

# TM 11-6625-2405-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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OPERATOR ORGANIZATIONAL DS, GS  
MAINTENANCE MANUAL

## MAINTENANCE ACCESSORY KIT MK-1192/ARM

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

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HEADQUARTERS, DEPARTMENT OF THE ARMY

9 AUGUST 1969



Change }  
 No. 1 }

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 Washington, D. C., **29 June 1973**

**Operator, Organizational, Direct Support,  
 and General Support Maintenance Manual  
 MAINTENANCE ACCESSORY KIT MK-1192/ARM**

TM 11-6625-2405-15, 9 August 1969, is changed as follows

1. New or revised material is indicated by a vertical bar.
2. Title of the manual is changed as indicated above.
3. Remove old pages and insert new pages as indicated below:

*Remove pages*

1-1 through 1-8  
 2-1 through 2-4  
 3-1 and 3-2  
 B-1 and B-2

*Insert pages*

1-1 through 1-8  
 2-1 through 2-4  
 3-1 and 3-2  
 B-1

4. File this change sheet in front of the publication for reference purposes.

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To be distributed in accordance with DA Form 12-36A (qty rqr block no. 1112), Organizational maintenance requirements for avionics literature, MK-1192/ ARM.





OPERATOR, ORGANIZATIONAL, DS, GS, AND DEPOT MAINTENANCE MANUAL

MAINTENANCE ACCESSORY KIT MK-1192/ARM

	Paragraph	Page
<b>CHAPTER 1. INTRODUCTION</b>		
<b>Section I. General</b>		
Scope-----	1-1	1-1
Indexes of publications-----	1-2	1-1
Forms and records-----	1-3	1-1
<b>II. Description and data</b>		
Purpose and use-----	1-4	1-1
Technical characteristics-----	1-5	1-1
List of components-----	1-6	1-2
Description of equipment-----	1-7	1-2
Description of components-----	1-8	1-2
<b>CHAPTER 2. INSTALLATION AND OPERATING INSTRUCTIONS</b>		
<b>Section I. Service Upon Receipt of Equipment</b>		
Unpacking-----	2-1	2-1
Checking unpacked equipment-----	2-2	2-1
Installation-----	2-3	2-1
<b>II. Operation</b>		
General-----	2-4	2-1
Connections-----	2-5	2-1
Test procedures-----	2-6	2-2
<b>CHAPTER 3. MAINTENANCE</b>		
<b>Section I. Organizational Maintenance</b>		
Scope of organizational maintenance-----	3-1	3-1
Tools and materials required-----	3-2	3-1
<b>II. Preventive Maintenance Procedures</b>		
Preventive maintenance-----	3-3	3-1
Daily preventive maintenance checks and services-----	3-4	3-1
Monthly preventive maintenance checks and services-----	3-5	3-2
Cleaning-----	3-6	3-2
Touch-up painting instructions-----	3-7	3-2
<b>III. DS, GS, and depot maintenance</b>		
General-----	3-8	3-2
Troubleshooting-----	3-9	3-3
Repairs-----	3-10	3-3
<b>CHAPTER 4. SHIPMENT, LIMITED STORAGE, AND DEMOLITION OF MATERIEL</b>		
<b>Section I. Shipment and Limited Storage</b>		
Disassembly of equipment-----	4-1	4-1
Packaging for shipment-----	4-2	4-1
<b>II. Demolition of Materiel to Prevent Enemy Use</b>		
Authority for demolition-----	4-3	4-1
Methods of destruction-----	4-4	4-1
<b>APPENDIX A. REFERENCES-----</b>		
B. BASIC ISSUE ITEMS-----		B-1
C. MAINTENANCE ALLOCATION-----		C-1



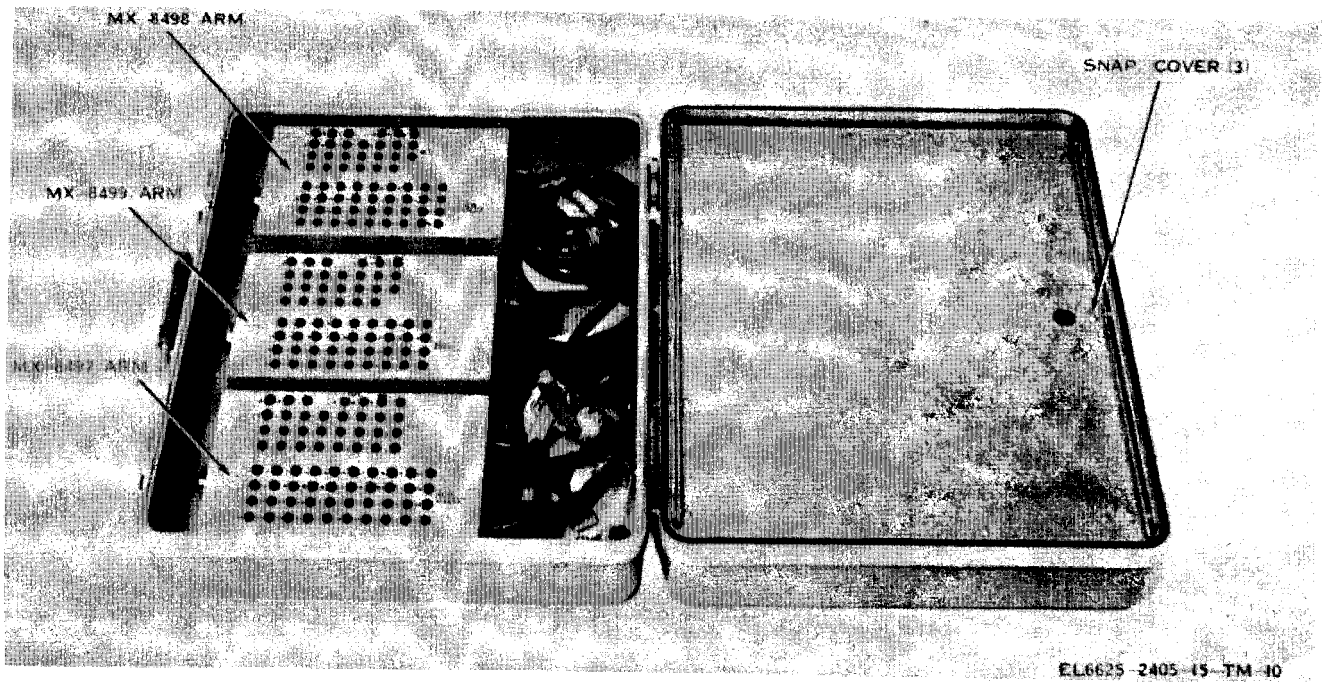


Figure 1-1. Maintenance accessory kit, miscellaneous parts section closed.

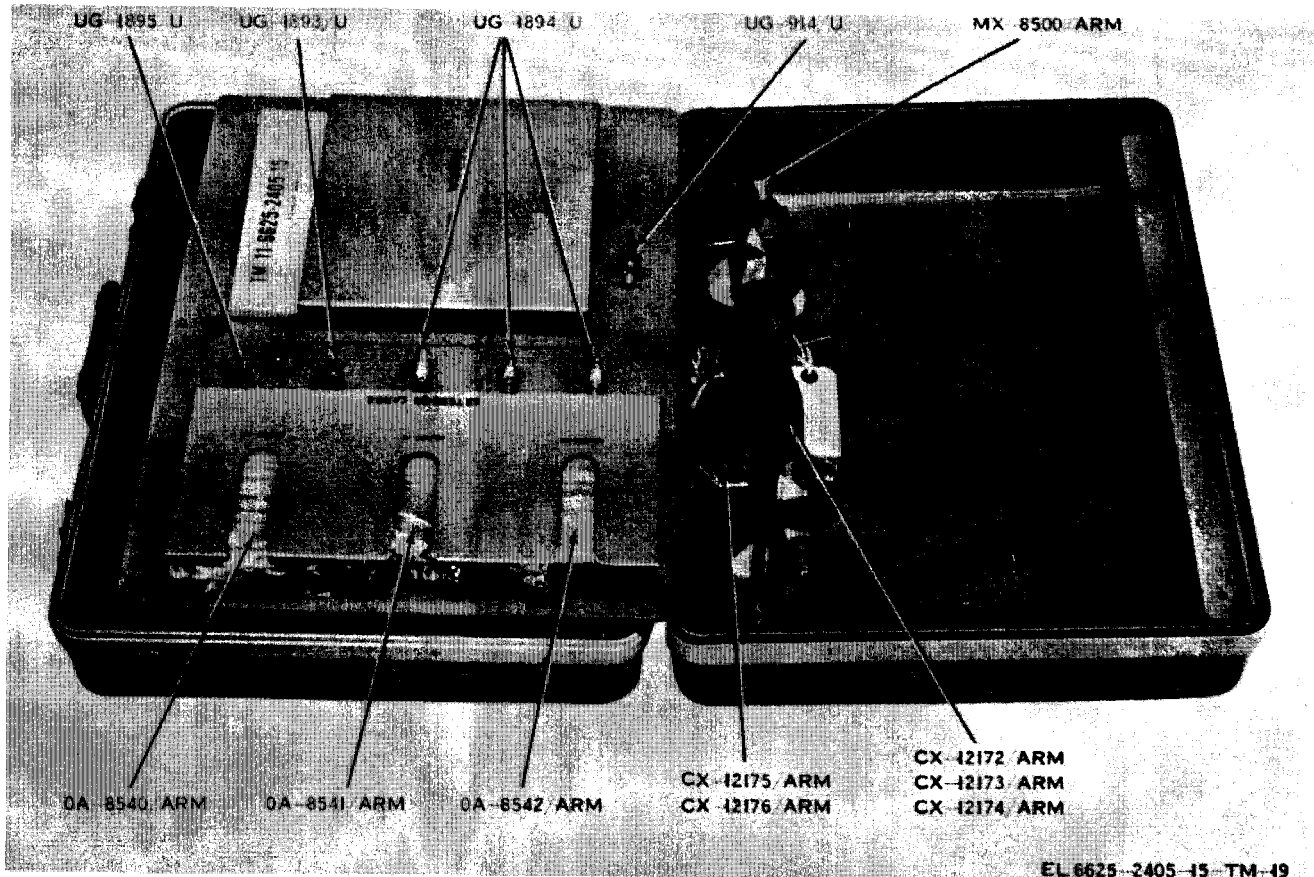


Figure 1-2. Maintenance accessory kit, miscellaneous parts section opened.

# CHAPTER 1 INTRODUCTION

## Section I. GENERAL

### 1-1. Scope

This manual describes Maintenance Accessory Kit MK-1192/ARM (figs. 1-1 and 1-2) and includes installation, operating instructions, maintenance instructions, shipment, limited storage, and demolition to prevent enemy use. The manual provides instructions for operation, cleaning, inspection of equipment, and replacement of parts.

### 1-2. Indexes of Publications

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

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

### 1-3. Forms and Records

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

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward DD Form 6 (Report of Packag-

ing and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publication 738 (Navy), AFR 71-4 (Air Force) and MCO P4030.29 (Marine Corps).

c. *Discrepancy in Shipment Report, (DISREP) (SF361).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF361) as prescribed in AR 55-38 (Army), NAVSUP Publication 459 (Navy), AFR 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. *Report of Equipment Manual) improvements.* Report of errors, omissions, and recommendations for improving this equipment manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended changes to DA Publications) and forwarded direct to the Commander, US Army Electronics Command, Attn: AMSEL-MA-AC Fort Monmouth, N.J. 07703.

#### 1-3.1. Administrative Storage

Administrative storage shall be in accordance with TM 740-90-1.

