorized allowances based on a total 2.)			1					J
	X2	H									CONNECTOR RECEPTACLE, ELECTRICAL: 71468, DBM13W3P (Authorized allowances based on a total of 2.)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBM13W3P (Authorized allowances is based on a total of 2.)			1					
	X2	H									CABLE ASSEMBLY, RF: 13499, 761-7033-002 (For authorized allowances see Group I.)			3					
	X2	H									CONNECTOR, PLUG,,ELECTRICAL: 71468, DM53740-5000 (For authorized allowances see Group I.)			1					
	X2	H									CONNECTOR, INSERT, COAXIAL: 71468, DM53742-5000 (For authorized allowances see Group I.)			1					
											GROUP VI EXTENDER, MODULE MX-4906/ARC-51X								
	P1	O	R	6625-738-5977							EXTENDER, MODULE MX-4906/ARC-51X		NX	1		1.2	10.0	1-4	
	X2	H									CHASSIS, MODULE EXTENDER: 13499, 761-7001-001			1					
	X2	H									CHASSIS: 13499, 756-8933-001			1					
											CHASSIS: 13499, 756-8932-001			1					
	X2	H									PIN, LOCATING: 13499, 756-8927-001 (For authorized allowances see Group I.)			2					
	X2	H									PIN, SPRING: 96906 MS16562-189 (For authorized allowances see Group I.)			4					
	X2	H									JACK, TIP: 98291, SKT41WHT (For authorized allowances see Group I.)			7					TP1, 4-9

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									JACK, TIP: 98291, SK41RED (For Authorized allowances see Group I.)			2					TP2,3
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8925-002			1					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8925-001			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8923-001			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For Authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For Authorized allowances see Group I.)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I.)			2					
	P1	H		5305-909-1949							SCREW, MACHINE, MODIFIED: 13499, 756-8924-0001 (For authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For Authorized allowances see Group I.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For Authorized allowances see Group I.)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For Authorized allowances see Group I.)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I.)			4					
	X2	H									SHAFT, COUPLER: 13499, 761-7006-002 (For Authorized allowances see Group I.)			1					
	X2	H									PIN: 96906, MS16562-189 (For authorized Allowances see Group I.)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/AEC-51X (continued)								
	X2	H									SHAFT: 13499, 756-8929-002 (For Authorized allowances see Group I.)			1					
	X2	H									RERTAINER, COUPLING: 13499, 756-8926-001 (For authorized allowances see Group I.)			1					
	X2	H									PLATE ASSEMBLY, CONNECTOR: 91146, CA51231-1			1					
	X2	H									CABLE ASSEMBLY, RF: 13499, 761-7003-001			4					
	X2	H									CONNECTOR, PLUG, ELECTRICAL: 71468, DM53740-5000 (For authorized Allowances see Group I.)			1					
	X2	H									CONNECTOR INSERT, COAXIAL: 71468, DM53742-5000 (For authorized			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For Authorized allowances see Group I.)			2					
	X2	H									RING, PLASTIC: 78189, 213-141216-00-2303 (For authorized allowances see Group I.)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-11 (For Authorized allowances see Group I.)			4					
	X2	H									PLATE, REATAINING: 13499, 756-8922-001 (For authorized allowances see Group I.)			1					
	X2	H									WASHER, LOCK: 96906, MS35337-78 (For Authorized allowances see Group I.)			4					
	X2	H									INSERT, COUPLING: 13499, 549-3856-002 (For authorized allowances see Group I.)			1					
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7002-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 714568, DE9P (Authorized allowance based on a total of 2.)			1					P1

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DEF9S (Authorized allowances based on a total of 2.)			1					J1
											GROUP VII								
	A	O	R	6625-965-1483							TEST SET, RADIO TS-1962/ARC-51X		NX	1				1-2	
	X2	H									TEST SET, RADIO TS-162/ARC-51X MAINTENANCE FLOAT ITEM)								
	X2	H									CASE TEST SET: 13499, 761-7063-001			1					
	X2	H									BEAM, SUPPORT, NO. 1: 13499, 756-8850-001			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-27 (Authorized allowances based on a total of 5.)			1					
	X2	H									WASHER, LOCK: 96906, MS3533-79 (Authorized allowances based on a total of 24.)			1					
	X2	H									FRAME, CASE: 13499, 756-8853-001			1					
	X2	H									PLATE, MOUNTING: 13499, 756-8853-001			1					
	X2	H									NUT, SELF-LOCKING: 72962, F12NC4284-2-62 (Authorized Allowances based on a total of 20.)			4					
	X2	H									BEAM, SUPPORT, NO. 2: 13499, 756-8849-001			1					
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7028-002			10					
	X2	H									SCREW, MACHINE: 96906, MS35200-13 (Authorized allowances based on a total of 31.)			1					
	X2	H									WASHER, LOCK: 96906, MS35338-77			16					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized Allowances see Group I.)			16					
	X2	H									CASE, MAINTENANCE KIT: 13499, 756-8852-001			1					
	X2	H									CASE, CARRYING: 74284, 021-0323-00			1					
	X2	H									MOUNT, RESILIENT NO.13499, 756-8851-0001			1					
	X2	H									MOUNT SECTION NO. 2: 13499, 756-8815-002			1					
	X2	H									MOUNT SECTION NO. 2: 13499, 756-8851-003			1					
	X2	H									MOUNT SECTION NO. 3: 13499, 756-8851-004			1					
	X2	H									MOUNT SECTION NO. 4: 13499, 756-8851-005			1					
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7068-004			16					
	X2	H									SCREW, MACHINE: 96906, MS35260-5 (For Authorized allowances see Group I.)								
	X2	H									BRACKET, SUPPORT: 13499, 761-7065-001			6					
	X2	H									BRACKET, SUPPORT: 13499, 756-0149-001 (Authorized allowances based on a total of 16.)								
	X2	H									NUT, SELF-LOCKING: 72962, F12NC4284-2-62 (For authorized Allowances see Group VII.)			8					
	X2	H									SCREW, MACHINE: 96906, MS35216-16 (Authorized allowances based on a total of 34.)			3					
	X2	H									NUT, SELF-LOCKING: 75237, MF1400-68			8					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WASHER, LOCK: 96906, MS35338-78 (Authorized allowances based on a total of 151.)			32					
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7028-005			16					
	X2	H									SCREW, MACHINE: 96906, MS35200-30 (Authorized allowances based on a total of 16.)			1					
	X2	H									BRACKET, SUPPORT: 13499, 761-7068-002			8					
	X2	H									BRACKET, SUPPORT: 13499, 756-9149-001 (For authorized allowances see Group VII.)			1					
	A	H	R								TEST UNIT: 13499, 761-7064-001		NX	1					
	A	H	R								BRACKET, TERMINAL BOARD: 13499, 761-7072-001		NX	1					
	X2	H									BRACKET: 13499, 756-8872-002			1					
											TERMINAL, STAND-OFF: 12615, SL173-197 (Authorized Allowances based on a total of 10.)			3					
	X2	H									TERMINAL, FEED-THROUGHT: 12615, SL158-198 (Authorized allowances Based on a total of 41.)			2					
	P1	H		5910-058-1629							CAPACITOR, FIXED: 81349, CS13AF2R2M			1		0.5	3.0		C3
	P1	H		5905-279-1877							RESISTOR, FIXED, COMPOSTION: 81349, RC20GF242J			1		0.5	3.0		R5

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X								
	P1	H		5905-279-2616							RESISTOR, FIUXED, COMPOSTITON: 81349, RC20GF153J (Authorized allowances Based on a total of 10).			1		.7	30.0		R4
	P1	H		5960-993-6721							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N647 (Authorized allowances based on a total of 4.)			2		1.2	12.0		CR2, 3
	X2	H									COVER ASSEMBLY, JACK: 13499, 761-7035-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									COVER: 13499, 756-8887-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									INSERT: 13499, 756-8885-001 (Authorized allowances based on a total of 4.)			1					
	X2	H									BRACKET: 13499, 756-8890-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									SPRING, HELICAL: 13499, 756-8886-001 (Authorized allowances based on a total of 3.)			1					
	X2	H									PIN, SPRING: 96906, MS171444 (Authorized allowances based on a total of 3.)			1					
	X2	H									COVER ASSEMBLY, TEST UNIT: 13499, 756-8881-002			1					
	X2	H									COVER: 13499, 756-8881-001			1					
	X2	H									WRAPAROUND: 13499, 756-8881-003			1					
											COVER END: 13499, 756-8881-004			2					
	X2	H									NUT, SELF-LOCKING: 72962, F12NCMA1-62			8					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H	R	5821-908-4758							DETECTOR ASEMBLY, AF: 13499, 761-7069-001		NX	1		1.2	10.0		
	X2	H									CHASSIS, DETECTOR ASSEMBLY: 13499, 756-8873-002			1					
	X2	H									CHASSIS: 13499, 756-8873-001			1					
	X2	H									TERMINAL, STAND-OFF: 12615, SL173-197			2					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA2-40 (Authorized allowances based on a Total of 8.)			4					
	X2	H									TERMINAL, GROUND: 12615, AB406D (authorized allowances base on a total of 8.)			4					
	P1	H		5910-280-8374							CAPACITOR, FIXED: 72982, 327047X5T0102Z			1		0.5	3.0		C2
	P1	H		5910-060-1189							CAPACITOR, FIXED: 81349, CM05F271J03			1		0.5	3.0		C1
	P1	H		5950-855-0468							COIL, RF: 96906, MS16225-2 (Authorized allowances based on a total of 7.)			1		2.0	21.0		L1
	P1	H		5960-556-2091							SEMICONDUCTOR DEVIC, DIODE: 81349, 1N270			1		0.5	3.0		CR1
	P1	H		5905-279-3500							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF183J			1		0.5	3.0		R2
	P1	H		5905-195-6806							RESISTOR, FIXED, COMPOSTITON: 81349, RC20GF102J (Authorized allowances Based on total of 5.)			1		1.6	15.0		R1

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5935-552-7660							CONNECTOR, RECEPTACLE, ELECTRICAL: 8005, UG-625B/U			2		0.6	4.0		J18, 19
	X2	H									TERMINAL, LUG: 77147, 4090H0TTINNED			2		0.6	4.0		J9
	X2	H		5935-906-6334							JACK, TIP, MODIFIED: 13499, 756-8876-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									JACK, PANEL MOUNTED: 78947, 119392 (Authorized allowances based on a total of 2.)			1					
	X2	H									PANEL, FRONT: 13499, 756-8883-001			1					
	X2	H									BRACKET: 13499, 756-8871-001			1					
	X2	H									SPACER, PLATE: 13499, 756-8889-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									COVER, DETECTOR ASSEMBLY: 13499, 756-8875-001			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8834-001			2					
	X2	H									INSERT, JACK COVER: 13499, 756-8885-001 (For authorized allowances see Group VII.)			2					
	A	H	R								RECTIFIER ASSEMBLY: 13499, 761-7071-001		NX	1					TB2
	X2	H									TERMINAL BOARD: 13499, 761-7070-001			1					
	X2	H									TERMINAL, FEED-THROUGHT: 88245, 603-1141-00			6					
	P1	H		5960-577-5214							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N538 (Authorized allowances based on a total of 7.)			3		2.0	21.0		CR4, 5, 6

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII.)			6					
	X2	H									WASHER, LOCK: 96906, MS35338-77 (For authorized allowances see Group VII.)			12					
	X2	H									SCREW, MACHINE: 96909, MS35338-77 (For authorized allowances see Group III.)			4					
	X2	H									WASHER, FLAT: 13499, 505-1504-001 (Authorized allowances based on a total of 10.)			1					
	X2	H									WASHER, LOCK: 78189, 1720-02 (Authorized allowances based on a total of 20.)			5					
	P1	H		5930-655-1582							SWIITCH, TOGGLE: 81349, MS35059-23			2		0.6	4.0		S1,2
	P1	H		5930-655-1523							SWIITCH, TOGGLE: 96906, MS35059-31			1		0.4	2.0		S3
	X2	H									SCREW, MACHINE: 96906, MS35216-4 (Authorized allowances based on a total of 10.)			2					
	P1	H		6250-881-1507							LIGHT, INDICATOR: 08717, 855029-9 (Authorized allowances based on a total of 10.)			4		2.0	20.0		XDS1-4
	X2	H									SCREW, MACHINE: 96906, MS35216-24(For authorized allowances see Group I.)			4					
	P1	H		5940-846-5475							POST, BINDING: 58474, DFN30RC			3		0.8	6.0		J7,10, 17
	P1	H		5940-615-9110							POST, BINDING: 58474, DFN30BC			3		0.8	6.0		J8,11,16
	P1	H		5935-539-2045							JACK, TIP: 96906, MS16108-2			4		1.0	8.0		J12-15
	X2	H									HANDLE: 86577, 2102 (Authorized allowances based on a total of 4.)			2					
	X2	H									SCREW, MACHINE: 96906, MS35201-53 (Authorized allowances based on a total of 8.)			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
													FIGURE NO.	ITEM NO.
A	B	C	D			MK-731/ARC-51X (continued)								
	X2	H				SCREW, MACHINE: 96906, MS35216-13 (Authorized allowances based on a total of 39.)			4					
	X2	H				TERMINAL, LUG: 77147, 4007-6HOTTINNED (Authorized allowances based on a total of 19.)			15					
	X2	H				SCREW, MACHINE: 96906, MS35216-25 (Authorized allowances based on a total of 35.)			12					
	X2	H				TRANSFORMER, AF: 97965, 32867 (M5AD8-0324)			1		0.5	3.0		T1
	X2	H				RECEPTACLE, TURNLOCK FASTNER: 71286, 212-12			4					
	X2	H				SCREW, MACHINE: 96906, MS35216-25 (Authorized allowances based on a total of 12.)			8					
	X2	H				NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances See Group I.)			8					
	P1	H		5905-299-1541		RESISTOR, FIXED, COMPOSITION: 81349, RC20GF151J (Authorized allowances Based on a total of 2.)			1		0.8	6.0		R3
	P1	H		5905-993-8458		RESISTOR, FIXED, WIREWOUND: 75042, 710-9001-00			1		0.5	3.0		R6
	X2	H				TERMINAL. LUG: 77147, 4021 (Authorized Allowances based on a total of 8.)			6					
						WASHER, FLAT: 13499, 761-0012-003 (Authorized allowances based on a total of 4.)			3					
	P1	O		6240-155-7836		LAMP, INCANDESCENT: 96906, MS25237-327 (Authorized allowances based on a total of 26.)			4		10.5	600.0		DS1-4
	X2	H				WASHER, LOCK: 96906, MS35338-79 (For Authorized allowances see Group VII.)			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	O		6210-767-6246							LENS, INDICATOR LIGHT: 08717, 855020R (Authorized allowances based on a total of 10.)			4		2.0	20.		
	P1	H		5925-918-3022							CIRCUIT BREAKER: 74193, SM3-15-58-50VDC			1		0.7	5.0		CB1
	X2	H									TERMINAL, LUG: 13499, 547-5305-002 (Authorized allowances based on a total of 2.)			1					
	X2	H									TERMINAL, LUG: 78189, 2104-04-01-2520N			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 540-9002-003			2					
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7075-001			1					
	P1	H		5935-951-9331							CONNECTOR, RECEPTACLE, ELECTRICAL: 96906, MS3114E16-26PW (Authorized allowances based on a total of 2.)			1		0.8	6.0		J1
	P1	H		5935-836-1804							CONNECTOR, RECEPTACLE, ELECTRICAL: 96906, MS3114E16-26P (Authorized allowances based on a total of. 2.)			1		0.8	6.0		J2
																0.5	3.0		J5
	P1	H		5935-842-2537							CONNECTOR, RECEPTACLE, ELECTRICAL: 96906, MS3114E12-3P			1					
																0.5	3.0		J6
	P1	H		5935-809-8808							CONNECTOR, RECEPTACLE, ELECTRICAL: 96906, MS3112E18-3P			1					
	A	O	R								CABLE ASSEMBLY, RF: 13499, 761-7073-001			1					
																0.5	3.0		P1
	P1	H		5935-825-7405							CONNECTOR, PLUG, ELECTRICAL: 80058, UG-913A/U			1					
	P1	H		5935-988-5506							CONNECTOR, RECEPTACLE, ELECTRICAL: 80058, 94375, 101N3100A85 (Authorized allowances based on a total of 3.)			1		1.1	9.0		J3
	A	O	R								CABLE ASSEMBLY, RF: 13499, 761-7074-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5935-823-0487							CONNECTOR, PLUG, ELECTRICAL: 80058, UG-88E/U (Authorized allowances Based on a total of 4.)			1		1.2	12.0		P
	P1	H		5935-988-5506							CONNECTOR, RECEPTACLE, ELECTRICAL: 94375, 101N3100A85 (For authorized allowances see Group VIII.)			1					J4
	P1	H	R	6625-908-7384							AMPLIFIER ASSEMBLY, AF: 13499, 761-7065-001		NX	1		0.7	5.0		3A1
	A	H	R								AMPLIFIER SUBASSEMBLY: 13499, 761-7076-001		NX	1					
	X2	H									TERMINAL BOARD: 13499, 756-8862-002			1					
	X2	H									TERMINAL, FEED-THROUGH: 86577, SS5170-1			25					
	X2	H									TERMINAL, STUD: 86577, SS5169-1			11					
	P1	H		5905-195-6806							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF102J (For authorized Allowances see Group VII.)			3					R2, 3, 22
	P1	H		5905-195-6800							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF561J (Authorized allowances Based on a total of 3.)			2		1.1	9.0		R4, 19
	P1	H		5905-299-1541							RESISTOR, FIXED COMPOSITION 81349, RC20GFF151J (Authorized allowances Based on a total of 4.)			1		0.8	6.0		R5
	P1	H		5905-549-7785							RESISTOR, FIXED, COMPOSITION 81349, RC32GF271K			1		0.5	3.0		R6
	P1	H		5905-279-2616							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF153J (For authorized Allowances see Group VII.)			4					R7, 9, 11, 13
	P1	H		5905-279-1880							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF272J (Authorized allowances Based on a total of 8.)			3		2.3	27.0		R16, 21, 24

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5905-192-4490							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF330J			2		0.8	6.0		R20,23
	P1	H		5905-279-1876							RESISTOR, FIXED, COMPOSTITION: 81349, RC20GF222J (Authorized allowances based on a total of 3.)			1		1.1	9.0		R25
	P1	H		5910-087-2298							CAPACTOR, FIXED: 81349, CS13AF6R8M (Authorized allowances based on a total of 3.)			1		1.1	9.0		C1
	P1	H		5910-878-1847							CAPACITOR, FIXED: 81349, CS13AE47OM (Authorized allowances based on a total of 10.)			4		2.7	30.0		C2-5
	P1	H		5910-889-4503							CAPITOR, FIXED: 81349, CA13AS100M (Authorized allowances based on a total of 8.)			4		2.3	24.0		C6-8,12
	P1	H		5910-985-4719							CAPACITOR, FIXED: 81349, CS13AB470M (Authorized allowancesbased on a total of 3.)			2		1.1	9.0		C10,11
	P1	H		5910-728-3137							CAPITOR, FIXED: 81349, CS13AB151M			2		0.8	6.0		C13,14
	P1	H		5910-043-1994							CAPACITOR, FIXED: 81349, CM06F471J03 (Authorized allowances based on a total of 3.)			1		1.1	9.0		C9
	P1	H		5960-802-3513							TRANSISTOR: 81349, 2N697 (Authorized allowances based on a total of 9.)			4		2.3	27.0		Q1-4
	P1	H		5905-195-6453							RISISTOR, FIXED, COMPOSITION: 81349, RC20GF562J (Authorized allowances based on a total of 16.)			7		4.0	48.0		R8,10 12,14 15,17,18
	P1	H		5960-837-9287							SEMICONDUCTOR DEVICE, DIODE: 07688, 1N3025B			1		0.5	3.0		CR1
											CHASSIS, ELECTRICAL EQUIPMENT: 13499, 756-8857-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									CHASSIS: 13499, 756-8855-001			1					
	X2	H									TERMINAL FEED-THROUGHT: 12615, 00-198 (For authorized allowances see Group VII.)			5					
	X2	H									NUT, SELF-LOCKING: 72962, 22NCFMA1-40 (For authorized allowances see Group VII.)			4					
	P1	H		5905-984-0296							RESISTOR, WARIABLE: 81349, 5LAYSB253B (Authorized allowances based on total of 2.)			1		1.2	10.0		R1
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (Authorized allowances based on a total of 51.)			8					
	X2	H									WASHER, FLAT: 13499, 502-1515-002			4					
	X2	H									POST, ELECTRO-MECHANICAL: 13499 540-9041-003 (Authorized allowances based on a total of 8.)			4					
	P1	H									TRANSFORMER, AF: 97965, 32864 (M5AD8-0388) (Authorized allowances based on a total of 2.)			1		1.2	10.0		T2
	P1	H		5905-906-6392							TRANSFORMER, AF:97965, 32863 (Authorized allowances based on a total of 2.)			1		1.2	10.0		T1
	X2	H									WASHER, LOCK: 78189, 1714-05 (Authorized allowances based on a total of 3.)			1					
	X2	H									TERMINAL, GROUND: 12615, AB406D (For authorized allowances see Group VII)			1					
	X2	H									Washer, lock: 96906, MS35338-78 (For authorized allowances see Group VII.)			12					