## Section II. DESCRIPTION AND DATA

### 1-4. Purpose and Use

a. *Purpose.* Maintenance Accessory Kit MK-1192/ARM (maintenance accessories kit) is a test accessories kit which provides extender cards, extender cables, breakout boxes and adapters to be used as needed when testing Standard Lightweight Avionics Equipment (SLAE) Radio Sets AN/ARC-114, AN/ARC-115, and AN/ARC-116.

b. *Use.* The maintenance accessories kit is used in conjunction with Test Facilities Kit MK-994/AR at the direct support area in the testing and repair of SLAE radio sets. With the maintenance accessories kit, the MK-994/AR, and standard test equip-

ment, a test facility is available for troubleshooting and isolating faults to a front or rear section of a radio set or to a pluckout printed circuit card. This test facility is also used for certain alignment, repair and operational checkouts allocated to direct support maintenance levels.

### 1-5. Technical Characteristics

The maintenance accessory kit is completely a passive device that makes connections and affords test points for otherwise inaccessible circuits in the SLAE radio sets. All power is supplied from external sources. Overall weight of



the maintenance accessory kit is 30 pounds; case displacement is approximately 1.6 cubic feet.

**1-6. List of Components**

The components of the maintenance accessory kit

can conveniently be divided into those that are used for testing specific radio sets and those that are used in testing more than one radio set. Common names shown for each unit are used throughout the manual.

*a. Common accessories*

Nomenclature	Common name	Dimensions (in.)			Figure No.
		Height/Length	Depth	Width	
Case, Maintenance Accessory Kit CY-6774/ARM	Case	8	17-1/2	20-1/4	1-3
Termination Box MX-8500/ARM	Termination Box	3	2-1/2	2-1/4	1-8
Adapter, Connector UG-914/U	Adapter jack BNC				1-2
Adapter, Connector UG-1893/U	Tee connector				1-2
Adapter, Connector UG-1894/U (3 each)	Adapter, TPS to BNC				1-3
Adapter, Connector UG-1895/U	Adapter, jack to jack				1-2
Cable Assembly, Special Purpose, Electrical CX-12175/ARM	Double banana plug cable	39			1-8
Cable Assembly, Special Purpose, Electrical CX-12176/ARM	Banana plug to BNC cable	39			1-8

*b. AN/ARC-114 accessories.*

Nomenclature	Common name	Dimensions (in.)			Figure No.
		Height/Length	Depth	Width	
Adapter, Breakout MX-8497/ARM	Breakout box	10	3	5-3/4	1-1
Cable Assembly, Special Purpose, Electrical CX-12172/ARM	Extender cable	12			1-7
Extender Group, Module OA-8540/ARM, consisting of:	Extender cards				1-4
MP-9874	I.f. A1A5A7 or A1A5A15 card extender	4-1/8	1/2	2-1/2	1-1
MP-9875	A1A5A8 through A1A5A14 card extender	4-1/8	1/4	2-7/8	1-4
MP-9866	Vco card A1A5A16 extender	4-1/8	1/4	4-3/4	1-4
MP-9868	Switched filter card A1A5A18 extender	4-1/8	1/4	4-3/4	1-4
MP-9867	Oscillator/divider card A1A5A17 extender	4-1/8	1/4	4-3/4	1-4

*c. AN/ARC-115 accessories.*

Nomenclature	Common name	Dimensions (in.)			Figure No.
		Height/Length	Depth	Width	
Adapter, Breakout MX-8498/ARM	Breakout box	10	3	5-3/4	1-1
Cable Assembly, Special Purpose, Electrical CX-12173/ARM	Extender cable	12			1-7
Extender Group, Module OA-8541/ARM, consisting of:	Extender cards				1-5

Nomenclature	Common name	Dimensions (in.)			Figure No.
		Height/Length	Depth	Width	
MP-9874	I.f. A1A2A5 or A1A2A11 card extender	4-1/8	1/2	2-1/2	1-5
MP-9875	A1A2A4 and A1A2A6-A1A2A10 card extender	4-1/8	1/4	2-7/8	1-5
MP-9870	Vco and dig/analog card A1A2A3 extender	4-1/8	1/4	4-3/4	1-5
MP-9869	Switched filter card A1A2A1 extender	4-1/8	1/4	4-3/4	1-5
MP-9876	Oscillator divider card A1A2A2 extender	4-1/8	1/4	4-3/4	1-5

**d. AN/ARC-116 accessories.**

Adapter, Breakout MX-8499/ARM	Breakout box	10		5-3/4	1-1
Cable Assembly, Special Purpose, Electrical CX-12174/ARM	Extender cable	13			1-7
Extender Group, Module OA-8542/ARM, consisting of:	Extender cards				1-6
MP-9874	I.f. amplifier filter card A1A9 or A1A15 extender	4-1/8	1/2	2-1/2	1-6
MP-9875	A1A8, A1A10-A1A14, and A1A16 card extender	4-1/8	1/4	2-7/8	1-6
MP-9872	Oscillator divider card A1A6 extender	4-1/8	1/4	4-3/4	1-6
MP-9871	Switched filter card A1A5 extender	4-1/8	1/2	4-3/4	1-6
MP-9873	Vco digital/analog card A1A7 extender	4-1/8	1/4	4-3/4	1-6

**1-7. Description of Equipment**

(figs. 1-1 End 1-2)

The maintenance accessory kit contains breakout boxes, extender cards, sets of extender cards, adapters, and a termination box with connecting cables, housed in a lightweight transit case (fig. 1-3). The breakout boxes are shown in place in figure 1-1; all other components are held in place under a cover in the other side of the case. Three captive snap fasteners secure the cover in place. On the rear of the cover (fig. 1-2), separate compartments are provided to hold the three sets of extender cards and the technical manual. Snaps secure the six adapters. The termination box and extender cables are held in place by straps in the floor of the compartment.

**1-8. Description of Components**

a. Case (fig. 1-3) There is a single handle on the lightweight fiberglass case. Two twist-release latches secure the two halves of the hinged case together.

b. Extender cards. (figs. 1-4, 1-5, and 1-6). The extender cards provide straight-through con-

nection between the sockets of pluckout printed circuit cards and the printed circuit card. Each straight-through line is provided with a test point to permit electrical monitoring under operating conditions. The extender cards are provided in groups for each radio set. Some extender cards can only be used in one socket; others can be used in several sockets of the same radio set (see paragraph 1-6b, c, and d, *Common name column*, for this information). In addition, certain cards allocated for testing of one radio set can be used for other radio sets as well. In the chart below, cards shown on the same line can be used interchangeably from set to set. Where only one card is shown on a line, there is no interchangeability.

AN/ARC-114 (OA-8540/ARM)	AN/ARC-115 (OA-8541/ARM)	AN/ARC-116 (OA-8542/ARM)
MP-9866	--	--
MP-9868	MP-9869	--
MP-9867	MP-9876	MP-9872
MP-9874	MP-9874	MP-9874
MP-9875	MP-9875	MP-9875
--	--	MP-9871
--	--	MP-9873
--	MP-9870	--

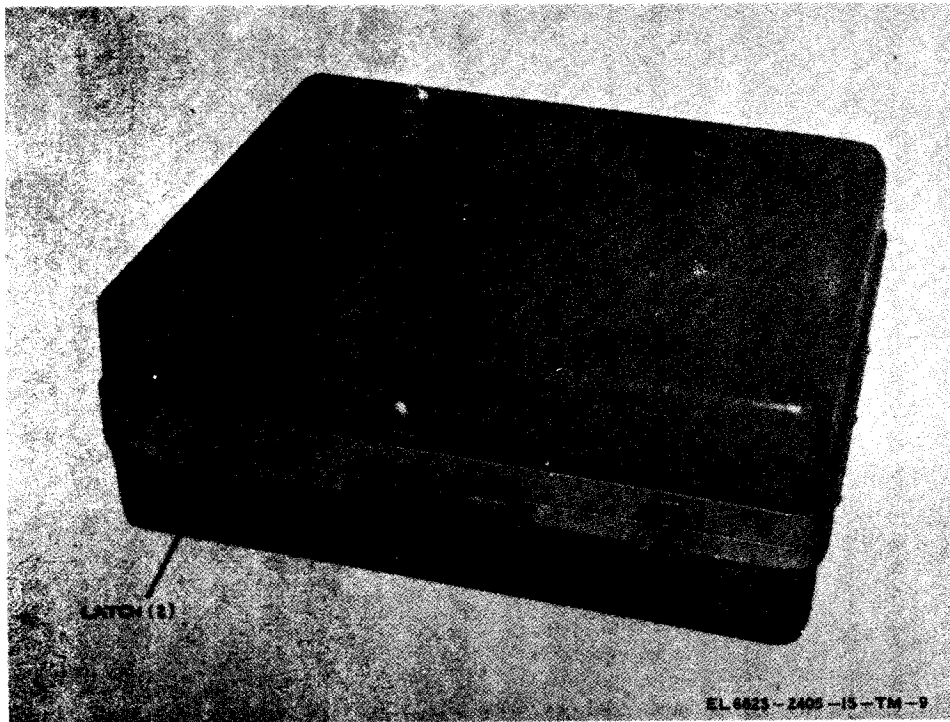


Figure 1-3. Case, Maintenance Accessory Kit CY-6774/ARM.

c. Breakout boxes (figs. 2-1, 2-2, 2-3). The three breakout boxes as shown in figure 1-1 are similar in appearance. Each has a connector on one side of the box, three cables and a toggle switch on the other side, and two sets of test points on top.

(1) One set of test points (labeled A2J1) is used to make measurements in the power and control circuit lines to the radio set. The in-line test points also are connection points between the cable to the rear of the radio set and the lines from connector J1. Connector J1 accepts connection from Test Facilities Kit MK-994/AR which is used for testing the radio set. Each test point is lettered with the respective pin numbers of the jacks to correlate use with the radio set technical manuals. By use of the toggle switch, input current can be metered at the two red test points labeled D and D1.

(2) The other set of test points gives access to the connecting lines between the front and rear sections of the radio set under test. The test-point terminals are the connection points for the wires brought to the breakout box by the two cables to the radio set halves. Figures 2-1, 2-2, and 2-3 show the breakout boxes connected to disassembled radio sets. Each test point is lettered with the respective pin numbers of the jacks to correlate use with the radio set technical manuals.

d. Extender cables (fig. 1-7). The three extender cables connect the front and rear sections of respective disassembled radio sets. The separation provides access to interior points for dynamic testing and adjusting while the radio set is connected to Test Facilities Kit MK-994/AR.

e. Termination box and associated cables (fig. 1-8). The termination box and associated cables are provided for testing of radio set audio circuits. Proper termination for microphone and headset circuits is provided. A cable with a U-93AL/U plug connects the termination box to a cable (terminated by a U-92A/U jack) from Test Facilities Kit MK-994/AR. Double banana jacks marked MIC and HDST provide connection to test equipments through the CX-12175/ARM or the CX-12176/ARM. The CX-12175/ARM has a double banana plug at each end; the CX-12176/ARM has a double banana plug at one end and a BNC connector (UG-88/U) at the other end.

f. Adapters (fig. 1-2). Four types of coaxial adapters are provided. The UG-1894/U (3 supplied) provides a tps-to-bnc connection, the UG-1895/U interconnects cables with Conhex connectors, the UG-914/U is a straight-through bnc connector adapter, and the UG-1893/U accepts Conhex connectors in a tee connection. Specific use of the connectors is explained in test setup instructions in the DS procedures sections of individual radio set maintenance manuals.

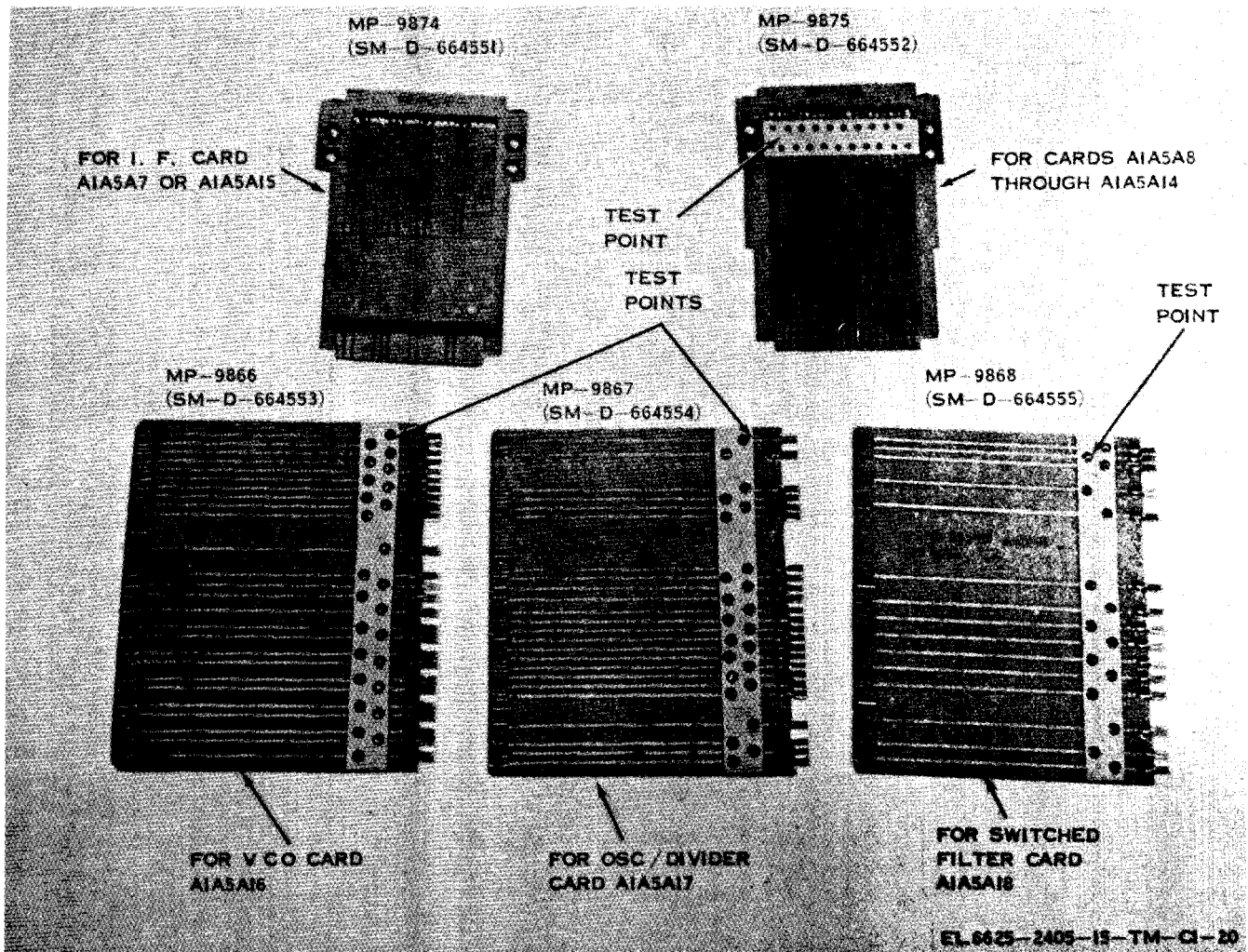


Figure 1-4. Extender cards for Radio Set AN/ARC-114, OA-8540/ARM.

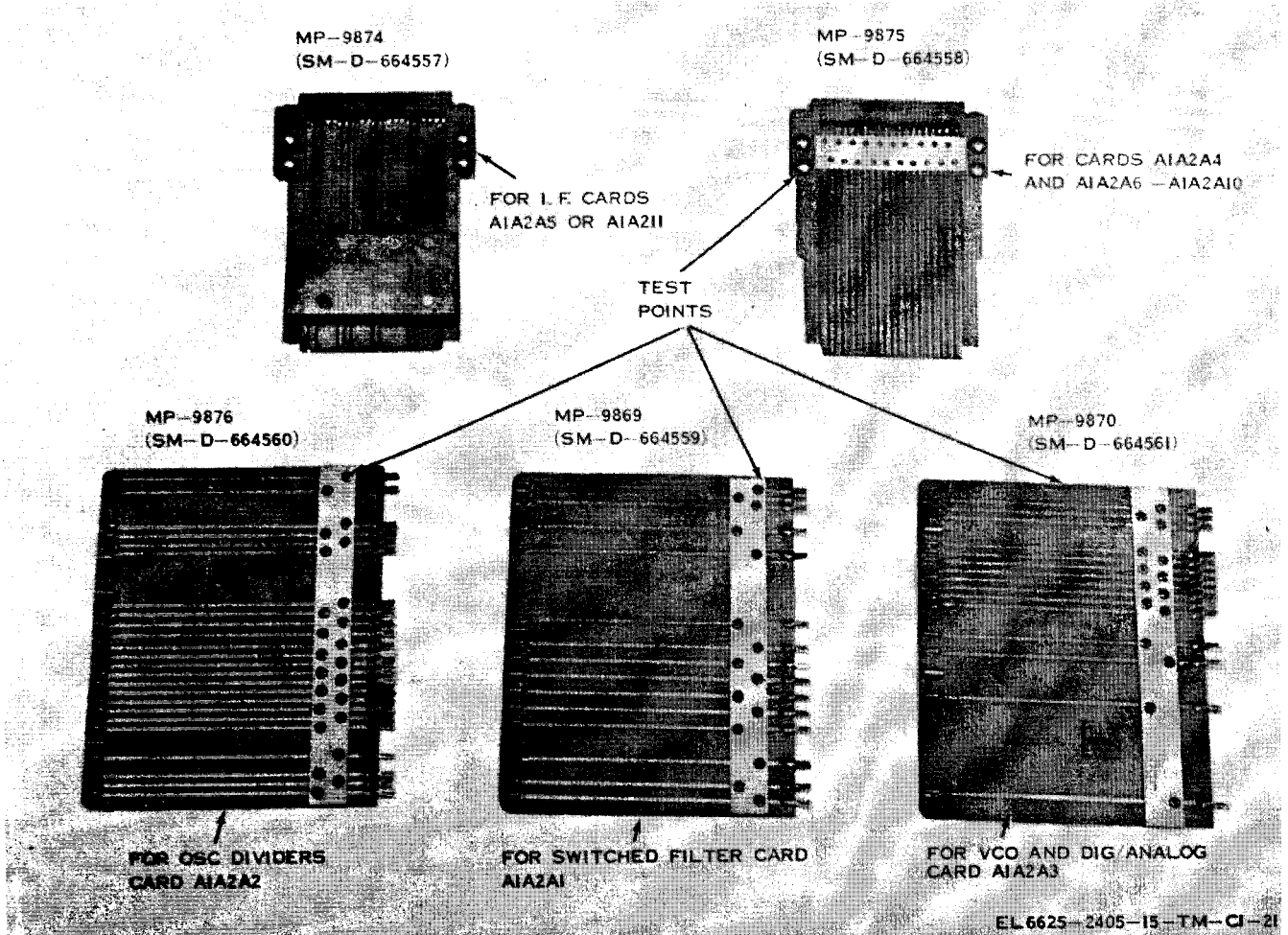


Figure 1-5. Extender cards for Radio Set AN/ARC-115, OA-8541/ARM.

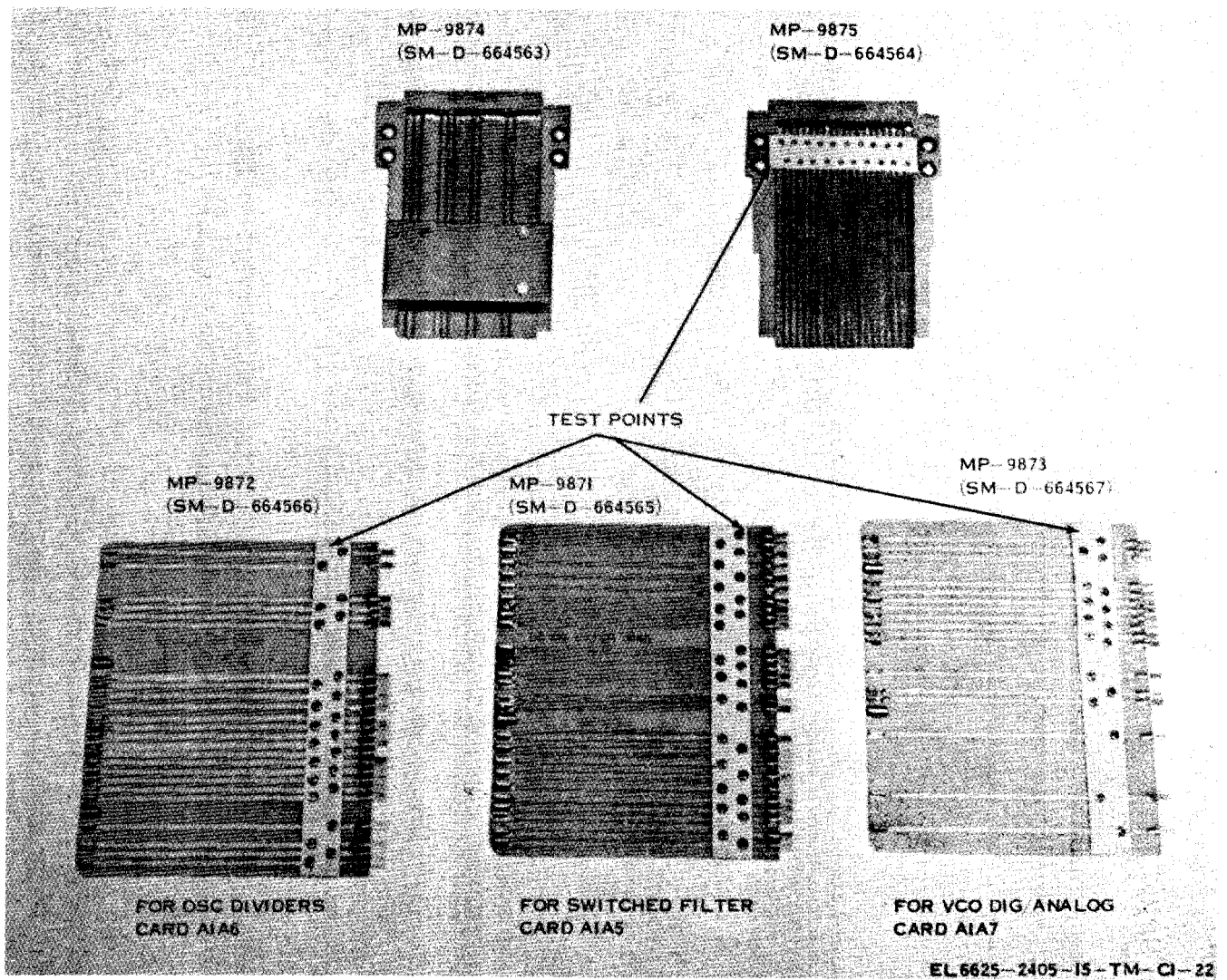


Figure 1-6. Extender cards for Radio Set AN/ARC-116, OA-8542/ARM.