SECTION II. FUNCTIONAL PARTS LIST

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued))								
	P1	O		6625-908-7390							CONTROL, TESR SET: 31499, 761-7066-001		NX	1		1.2	10.0		
	X2	H									COVER, CONTROL:31499, 761-7077-001			1					
	X2	H									COVER: 31499, 756-8840-001			1					
	X2	H									EYELIT, TURNLOCK FASTEN: 72794, GA-200CHROMATE			2					
	X2	H									STUD, TURNLOCK FASTENER: 72794, AJ-30			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I.)			5					
	X2	H									PANEL, FRONT: 13499, 756-8838-001			1					
	X2	H									PLATE: 13499, 756-8846-001			1					
	X2	H									PLATE, RETAINER: 13499, 756-8837-002			1					
	X2	H									PLATE: 13499, 756-8837-001			1					
	X2	H									PIN, LOCATING: 13499, 756-8836-001			2					
	X2	H									PIN, SPRING: 72962, 79-028-125-0312			2					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 759-8835-002			2					
	X2	H									WASHER, LOCK: 96906, MS35338-79 (For authorized allowances see Group VII)			5					
	X2	H									LOCKSPRING, TURNLOCK FASTNER: 72794, S3-150CHROMATE			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-4 (For authorized allowances see Group VII.)			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ACR-51X (continued)								
	X2	H									WASHER. LOCK: 96906, MS35338-77 (For authorized allowance see Group VII)			4					
	X2	H									nut, plain, hexagonal: 96906, ms35649-24(For authorized allowances see Group VII)			4					
	X2	H									WASHER, FLAT: 13499, 505-1504-001 (For authorized allowances see Group VII)			6					
	X2	H									WASHER. LOCK: 78189, 1720-02 (For authorized allowances see Group VII)			6					
	X2	H									SCREW, MACHINE 96906, MS35200-24			4					
	X2	H									HANDLE, BOW: 88245, 015-2651-00			2					
	X2	H									STUD ASSEMBLY, TURNLOCK FASTNER: 71286, 2600-8			4					
	X2	H									WASHER, SPLIT: 71286, 2600SW2			4					
	P1	H									SWITCH, ROTERY: (M5AD8-0422) 76854, 237164RK1			1		0.7	5.0		S1
	P1	H									SWITCH, ROTARY: (M5AD8-0423) 76854, 259-1970-00			1		0.7	5.0		S2
	P1	H									SWITCH, ROTARY: (M5AD8-0424) 76854, 259-22187-00			1		0.7	5.0		S3
	P1	H									SWITCH, ROTERY: (M5AD8-0425) 76854, 259-1971-00			1		0.7	5.0		S4
	P1	H									RESISTOR, VARIABLE: (M5AD8-0426) 71450, 380-3598-00			1		0.7	5.0		R4
	P1	H									ATTENUATOR, VARIABLE: (M5AD8-0427 71450, 383-0234-00			1		0.7	5.0		R1
	X2	H									SETSCREW: 96906, MS51049-26 (Authorized allowances based on s total of 18)			12					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ACR-51X (continued)								
	P1	H		5905-299-1541							RISISTOR, FIXED, COMPOSITION: 81349, RC20GF151K (For authorized allowances see Group VII.)			1					R2
	P1	H		5905-171-1975							RESISTOR, FIXED, COMPOSITION: 81349, RC42GF151K			1		0.5	3.0		R3
	X2	H									SCREW, MACHINE: 96906, MS35216-25 (For authorized allowances see Group VII.)			4					
	X2	H									WASHER, FLAT: COML 2-7-32X018SST (For authorized allowances see Group I.)			4					
	P1	H		5355-909-0465							KNOB, ROUND: 13499, 757-0228-001 (For authorized allowances based on a total of 4)			2		1.0	8.0		
	X2	H									BRUSHING, SLEEVE: 13499, 757-0211-001 (For authorized allowances based on a total of 9)			1					
	P1	H		5355-908-4763							KNOB ASSEMBLY, BAR: 13499, 761-7087-001			4					
	X1										KNOB, POINTER: 13499, 757-0230-001 (For authorized allowances based on a total of 5)			1		1.2	8.0		
	X1										BRUSHING, SLEEVE: 13499, 757-0211-001 (For authorized allowances see Group VII)			1					
	X1										SKIRT, KNOB: 13499, 757-0220-001 (Authorized allowances based on a total of 4)			1					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-8834-002			2					
	X2	H									WIRING HARRNESS, ELECTRICAL: 13499, 761-7078-001			1					
	P1	H		5935-906-6335							CONNECTOR, RECEPTACLE, ELECTRICAL: 13499, 756-8841-001			1		0.4	2.0		P1

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									CONNECTOR, PLUG, ELECTRICAL: 77820, 71-285049-32S		1						
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)		2						
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7029-003		4						
	X2	H									SCREW, MACHINE: 96906, MS35216-27 (For authorized allowances see Group VII)		1						
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 461-7029-004		4						
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (For authorized allowances see Group VII)		1						

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
											GROUP VIII CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-10191/ARC-51X								
	A	O	R	5995-985-8081							CABLE ASSEMBLY, SPECIAL PURPOSE, ELEC CX-10191/ARC-51X	NX	1						W10
	P1	H		5935-808-7502							CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBM25P		1			0.4	2.0		P1
	P1	H		5935-883-0218							CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBMF25S		1			0.4	2.0		J10
	X2	H									BAND, MARKER: 13499, 152-5130-230		1						
	X2	H									SHIELD, ELECTRICAL CONNECTOR: 71468, DB24659JS		2						
	X2	H									NUT, SELF LOCKING: 72962, 68-1660-26		4						
	A	O		6625-985-8088							CABLE ASSEMBLY, SPECIAL PURPOSE, ELEC: CX-10190/ARC-51X		1						W9
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAM11WIP (For authorized allowances see Group II)		1						P1 J5
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICA;" 71468, DAMF11W1S (For authorized allowances see Group II)		1						
	X2	H									BAND, MARKER: 13499, 152-5130-220		1						
	A	O		6625-985-8087							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: CX-10189/ARC-51X		2						W8
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DA15P (For authorized allowances see Group I)		1						P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAF15S (For authorized allowances see Group I)		1						J3
	X2	H									BAND, MARKER: 13499, 152-5130-210 (Authorixed allowances based on a total of 2)		1						

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									SHIELD, ELECTRICAL CONNECTOR: 71468, DA24658JS (Authorized allowances based on a total of 4)			2					
	A	O		6625-985-8086							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: CX-10188/ARC-51X			1					W7
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBM13W3P (For authorized allowances see Group V)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DBMF13W3S (For authorized allowances see Group V)			1					J2
	X2	H									BAND, MARKER: 13499, 152-5130-200			1					
	A	O		6625-985-8085							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: CX-10187/ARC-51X			1					W6
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DE9P (For authorized allowances see Group V1)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DEF9S (For authorized allowances see Group VI)			1					J1
	X2	H									BAND, MARKER: 13499, 152-5130-190			1					
	X2	H									SHIELD, ELECTRICAL CONNECTOR: 71468, DE24657JS			2					
											GROUP IX CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-10186/ARC-51X								
	A	O	R	6625-738-5985							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-10186/ARC-51X		NX	1					W5
	P1	H		5935-901-8871							CONNECTOR, PLUG, ELECTRICAL: 96906, NS3116F12-3S			1		0.4	2.0		P1
	P1	H									CLIP, BATTERY: (M5AD8-0464) 76545, 24-A PLAIN			2		0.6	4.0		

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
	P1	H									MK-731/ARC-51X (Continued) CABLE NIPPLE, ELECTRICAL: 76545, 26 RED (M5AD8-0465)			1		3.0	1.0		
	P1	H									CABLE NIPPLE, ELECTRICAL: 76545, 26 BLK (M5AD8-0466)			1		0.3	1.0		
	X2	H									BAND, MARKER: 13499, 152-5130-180			1					
											GROUP X CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-10185/ARC-51X								
	A	O	R	6625-985-8084							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-10185/ARC-51X		NX	1					W4
	P1	H		5935-814-6341							CONNECTOR, PLUG, ELECTRICAL: 77820, PTO6E18-32SSR			2		0.6	4.0		P1,2
	X2	H									BAND, MARKER: 13499, 152-5130-170			1					
											GROUP XI CABLE ASSEMBLY, RF CG-1889/U 5 FT OIN								
	A	O	R	6625-985-8077							CABLE ASSEMBLY, RF CG-1889/U D FT OIN		NX	1					W3 P1,2
	P1	H		5935-577-8776							CONNECTOR, PLUG, ELECTRICAL: 8058, UG-21E/U (Authorized allowances based on a total of 3)			2		0.8	6.0		
	X2	H									BAND, MARKER: 13499, 152-5130-160			1					
											GROUP XIII CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-9053/ARC-51X								
	A	O	R	6625-985-8083							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-9053/ARC-51X		NX	1					W1
	P1	H		5935-902-3513							CONNECTOR, PLUG, ELECTRICAL: 96906, MS3116F16-26SW			2		0.6	4.0		P1,2
	X2	H									SLEEVE, EXTENSION: 13499, 761-5950-001 (Authorized allowances based on a total of 16			8					
	X2	H									BAND, MARKER: 13499, 152-5130-150			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
											GROUP XIII CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-9052/ARC-51X								
	A	O	R	6625-985-8082							CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-9052/ARC-51X		NX	1					W1
	P1	H		5935-903-3512							CONNECTOR, PLUG, ELECTRICAL: 96906, MS3116F16-26S			2		0.6	4.0		P1,2
	X2	H									SLEEVE, EXTENSION: 13499, 761-5950-001 (For authorized allowances see Group XIII)			8					
	X2	H									BAND MARKER: 13499, 152-5130-140			1					
											GROUP XIV TOOL KIT, RADIO SET TK-155/ARC-51X								
	A	O	R	5180-738-6019							TOOL KIT, RADIO SET: TK-155/ARC-51X		NX	1				1-9	
	P1	O		4320-906-6336							PUMP, INFLATING: 53800, 6A49450			1		0.4	2.0		
	P1	O		5120-908-4754							ALIGNMENT TOOL: 13499, 544-8357-002			1		0.4	2.0		
	P1	O		5120-910-8803							ALIGNMENT TOOL: 13499, 024-0168-00			1		0.4	2.0		
	P1	O		5120-201-3711							ALIGNMENT TOOL: 13499, 548-9286-002			1		0.4	2.0		
	X2	O		5140-906-6373							. CONTAINER, TOOL: 13499, 024-0628-010			1					
	P1	O		5120-906-6380							ANVIL: 13499, 756-7571-001			1		0.4	2.0		
	P1	O		5120-906-6376							PIN, DRIFT:13499, 553-9709-002			1		0.4	2.0		
	P1	O		5120-952-0108							KEY, SOCKET HEAD SCREW: 70276, GT1003			1		0.4	2.0		
	P1	O		5120-908-4753							KEY, SOCKET HEAD, SCREW: 13499, 024-0439-00			1		0.4	2.0		
	P1	O		5120-198-5401							KEY, SOCKET HEAD SCREW: 08664, 050			1		0.4	2.0		
	P1	O		6625-908-7391							LEAD, ELECTRICAL: 13499, 544-8353-002			1		0.4	2.0		
	P1	O		5120-202-2779							ALIGNMENT TOOL: 13499, 548-2214-002			1		0.4	2.0		
	P1	O		5120-908-4752							KEY, SOCKET HEAD SCREW: 13499, 544-8398-002			1		0.4	2.0		

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	P1	O		6680-908-6709							GAUGE, PRESSURE: 17875, 7229			1		0.4	2.0		
	P1	O		5120-906-6379							SOCKET, WRENCH: 13499, 756-7579-001			1		0.4	2.0		
	P1	O		5120-906-6377							SOCKET, WRENCH: 13499, 756-7580-001			1		0.4	2.0		
	P1	O		5120-618-4433							WRENCH, TORQUE: 58332, F10-1			1		0.4	2.0		
	P1	O									TOOL, EXTRACTION: 71468, CETC6B (M6AD2-0498BO)			1		0.4	2.0		
	X2	O									CONTAINER, TOOL: 13499, 024-0628-020			1					
	P1	O									CASE, TORQUE WRENCH: 13499, 761-5947-001 (M6AD2-0498DO)			1		0.4	2.0		
	P1	O									COVER, TORQUE WRENCH: 13499, 761-5945-001 (M6AD2-0498EO)			1		0.4	2.0		
	X2	O									BAG, COTTON DUCK: 13499, 024-0642-010			1					
	X2	O									CUSHION, EXTRACTION: 13499, 761-5944-001			1					
	X2	O									BAG, COTTON DUCK: 13499, 024-0102-00			1					
											GROUP XV SIMULATOR-TEST SET, RADIO SM-348/ARC-51X								
	P1	O	R	6625-738-5973							SIMULATOR-TEST SET, RADIO SM-348/ARC-51X (MAINTENANCE FLOAT ITEM)		NX	1		1.2	10.0	1-2	
	X2	H									HANDLE: 86577, 2102 (For authorized allowances see Group VII)			2					
	X2	H									CLAMP, LOOP: 09922, HP6N			2					
	X2	H									CLAMP, LOOP: 09922, HP6N			1					
	P1	H									SWITCH, ROTARY: 76854, 237617BA3 (M5AD8-0503)			1		0.7	5.0		S1
	P1	H		5930-504-6223							SWITCH, PUSH: 96906,M825089-4C			2		1.2	10.0		S2,3
	P1	H		5925-918-3023							CIRCUIT BREAKER: 74193 SM33-5-0-10-0-50-5B			1		0.7	5.0		CB1

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	P1	H		5925-556-7530							CIRCUIT BREAKER: 82647, PSA2			1		0.7	5.0		S5
	P1	O		6240-155-7836							LAMP, INCADESCENT: 96906, MS25237-327 (For authorized Allowances see Group VII)			6					DS1,2,3, 4,5,6
	P1	H		6250-881-1507							LIGHT, INDICATOR: 08717, 855029-9 (For authorized allowances see Group VII)			6					XDS1,2, 3,4,5,6
	P1	O		6210-767-6246							LENS, INDICATOR LIGHT: 08717-85502OR (For authorized allowances see Group VII)			6					
	P1	H		5930-685-9521							SWITCH, TOGGLE: 81349, MS35059-30			1		0.7	5.0		S4
	P1	H		5950-393-1433							COUPLER, DIRECTIONAL: 70998, 4161F			1		0.7	5.0		DC1
	X2	H									TERMINAL, LUG: 77147, 4007-6HOTTIMMED (For authorized allowances see Group VII)			4					
	X2	H									WASHER, LOCK: 96906,MS35338-77 (For authorized allowances see Group VII)			12					
	X2	H									WASHER, LOCK: 96906, MS35338-78 For authorized allowances see Group VII)			16					
	X2	H									WASHER, LOCK: 96906, MS35338-79 For authorized allowances see Group VII)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances See Group I)			10					
	X2	H									NUT, SELF-LOCKING: 96906 MS20365D44OA			2					
	X2	H									NUT, SELF-LOCKING: 96906, MS20365D632A			3					
	X2	H									NUT, SELF-LOCKING: 72962, F22NA1K82 (Authorized allowances based on a total of 6)			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									SETSCREW: 96906, MS51049-26 (For Authorized allowances see Group VII)			6					
	X2	H									RING, RETAINING: 89462, 5005-62			5					
	X2	H									SCREW, MACHINE: 96906, MS35200-12 (Authorized allowances based on a total of 8)			6					
	X2	H									SCREW, MACHINE: 96906, MS35200-13 (For authorized allowances see Group VII)			6					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For authorized allowances see Group I)			8					
	X2	H									SCREW, MACHINE: 96906, MS35201-53 (For authorized allowances see Group VII)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-3 (Authorized allowances based on a total of 12)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-4 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (For authorized allowances see Group VII)			13					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 96906, MS35216-13 (For authorized allowances see Group VII)			8					
	X2	H									SCREW, MACHINE: 96906,MS35216-23 (Authorized allowances based on a total of 10)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-25 (For authorized allowances see Group VII)			13					
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7029-002			8					
	X2	H									SCREW, MACHINE: 96906, MS35216-40 (Authorized allowances based on a total of 8)			1					
	X2	H									SCREW, MACHINE: 96906, MS35214-16			4					
	P1	H		5960-993-6721							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N647 (For authorized allowances see Group VII)			1					CR1
	X2	H									WASHER, LOCK: 78189, 1720-02 (For Authorized allowances see Group VII)			9					
	X2	H									WASHER, LOCK: 78189, 1714-05 (For authorized allowances see Group VII)			1					
	P1	H									RESISTOR, VARIABLE: 71450, 380-3600-00 (M5AD8-0547)			1		0.7	5.0 .		R2.3
	P1	H		6625-908-7392							AMMETER, DC: 94916, MR13			1		0.5	3.0		M1
	X2	H									WASHER, FLAT: 13499, 505-1504-001 (For authorized allowances see Group VII)			3					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 540-9059-003			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WASHER: 13499, 542-1560-003			1					
	X2	H									TERMINAL, LUG: 13499, 547-5305-002 (For authorized allowances see Group VII)			1					
	P1	H									RESISTOR, VARIABLE: 44655, E419OR1 (M5AD8-0553)			1		0.7	5.0		R2
	P1	H		5905-975-1138							RESISTOR, FIXED, WIREWOUND: 81349, RW67V151 (Authorized allowances Based on a total of 2)			1		0.8	6.0		R1
	P1	H		5905-811-8595							RESISTOR, FIXED, WIREWOUND: 00213, 355OM2-0-3PCT			1		0.5	3.0		R19
	P1	H	R	6625-906-6365							AMPLIFIER ASSEMBLY, AF: 13499, 761-7039-001		NX	1		0.7	5.0		1A1
	A	H	R								AMPLIFIER SUBASSEMBLY: 13499, 761-7039-001		NX	1					
	X2	H									TERMINAL BOARD: 13499, 761-7038-001			1					
	X2	H									TERMINAL, STAND-OFF 13615,SL174-198 (Authorized allowances based on a total of 36)			13					
	X2	H									TERMINAL, FEED-THROUGH: 12315, AL174-198 (Authorized allowances based on a total of 22)			2					
	X2	H									TERMINAL, FEED-THROUGH: 12315,SL314-231 (Authorized allowances based on a total of 47)			25					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	P1	H									TRANSFORMER, AF: 80223, CR068 (Authorized allowances based on a total of 2) (M5AD8-0564)			1		1.2	10.0		T2
	P1	H		5905-190-8883							RESISTOR, FIXED, COMPOSITION: 81349,RC20GF100J (Authorized allowances based on a total of 4)			2		1.2	12.0		R21,22
	P1	H		5905-279-1897							RESISTOR, FIXED, COMPOITION: 81349, RC20GF560J			2		0.8	6.0		R26,27
	P1	H		5905-171-2006							RESISTOR, FIXED, COMPOSITION: 81349,RC20GF271K			1		0.5	3.0		R4
	P1	H		5905-279-1890							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF391J			1		0.5	3.0		R20
	P1	H		5905-195-6800							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF561J (For authorized allowances see Group VII)			1					R3
	P1	H		5905-195-6806							RESISTOR, FIXED, COMPOSITION: 81349,RC20GF102J (For authorized allowances see Group VII)			1					R2
	P1	H		5905-190-8880							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF122J			1		0.5	3.0		R24
	P1	H		5905-279-1876							RESISTOR, FIXED, COMPOSITION: 81349 (RC20GF222J (For authorized allowances see Group VII)			1					R1
	P1	H		5905-279-1880							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF272J (For authorized allowances see Group VII)			4					R16,19, 28,29,
	P1	H		5905-279-3502							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF123J (Authorized allowances based on a total of 4)			2		1.2	12.0		R12,23
	P1	H		5905-279-2616							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF153J (For authorized allowances see Group VII)			4					R5,7,9, 11
	P1	H		5905-279-3497							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF393J			1		0.5	3.0		R25