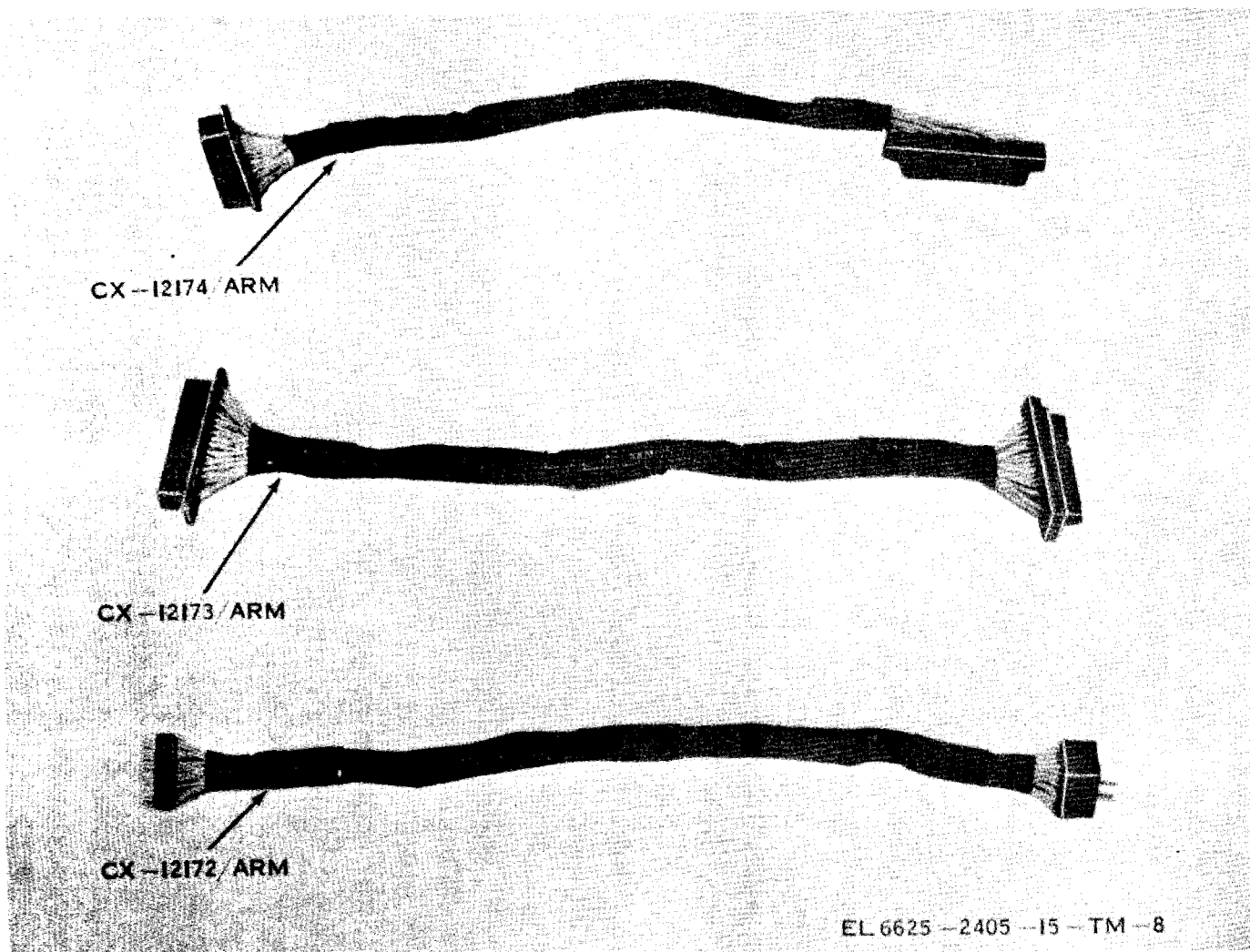
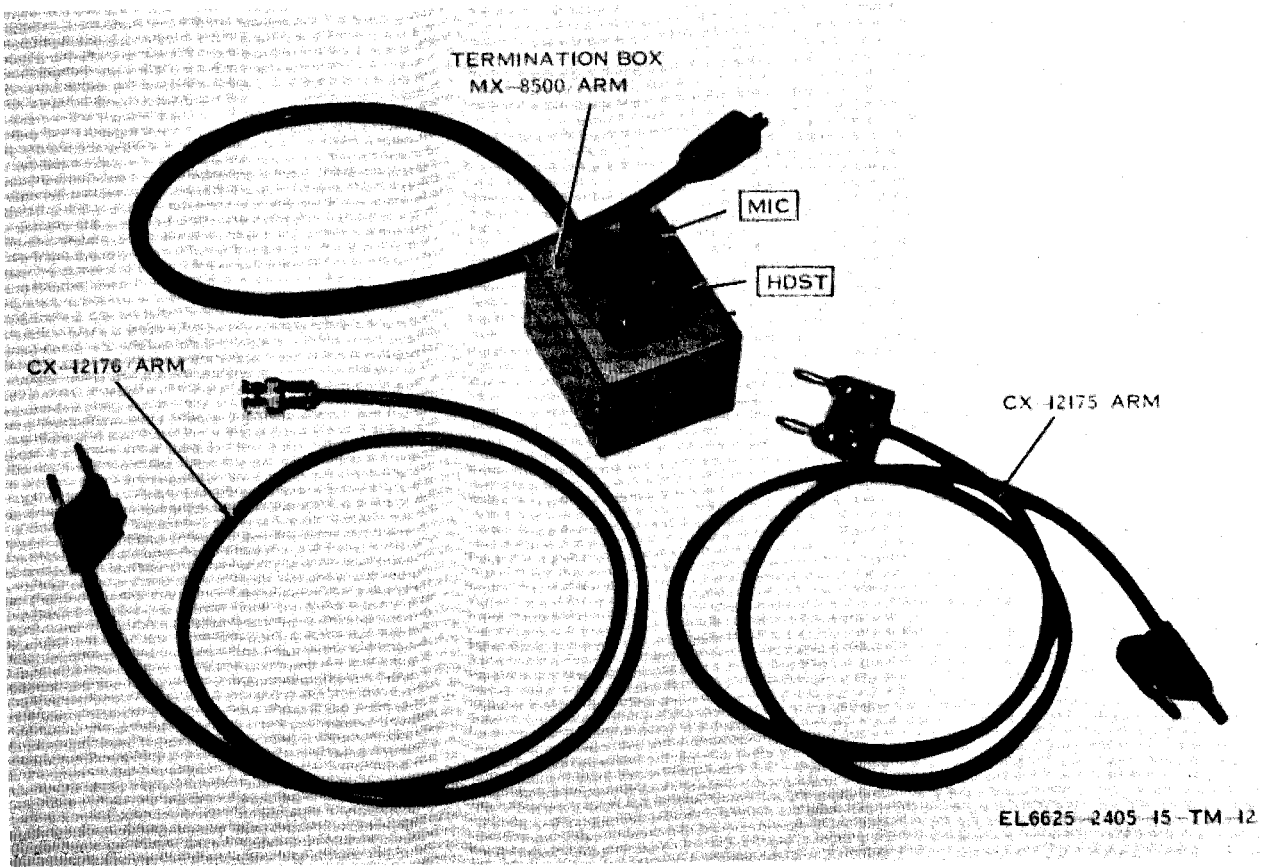


Figure 1-7. Extender cables.



**Figure 1-8. Termination Box MX-8500/ARM and associated cables.**



## CHAPTER 2

### INSTALLATION AND OPERATING INSTRUCTIONS

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#### Section I. SERVICE UPON RECEIPT OF EQUIPMENT

##### 2-1. Unpacking

When packed for shipment, the maintenance accessories kit is placed in a corrugated shipping carton. The outside dimensions of the carton are approximately 10 by 19 by 22 inches. The volume is approximately 1.3 cubic feet. Open the top flaps of the corrugated carton, fold them back, and remove the MK-1192/ARM.

##### 2-2. Checking Unpacked Equipment

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

*b.* See that the maintenance accessories kit is complete as listed on the packing slip. If a packing slip is not included, check the kit against the

listings in paragraph 1-6. Report all discrepancies in accordance with TM 38-750. Shortage of a minor assembly or part that does not affect proper functioning should not prevent use of the maintenance accessories kit.

##### 2-3. Installation

No specific installation instructions are required. The accessories are ready for immediate use upon arrival at the direct support unit. The work bench to be used should be of suitable size to accommodate a Test Facilities Kit MK-91914/AR, the radio set to be checked, applicable components of the maintenance accessory kit (para 1-6) and other common test equipment such as a multimeter, signal generator etc. used for testing the radio set. A convenient source of 28 volts dc is required for the MK-994/AR.

#### Section II. OPERATION

##### 2-4. General

The maintenance accessories kit is a passive device and contains only one operating control, the ON-OFF switch on each breakout box. Aside from use of that toggle switch, there is no operation as such. By use of the termination box and associated cables (connected through the cord and U-93A/U plug to the MK-994/AR) audio signals can be applied to the microphone circuits of the radio set and audio output signals from the radio set can be monitored and measured. In addition, direct support level maintenance personnel are afforded access to the following:

*a.* Certain adjustment points inside the radios.

*b.* Voltage- and resistance- measurement points in the line between the MK-994/AR and the external power and control connector (A2J1) the radio set.

*c.* Voltage- and resistance- measurement points in the front-rear connector of the radio set.

*d.* Voltage- and resistance- measurement test

points on extender boards for printed circuit cards.

##### 2-5. Connections (figs. 2-1-2-7)

Specific items of the maintenance accessory kit to be used in testing any radio sets are specified in the direct support technical manual (Appendix A) for that radio set. Similarly, the connections to be made, the card extenders to be used, and adapter connectors needed, depend on the tests or measurements to be performed.

*a.* Place the components on a work bench near the test facilities kit and the power source.

*b.* Open the radio set to be tested; follow instructions in the applicable technical manual to separate the front and rear halves and to remove top or bottom covers as required.

#### **Note**

If in-line measurements are required, use breakout box; if only internal measurements or certain adjustments are to be made, use the extender cable.

c. Connect the breakout box or extender cable between the front and rear radio set halves as shown in figures 2-1, 2-2, and 2-3 for Radio Sets AN/ARC-114, AN/ARC-115, and AN/ARC-116, respectively, with breakout boxes, or in figures 2-4, 2-5, and 2-6 for the same radio sets with extender cables.

d. Connect a power and control cable from RADIO SET No. 1 jack J1 on the test facilities kit to J1 of the breakout box, if used, or to the rear of the radio set if an extender cable is used. Cable CX-10889/U is used in Radio Set AN/ARC-114 tests and CX-10891/U is used in tests of Radio Sets AN/ARC-115 or AN/ARC-116. These cables are part of the MK-994/AR.

e. If the termination box (fig. 1-8 ) is required, plug its jack into the U-92A/U connector of the CX-10888/U cable from the HEADSETS 1 connector on the MK-994/AR. Cables CX-12175/ARM and CX-12176/ARM are supplied to connect the termination box to audio input or audio output test equipments (MIC or HDST double banana plug jacks respectively). The audio circuits are connected through the termination box, cable CX-10888/U, the MK-994/AR, and cable CX-10889/U or CX-10891/U (d above) to the breakout box or directly to the rear of the radio set.

f. If a breakout box is used, check to see that

the toggle switch is set to OFF.

g. Connect the test facilities kit to the power source.

**2-6. Test Procedures**

The DS ,GS, and Depot Maintenance manuals for Radio Sets AN/ARC-114, AN/ARC-115, and AN/ARC-116 give specific instructions for all procedures required during testing. In respect to the maintenance accessory kit, most instructions involve the making of connections as described in paragraph 2-5 and the use of the UG914/U, UG-1893/U, UG-J1894/U, and UG-1895/U adapters.

a. For all dynamic tests, or for any voltage checks, applicable controls on Test Facilities Kit MK-994/AR must be set to on, the toggle switch on the breakout box must be set to ON, and the function selector switch on the radio set placed in any position except OFF. For resistance checks, either disconnect power to the MK-994/AR or set the toggle switch on the breakout box to OFF. This permits measurements on the input lines (jacks on breakout boxes labeled A2J1 ), on extender cards (b below), various accessible points on the radio set exposed front and rear sections, and at the front-rear section connectors (at the lower set of jacks on the breakout boxes (figs. 2-1, 2-2, and 2-3 )). In evaluating resistance or

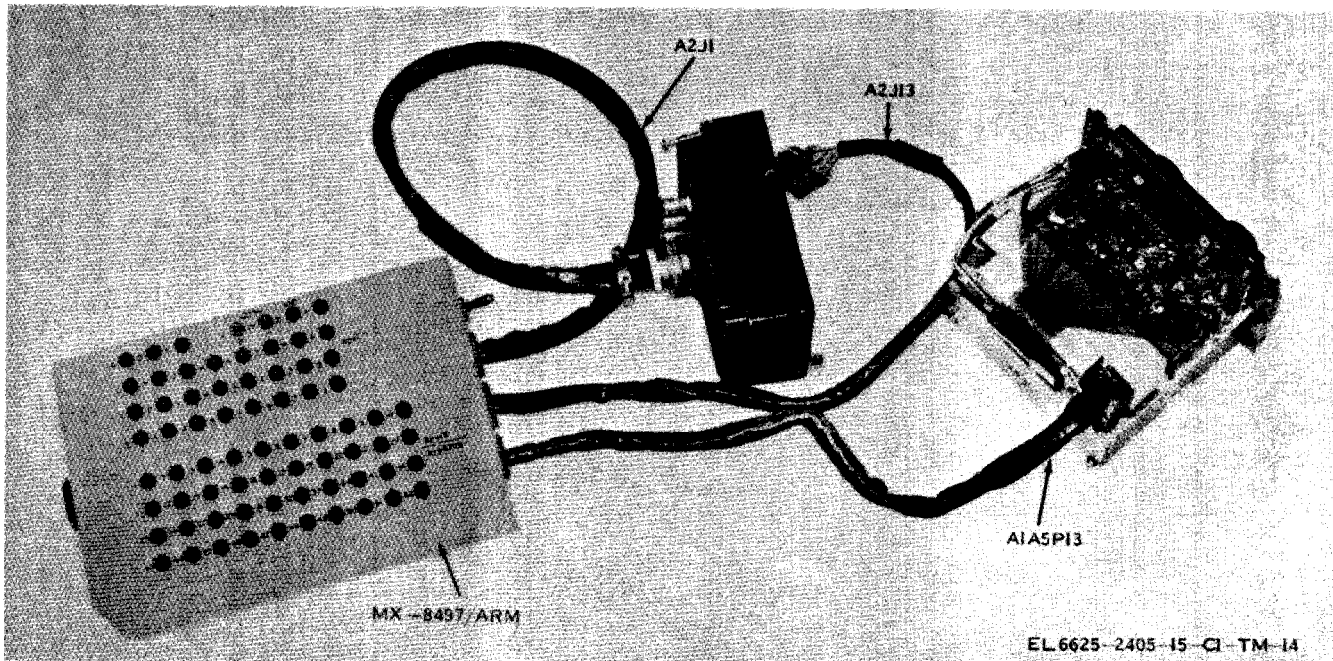


Figure 2-1. Breakout box connected to AN/ARC-114 sections.

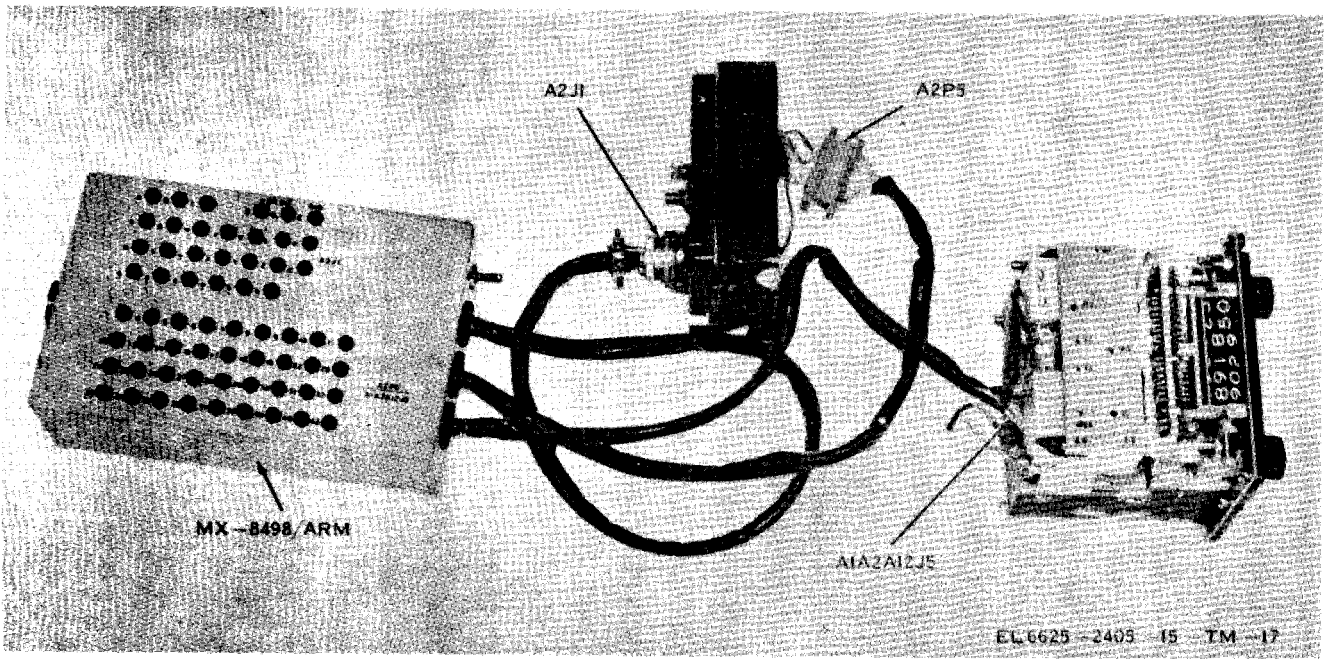


Figure 2-2. Breakout box connected to AN/ARC-115 sections.

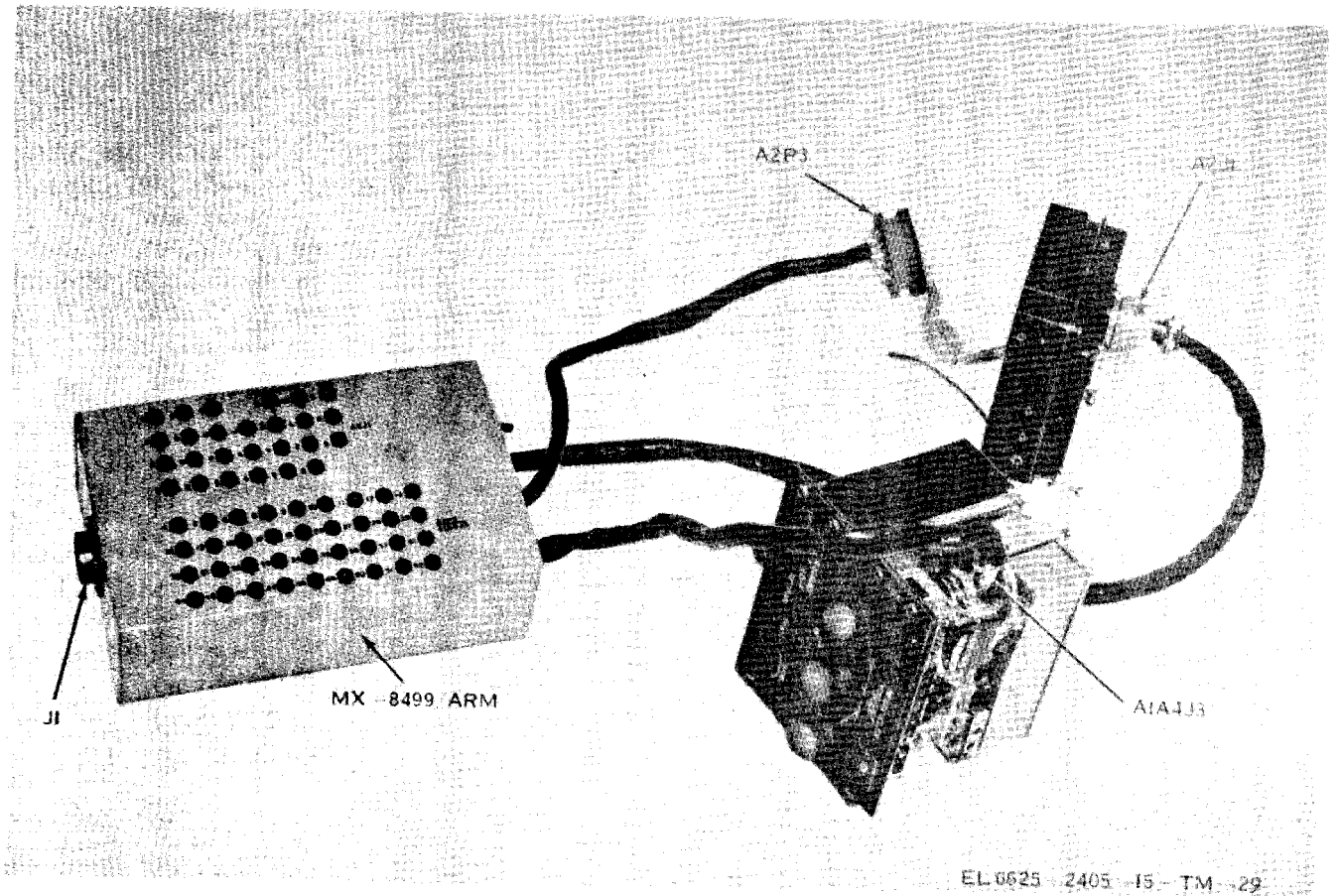
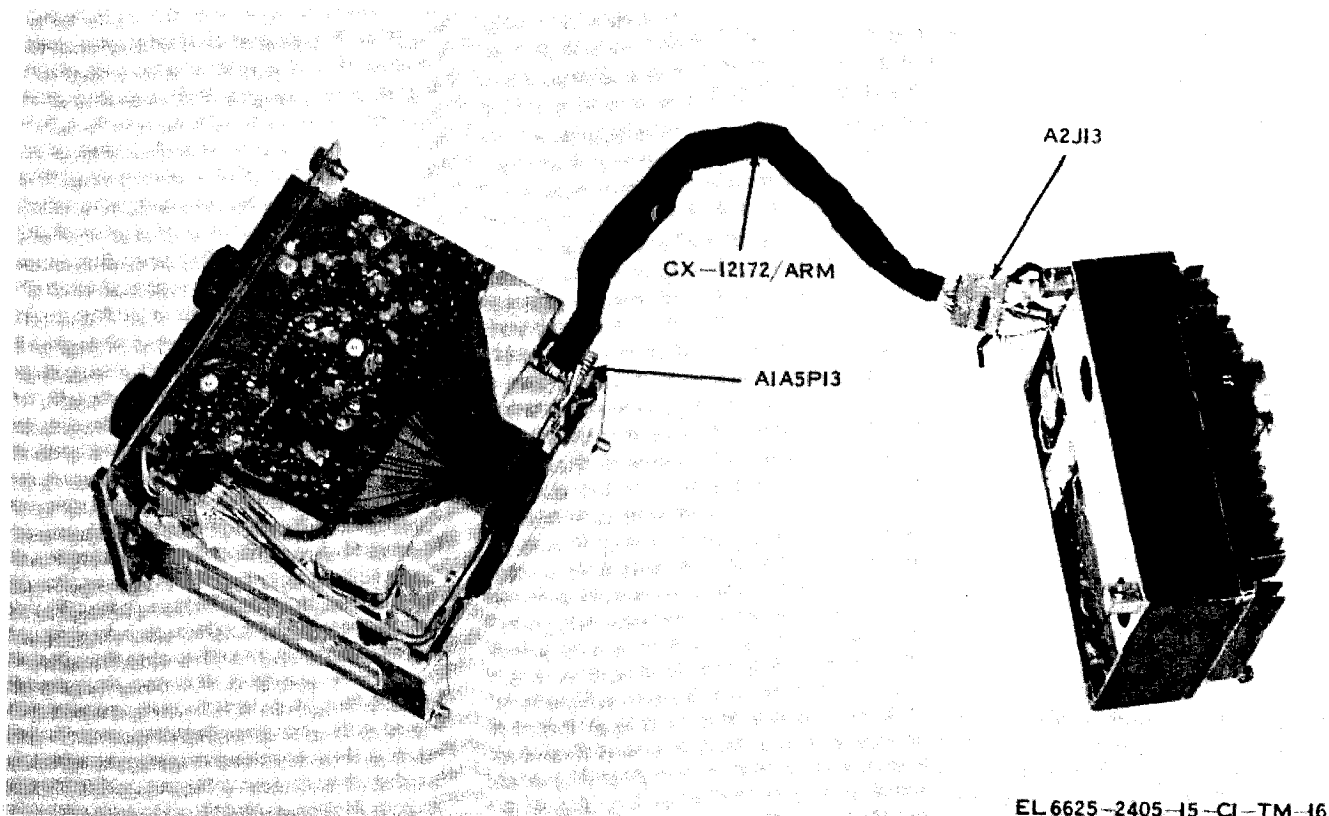