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5910-985-4719							CAPACITOR, FIXED: 81349, CS13AB47OM (For authorized allowances see Group VII)			1					C10
	P1	H		5910-080-0755							CAPACITOR, FIXED: 81349, CS13AB101M			2		0.8	6.0		C12,13
	P1	H		5910-889-4503							CAPACITOR, FIXED: 81349, CS13AE100M (For authorized allowances see Group VII)			3					C7,8,9
	P1	H		5910-823-1407							CAPACITOR, FIXED: 81349, CS13AE15OM			1		0.5	3.0		C11
	P1	H		5910-878-1847							CAPACITOR, FIXED: 81349, CS13AE47OM (For authorized allowances see Group VII)			4					C1,2,3, 4
	P1	H		5910-087-2298							CAPACITOR, FIXED: 81349, CS13AF6R8M (For authorized allowances see Group VII)			1					C6
	P1	H		5910-043-1994							CAPACITOR, FIXED: 81349, CMO6F471J03 (For authorized allowances see Group VII)			1					C5
	P1	H		5960-752-6081							TRANSISTOR: 81349,2N657 (Authorized allowances based on a total of 4)			2		1.2	12.0		Q5,6
	P1	H		5960-892-3513							TRANSISTOR: 81349, 2N697 (For authorized allowances see Group VII)			4					Q1,2,3, 4
	P1	H									HOLDER, SEMICONDUCTOR: 98978, TXBPO32-037-3B (Authorized allowances based on a total of 8) (M5AD8-0586)			6		1.6	16.0		
	P1	H									SCREW, MACHINE: 969, MS35216-11, (For authorized allowances see Group I)			2					
	P1	H		5905-195-6453							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF562J (For authorized allowances see Group VII)			8					R6,8,10, 14,15, 17,18,30
	X2	H									CASE, AMPLIFIER: 13499, 756-9116-002			1					
	X2	H									CASE: 13499, 756-9116-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									TERMINAL, FEED-THROUGH: 12615, SL174-198 (For authorized allowances see Group XV)			5					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA1-40 (For authorized allowances see Group VII)			4					
	X2	H									SPACER, SLEEVE: 13499, 541-5991-002			4					
	X2	H									TERMINAL, GROUND: 12615, AB406D (For authorized allowances see Group VII)			1					
	P1	H		5950-906-6392							TRANSFORMER, AF: 97965, 32863 (For authorized allowances see Group VII)			1					T1
	P1	H									TRANSFORMER, AF: 70674,A14667 (M5AD8-0597)			1		0.7	5.0		T.3
	P1	H		5905-984-0296							RESISTOR, VARIABLE: 81349, RV5LAYSB253B (For authorized allowances see Group VII)			1 4					R13
	X2	H									SCREW, MACHINE: 96906, MS35216-19			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-44			8					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			4					
	X2	H									NUT, SLEEVE: 13499, 756-9112-001 (For Authorized allowances see Gp. VIII) WASHER, LOCK: 78189, 1714-05			1					
	P1	H	R	6625-908-7385							AMPLIFIER ASSEMBLY, AF: 13499, 761-7041-001		NX	1		0.7	5.0		1A2
	A	H									AMPLIFIER SUBASSEMBLY: 13499, 761-7045-001			1					
	X2	H									TERMINAL BOARD: 13499, 756-9127-001			1					
	X2	H									PLATE, MOUNTING: 13499, 756-9127-002			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	X2	H									BRACKET, TRANSFORMER: 13499, 756-9127-003			1					
	X2	H									TERMINAL, FEED-THROUGH, 12615, sl158-198 (For authorized allowances see Group VII)			7					
	A	H	R								AMPLIFIER SUBASSEMBLY: 13499, 761-7047-001		NX	1					
	X2	H									TERMINAL BOARD: 13499, 761-7046-001			1					
	X2	H									TERMINAL, STAND-OFF: 12615, SL283-230 (For authorized allowances see Group XV)			6					
	X2	H									TERMINAL, FEED-THROUGH: 12615, SL314-231 (For authorized allowances see Group XV)			15					
	P1	H		5960-752-6081							TRANSISTOR: 81349, 2N657 (For authorized allowances see Group XV)			2					Q2,3
	P1	H		5960-892-3513							TRANSISTOR: 81349, 2N697 (For authorized allowances see Group XV)			1					Q1
	P1	H									HOLDER, SEMICONDUCTOR: 98978, TXBP032-037-3B (M5AD8-0586) (For authorized allowances see Group XV)			2					
	P1	H		5960-906-6391							HOLDER, TRANSISTOR: 15409, G4-2301			1					
														2		0.4	2.0		
	P1	H		5905-190-8883							RESISTOR, FIXED, COMPOSITION: 81349, RC0GF1GOJ (For authorized allowances see Group XV)								R6,7
	P1	H		5905-192-3971							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF331J			1		0.5	3.0		R9
	P1	H		5905-192-3973							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF471J			1		0.5	3.0		R5

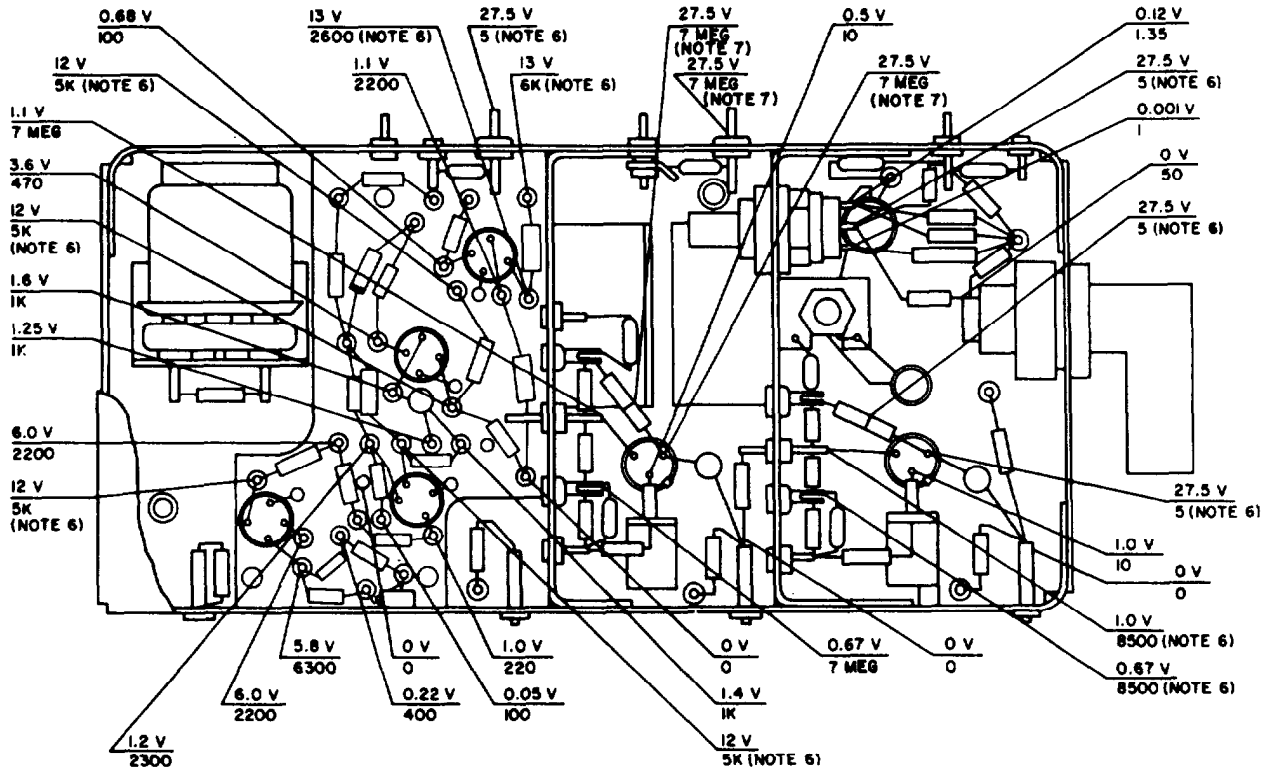
SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5905-279-1576							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF223J (For authorized allowances see Group VII)			1					
	P1	H		5905-279-1880							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF272J (For authorized allowances see Group VII)			1					
	P1	H		5905-195-6453							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF562J (For authorized allowances see Group VII)			1					
	P1	H		5905-279-3502							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF123J (For authorized allowances see Group VII)			2					
	P1	H		5905-279-2616							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF153J (For authorized allowances see Group VII)			1					
	P1	H		5910-889-4503							CAPACITOR, FIXED: 81349, CS13AE100M (For authorized allowances see Group VII)			1					
	P1	H		5910-878-1847							CAPACITOR, FIXED: 81349, CS13AE470M (For authorized allowances see Group VII)			2					
	P1	H		5910-087-2298							CAPACITOR, FIXED: 81349, CS13AF6R8M (For authorized allowances see Group VII)			1					
	P1	H		5910-060-1194							CAPACITOR, FIXED: 81349, CM06F102J03			1		0.5	3.0		
	P1	H		5905-279-1751							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF302J			1		0.5	3.0		
	P1	H									TRANSFORMER, AF: 80223, CR068 (M5AD8-0564) (For authorized allowances see Group XV)			1					
	P1	H									TRANSFORMER, AF: 70674, A14666 (M5AD8-0636)			1		0.7	5.0		
	P1	H									TRANSFORMER, AF: 97965, 32864 (M5AD8-0388) (For authorized allowances see Group VII)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									GROMMET, RUBBER: 96906, MS35489-4 (Authorized allowances based on a total of 2)			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-13 (For authorized allowances see Group VII)			4					
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 540-9041-003 (For authorized allowances see Group VII)			4					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			6					
	X2	H									TERMINAL, GROUND: 12615, AB406D (For authorized allowances see Group VII)			2					
	P1	H	R	6625-908-7393							TRANSIENT BLANKING ASSEMBLY: 13499, 761-7043-001		NX	1		0.7	5.0		1A4
	X2	H									TERMINAL, GROUND: 12615, AB406D (For authorized allowances see Group VII)			1					
	X2	H									NUT, SELF: 72962, 68-1660-40			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-25 (For authorized allowances see Group VII)			2					
	P1	H									TRANSISTOR: 04713, 352-0588-010 (M5AD8-0657)			1		0.5	3.0		Q2
	P1	H		5960-954-2159							TRANSISTOR: 81349, 2N1165			1		0.5	3.0		Q1
	X2	H									MOUNTING KIT, TRANSISTOR: 16758, 7274775			2					
	P1	H		5960-850-9440							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N2984B			1		0.5	3.0		CR2

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5960-850-9564							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N29908			1		0.5	3.0		CR1
	X2	H									CHASSIS, ELECTRICAL EQUIPMENT: 13499, 761-7052-001			1					
	X2	H									CHASSIS: 13499, 756-9137-001			1					
	X2	H									BRACKET, DIODE: 13499, 756-9137-003			2					
	X2	H									TERMINAL, FEED-THROUGH: 12615, SL174-198 (For authorized allowances see Group XV)			4					
	P1	H		5905-279-1894							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF820K			1		0.5	3.0		R2
	P1	H		5905-279-1724							RESISTOR, FIXED, COMPOSITION: 81349, RC32GF390K			1		0.5	3.0		R4
	P1	H		5905-279-1910							RESISTOR, FIXED, COMPOSITION: 81349, RC42GF390K			1		0.5	3.0		R5
	P1	H		5905-526-0499							RESISTOR,FIXED, WIREWOUND: 81349, RW59VR10			1		0.5	3.0		R1
	P1	H		5905-990-2912							RESISTOR, FIXED, WIREWOUND: 81349, RW69V2R7			1		0.5	3.0		R6
	P1	H		5905-975-1138							RESISTOR, FIXED, WIREWOUND: 81349, RW67V151 (For authorized allowances see Group XV)			1					R3
	P1	H		5960-836-0377							TRANSISTOR: 07688, 2N1485			1		0.5	3.0		Q3
	P1	H	R	6625-906-6366							TEST GENERATOR, UHF: 13499, 761-7044-001		NX	1		0.7	5.0		1A5
	P1	H		5950-855-0468							COIL, RF: 96906, MS16225-2 (For authorized allowances see Group VII)								L5,6,7, 8,9,10
	P1	H		5950-752-4588							COIL, RF: 96906, MS16225-3			2		0.8	6.0		L12,13
	P1	H		5950-764-3188							COIL, RF: 96906, MS18130-4			1		0.5	3.0		L14
	P1	H		5950-715-2054							COIL, RF: 96906, MS16225-7			1		0.5	3.0		L11
	P1	H		5960-738-6469							ELECTRON TUBE: 49956,6111WA			1		1.1	100.0		V1

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	P1	H		5960-918-6982							ELECTRON TUBE: 94991, 8186			2		2.2	200.0		V2,3
	P1	H		5955-738-6145							CRYSTAL UNIT, QUARTZ: 85675, M9-6884 (Authorized allowances based on a total of 2)			1		1.2	10.0		Y1
	P1	H		5935-581-6941							SOCKET, CRYSTAL: 81349, TS0205C01			1		0.4	2.0		XY1
	X2	H									TERMINAL, LUG: 77147, 4019-4HOTTINNED			1					
	X2	H									TERMINAL, STUD: 12615, AB396-2			3					
	X2	H									TERMINAL, STUD: 12615, AB397-1			1					
	X2	H									SCREW, MACHINE: 96906, MS35200-2 (Authorized allowances based on a total of 7)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-11 (For authorized allowances see Group I)			6					
	P1	H		5935-892-9808							CONNECTOR, RECEPTACLE, ELECTRICAL UG-109B/U: 80058			1		0.4	2.0		J1
	P1	H		5905-683-7721							RESISTOR, FIXED, COMPOSITION: 81349, RC07GF473K			1		0.5	3.0		R2
	P1	H		5905-683-2240							RESISTOR, FIXED, COMPOSITION: 81349, RC07GF221J			2		0.8	6.0		R5,6
	P1	H		5905-681-6462							RESISTOR, FIXED, COMPOSITION: 81349, RC07GF102K			1		0.5	3.0		R4
	P1	H		5905-688-4447							RESISTOR, FIXED, COMPOSITION: 81349, RC07GF473K			1		0.5	3.0		R1
	P1	H		5905-682-4105							RESISTOR: 81349, RC07GF224J			1		0.5	3.0		R3
	P1	H		5905-279-3506							RESISTOR: 81349, RC0GF332J			1		0.5	3.0		R7
	P1	H		5950-906-6390							COIL, RF: 13499, 756-8792-001			3		1.1	9.0		L2,3,4
	X2	H									PAD, CHASSIS: 13499, 756-9142-001			1					
	X2	H									CHASSIS, GENERATOR: 13499, 761-7056-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									TERMINAL, STAND-OFF 12615,SL283-230 (For authorized allowances see Group XV)			14					
	X2	H									TERMINAL, FEED-THROUGH: 12615, SL314-231 (For authorized allowances see Group XV)			3					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA1-40 (For authorized allowances see Group VII)			10					
	X2	H									CHASSIS: 13499, 761-7055-001			1					
	P1	H									SHIELD, ELECTRON TUBE: (M5AD8-0712) 98978, T3-491			3		0.8	6.0		
	X2	H									COVER, CHASSIS: 13499, 761-7054-001			1					
	X2	H									PAD, COVER: 13499, 756-9141-001			1					
	P1	H		5950-903-6389							COIL, RF: 13499, 761-7053-001			1		0.5	3.0		
	P1	H		5910-544-6496							CAPACITOR, FIXED: 53021, M23-1000M			3		1.1	9.0		C22,23, 24
	P1	H									CAPACITOR, FIXED: (M6AD2-0719) 00853, M22-102M (Items no. C1, 2,3, 5,9,11,13,14,17,18,21)			12		3.4	36.0		See Desc Column
	P1	H		5910-067-7293							CAPACITOR, FIXED: 81349, CM05C050K03			1		0.5	3.0		C6
	P1	H		5910-964-6511							CAPACITOR, FIXED: 81349, CM05E360J03			1		0.5	3.0		C7
	P1	H		5910-043-1994							CAPACITOR, FIXED: 81349, CM06F471J03 (For authorized allowances see Group VII)			1					C 0
	P1	H		5910-805-6630							CAPACITOR, FIXED: 81349, CC20CK010D			1		0.5	3.0		C12
	P1	H		5910-848-9401							CAPACITOR, FIXED: 81349, CC20CK040D			1		0.5	3.0		C8
	P1	H		5910-726-2448							CAPACITOR, FIXED: 81349, CC20CK050D			1		0.5	3.0		C16
	P1	H		5910-672-8644							CAPACITOR, VARIABLE: 73899, VC20G			3		0.6	15.0		C10,15, 19
	P1	H		5160-633-1161							SHIELD, ELECTRON TUBE: 98978, T3-361			3		0.8	6.0		



NOTES:

1. VOLTAGE READINGS ARE ABOVE THE LINE, RESISTANCE READINGS ARE BELOW.
2. UNLESS OTHERWISE INDICATED, ALL VOLTAGES ARE DC, ALL RESISTANCE VALUES ARE IN OHMS.
3. DO NOT ATTEMPT TO MAKE RESISTANCE MEASUREMENTS WITH POWER ON.
4. ALL RESISTANCE MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26/U.
5. ALL DC MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26/U AND SIGNAL INPUT (CRYS AL IN) AND J1 LOADED WITH 50 OHMS.
6. MULTIMETER ME-26/U TO R X 1 SCALE.
7. MULTIMETER ME-26/U TO R X 100 SCALE.

TM6625-56-45-C2-62

Figure 4-13.1 Radio set simulator uhf test generator 1A5 (MK-781A/ARC-51X only), voltage and resistance measurements.

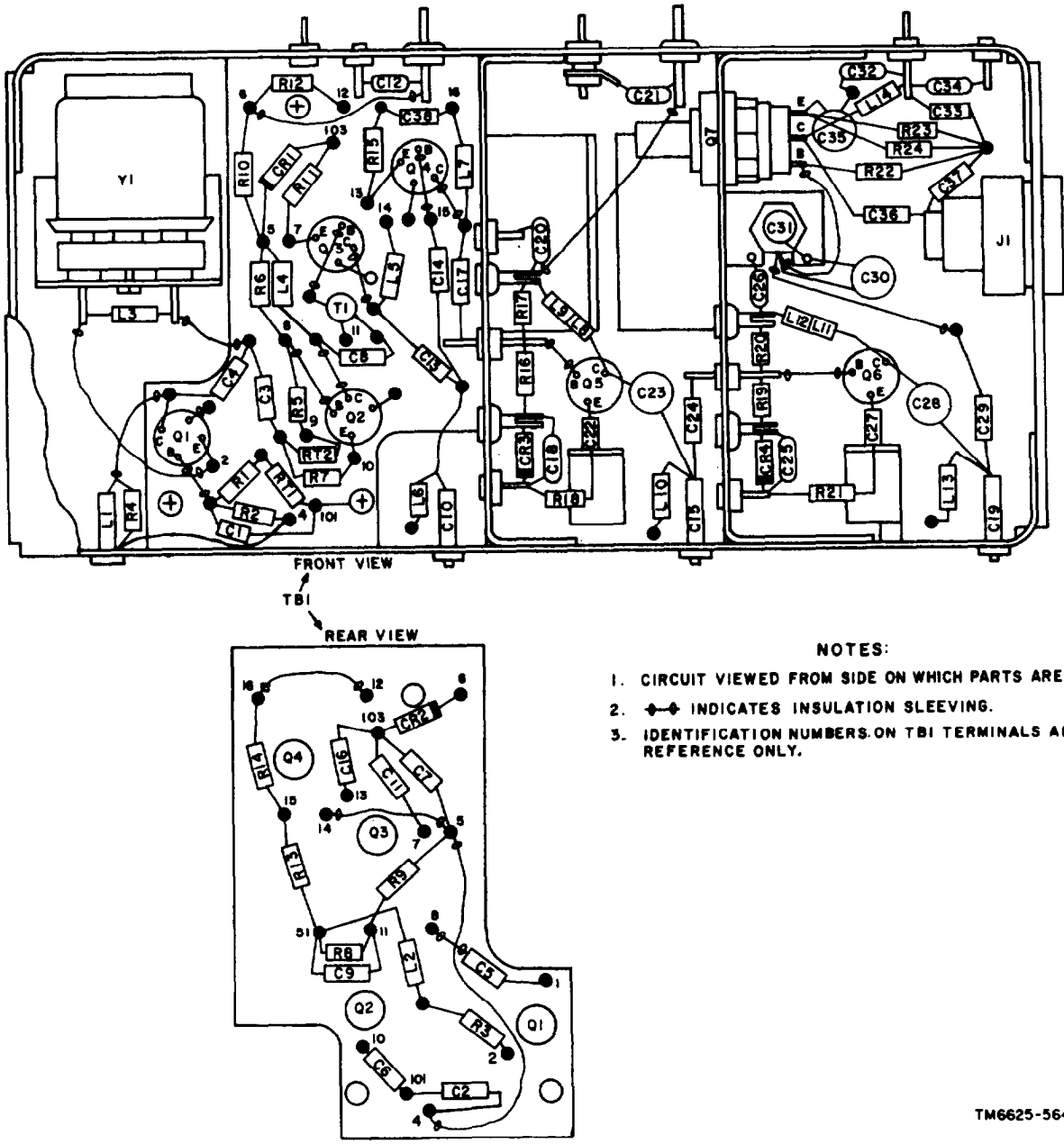


Figure 4-14.1 Radio set simulator, uhf generator 1A5 (MK-731A/ARC-51X only), wiring diagram.