Figure 2-3. Breakout box connected to AN/ARC-116 sections.



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Figure 2-4. Extender cable between AN/ARC-114 sections.

voltage measurements at any of these points, be sure to take into account the position of the function selector switch on the front panel of the radio set.

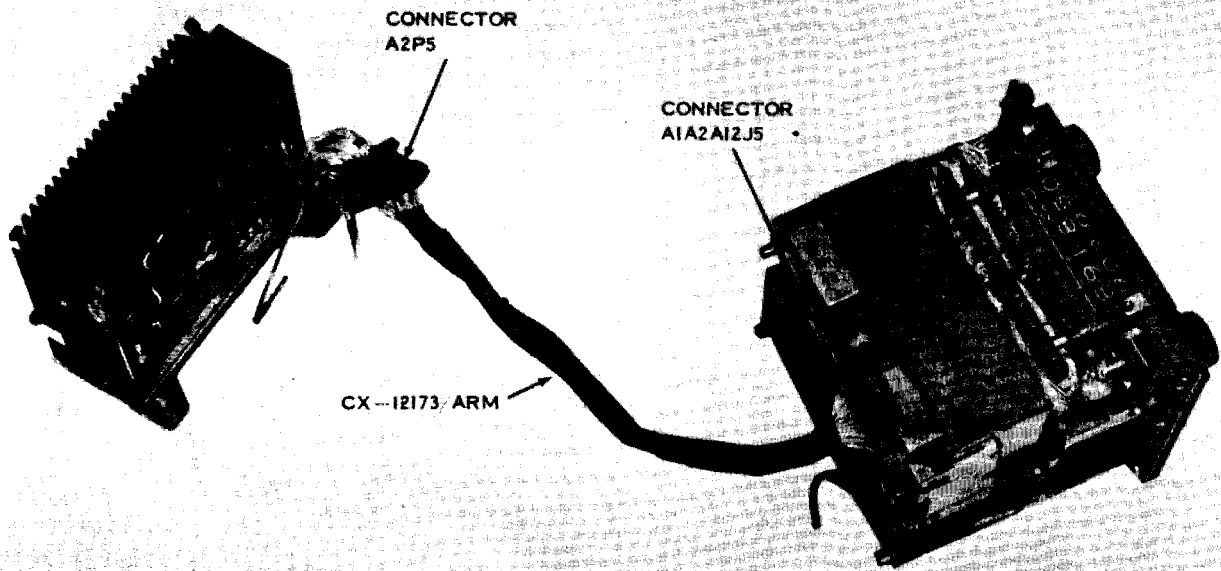
**Caution**

Connecting pins on the 4-3/4" wide extender boards are easily damaged. Be careful to avoid bending any of these while inserting boards into the radio set or connecting pluck-out boards into the extender cards.

b. When voltage or resistance checks on pluck-out cards are required, remove the card to be checked and insert the proper card extender into the empty socket. The card extender to be used is listed in paragraph 1-6b, c, or d for Radio Sets

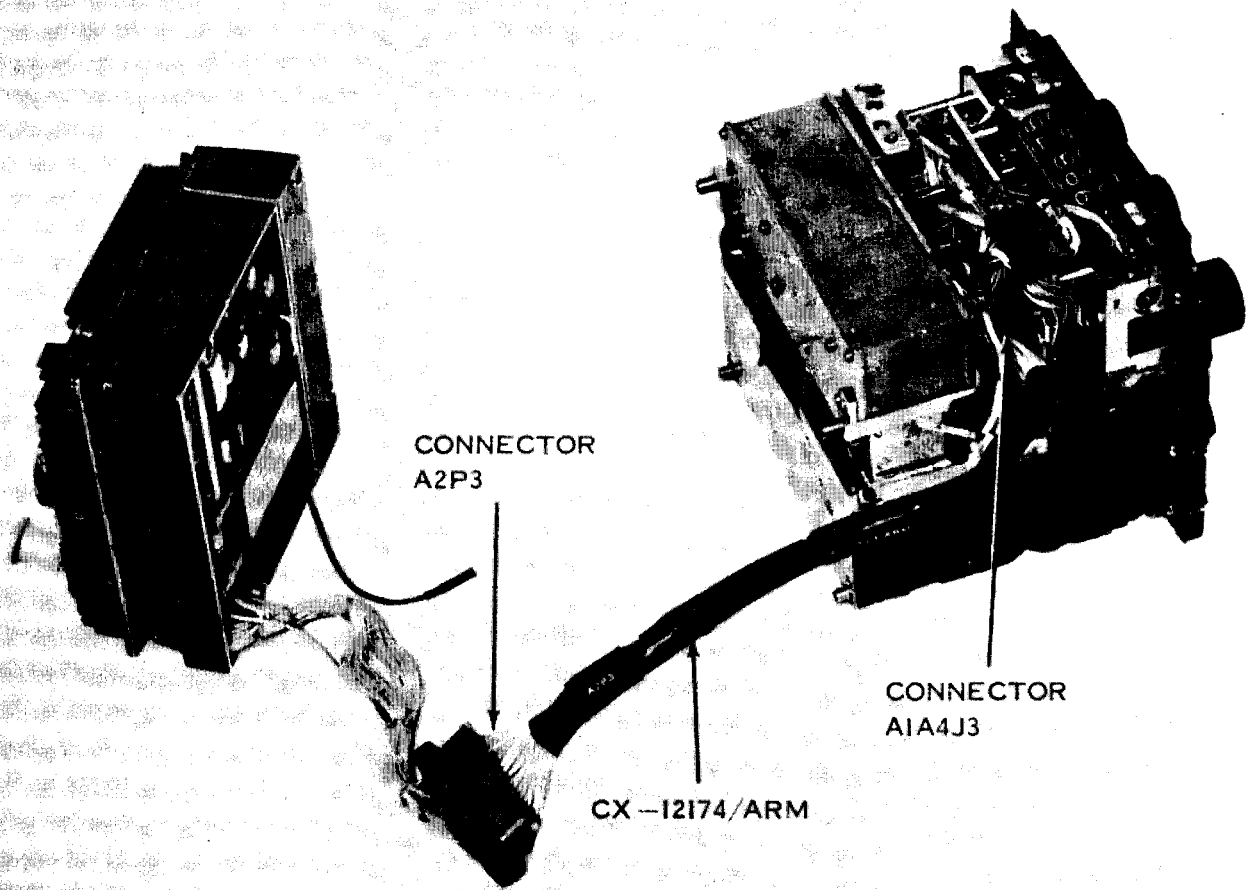
AN/ARC-114, AN/ARC-115, and AN/ARC-116 respectively. (The card extenders are identified by "MP-xxxx" numbers placarded on each extender.) Insert the removed card into the card extender. Voltages and resistances can be checked at test points in each connecting line as well as test points provided on the pluckout cards.

c. To measure input current draw, turn off the power source and set the toggle switch on the breakout box to OFF. Connect an ammeter (or a multimeter set for current measurements) to jacks D and D1 of the A2J1 test points. Turn on the power source, and set the radio set function selector switch to any position other than OFF. *Keep the toggle switch of the breakout box at OFF;* closing that switch will short terminals D and D1 and the ammeter will read zero.



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*Figure 2-5. Extender cable between AN/ARC-115 sections.*



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*Figure 2-6. Extender cable between AN/ARC-116 sections.*

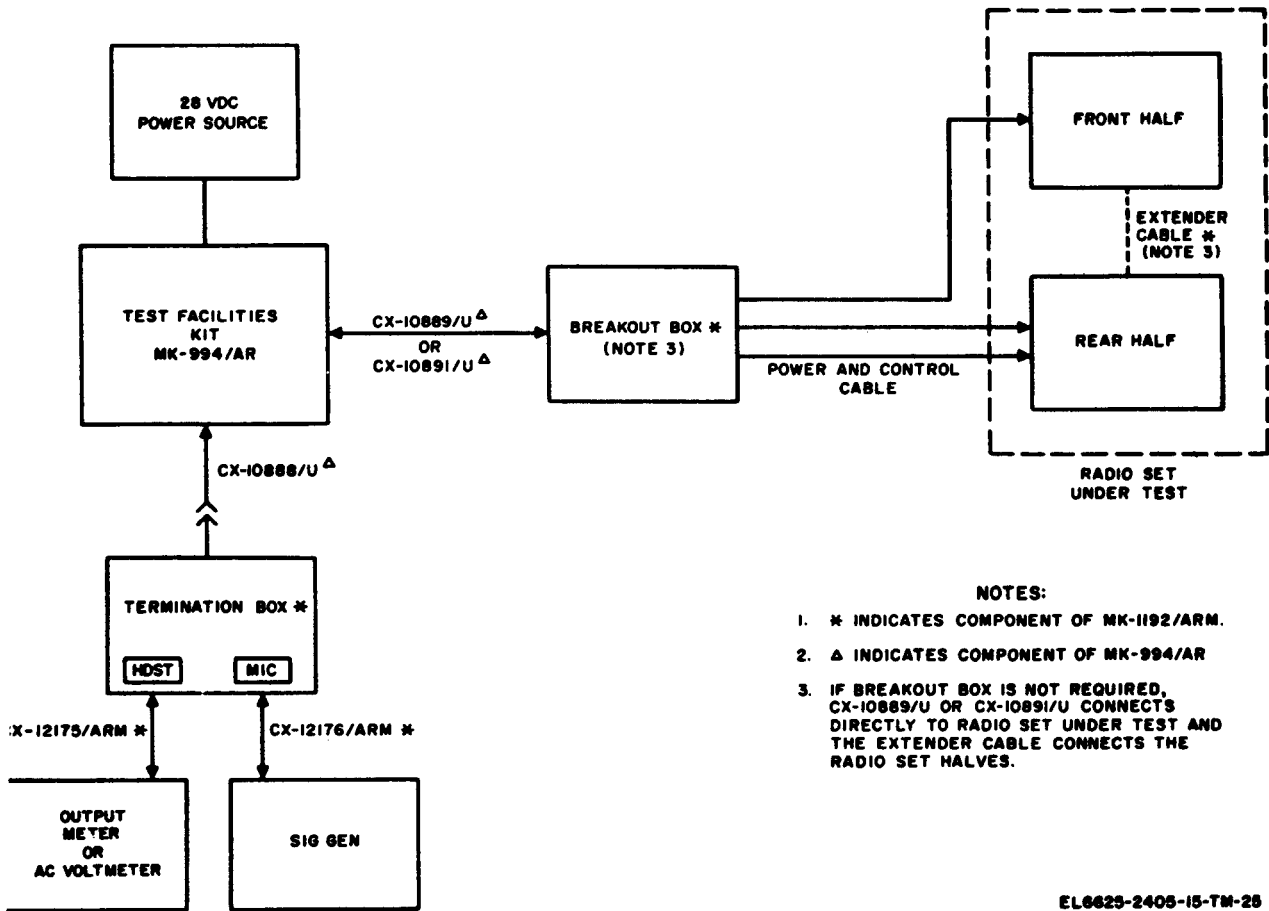


Figure 2-7. Typical SLAE radio set test setup.





## CHAPTER 3 MAINTENANCE

### Section I. ORGANIZATIONAL MAINTENANCE

#### 3-1. Scope of Organizational Maintenance

The maintenance duties assigned to the operator and organizational repairman of the equipment are listed below, together with a reference to the paragraphs covering the specific maintenance functions. Required tools and materials are listed in paragraph 3-2.

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

- c. Cleaning (para 3-7)
- d. Touchup painting (para 3-8).

#### 3-2. Tools and Materials Required

Tools required for organizational maintenance are contained in Tool Kit, Electronic Equipment TK-101/G. Materials needed are:

- a. Lint-free cloth.
- b. Trichloroethane, technical, per Federal Specification O-T-620, Type 1.
- c. Brush, MIL-G-7241.

### Section II. PREVENTIVE MAINTENANCE PROCEDURES

#### 3-3. Preventive Maintenance

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

a. *Systematic care.* The procedures given in paragraphs 3-4 through 3-7 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment.

b. *Preventive maintenance checks and services.* The preventive maintenance checks and services charts (para 3-4 and 3-5) outline functions to be performed daily (or at least once per week if the

maintenance accessories kit is maintained in a standby condition) and monthly intervals. These checks and services are to maintain the equipment in good general (physical) condition and in good operating condition. The charts indicate what to check, how to check, and what the normal conditions are; the References column lists the illustrations, paragraphs, or manuals that contain detailed repair or replacement procedures. If the defect cannot be remedied by performing the corrective actions listed, higher category maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 33-750.

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

Sequence No.	Item to be inspected	Procedure	References
1	Completeness	See that the equipment is complete.	Para 1-6
2	Exterior	Clean the exterior surfaces of the case, breakout boxes, and the termination box.	Para 3-6
3	Cables	Remove any grease, oil, or dirt from cables and connectors.	Para 1-6
4	Connectors	Check the tightness of all connectors.	None

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

Sequence No	Item to be inspected	Procedure	References
1	Cables	Inspect cables and wires for chafed, cracked, or frayed insulation. Replace (at DS category) connectors that are broken, arced, stripped, or worn excessively.	None
2	Handles and latches	Inspect case handles, latches, and hinges for looseness. Replace or tighten as necessary.	None
3	Metal surfaces	Inspect exposed metal surfaces for rust and corrosion. Touch up paint as required.	Para 3-7
4	Gasket	Inspect case gasket for cracks and excessive wear.	None
5	Interior	Clean interior of case.	None
6	Publications	See that all publications are complete, serviceable, and current.	DA Pam 310-4
7	Modifications	Check DA Pam 310-7 to determine whether new applicable MWO's have been published. All URGENT MWO's must be applied immediately. All NORMAL MWO's must be scheduled.	DA Pam 310-7

### 3-6. Cleaning

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

a. Remove dust and loose dirt with a clean, dry, lint-free cloth.

#### WARNING

Trichloroethane fumes are toxic. Provide adequate ventilation. DO NOT use on the fiberglass case. DO NOT use near a flame. Trichloroethane is not flammable but exposure to high heat in a poorly ventilated area can convert the fumes to a highly toxic gas.

b. Remove grease, fungus and ground-in dirt from the breakout and termination boxes; use a cloth dampened (not wet) with trichloroethane. Wipe dry with a clean cloth.

c. Remove dust and dirt from cable plugs and jacks with a brush. If necessary, apply trichloroethane sparingly with a brush.

d. Clean the transit case with a soft clean cloth. If dirt is difficult to remove, dampen the cloth with water; mild soap may be used for more effective cleaning.

### 3-7. Touch-up Painting Instructions

a. When the finish on the breakout and termination boxes are scarred or damaged, corrosion may be prevented by touch-up painting of the surfaces as outlined below.

(1) Use No. 000 sandpaper to clean the surface down to the bare metal; obtain a bright smooth finish.

(2) Sand the area back to solid paint and feather the paint edge that leads to the exposed metal.

(3) Wipe the area clean and apply one coat of zinc chromate metal primer FSN 8010-835-2114, and two thin finish coats of enamel to metal surfaces.

b. When a touch-up paint job is necessary, apply paint with a small brush. For the proper care of the brushes and painting equipment refer to TM 9-213 and TB SIG 746-10.

## Section III. DS AND GS MAINTENANCE

### 3-8. General

The DS and GS maintenance procedures supplement the procedures described in Section II. The maintenance operations performed are the same at all

categories. The only test equipment required for electrical troubleshooting is Multimeter TS-352B/U; all repairs can be effected using Tool Kit, Electronics Equipment TK-105/G.

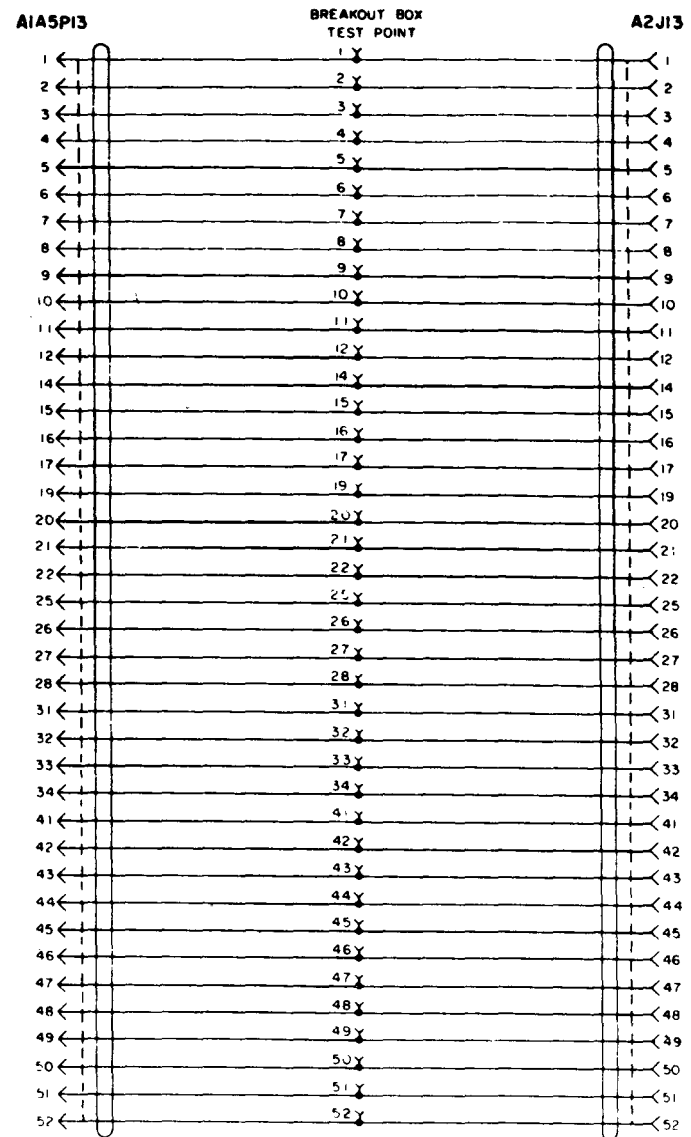
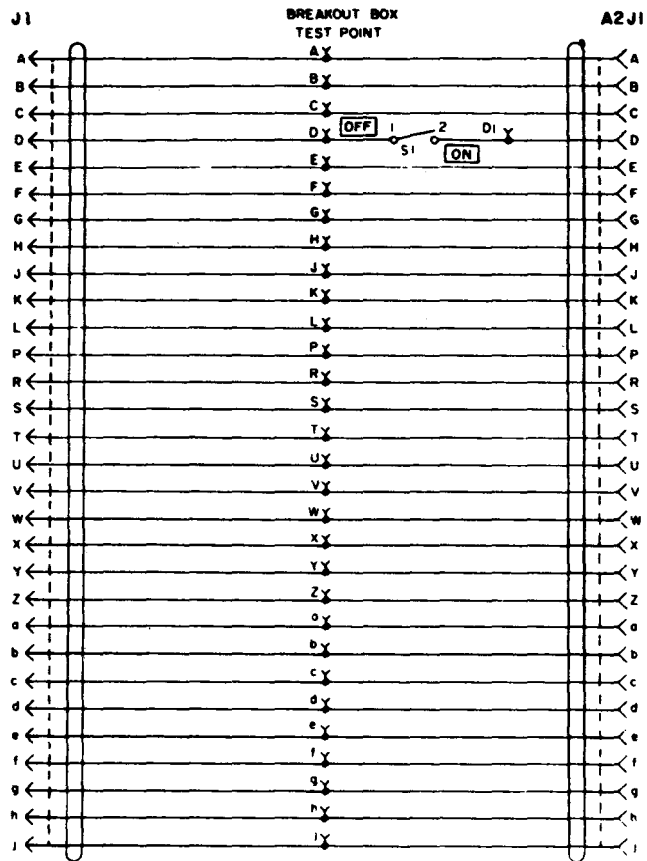
### 3-9. Troubleshooting

Visual inspection and continuity checking are the only techniques required for troubleshooting the maintenance accessory kit. Figures 3-1, 3-2, and 3-3 are schematic diagrams of Breakout Adapters MX-8497/ARM, MX-8498/ARM, and MX-8499/ARM, respectively. All circuits are straight through (zero ohms) and the test jacks are labeled with the same designations as the connector pins. The extender cables use the same terminal pins as shown for the breakout box front and rear section cables. Similarly the extender cards are straight through and each line is checked end-to-end and to the associated test point. Figure 3-4 is the schematic diagram of the termination box. The resistance across the HDST

terminals is 8.2 ohms; across the MIC terminals, the resistance is 5,100 ohms.