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SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	P1	H	R	6625-906-6367							READOUT ASSEMBLY: 13499, 761-7062-001		NX	1		0.7	5.0		1A6
	P1	H		6105-906-6405							MOTOR, DC: 35140, 136A146		NX	1		0.7	5.0		B1
	P1	O		6240-155-7836							LAMP, INCANDESCENT: 96906, MS25237-327 (For authorized ALLOWANCES SEE GROUP VIII)			3					DS1,2,3
	P1	H									SWITCH SECTION, ROTARY: (M5AD8-0731) 76854, 269-2599-010			1		0.4	2.0		S1
	P1	H									SWITH SECTION, ROTARY: (M5AD8-0732) 76854, 269-2599-020			3		0.8	6.0		S2,4,6
	P1	H									SWITCH SECTION, ROTARY (M5AD8-0733) 76854, 269-2599-030			3		0.8	6.0		S3,5,7
	X1	H									SPACER, SLEEVE 76854, 15523 3-8			10					
	X1	H									SPACER, SLEEVE: 76854, 15523 1-4			8					
	X1	H									WASHER, NONMETALLIC: 76854, 15517			20					
	X1	H									TERMINAL, STUD: 12615, G4777-10			2					
	X1	H									TERMINAL, FEED-THROUGH: 12615,SL174-198 (For authorized allowance see Group XV)			1					
	X1	H									BEARING,SLEEVE: 96881, 2L2FF			5					
	X1	H									BEARING, SLEEVE: 96881, 3L2FF			9					
	X1	H									BEARING, BALL, ANULAR: 4334, NM0612ZM3FM1			2					
	X1	H									WASHER, LOCK: 96906, MS35338-80			2					
	X1	H									WASHER, LOCK: 96906, MS35338-77 (For authorized allowances see Group VIII)			8					
	X1	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VIII)			33					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	X2	H									WASHER, LOCK: 96906, MS35338-79 (For authorized allowances see Group VII)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I)			3					
	X2	H									SCREW, CAP, SOCKET HEAD: 96906, MS16997-10			1					
	X2	H									SETSCREW: 96906, MS51049-16			10					
	X2	H									RING, RETAINING: 89462, 5133-18c			9					
	X2	H									SCREW, MACHINE: 96906, MS35200-13 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-3 (For authorized allowances see Group XV)			8					
	X2	H									SCREW, MACHINE: 96906, MS35216-5			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-6			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-14 (For authorized allowances see Group I)			20					
	X2	H									SCREW, MACHINE: 96906, MS35216-17			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-23 (For authorized allowances see Group XV)			4					
	P1	H		6625-908-7394							INDICATOR, SYMBOL : 02374, 108-56			1		0.4	2.0		DS4
	X2	H									NUT, SELF-LOCKING: 13499, 542-4524-002			4					
	X2	H									DISK, CLUTCH: 13499, 542-4525-002			4					
	P1	H		3020-752-7989							GEAR, CLUTH, 52 TEETH 13499, 542-4560-002			4		1.0	8.0		
											:								

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	X2	H									BEARING, SLEEVE: 13499, 542-4522-002 (Authorized allowances based on a total of 4)			1					
	X2	H									GEAR, SPUR, CLUTCH 13499, 542-4527-002 (Authorized allowances based on a total of 4)			1					
	P1	H		5950-906-6388							COIL, SOLENOID: 13499, 542-4723-003			4		1.2	12.0		
	X2	H									PLUNGER, SOLENOID: 13499, 542-4511-002 (Authorized allowances based on a total of 8)			1					
	X2	H									TERMINAL, LUG: 13499, 542-4637-002 (Authorized allowances based on a total of 16)			2					
	X2	H									INSULATOR, WASHER: 13499, 150-0696-010 (Authorized allowances based on a total of 16)			2					
	X2	H									WASHER, SPRING: 13499, 546-5174-002			4					
	P1	H									COIL, SOLENOID: (M5AD58-0774) 13499, 546-8921-003			4		1.2	12.0		
	X2	H									PLUNGER, SOLENOID: 13499, 542-4511-002 (For authorized allowances see Group XV)			1					
	X2	H									TERMINAL, LUG: 13499, 542-4637-002 (For authorized allowances see Group XV)			2					
	X2	H									INSULATOR, WASHER: 13499, 150-0696-010 (For authorized allowances see Group XV)			2					
	X2	H									SHELL, SOLENOID: 13499, 542-6822-003 (Authorized allowances based on a total of 4)			1					
											:								

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
													FIGURE NO.	ITEM NO.
A	B	C	D			MK-731/ARC-51X (continued)								
	P1	H		6625-908-7399		STOP WHEEL, 12 POSITION: 13499, 548-4713-003			4		1.0	8.0		
	X2	H				INSULATOR, BUSHING: 13499, 549-3484-002			6					
	X2	H				COLLAR, SHAFT: 13499, 549-6021-002			1,					
	P1	H		3020-908-4755		GEAR, SPUR, 62 TEETH: 13499, 756-9173-001			1		0.4	2.0		
	X2	H				NUT, SLEEVE: 13499, 756-9176-001			4					
	X2	H				POST, ELECTRIC-MECHANICAL: 13499, 756-9177-001			2					
	P1	H				GEARSHAFT, SPUR: (M6AD2-0786A) 13499, 761-7317-001			1		0.5	3.0		
	X1					GEAR, SPUR, 32 TEETH: 13499, 756-9175-001 (Authorized allowances based on a total of 2)			1					
	X1					SHAFT, STRAIGHT, DRIVE: 13499, 756-9178-001			1					
	P1	H				GEARSHAFT, SPUR: (M6AD2-0787A) 13499, 761-7319-001			1		0.5	3.0		
	X1					SHAFT, STRAIGHT, IDLER: 13499, 756-9179-001			1					
	X1					GEAR, SPUR, 38 TEETH: 13499, 756-9174-001			1					
	P1	H				GEARSHAFT, SPUR: (M6AD2-0788B) 13499, 761-7318-001			1		0.5	3.0		
	X1					SHAFT, STRAIGHT, IDLER: 13499, 756-9180-001			1					
	X1					GEAR, SPUR, 32 TEETH: 13499, 756-9175-001 (For authorized allowances see Group XV)			1					
	X2	H				BRACKET, LAMP: 13499, 756-9181-001			3					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (Continued)								
	X2	H									CONTACT, ELECTRICAL: 13499, 756-9182-001			3					
	X2	H									SPACES, SLEEVE: 13499, 756-9184-001			2					
	X2	H									SPRING, HELICAL: 13499, 756-9185-001			4					
	P1	H		6625-908-7395							DIAL, SCALE: 13499, 761-7057-002			3		0.8	6.0		
	X2	H									DIAL, SCALE: 13499, 756-9186-002 (Authorized allowances based on a total of 3)			1					
	X2	H									HUB, DIAL: 13499, 756-9183-001 (Authorized allowances based on a total of 4):			1					
	P1	H		6625-908-7396							GEAR CLUSTER, SPUR: 13499, 756-9198-001			1		0.4	2.0		
	P1	H		6625-908-7397							SHAFT: 13499, 761-7059-001			4		1.0	8.0		
	X2	H									PIN, SPRING: 96909, MS16562-199 (Authorized allowances based on a total of 4)			1					
	X2	H									SHAFT: 13499, 756-9190-001 (Authorized allowances based on a total of 4)			1					
	X2	H									HUB, CLUTCH: 13499,, 756-9191-001 (Authorized allowances based on a total of 4)			1					
	X2	H									HOLDER: 13499, 756-9192-001			1					
	X2	H									PLATE, GATE: 13499, 756-9193-001			1					
	X2	H									GUIDE, PAWL: 13499, 756-9195-001			4					
	X2	H									PLATE, GEAR: FRONT: 13499, 756-9196-001			1					
	X2	H									PLATE, GEAR, REAR: 13499, 756-9197-001			1					
	X2	H									GEARSHAFT, SPUR: 13499, 756-9198-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	X2	H									BLANK, GEAR: 13499, 756-9198-002			1					
	X2	H									PINION: 13499, 756-9198-003			1					
	X2	H									BRACKET, RELAY: 13499, 761-7061-001			1					
	X2	H									TERMINAL, FEED-THROUGH: 12615, SL174-198 (For authorized allowances see Group XV)			1					
	X2	H									BRACKET, RELAY: 13499, 756-9199-001			1					
	P1	H		5940-834-9116							CLIP, SPRING TENSION: 99378, 100-200-5-0			1		0.4	2.0		
	P1	H		5945-854-8546							RELAY, ARMATURE: 05126, 3SAF1241			5		1.6	15.0		K1,2,3, 4,5
	P1	H		5910-823-1348							CAPACITOR, FIXED: 81349, CS13AF470M			1		0.5	3.0		C1
	X2	H									PAWL ASSEMBLY: 13499, 761-7058-001			4					
	X2	H									RIVET, SOLID: 13499, 542-4507-002 (Authorized allowances based on a total of 12)			3					
	X2	H									ARMATURE, SOLENOID: 13499, 546-2214-002 (Authorized allowances based on a total of 4)			1					
	X2	H									PAWL, POSITIONED: 13499, 756-9200-001 (Authorized allowances based on a total of 4)			1					
	P1	H		5960-577-6214							SEMICONDUCTOR DEVICE, DIODE: 81349, IN538 (For authorized allowances see Group VII)			4					CR1-4
	X2	H									SCREW, SHOULDERED: 13499, 542-4510-002			8					
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 546-2214-002 (Authorized allowances based on a total of 4):			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	P1	H		5935-951-9331							CONNECTOR, RECEPTACLE, ELECTRICAL: 96906, MS3114E16-26PW (For authorized allowances see Group VII)			1					J1
	P1	H		6625-908-7400							DIAL, SCALE: 13499, 761-7057-001			1		0.4	2.0		
	X2	H									DIAL, SCALE: 13499, 756-9186-001			1					
	X2	H									HUB, DIAL: 13499, 756-9183-001 (For authorized allowances see Group XV)			1					
	X2	H									SCREW, MACHINE, MODIFIED: 13499, 761-7029-001			2					
	X2	H									SCREW, MACHINE: 96909, MS35216-43 (Authorized allowances based on a total of 2)			1					
	X2	H									PIN, SPRING: 96906, MS16562-201			3					
	X2	H									WASHER: 13499, 541-1233-00			8					
	P1	H	R	6625-908-7386							POWER CONVERTER ASSEMBLY: 13499, 761-7042-001		NX	1		0.7	5.0		1A3
	P1	H		5910-823-1687							CAPACITOR, FIXED: 81349, CL25BH111UP3			4		1.2	12.0		C3,4,5, 6
	P1	H		5910-903-3086							CAPACITOR, FIXED: 81349, CL35BX030LP3			2					
	P1	H									COIL, RF: (M5AD8-0835) 88063, MP206-2B			2		0.8	6.0		C1,2
	X2	H									TERMINAL, LUG: 78189, 2104-06-02-2520N			2		0.8	6.0		L1,2

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)			2					
	X2	H									TERMINAL, LUG: 77147, 4021 (For authorized allowances see Group VII)			2					
	X2	H									TERMINAL, GROUND: 12615, AB406D (For authorized allowances see Group VII)			4					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			2					
	X2	H									WASHER, LOCK: 96906, MS35338-79 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-12 (For authorized allowances see Group XV)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-3 (For authorized allowances see Group XV)			6					
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (For authorized allowances see Group VII)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-13 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-23 (For authorized allowances see Group XV)			2					
	P1	H		5960-973-2700							TRANSISTOR: 07688, 2N1100			2		0.8	6.0		Q1,2
	P1	H		5960-688-6316							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N547			2		0.8	6.0		CR1,2
	P1	H		5950-015-6791							TRANSFORMER, POWER: 73386, 36681			1		0.7	5.0		T1
	P1	H									TRANSFORMER, POWER: (M5AD8-0855) 73386, 674-5066-010			1		0.7	5.0		T2

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	P1	H		5905-045-2994							RESISTOR, THERMAL: 10646, 432H4			1		0.5	3.0	RT1	RT1
	P1	H		5905-190-8883							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF100J (For authorized allowances see Group XV)			2				R1,2	
	P1	H		5905-249-3642							RESISTOR, FIXED, COMPOSITION: 81349, RC42GF393J			2		0.8	6.0	R6,7	
	P1	H		5905-249-3663							RESISTOR, FIXED, COMPOSITION: 81349, RC42GF683J			1		0.5	3.0	R8	
	P1	H		5950-975-1128							RESISTOR, FIXED, WIREWOUND: 81349, RW69V391			1		0.5	3.0	R3	
	P1	H		5905-990-0018							RESISTOR, FIXED, WIREWOUND: 81349, RW67V221			1		0.5	3.0	R4	
	P1	H		5905-879-3636							RESISTOR, FIXED, WIREWOUND: 81349, RW67V331			1		0.5	3.0	R5	
	X2	H									POST, ELECTRO-MECHANICAL: 13499, 756-9151-001			2					
	X2	H									CHASSIC, POWER CONVERTOR: 13499, 761-7051-001			1					
	X2	H									TERMINAL, STANDOFF: 12615, SL173-197 (For authorized allowances see Group VII)			5					
	X2	H									TERMINAL, FEED-THROUGH: 12615,SL174-198 (For authorized allowances see Group XV)			9					
	X2	H									EYELET, METALLIC: 07707, SE73CADPL			1					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA1-26			2					
	X2	H									NUT, SELF-LOCKING 72962, F22NCFMA1-40 (For authorized allowances see Group VII)			1					
	X2	H									NUT, SELF-LOCKING: 72962, F12NCFMA1-82			8					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (Continued)								
	X2	H									CHASSIS, ELECTRICAL EQUIPMENT: 13499, 756-9170-001			1					
	X2	H									PLATE, MOUNTING: 13499, 756-9170-002			1					
	X2	H									CHASSIS: 13499, 756-9170-003			1					
	X2	H									PLATE, MOUNTING: 13499, 756-9170-004			1					
	X2	H									COMPONENT MOUNTING: 13499, 761-7048-011			1					
	P1	H									CLIP, SPRING TENSION: (M5AD8-0876) 99378, 100-200-16-23 (Authorized allowances based on a total of 6)			4		1.2	12.0		
	X2	H									RIVET, TUBULAR: 12014, R3484X3-32CADPL (Authorized allowances based on a total of 12)			8					
	X2	H									TERMINAL, FEED- THROUGH: 12615, SL314-231 (For authorized allowances see Group XV)			4					
	X2	H									NUT, SELF-LOCKING: 72962-F22NCFMA1-40 (For authorized allowances see Group VII)			4					
	X2	H									BRACKET, COMPONENT MOUNTING: 13499, 756-9162-001			1					
	X2										BRACKET: 13499, 761-7050-001			1					
	X2	H									CLIP: 99378, 100-200-16-23 (For authorized allowances see Group XV)			2					
	X2	H									RIVET, TUBULAR: 12014, R3484X3-32CADPL (For authorized allowances see Group XV)			4					
	X2	H									TERMINAL, STANDOFF: 12615, SL283-230 (For authorized allowances see Group XV)			3					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									BRACKET, COMPONENT MOUNTING: 13499, 756-9152-001			1					
	X2	H									COVER, POWER CONVERTER: 13499, 756-9158-001			1					
	X2	H									BRACKET, TRANSISTOR: 13499, 761-7049-001			1					
	X2	H									EYELET, METALLIC: 07707, SE55NIPL			1					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA2-40 (For authorized allowances see Group VII)			2					
	X2	H									BRACKET, ANGLE: 13499, 756-9160-001			1					
	X2	H		5935-906-6334							JACK, TIP, MODIFIED: 13499, 756-8876-001 (For authorized allowances see Group VII)			1					
	X2	H									JACK: 78947, 119392 (For authorized allowances see Group VII)			1					
	X2	H									COVER ASSEMBLY, JACK: 13499, 761-7035-001 (For authorized allowances see Group VII)			1					
	X2	H									COVER, JACK: 13499, 756-8887-001 (For authorized allowances see Group VII)			1					
	X2	H									INSERT, JACK COVER: 13499, 756-8885-001 (For authorized allowances see Group VII)			1					
	X2	H									BRACKET, JACK COVER: 13499, 756-8890-001 (For authorized allowances see Group VII)			1					
	X2	H									SPRING, HELICAL: 13499, 756-8886-001 (For authorized allowances see Group VII)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									… … . PIN, SPRING: 96906, MS17144 (For … … .authorized allowances see Group VII)			1					
	X2	H									SPACER, PLATE: 13499, 756-8889-001 (For authorized allowances see Group VII)			1					
	X2	H									BUSHING, SLEEVE: 13499, 756-9206-001			1					
	X2	H									GASKET: 13499, 756-9207-001			5					
	X2	H									WINDOW, DIAL: 13499, 756-9208-001			5					
	X2	H									HOLDER: 13499, 761-7031-001			1					
	X2	H									NUT, SELF-LOCKING: 72962, F12NCFMA1-62 (Authorized allowances based on a total of 11)			2					
	X2	H									HOLDER: 13499, 756-9209-001			1					
	X2	H									GUARD: 13499, 756-9211-001			1					
	X2	H									PLATE, MOUNTING: 13499, 761-7032-001			1					
	X2	H									NUT, SELF-LOCKING: 72962, F12NCFMA1-62 (For authorized allowances see Group XV)			3					
	X2	H									PLATE: 13499, 756-9218-001			1					
	X2	H									HINGE, BUTT: 13499, 756-9214-001			1					
	X2	H									HINGE: 96906, MS20257C2-7200 (Authorizedallowances based on a total of 3)			1					
	P1	H	R	6625-908-7401							METERING SUBASSEMBLY: 13499, 761-7034-001		NX	1		0.7	5.0		
	X2	H									WASHER, LOCK: 96906, MS35338-77 (For authorizedallownaces see Group VII)			4					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I)			6					
	X2	H									SCREW, MACHINE: 96906, MS35216-6 (For authorized allowances see Group XV)			6					
	X2	H									SCREW, MACHINE: 96906 MS35216-12 (For authorized allowances see Group VII)			2					
	P1	H		5960-993-6721							SEMICONDUCTOR DEVICE, DIODE: 81349, 1N647 (For authorized allowances see Group VII)			1					CR2
	P1	H		5960-851-7843							SEMICONDUCTOR DEVICE, DIODE: 07688, 1N3029B			2		0.8	6.0		CR3,4
	P1	H		5905-682-1249							RESISTOR, VARIABLE: 80294, 224L1-503			1		0.7	5.0		R17
	X2										SPACER, SLEEVE: 13499, 541-5950-002			4					
	P1	H		5905-681-5977							RESISTOR, FIXED, FILM: 81349, RN70C1212f			1		0.5	3.0		R14
	P1	H		5905-811-4758							RESISTOR, FIXED, FILM: 81349, RN70C2872F			4		1.2	12.0		R5,6,8, 9
	P1	H		5905-755-2346							RESISTOR, FIXED, FILM: 81349, RN70C8251F			2		0.8	6.0		R10,11
	P1	H		5905-802-0898							RESISTOR, FIXED, FILM: 81349, RN70C1102F			1		0.5	3.0		R12
	P1	H		5905-823-3479							RESISITOR, FIXED, FILM: 81349, RN70C2372F			2		0.8	6.0		R4,7
	P1	H		5905-801-1217							RESISITOR, FIXED, FILM: 81349, RN70C2372FI			1		0.5	3.0		R3
	P1	H		5905-726-7545							RESISTOR, FIXED, FILM: 81349, RN70C3833F			1		0.5	3.0		R13
	P1	H		5905-845-9472							RESISITOR :FIXED, FILM: 81349, RN70C422.3F			1		0.5	3.0		R15

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	P1	H		5905-195-6806							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF102J (For authorized allownaces see Group VII)			1					R20
	P1	H		5905-299-1971							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF822J			1		0.5	3.0		R21
	P1	H		5905-195-6761							RESISTOR, FIXED, COMPOSITION: 81349, RC20GF104J			1		0.5	3.0		R22
	X2	H									TERMINAL BOARD ASSEMBLY: 13499, 761-7033-001			1					
	X2	H									TERMINAL, STANDOFF: 12615, SL157-197			4					
	X2	H									TERMINAL, FEED-THROUGH 12615, SL158-198 (For authorized allowances see Group VII)			27					
	X2	H									NUT, SELF-LOCKING: 72962, F22NCFMA2-40 (For authorized allowances see Group VII)			7					
	X2	H									TERMINAL BOARD: 13499, 756-9219-001			1					
	P1	H		5945-877-5926							RELAY, ARMATURE: 09026, BR7X300D2S3-26V			1		0.5	3.0		K2
	P1	H		5945-780-8564							RELAY, ARMATURE: 05126, 3SAH1023			1		0.5	3.0		K1
	P1	H		5910-683-7161							CAPACITOR, FIXED: 81349, CP05A3KD103K3			2		0.8	6.0		C1,2
	X2	H									PANEL ASSEMBLY: 13499, 756-9227-002			1					
	X2	H									PANEL, FRONT: 13499, 756-9227-01			1					
	X2	H									PANEL: 13499, 756-9217-001			1					
	X2	H									PLATE, MOUNTING: 13499, 756-9226-001			1					
	X2	H									NUT, SELF: 72962, F22NCFMA2-40 (For authorized allowances see GROUP VII)			3					
	X2	H									NUT, SELF: 72962, F12NCFMA2-82 (Authorized allowances based on a total of 40)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 06540, 6252C-SS-0832 (Authorizedallownaces based on a total of 8)			4					
	X2	H									CHASSIS, ELECTRICAL EQUIPMENT: 13499, 756-9228-002			1					
	X2	H									CHASSIS, WELDED: 13499, 756-9228-001			1					
	X2	H									WRAPAROUND: 13499, 756-9228-001			1					
	X2	H									COVER: 13499, 756-9228-003			1					
	X2	H									COVER: 13499, 756-9228-005			1					
	X2	H									NUT, SELF-LOCKING: 72962, F12NCFMA-62 (For authorized allowances see Group XV)			6					
	P1	H									KNOB,ROUND: (M5AD8-0434) 13499, 757-0228-001 (For authorized allowances see Group VII)			2					
	X2	H									BUSHING, SLEEVE: 13499, 757-0211-001 (For authorized allowances see Group VII)			1					
	X2	H									WASHER, FLAT: 13499, 761-0012-003 (For authorized allowances see Group VII)			1					
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7030-001			1					J2
	P1	H		5935-836-1804							CONNECTOR, RECEPTACLE, ELECTRICAL 96906, MS3114E16-26P (For authorized allowances see Group VII)			1					
	A	H	R								CABLE ASSEMBLY: 13499, 761-7036-001		NX	1					
	P1	H		5935-823-0487							CONNECTOR, PLUG, ELECTRICAL UG-88E/U: 80058 (For authorized allowances see Group VII)			1					
	P1	H		5935-988-5506							CONNECTOR, RECEPTACLE: 94375, 101N3100A85 (For authorized allowances see Group VII)			1					J3

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	A	H	R								CABLE ASSEMBLY: 13499, 761-7037-001		NX	1					
	P1	H		5935-823-0487							CONNECTOR, PLUG, ELECTRICAL UG-88E/U: 80058 (For authorized allowances see Group VII)			2					P1,2
	X2	H									SCREW, MACHINE: 13499, 761-7024-001 (Authorized allowances based on a total of 9			4					
	X2	H									SCREW,,MACHINE: 06540, 6107-SS-0832 (Authorized allowances based on a total of 9)			1					
	P1	O		6625-738-5976							MOUNTING TRAY, SIMULATOR, RADIO SET MT-3371/ARC-51X		NX	1		0.7	5.0	1-10	
	X2	H									NUT, PLAIN, HEXAGONAL: 96909, MS35649-24 (For authorized allowances see Group I)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-2 (For authorized allowances see Group XV)			4					
	X2	H									WASHER, LOCK: 96906, MS35333-70			2					
	X2	H									BALL, JOINT: 13499, 547-1643-002			2					
	X2	H									SCREW, PIVOT: 13499, 547-1646-002			2					
	X2	H									SCREW: 13499, 547-1646-012 (Authorized allowances based on a total of 2)			1					
	X2	H									PIN, STRAIGHT, HEADLESS: 13499, 547-1647-002			2					
	X2	H									SPACER, SLEEVE: 13499, 756-9043-001			4					
	X2	H									MOUNTING, SIMULATOR: 13499, 761-7027-001			1					
	X2	H									RIVET, SOLID: 96906, MS20470AD4-4			2					
	X2	H									RIVET, SOLID: 96906, MS20470AD4-4			2					
	X2	H									RIVET, SOLID: 96906, MS20426AD4-7 :			4					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									EYELET, METALLIC: 90030, SE23CADPL			2					
	X2	H									PLATE, SUPPORTING: 13499, 547-1644-002			2					
	X2	H									SOCKET, BALL JOINT: 13499, 547-1649-003			1					
	X2	H									SOCKET: 13499, 547-1649-013			1					
	X2	H									SOCKET, BALL JOINT; 13499, 547-1650-003			1					
	X2	H									SOCKET: 13499, 547-1650-013			1					
	X2	H									PLATE, MOUTING: 13499, 761-5948-001			1					
	X2	H									PLATE: 13499, 547-1651-004			1					
	X2	H									SCREW, MACHINE: 96909, MS35216-44			4					
	P1	O		6625-738-5984							BLOCK, LOCKING: MX-6731/ARC-51X			1		0.7	5.0		
	X2	H									BLOCK: 13499, 756-8897-001			1					
	X2	H									CHASSIS, LOCKING BLOCK: 13499, 593-4202-003			1					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For authorized allowances see Group I)			1					
	X2	H									INSERT, LOCKING BLOCK: 13499, 756-8896-001			6					
	X2	H									BUSHING, CAPTIVE: 13499, 549-3943-002			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-16 (For authorized allowances see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued):								
											GROUP XVI MOUNTING TRAY, MODULE EXTENDER MT-3372/ARC-51X								
	A	O	R	6625-738-5974							MOUNTING TRAY, MODULE EXTENDER MT-3372/ARC-51X		NX	1					
	X2	H									HANDLE, BOW: 08730, NP9			2					
	P1	H									CLIP, SPRING TENSION: 91506, 6019-41CN (M5AD8-1005)			1		0.4	2.0		
	P1	H									CLIP, SPRING TENSION: 91506, 6020-11CN (M5AD8-1006)			1		0.4	2.0		
	P1	H									CLIP, SPRING TENSION: 91506, 139-3491-30 (M5AD8-1007)			1		0.4	2.0		
	X2	H									GROMMET, RUBBER: 96906, MS35489-4 (For authorized allowances see Group XV)			1					
	X2	H									GROMMET, RUBBER: 79497, G1161NEOPRENE45-55			1					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allowances see Group VII)			14					
	X2	H									NUT, PLAIN HEXAGONAL:Compl, 4-40X3-16x1-16SST (For authorized allowances see Group VII)			12					
	X2	H									SCREW, MACHINE: 96906, MS35200-11			6					
	X2										SCREW, MACHINE: 96906, MS35200-13 (For authorized allowances see Group VII)			13					
	X2	H									SCREW, MACHINE: 96906, MS35201-54			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorizes allowances see Group I)			2					
	X2	H									SCREW MACHINE: 96906, MS35216-11 (For authorized allowances see Group I)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 96906, MS35216-13 (For authorized allowances see Group VII)			4					
	X2	H									SCREW MACHINE: 96906, MS35216-14 (For authorized allowances see Group XV)			3					
	X2	H									SCREW, MACHINE: 96906, MS35216-15			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-18			4					
	X2	H									POST, ELETRO-MECHANICAL: 13499, 540-9168-003			2					
	X2	H									SPACER, SLEEVE: 13499, 541-5987-002			4					
	X2	H									PAD, DUMMY LOAD: 13499, 756-9019-001			1					
	X2	H									SPACER, PLATE: 13499, 756-9020-001			1					
	X2	H									SPACER, PLATE: 13499, 756-9021-001			1					
	X2	H									BRACKET, DUMMY: 13499, 756-9023-001			1					
	X2	H									BRACKET, ANTENNA: 13499, 756-9024-001			1					
	X2	H									BRACKET, SPARE PARTS: 13499, 756-9032-001			2					
	X2	H									HOLDER, SPARE PARTS: 13499, 756-9033-001			1					
	X2	H									GUIDE TRAY no. 1: 13499, 756-9035-001			1					
	X2	H									GUIDE, TRAY NO. 2: 13499, 756-9036-001			1					
	X2	H									MOUNTING, TRAY: 13499, 761-7023-001			1					
	X2	H									NUT, SELF-LOCKING: 72962 F12NCFMA2-82 (For authorized allowances see Group XV)			32					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X1										MOUNTING, TRAY: 13499, 756-9038-001			1					
	X1										PANEL, FRONT: 13499 756-9038-002			1					
	X1										BRACKET, SIDE: 13499, 756-9038-003			1					
	X1										CHASSIS: 13499, 756-9038-004			1					
	X1										PLATE, GUSSET: 13499, 756-9038-005			1					
	X1										PLATE, GUSSET: 13499, 756-9038-006			1					
	X2	H									SCREW, MACHINE: 06540, 6252C-SS-0832 (For authorized allowances see Group XV)			4					
	X2	H									SCREW, MACHINE: 13499, 761-7024-001 (For authorized allowances see Group XV)			4					
	X2	H									SCREW, MACHINE: 06540, 6107-SS-0832 (For authorized allowances see Group XV)			1					
	X2	H									BRACKET, FIXTURE MOUNTING: 13499, 761-7025-001			1					
	X2	H									BRACKET, FIXTURE: 13499, 756-9034-011			1					
	X2	H									NUT, SELF-LOCKING: 72962 F22NCFMA2-40 (For authorized allowances see Group VII)			10					
	X2	H									NUT, SELF-LOCKING: 72962 F12NCFMA2-82 (For authorized allowances see Group XV)			4					
	X2	H									SPACER, PLATE: 13499, 761-7026-001			1					
	X2	H									SPACER, PLATE: 13499, 756-9022-001			1					
											:								

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									PIN, SPRING: 96906, MS16562-190			1					
	X2	H									CLAMP, CONNECTOR: 13499, 761-7079-001			1					
	X2	H									PIN, SPRING; 96906, MS16562-198			2					
	X2	H									PIVOT, CLAMP: 13499, 756-8895-001			1					
	X2	H									CLAMP HALF, CONNECTOR: 13499, 756-9150-001			1					
	X2	H									CLAMP HALF, CONNECTOR: 13499, 756-9300-001			1					
	X2	H									SCREW, MACHINE: 13499, 761-7024-001 (For authorized allowances see Group XV)			1					
	X2	H									SCREW, MACHINE: 06540, 6107-SS-0832 (For authorized allowances see Group XV)			1					
	A	O		6625-965-1484							COVER, TEST SET, RADIO: CW-710/ARC-51X			1					
											WASHER, LOCK: 96906, MS35338-77 (For authorized allowances see GROUP VIII)			8					
	X2	H									WASHER, LOCK: 96906, MS35338-78 (For authorized allownaces see Group VII)			16					
	X2	H									… WASHER, LOCK: 96906, MS35338-79 .. (For authorized allowances see .Group VII)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906 MS35649-24 (For authorized allowances see Group I)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-25			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-2 (For authorized allowances see Group III)			6					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 96906, MS35216-4 (For authorized allownaces see Group VII)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-13 (For authorized allowances see Group VII)			16					
	X2	H									SCREW, MACHINE: 96906, MS35216-25 (For authorized allowances see Group VII)			4					
	X2	H									PAD, RACK: 13499, 756-9050-001			2					
	X2	H									NUT STRIP, HINGE: 13499, 756-9051-001			2					
	X2	H									HINGE, BUTT: 13499, 756-9054-001			1					
	X2	H									HINGE: 96909, MS20257C2-7200 (For authorized allowances see Group XV)			2					
	X2	H									SCALE, ANTENNA: 13499, 756-9057-001			1					
	X2	H									NUT STRIP: 13499, 756-9058-001			2					
	X2	H									RACK, BOK: 13499, 756-9059-001			1					
	X2	H									RACK, BOOK, OUTER: 13499, 756-9059-002			1					
	X2	H									RACK, BOOK, INNER: 13499, 756-9059-003			1					
	X2	H									COVER, MAINTENANCE KIT: 13499, 761-7022-001			1					
	X2	H									STUD, SNAP SLIDE FASTENER: 80813, 2S1-135-125			2					
	X2	H									RIVET, SOLID: 96909, MS20470AD4-5			4					
	X2	H									RIVET, SOLID: 96906, MS20470AD4-8			18					
	X2	H									BRACKET, ANGLE: 13499, 756-9055-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
													FIGURE NO.	ITEM NO.
A	B	C	D											
						MK-731/ARC-51X (continued)								
	X2	H				BRACKET, ANGLE: 13499, 756-9056-001			1					
	X2	H				PARTITION, CASE: 13499, 756-9061-001			1					
	X2	H				BRACKET, ANGLE: 13499, 756-9063-001			2					
	X2	H				CASE, COVER, MODIFIED: 13499, 756-9065-001			1					
	X2	H				CASE, CARRYING: 74284, 021-0322-00			1					
	X2	H				COVER, ACCESS: 13499, 761-7021-001			1					
	X2	H				POST, SNAP SLIDE FASTENERS: 80813, 2R141			2					
	X2	H				LATCH, SNAP SLIDE FASTENER: 81349 AN3195-11			2					
	X2	H				LATCH, GUIDE: 81349, AN3195-21			2					
	X2	H				WASHER, SPRING TENSION: 81349, AN3195-41			2					
	X2	H				RIVET, SOLID: 96906, MS20426AD3-5			4					
	X2	H				NUT, SELF-LOCKING: 72962, F12NCFMA2-82 (For authorized allowances see Group XV)			2					
	X2	H				NUT, SELF-LOCKING: 72962, F22NA1K82 (For authorized allowances see Group XV)			2					
	X2	H				COVER, ACCESSORIES: 13499, 756-9060-001			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
											GROUP XVII ANTENNA AS-1484/ARC-51X								
	A	O	R	5985-726-2290							ANTENNA AS-1484/ARC-51X (MAINTENANCE FLOATS ITEM)		NX	1					
	P1	H		5935-557-8776							CONNECTOR, PLUG, ELECTRICAL: 80058, UG-21E/U (For authorized allowances see Group XI)			1					P1
	X1										PIN, SPRING: 72962, 99-012-062-0187			1					
	X1										CAP, ELECTRICAL: 13499, 756-9235-001			1					
	X1										SETSCREW: 13499, 756-9238-001			2					
	X1										INSULATOR, WASHER: 13499, 756-9236-001			1					
	X1										CONTACT, ELECTRICAL: 13499, 756-9229-001			1					
	X1										INSULATOR, NUT: 13499, 756-9237-001			1					
	X1										CONTACT, ELECTRICAL: 13499, 756-9231-001			1					
	X1										CONTACT, ELECTRICAL: 13499, 756-9230-001			1					
	X1										ANTENNA ELEMENT: 13499, 756-9230-001			1					
	X1										ANTENNA ELEMENT: 13499, 756-9233-001			1					
	X1										ANTENNA, ELEMENT: 13499, 756-9232-001			1					
	X2	H									MARKER, CABLE: 13499, 280-3789-010			1					
	P1	O		6625-738-5990							ALIGNMENT FIXTURE, SPECTRUM GENERATOR: MX-6732/ARC-51X			1		0.5	3.0		

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X1										FIXTURE, GEAR TRAIN: 13499, 024-0438-00			1					
	X2	H									SCREW, MACHINE: 96906, MS-35216-1 (For authorized allowances see GROUP I)			2					
	P1	O		6625-738-5989							ALIGNMENT FIXTURE, POWER AMPLIFIER: MX-6733/ARC-51X			1		0.5	3.0	1-7	
	X1										FIXTURE, GEAR TRAIN: 13499, 024-0437-00			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)			2					
	P1	O		6625-738-5986							ALIGNMENT FIXTURE, RECEIVER-PREAMPLIFIER: MX-6734/ARC-51X			1		0.5	3.0		
	X1										FIXTURE, GEAR TRAIN: 13499, 024-0436-00			1					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)			2					
											GROUP XVIII ADAPTER, CONNECTOR U-335/ARC-51X								
	P1	O		5935-762-9306							ADAPTER, CONNECTOR U-335/ARC-51X		NX	1		0.7	5.0		
	X2	H									WIRING HARNESS, ELECTRICAL: 13499, 761-7020-001			1					
	P1	H		5935-823-0212							CONNECTOR, RECEPTACLE, ELECTRICAL: 96909, MS3112E16-26PW			2		0.8	6.0		P1,2
	X2	H									CHASSIS: 13499, 756-9042-001 (Authorized allowances based on a total of 2.)			1					
	X2	H									CASTING, CHASSIS: 13499, 756-3257-004 (Authorized allowances based on a total of 4.)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									SCREW, MACHINE: 96906, MS35216-12 (For authorized allowances see Group I)			8					
	X2	H									SCREW, MACHINE: 96909, MS35216-1 (For authorized allowances see Group I)			2					
	X2	H									WASHER, LOCK: 96909, MS35337-78 (For authorized allowances see Group I)			8					
	X2	H									CHASSIS: 13499, 756-9042-002 (For authorized allowances based on a total of 2).			1					
	X2	H									CASTING, CHASSIS: 13499, 756-3257-004 (For authorized allowances see Group XVIII)			1					
											GROUP XIX ADAPTER, CONNECTOR U-334/ARC-51X								
	P1	O	R	5935-762-9307							ADAPTER, CONNECTOR U-334/ARC-51X		NX	1		0.7	5.0		
	X2										WIRING HARNESS, ELECTRICAL: 13499, 761-7019-001			1					
	X2	H		5935-835-3031							CONNECTOR RECEPTACLE, ELECTRICAL: 96909, MS3112E16-26P			2		0.8	6.0		P1,2
	X2	H									CHASSIS: 13499, 756-9042-001 (For authorized allowances see Group XVIII)			1					
	X2	H									CASTING, CHASSIS: 13499, 756-3257-004 (For authorized allowances see Group XVIII)			1					
	X2	H									SCREW, MACHINE: 96909, MS35216-12 (For authorized allowances see Group VII)			8					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)			2					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								MK-731/ARC-51X (continued)								
	X2	H									WASHER, LOCK: 96906, MS35337-78 (For authorized allowances see Group I)			8					
	X2	H									CHASSIS: 13499, 756-9042-002 (For authorized allowances see Group XVIII)			1					
	X2	H									CASTING, CHASSIS: 13499, 756-3257-004 (For authorizex allowances see Group XVIII)			1					
											GROUP XX EXTENDER, MODULE MX-4913/ARC-51X								
	P1	O	R	6625-738-5975							EXTENDER, MODULE MX-4913/ARC-51X		NX	1		1.2	10.0	1-4	
	X1										CHASSIS, MODULE EXTENDER: 13499, 761-7017-001			1					
	X1										CHASSIS: 13499, 756-8976-001			1					
	X2	H									PIN, LOCATING: 13499, 756-8927-002 (For authorized allowances see Group I)			2					
	X2	H									PIN, SPRING: 96909, MS16562-189 (For authorized allowances see Group I)			4					
	X2	H									JACK, TIP: 98291, SKT41WHT (For authorized allowances see Group I) (Item Nos. TP1,2,3,5,6,7, 9,10,11,12,13,14,15)			13					See desc column
	X2	H									JACK, TIP: 98291, SKT41RED (For authorized allowances see Group I)			2					TP4,8
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8952-001 (For authorized allowances see Group III)			1					
	X2	H									COVER, MODULE EXTENDER: 13499, 756-8952-002 (For authorized allowances see Group III)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X1										POST, ELECTRO-MECHANICAL: 13499, 756-8969-001			1					
	X2	H									SCREW, MACHINE: 96909, MS35216-24 (For authorized allowances see Group I)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For authorized allowances see Group I)			2					
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I)			4					
	P1	H		5305-909-1949							SCREW, MACHINE, MODIFIED: 13499, 756-8924-001 (For authorized allowances see Group I)			4					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For authorized allowances see Group I)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For authorized allowance see Group I)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowances see Group I)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see GroupI)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see GroupI)			6					
	X1										PLATE, END: 13499, 756-8970-001			2					
	X1										WIRING HARNESS, ELECTRICAL: 761-7018-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DA15P (For authorized allowances see Group I)			1					

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAF15S (For authorized allowances see Group I)			1					J8
											GROUP XXI EXTENDER, MODULE MX-4912/ARC-51X								
	P1	O	R	6625-738-5983							EXTENDER, MODULE MX-4912/ARC-51X	NX		1		1.2	10.0		
	X2	H									INSERT, SCREW THREAD: 81349, MS122119 (For authorized allowances see Group I)			2					
	X2	H									WASHER, LOCK: 96906, MS35337-77 (For authorized allowance see Group I)			4					
	X2	H									SCREW, MACHINE: 96906, MS35200-3 (For authorized allowance see see Group I)			2					
	X2	H									SCREW, MACHINE: 96906, MS35200-5 (For authorized allowance see Group I)			2					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24 (For authorized allowances see Group I)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-1 (For authorized allowances see Group I)			2					
	X2	H									SCREW, MACHINE: 96906, MS35216-24 (For authorized allowances see Group I)			2					
	X1										WIRING HARNESS, ELECTRICAL: 13499, 761-7016-001			1					
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAM11W1P (For authorized allowances see Group II)			1					P1
	X2	H									CONNECTOR, RECEPTACLE, ELECTRICAL: 71468, DAMF11W1S (For authorized allowances see Group II)			1					J7

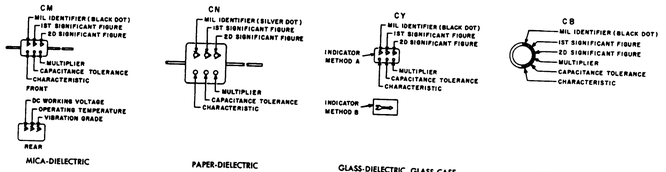
SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	P1	H									SCREW, MACHINE, MODIFIED: 13499, 756-8924-001 (For authorized allowances see Group I)			2					
	X1										POST, ELECTRO-MECHANICAL: 13499, 756-8978-001			1					
	X1										CHASSIS, MODULE EXTENDER: 13499, 761-7015-001			1					
	X2	H									JACK, TIP: 98291, SKT41WHT (For authorized allowance see Group I)			10					TP1-10
	X2	H									PIN, LOCATING: 13499, 756-8927-002 (For authorized allowances see Group I)			2					
	X2	H									PIN, SPRING: 96906, MS16562-189 (For authorized allowances see Group I)			4					
	X1										COVER, MODULE EXTENDER: 13499, 756-8984-001			1					
	X1										COVER: 13499, 756-8985-001			1					
	X1										COVER, MODULE EXTENDER: 13499, 756-8982-001			1					
	X1										COVER: 13499, 756-8982-002			1					
	X2	H									WASHER, LOCK: 96906, MS35337-79 (For authorized allowances see Group I)			2					
	X2	H									CABLE ASSEMBLY, RF: 13499, 761-7003-002 (For authorized allowances see Group I)			1					
	X2	H									CONNECTOR, PLUG, ELECTRICAL: 71468, DM53740-5000 (For authorized allowances see Group I)			1					
	X2	H									INSERT, COAXIAL CONNECTOR: 71468, DM53742-5000 (For authorized allowances see Group I.)			1					
											:								

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	A	O		6625-985-8080							CABLE ASSEMBLY, RADIO FREQUENCY: CG-3120/ARC-51X		NX	3					W13
	X1										CABLE ASSEMBLY, RF: 91146, CA53693-80 (Authorized allowances based on total of 3.)			1					
	X1										BAND, MARKER, CABLE: 04740 152-5130-260 (Authorized allowances based on a total of 3.)			1					
	A	O		6625-985-8079							CABLE ASSEMBLY, RADIO FREQUENCY: CG-3119/ARC-51X			3					W12
	X1										CABLE ASSEMBLY, RF: 91146, RG-58C/U (Authorized allowances based on a total of 3.)			1					
	X2	H									BAND, MARKER, CABLE: 04740, 152-5130-250 (Authorized allowances based on a total of 3.)			1					
	A	O		6625-985-8078							CABLE ASSEMBLY, RADIO FREQUENCY: CG-3118/ARC-51X			3					W11
	X1										CABLE ASSEMBLY, RF: 91146, RG-58C/U (Authorized allowances based on a total of 3.)			1					
	X2	H									BAND, MARKER, CABLE: 04740, 152-5130-240 (Authorized allowances based on a total of 3.)			1					
	X2	H									WASHER, LOCK: 96906, MS35338-77 (For authorized allowances see Group VII)			4					
	X2	H									NUT, PLAIN, HEXAGONAL: 96906, MS35649-24, (For authorized allowances see Group I)			4					
	X2	H									SCREW, MACHINE: 96906, MS35216-4 (For authorized allowances see Group VII)			4					
	P1	O		5955-738-6145							CRYSTAL UNIT, QUARTZ: 85675, M9-6884 (For authorized allowances see Group XV)			1					

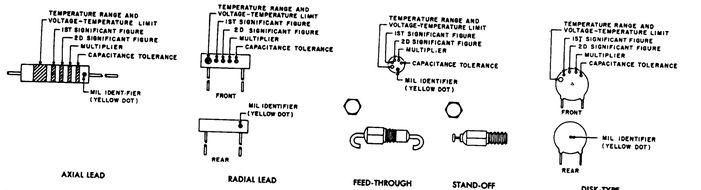
SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D																
											MK-731/ARC-51X (continued)								
	P1	O		6240-155-7836							LAMP, INCANDESCENT: 96906, MS25237-327 (For authorized allowances see Group VII)			13					
	X2	H									BAG, COTTON DUCK: 13499, 024-0102-00			1					
	X2	H									STRAP, WEBBING: 15814, 011-0123-010			3					
	P1	O		5935-762-9305							ADAPTER, CONNECTOR: U-336/ARC-51X			1		0.7	5.0		
	X2	H									ADAPTER, CONNECTOR: 80058, UG-29B/U			1					
											GROUP XXII DUMMY LOAD, ELECTRICAL DA-397/ARC-51X								
	P1	O	R	6625-738-5991							DUMMY LOAD, ELECTRICAL DA-397/ARC-51X		NX	1		0.7	5.0	1-8	
	P1	H		6625-908-7383							ATTENUATOR, FIXED: 70998, B8B11		NX	1		0.7	5.0		

COLOR CODE MARKING FOR MILITARY STANDARD CAPACITORS

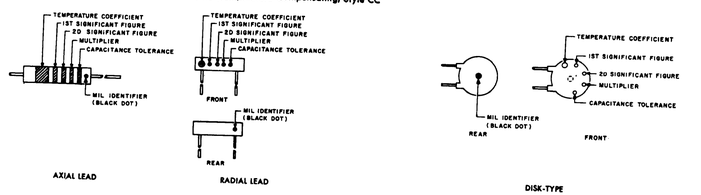
GROUP I Capacitors, Fixed, Various-Dielectrics, Styles CM, CN, CY, and CB



GROUP II Capacitors, Fixed Ceramic-Dielectric (General Purpose) Style CK



GROUP III Capacitors, Fixed, Ceramic-Dielectric (Temperature Compensating) Style CC



COLOR CODE TABLES

TABLE I – For use with Group I, Styles CM, CN, CY and CB

COLOR	MIL ID	1st SIG FIG	2nd SIG FIG	MULTIPLIER[1]	CAPACITANCE TOLERANCE				CHARACTERISTIC[2]				DC WORKING VOLTAGE	OPERATING TEMP. RANGE	VIBRATION GRADE
					CM	CN	CY	CB	CM	CN	CY	CB	CM	CM	CM
BLACK	CM, CY CB	0	0	1			± 20%	± 20%		A					
BROWN		1	1	10										−55° to +70°C	10–55 cps
RED		2	2	100	± 2%		± 2%	± 2%	B	E	B				
ORANGE		3	3	1,000		± 30%			C		C			−55° to +85°C	
YELLOW		4	4	10,000					D			D	300		
GREEN		5	5		± 5%				E					−55° to +125°C	10–2,000 cps
BLUE		6	6						F				500		
PURPLE (VIOLET)		7	7											−55° to +150°C	
GREY		8	8												
WHITE		9	9												
GOLD				0.1			± 5%	± 5%							
SILVER	CN				± 10%	± 10%	± 10%	± 10%							

TABLE II – For use with Group II, General Purpose, Style CK

COLOR	TEMP. RANGE AND VOLTAGE – TEMP LIMITS[3]	1st SIG FIG	2nd SIG FIG	MULTIPLIER[1]	CAPACITANCE TOLERANCE	MIL ID
BLACK		0	0	1	± 20%	
BROWN	AW	1	1	10	± 10%	
RED	AX	2	2	100		
ORANGE	BX	3	3	1,000		
YELLOW	AV	4	4	10,000		CK
GREEN	CZ	5	5			
BLUE	BY	6	6			
PURPLE (VIOLET)		7	7			
GREY		8	8			
WHITE		9	9			
SILVER						

TABLE III – For use with Group III, Temperature Compensating, Style CC

COLOR	TEMPERATURE COEFFICIENT[4]	1st SIG FIG	2nd SIG FIG	MULTIPLIER[1]	CAPACITANCE TOLERANCE		MIL ID
					Capacitances over 10uuf	Capacitances 10uuf or less	
BLACK	0	0	0	1		± 2.0uuf	CC
BROWN	−30	1	1	10	± 1%		
RED	−80	2	2	100	± 2%	± 0.25uuf	
ORANGE	−150	3	3	1,000			
YELLOW	−220	4	4				
GREEN	−330	5	5		± 5%	± 0.5uuf	
BLUE	−470	6	6				
PURPLE (VIOLET)	−750	7	7				
GREY		8	8	0.01			
WHITE		9	9	0.1	± 10%		
GOLD	+100					± 1.0uuf	
SILVER							

1. The multiplier is the number by which the two significant (SIG) figures are multiplied to obtain the capacitance in uuf.
2. Letters indicate the Characteristics designated in applicable specifications: MIL-C-5, MIL-C-91, MIL-C-11272, and MIL-C-10950 respectively.
3. Letters indicate the temperature range and voltage-temperature limits designated in MIL-C-11015.
4. Temperature coefficient in parts per million per degree centigrade.

Figure 4-5. Color-code marking for MIL-STD capacitors.

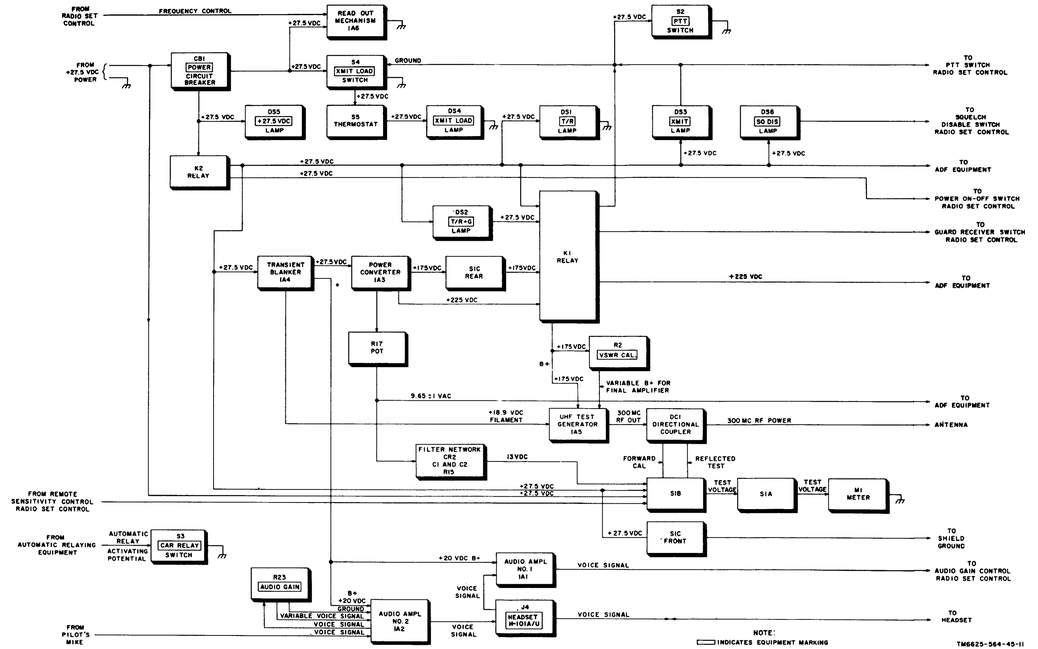


Figure 4-6. Radio set simulator, functional block diagram.

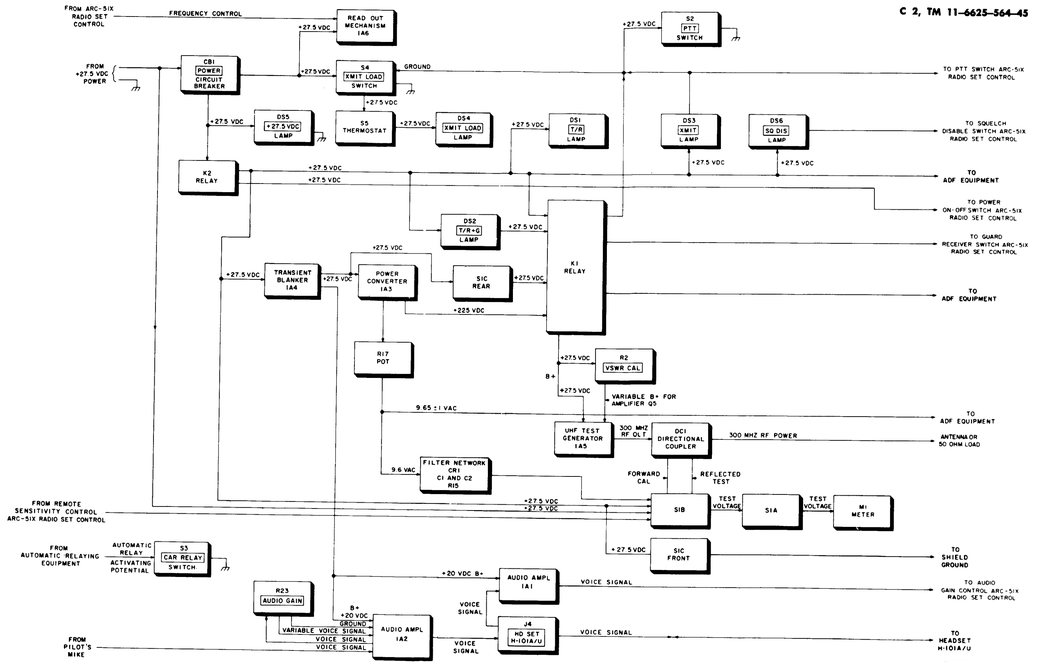


Figure 4-6.1 Radio set simulator (MK-751A/ARC-51X only), functional block diagram.

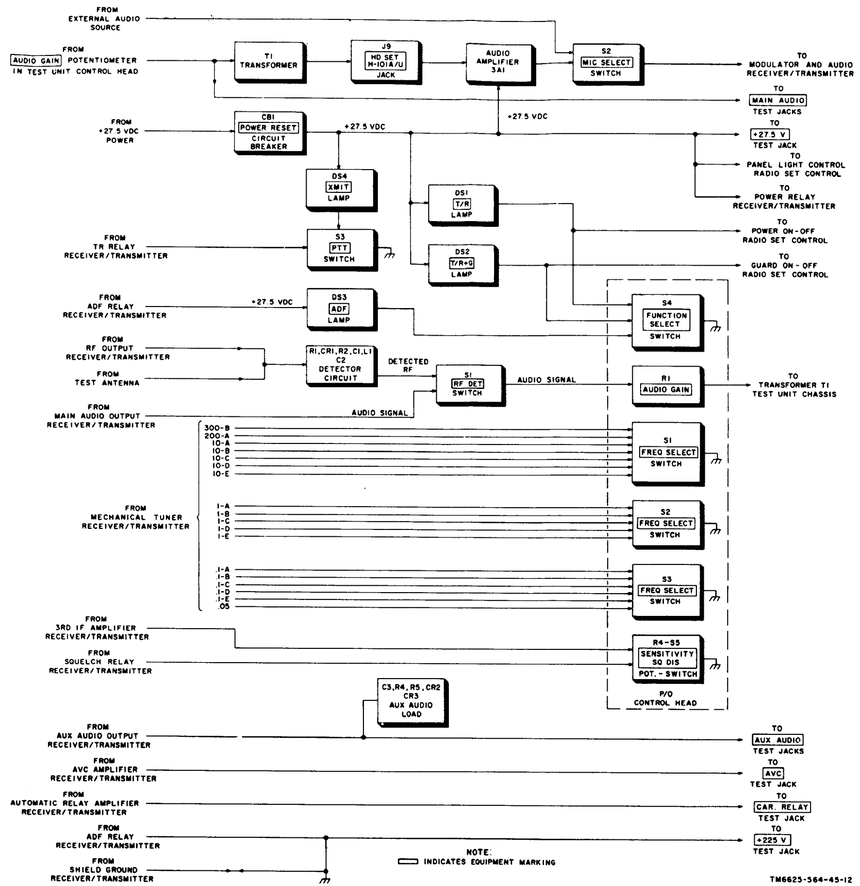
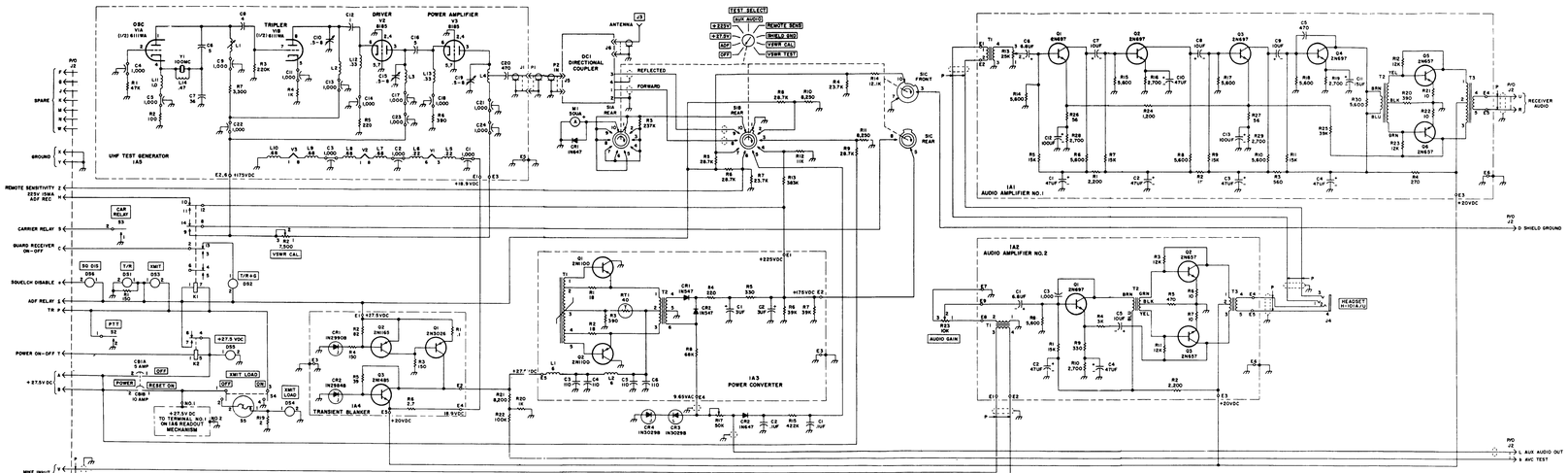


Figure 4-7. Test unit, functional block diagram.

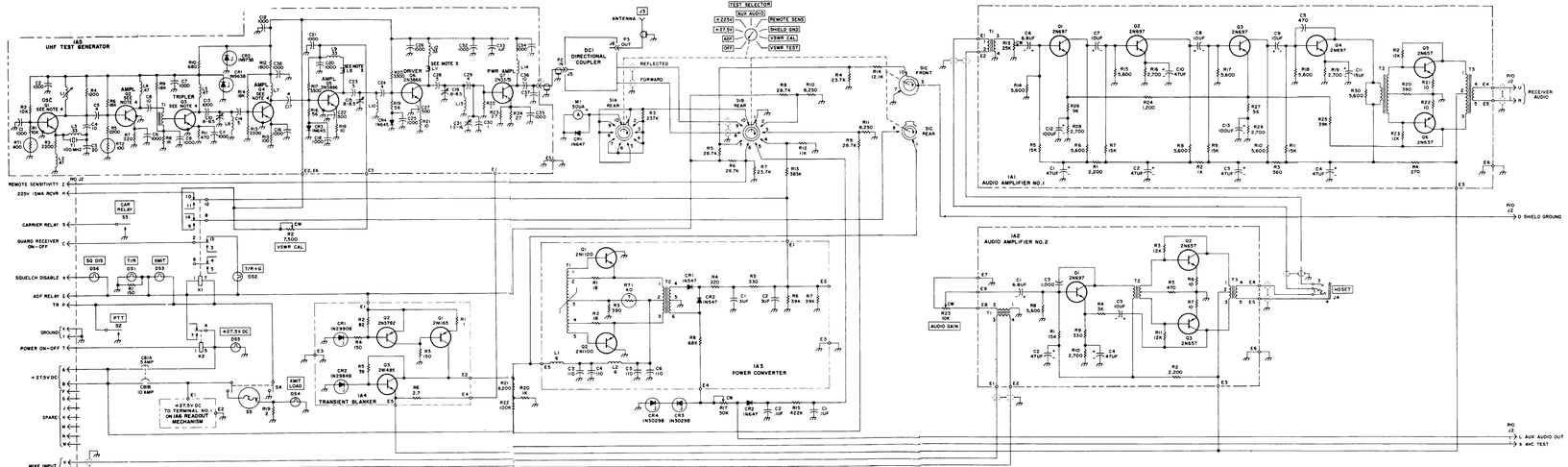


NOTE

UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE IN OHMS. ALL CAPACITANCE VALUES ARE IN MICROFARADS AND ALL INDUCTANCE VALUES ARE IN MICROHENRYS.

TM6625-364-45-13

Figure 4-9. Radio set simulator, schematic diagram.



NOTES:
1. UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN MICROFARADS, AND ALL INDUCTANCE VALUES ARE IN MICROHENRYS.
2. WHEN REFERRING TO THE IDENTIFYING NO. SPECIFY DWG. NO. & APPLICABLE DASH NO.
3. IA5-L8 AND IA5-L11 ARE FERRITE SHIELDING BEADS.
4. Q1,Q2,Q3,AND Q4 ARE 2N2857 OR 2N918. 2N2857 ARE PREFERRED PAIR.

TM6625-564-45-C2-60

Figure 4-8.1 Radio set simulator (MK-721A/ARC-61X), schematic diagram.

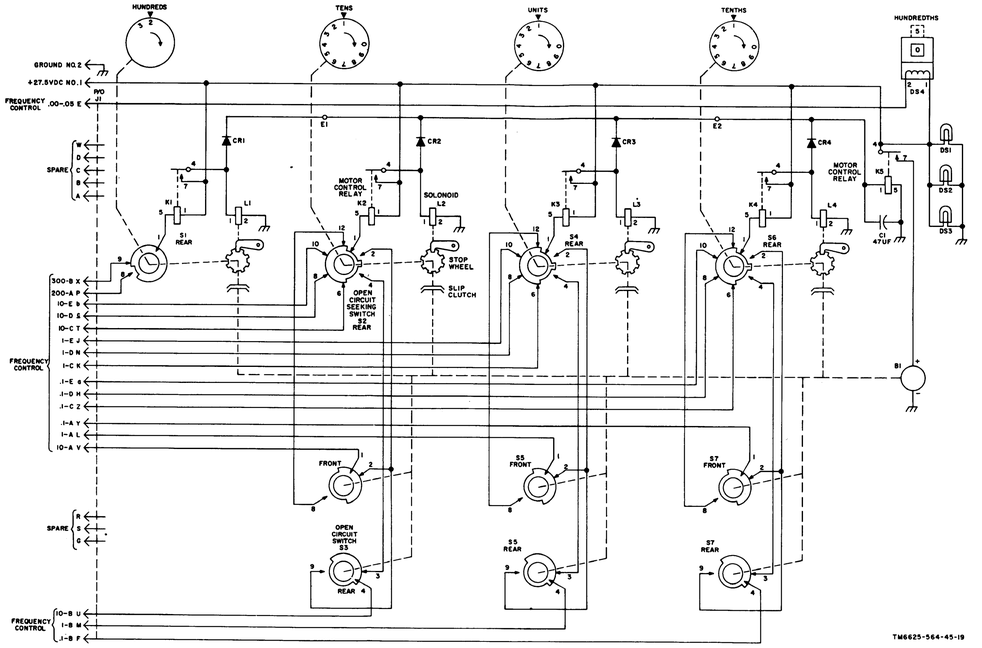


Figure 4-9. Radio set simulator readout mechanism, schematic diagram.

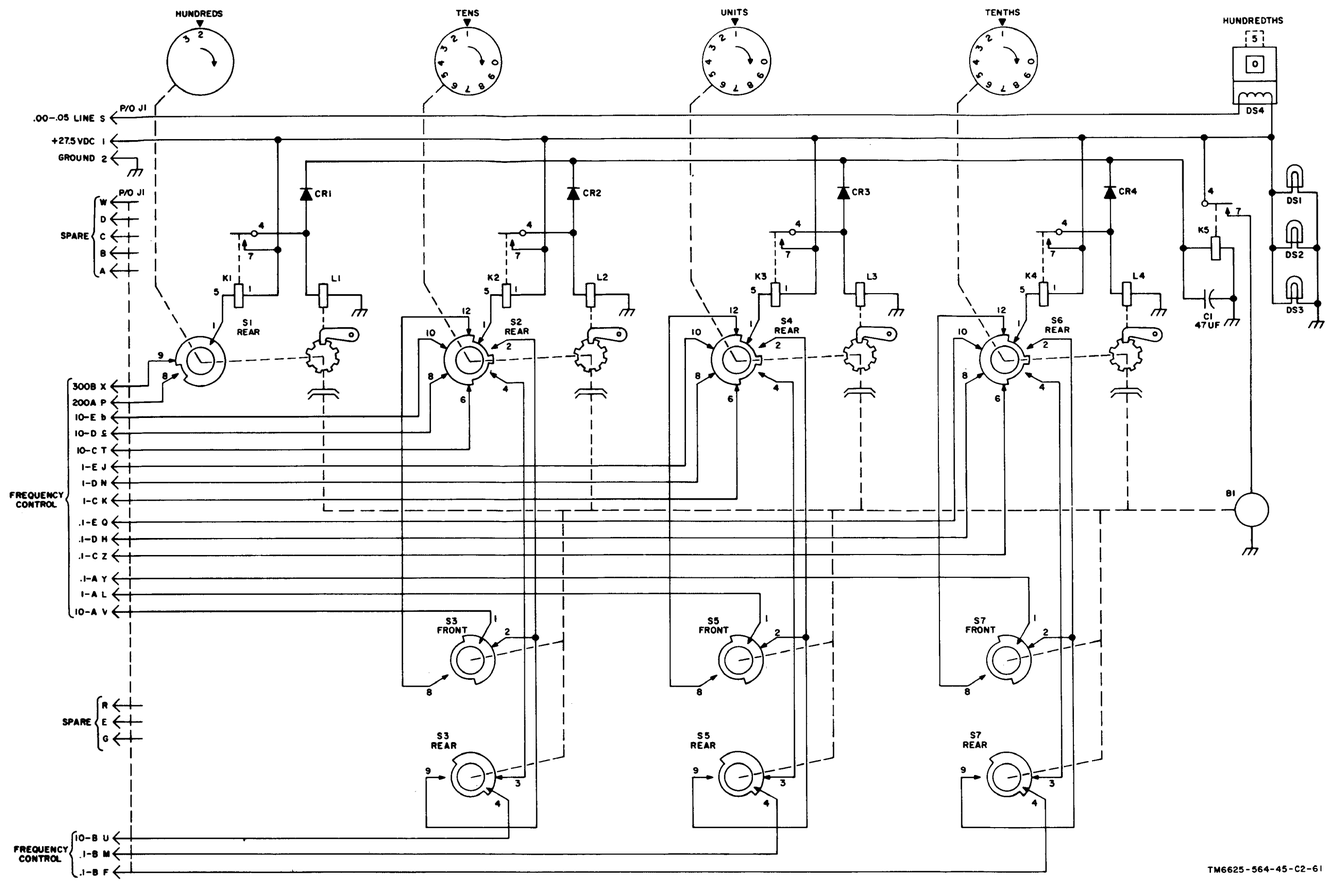


Figure 4-9.1 Radio set simulator readout mechanism (MK-731A/ARC-51X), schematic diagram.

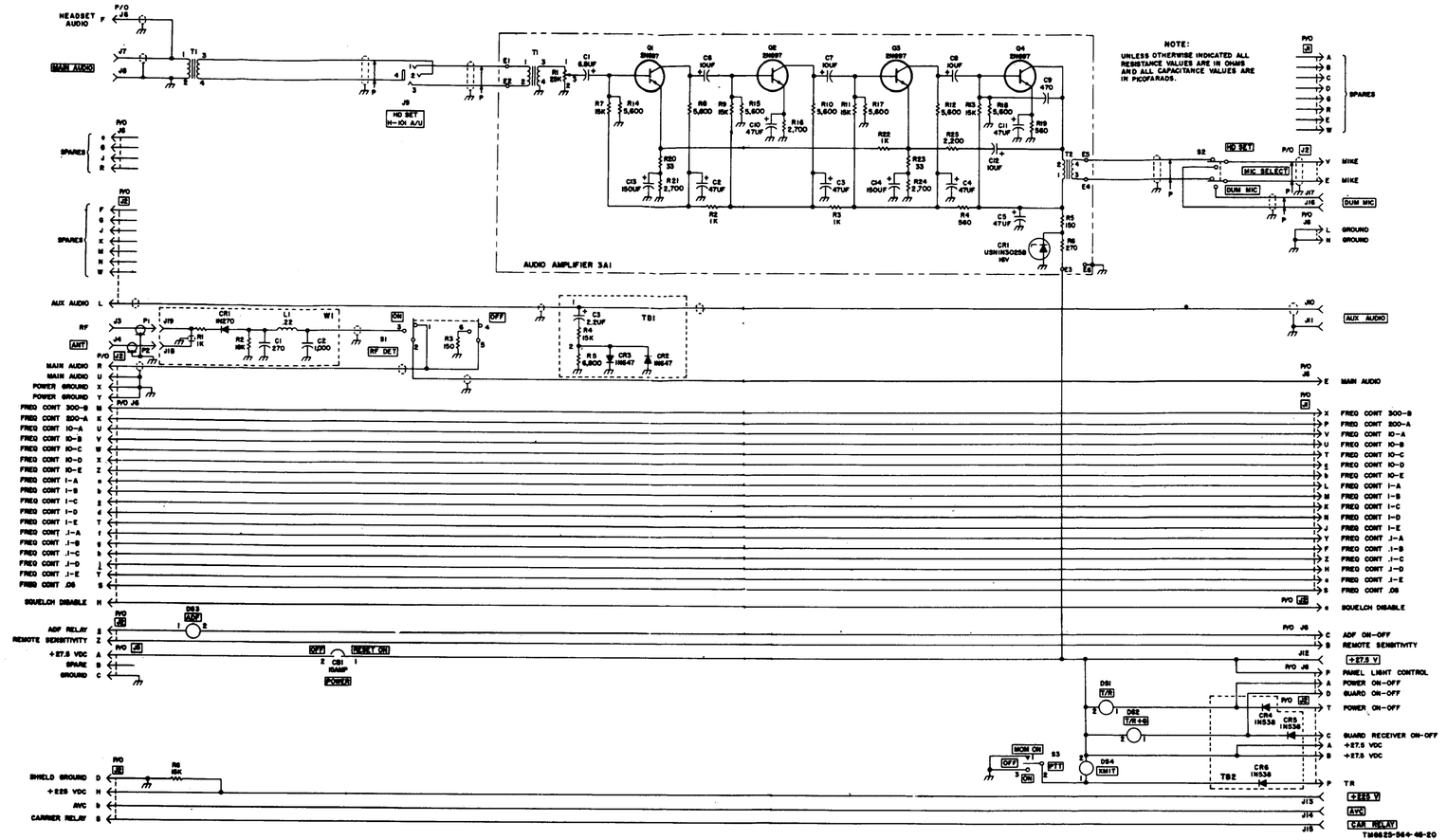


Figure 4-10. Test unit, schematic diagram.

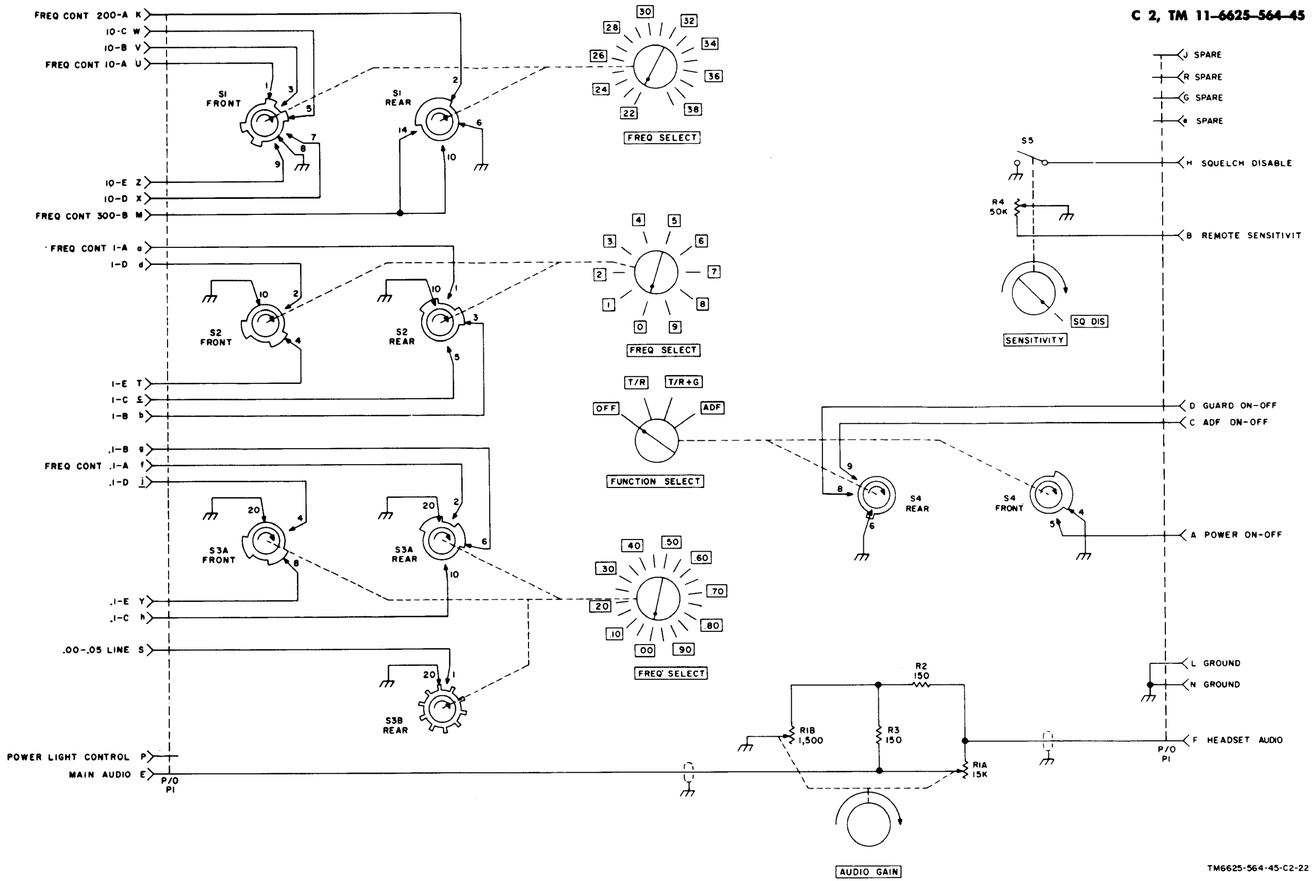


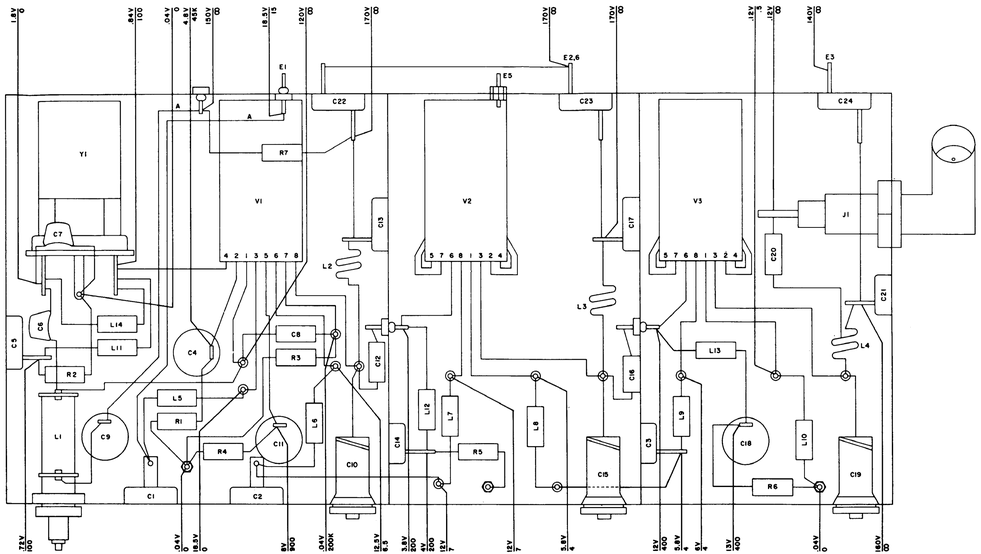
Figure 4-11. Test unit control head, schematic diagram.

NOTES:

1. THE SMALL NUMBER ON EACH WIRE (ADJACENT TO THE COMMON BASE LINE) CORRESPONDS TO THE LARGE NUMBER ADJACENT TO THE STATION TO WHICH THE WIRE RUNS. THE NUMBER OR LETTER IN PARENTHESES INDICATES THE TERMINAL NUMBER.
2. TO LOCATE CONNECTING POINTS OF WIRES, USE THE METHOD ILLUSTRATED IN FOLLOWING EXAMPLE:
   TO LOCATE THE CONNECTING POINT OF A WIRE MARKED (11) 19, FIND STATION 19; THEN LOOK FOR TERMINAL 11. A WIRE TO TERMINAL 11.WILL BEAR THE SAME COLOR CODE AS THE WIRE THAT IS MARKED (11) 19.
3. WIRES NOT OTHERWISE SPECIFIED ARE HOOKUP WIRE, STRANDED, 22 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR.
4. PT DENOTES PIGTAIL LEAD.
5. B DENOTES BUS WIRE, SOLID, 22 AWG, BUS, QQ-W-343, TYPE S, SOFT OR DRAWN AND ANNEALED TIN COATED.
6. P DENOTES TWISTED PAIR.
7. U DENOTES SPECIAL PURPOSE CABLE CONSISTING OF A PAIR OF TWISTED HOOKUP WIRES WITH THE PAIR SHIELDED AND JACKETED, 26 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS). SHIELDING IN ACCORDANCE WITH MIL-W-16878A.
8. (⁐) DENOTES SHIELDED CONNECTION.
9. A DENOTES HOOKUP WIRE, STRANDED, 16 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR.
10. D DENOTES HOOKUP WIRE, STRANDED, 20 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR.
11. C DENOTES HOOKUP WIRE, STRANDED, 22 AWG, TEFLON, MIL-W-16878, TYPE E (600 VOLTS) SILVER COATED CONDUCTOR WITH SHIELDED BRAID, 90% MINIMUM COVERAGE, 3 ENDS, 36 AWG, 20 PICKS, 16 CARRIERS, TEFLON (TFE) OVERALL JACKET.
12. BS DENOTES BUS WIRE, SOLID, 16 AWG, BUS, QQ-W-343, TYPE S, SOFT OR DRAWN AND ANNEALED TIN COATED.
13. -θ- DENOTES NO. 22 AWG TEFLON SLEEVING.
14. SOME OF THE TERMINAL NUMBERS HAVE BEEN ARBITRARILY ASSIGNED; THE NUMBERS DO NOT APPEAR ON THE EQUIPMENT.
15. WIRE WHT-RED-GRN FROM 1A3-E5 TO S1C (R)-5 WAS FROM 1A3-E2 IN MK-731/ARC-51X.

TM6625-564-45-C2-1

Figure 4-12. Radio set simulator, wiring diagram.

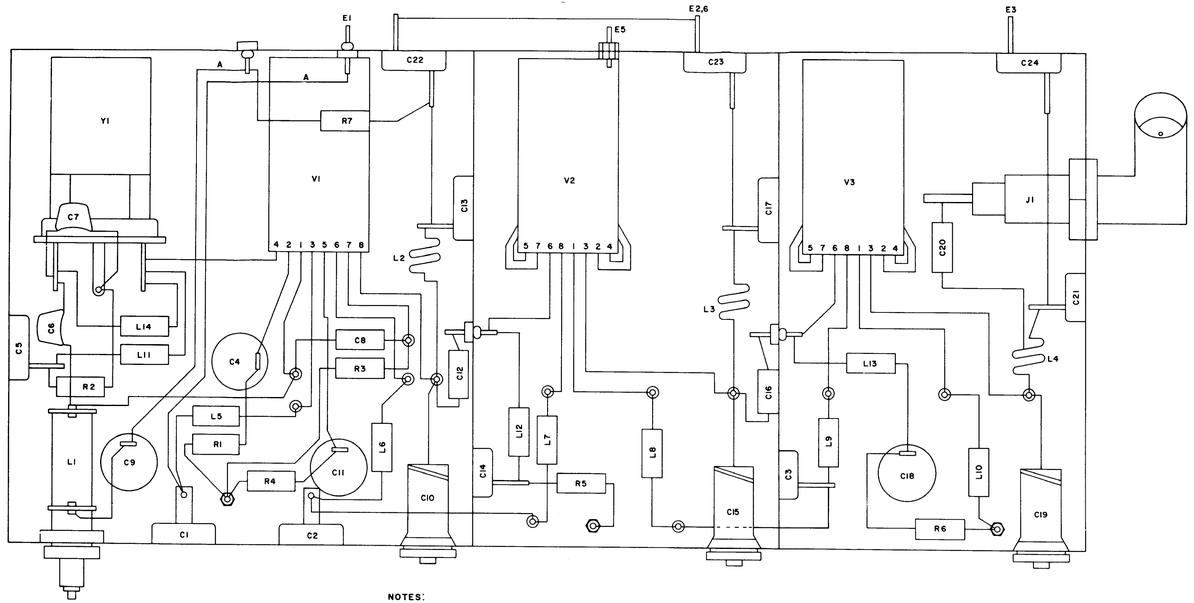


NOTES:

1. VOLTAGE READINGS ARE ABOVE THE LINE, RESISTANCE READINGS ARE BELOW.
2. UNLESS OTHERWISE INDICATED, ALL VOLTAGES ARE DC, AND ALL RESISTANCE VALUES ARE IN OHMS.
3. DO NOT ATTEMPT TO MAKE RESISTANCE MEASUREMENTS WITH POWER ON.
4. ALL RESISTANCE MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26/U.
5. ALL DC MEASUREMENTS TAKEN FROM TEST POINT TO GROUND WITH MULTIMETER ME-26/U AND NO SIGNAL INPUT.
6. ALL VOLTAGES TAKEN WITH PTT SWITCH DEPRESSED ON RADIO SET SIMULATOR.

TM6625-564-45-54

Figure 4-13. Radio set simulator uhf test generator 1A5, voltage and resistance measurements diagram.



NOTES:

1. ALL POINT TO POINT WIRING EXCEPT AS NOTED, 22 AWG, UNINSULATED, TIN-COATED ROUND SOFT COPPER, QQ-W-343, TYPE S, TEFLON SLEEVING.
2. A DENOTES 22 AWG, ROUND, SOLID, SILVER-PLATED SOFT COPPER, TYPE E, MIL-W-16878, TEFLON SLEEVING.

TM6625-564-45-5

Figure 4-14. Radio set simulator uhf test generator 1A5, wiring diagram.

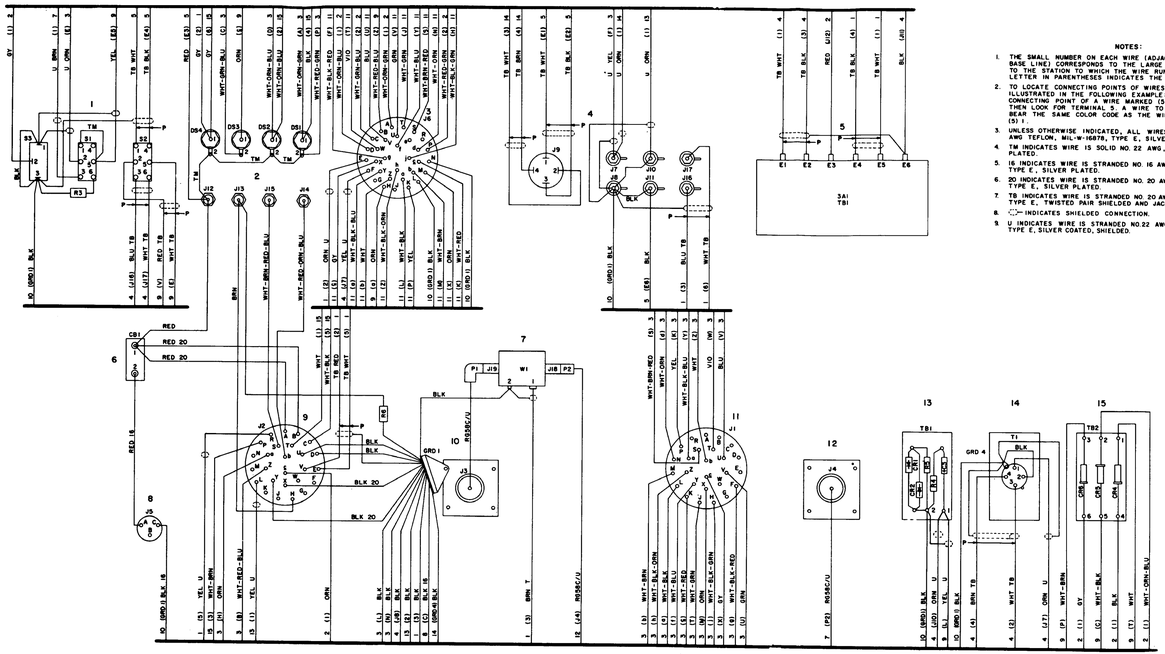
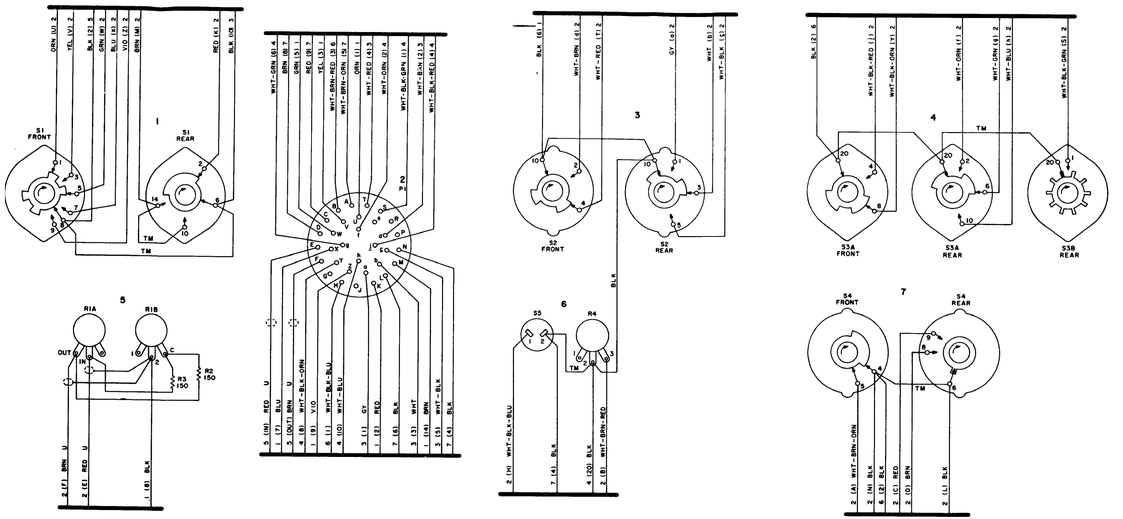


Figure 4-15. Test unit, wiring diagram.

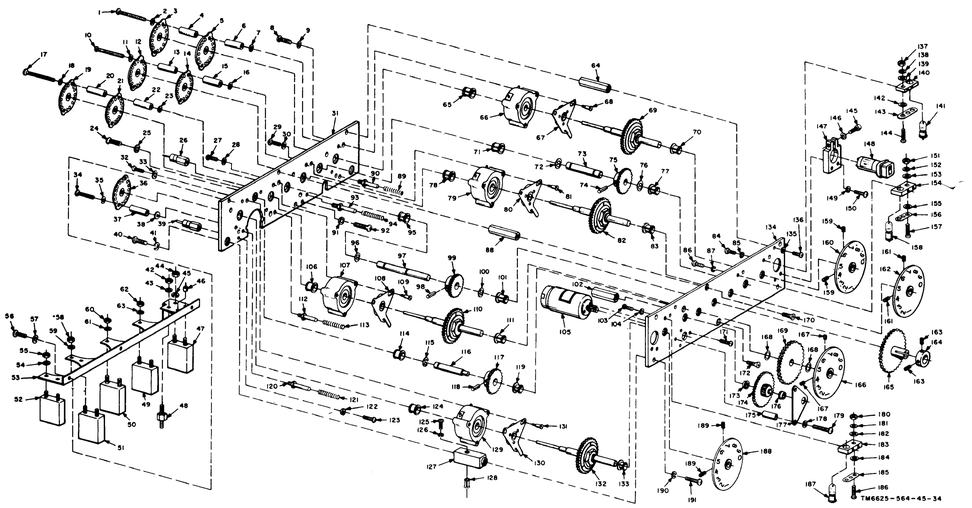


NOTES:

1. THE SMALL NUMBER ON EACH WIRE (ADJACENT TO THE COMMON BASE LINE) CORRESPONDS TO THE LARGE NUMBER ADJACENT TO THE STATION TO WHICH THE WIRE RUNS. THE NUMBER OR LETTER IN PARENTHESES INDICATES THE TERMINAL NUMBER.
2. TO LOCATE CONNECTING POINTS OF WIRES, USE THE METHOD ILLUSTRATED IN THE FOLLOWING EXAMPLE: TO LOCATE THE CONNECTING POINT OF A WIRE MARKED (1) 6, FIND STATION 6; THEN LOOK FOR TERMINAL 1. A WIRE TO TERMINAL 1 WILL BEAR THE SAME COLOR CODE AS THE WIRE THAT IS MARKED (1) 6.
3. UNLESS OTHERWISE INDICATED ALL WIRES ARE STRANDED NO. 22 AWG TEFLON., MIL-W-16878, TYPE E, SILVER COATED.
4. TM INDICATES WIRE IS SOLID NO. 22 AWG, MIL-W-16878, SILVER COATED.
5. ⊂⊃ INDICATES SHIELDED CONNECTION.
6. U INDICATES WIRES ARE STRANDED NO. 22 AWG TEFLON, MIL-W-16878, TYPE E, SILVER COATED, SHIELDED.

TM6625-564-45-1^

Figure 4-16. Test unit control head, wiring diagram.



1 Screw, machine, No. 2, 7/8 in. lg
2 Washer, fiber
3 Switch (S7)
4 Post, ceramic, 2/8 in. lg
5 Switch (S6)
6 Post, ceramic, 1/4 in. lg
7 Washer, fiber
8 Screw, machine, No. 4, 3/8 in. lg
9 Lockwasher
10 Screw, machine, No. 2, 7/8 in. lg
11 Washer, fiber
12 Switch (S5)
13 Post, ceramic, 3/8 in. lg
14 Switch (S4)
15 Post, ceramic, 1/4 in. lg
16 Washer, fiber
17 Screw, machine, No. 2, 7/8 in. lg
18 Washer, fiber
19 Switch (S3)
20 Post, ceramic, 3/8 in. lg.
21 Switch (S2)
22 Post, ceramic, 1/4 in. lg
23 Washer, fiber
24 Screw, machine, No. 4, 3/8 in. lg
25 Lockwasher
26 Terminal, stud
27 Screw, machine, No. 4, 3/8 in. lg
28 Lockwasher
29 Screw, machine, No. 4, 3/8 in. lg
30 Lockwasher
31 Gear plate, rear
32 Screw, machine, No. 4, 3/8 in. lg
33 Lockwasher
34 Screw, machine, No. 2, 7/16 in. lg
35 Washer, fiber
36 Switch (S1)
37 Post ceramic, 1/4 in. lg
38 Washer, fiber
39 Terminal, stud
40 Screw, machine, No. 6, 1/4 in. lg
41 Lockwasher
42 Nut, 2-56
43 Washer, Lockwasher
44 Nut, 4-40
45 Lockwasher
46 Terminal, feedthru
47 Relay (K5)
48 Terminal, noninsulated
49 Relay (K4)
50 Relay (K3)
51 Relay (K2)
52 Relay (K1)
53 Bracket, relay
54 Lockwasher
55 Nut, 4-40
56 Screw, machine, No. 4, 3/8 in. lg
57 Lockwasher
58 Nut, 4-40
59 Lockwasher
60 Nut, 4-40
61 Lockwasher
62 Nut, 4-40
63 Lockwasher
64 Nut, sleeve
65 Bearing, sleeve, 1/8 in. ID
66 Solenoid (L4)
67 Pawl
68 Screw, pivot, No. 4
69 Clutch, megacycle, tenths
70 Bearing, sleeve, 3/16 in. ID
71 Bearing, sleeve, 3/16 in. ID
72 Ring, retaining
73 Shaft, idler, number 2
74 Pin, spring
75 Gear, spur, 32-tooth
76 Ring, retaining
77 Bearing, sleeve, 3/16 in. ID
78 Bearing, sleeve, 1/8 in. ID
79 Solenoid (L3)
80 Pawl
81 Screw, pivot, No. 4
82 Clutch, megacycle, units
83 Bearing, sleeve, 3/16 in. ID
84 Screw, machine, No. 2, 1/4 in. lg
85 Lockwasher
86 Screw, machine, No. 2, 1/4 in. lg
87 Lockwasher
88 Nut, sleeve
89 Spring, pawl
90 Guide, pawl spring
91 Lockwasher
92 Screw, machine, No. 2, 1/4 in. lg
93 Guide, pawl spring
94 Spring, pawl
95 Bearing, sleeve, 3/16 in. ID
96 Ring, retaining
97 Shaft, drive
98 Pin, spring
99 Gear, spur, 32-tooth
100 Ring, retaining
101 Bearing, sleeve, 3/16 in. ID
102 Nut, sleeve
103 Screw, machine, No. 2, 1/4 in. lg
104 Lockwasher
105 Motor (B1)
106 Bearing, sleeve, 1/8 in. ID
107 Solenoid (L2)
108 Pawl
109 Screw, pivot, No. 4
110 Clutch, megacycle, tens
111 Bearing, sleeve, 3/16 in. ID
112 Guide, pawl spring
113 Spring, pawl
114 Bearing, sleeve, 3/16 in. ID
115 Ring, retaining
116 Shaft, idler, number 1
117 Gear, spur, 38-tooth
118 Pin, spring
119 Bearing, sleeve, 1/8 in. ID
120 Guide, pawl spring
121 Spring, pawl
122 Lockwasher
123 Screw, machine, No. 2, 1/4 in. lg
124 Bearing, sleeve, 1/8 in. ID
125 Screw, machine, modified
126 Lockwasher
127 Post, spacing, square
128 Spring, captive screw
129 Solenoid (L1)
130 Pawl
131 Screw, pivot, No. 4
132 Clutch, megacycle, hundreds
133 Bearing, sleeve, 3/16 in. ID
134 Gear plate, front
135 Lockwasher
136 Screw, machine, No. 4, 3/8 in. lg
137 Nut, No. 2
138 Washer, flat
139 Insulator, bushing
140 Bracket, lamp
141 Lamp (DS1)
142 Insulator, bushing
143 Contact, electrical
144 Screw, machine, No. 2, 3/8 in. lg
145 Screw, machine, hex head
146 Washer, lock
147 Holder, indicator
148 Indicator (DS4)
149 Lockwasher
150 Screw, machine, No. 4, 3/8 in. lg
151 Nut, No. 2
152 Washer, flat
153 Insulator, bushing
154 Bracket, lamp
155 Insulator, bushing
156 Contact, electrical
157 Screw, machine, No. 2, 3/8 in. lg
158 Lamp (DS2)
159 Setscrew, No. 6, 1/8 in. lg
160 Dial, megacycle, tenths
161 Setscrew, No. 6, 1/8 in. lg
162 Dial, megacycle, units
163 Setscrew, No. 6, 1/8 in. lg
164 Clamp, gear
165 Gear, spur, 62-tooth
166 Dial, megacycle, tens
167 Setscrew, No. 6, 1/8 in. lg
168 Washer, shim
169 Gear cluster, 22-tooth and 66-tooth
170 Screw, flathead, No. 4, 6/15 in. lg
171 Screw, machine, 1-72, 5/16 in. lg
172 Screw, flathead, No. 4, 5/16 in. lg
173 Bearing, ball
174 Gear shaft, 18-tooth and 110-tooth
175 Spacer, sleeve
176 Bearing, ball
177 Gear plate, small
178 Lockwasher
179 Screw, machine, 4-40, 5/8 in. lg
180 Nut, No. 2
181 Washer, flat
182 Insulator, bushing
183 Bracket, lamp
184 Insulator, bushing
185 Contact, electrical
186 Screw, machine, No. 2. 3/8 in. lg
187 Lamp (DS3)
188 Dial, megacycle, hundreds
189 Setscrew, No. 6, 1/8 in. lg
190 Lockwasher
191 Screw, machine, No. 6, 1/4 in. lg

Figure 4–17. Radio set simulator readout mechanism, exploded view.

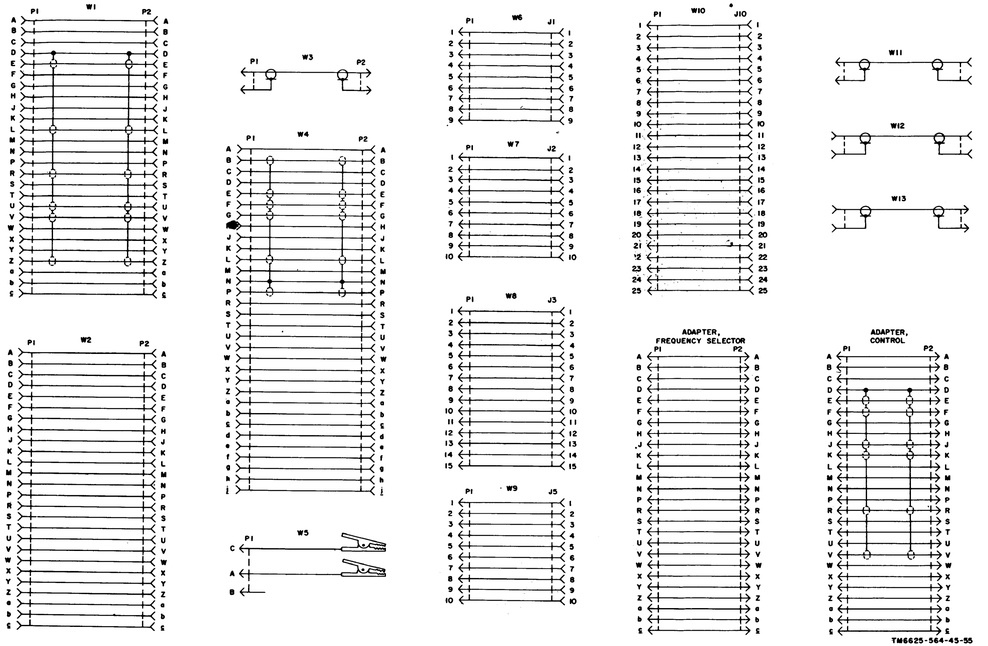
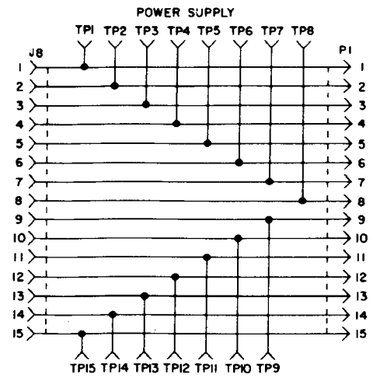
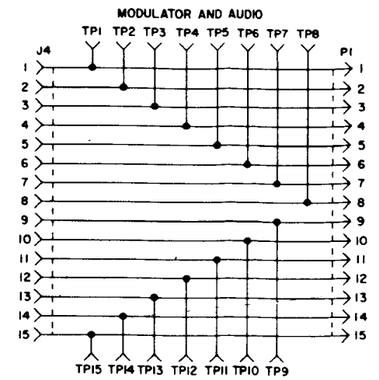
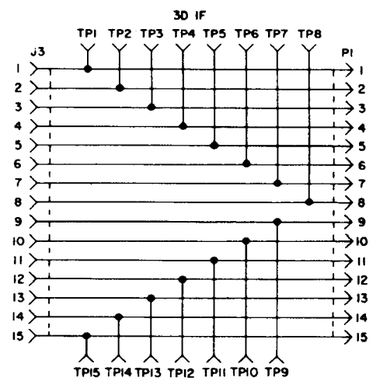
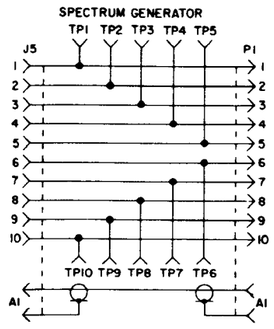


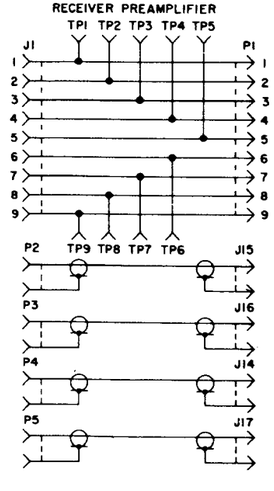
Figure 4-18. Cables W1 through W13 and cable adapters, schematic diagrams.

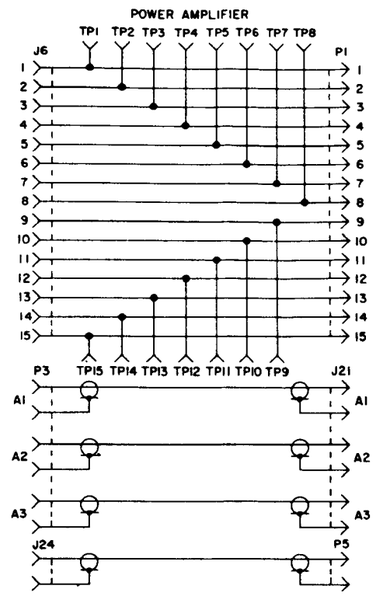


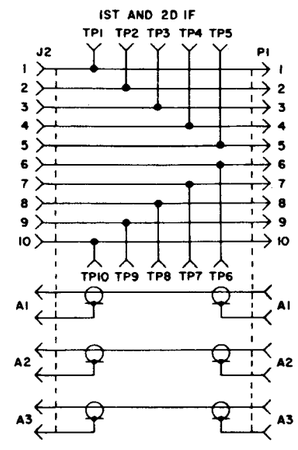


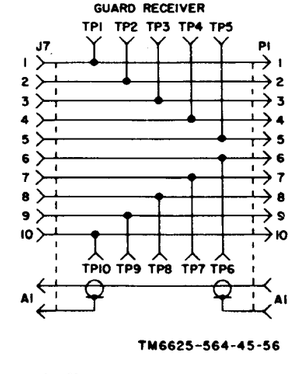












TM6625-564-45-56

Figure 4–19. Rigid module extenders, schematic diagrams.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Amy,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
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