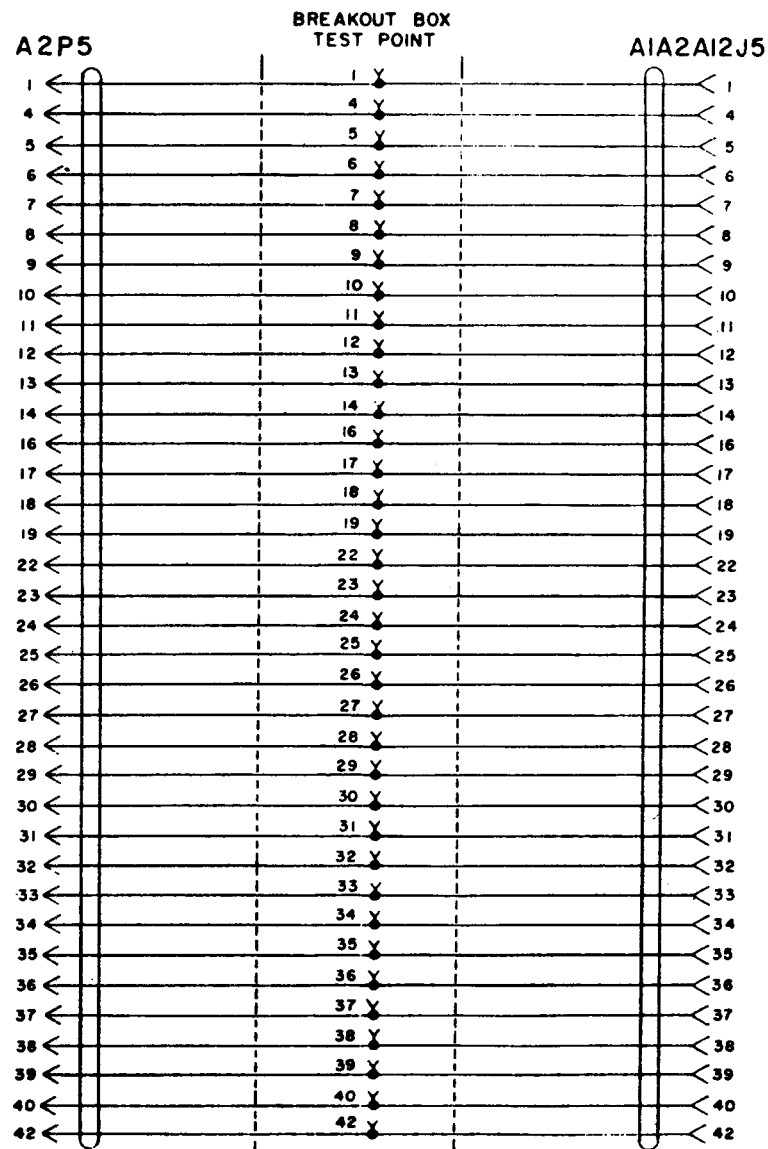
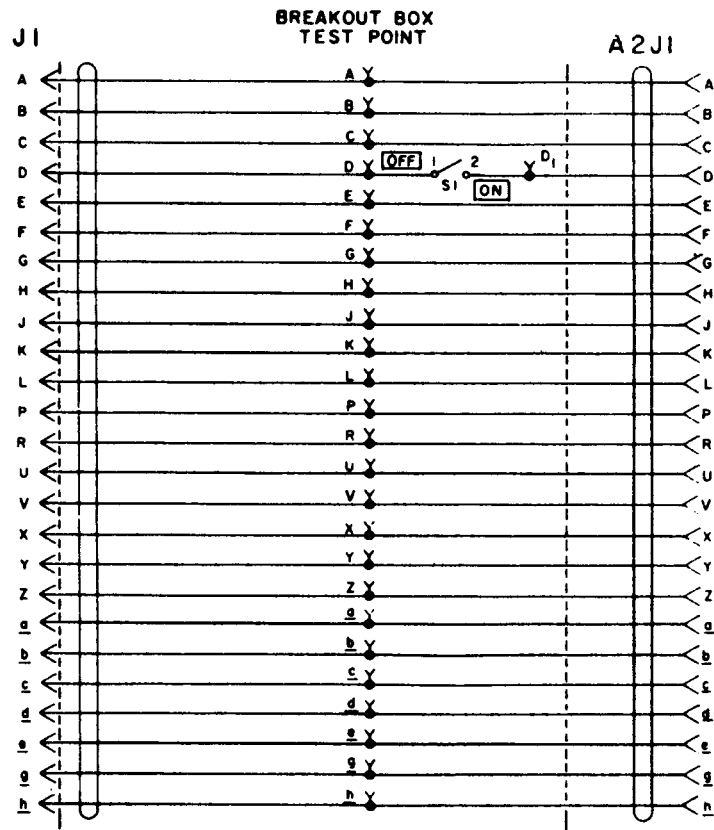
### 3-10. Repairs

Repair of the maintenance accessory kit consists of replacing any defective components or wiring. The components are test point jacks on the breakout boxes, jacks on the termination box, and connectors on cable. Three components are all replaced by standard soldering and other mechanical procedures. Specialized procedures for replacement of the BNC connector on the CX-12176/ARM (fig. 1-8) are given in figure 3-5. The extender boards are considered non-repairable.



EL 6625-2405-15-TM-3

Figure 3-1. Wiring diagram, MX-8497/ARM, breakout box for testing Radio Set AN/ARC-114.



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Figure 3-2. Wiring diagram, MX-3498/ARM, breakout box for testing Radio Set AN/ARC-115.

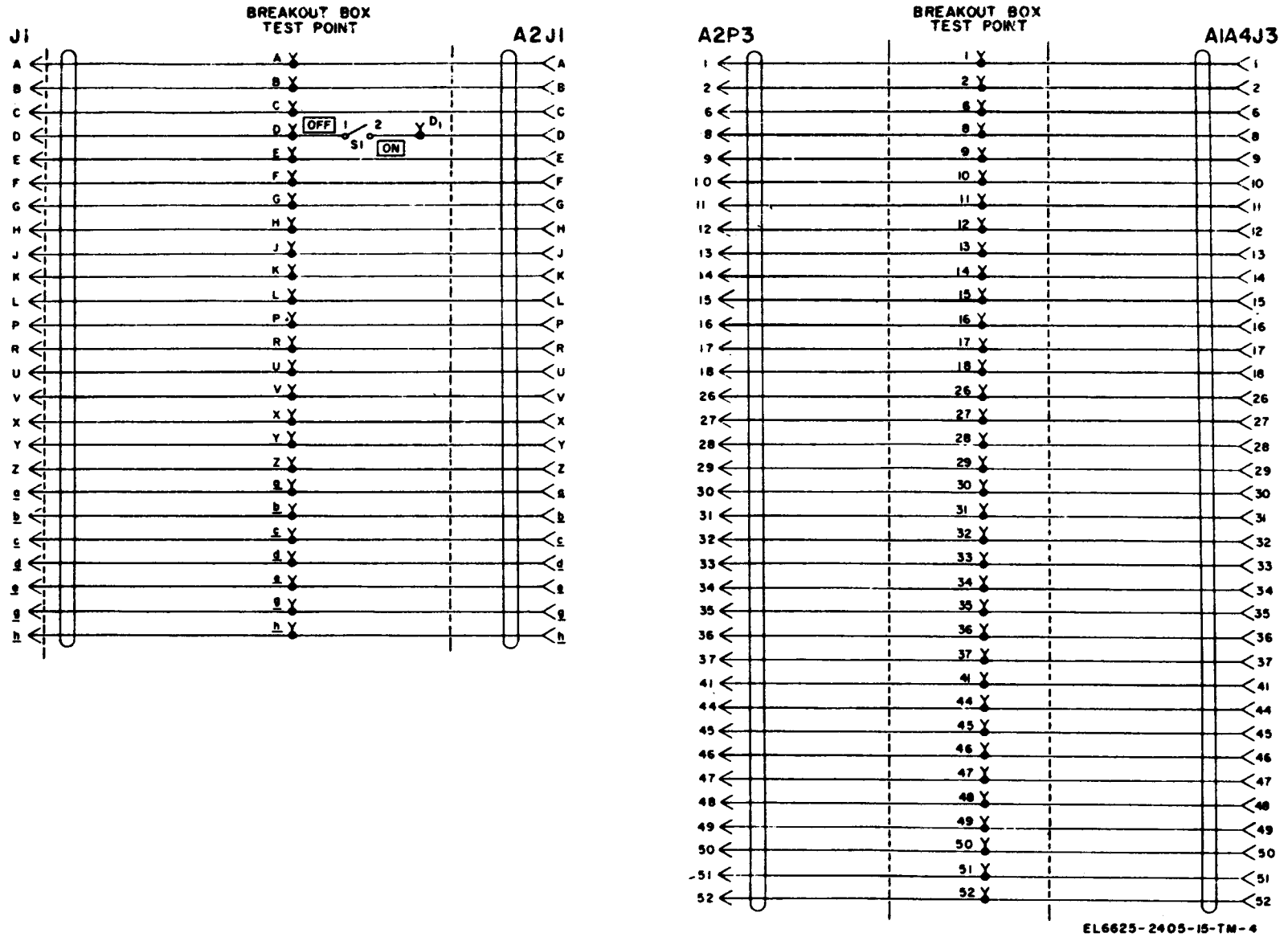


Figure 3-3. Wiring diagram, MX-8499/ARM, breakout box for testing Radio Set AN/ARC-116.

EL6625-2405-15-TM-4

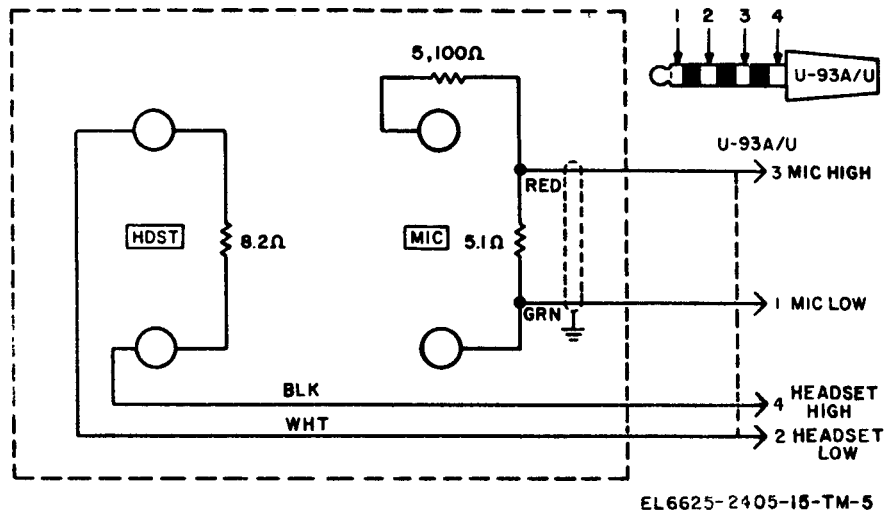


Figure 3-4. Schematic diagram of termination box.

ASSEMBLY OF TYPE BNC RADIO FREQUENCY CABLE PLUGS		
STEP 1		CUT OFF END OF CABLE SQUARE AND REMOVE JACKET 5/16" FROM END. DO NOT NICK BRAID.
STEP 2		COMB OUT BRAID.
STEP 3		TAPER BRAID, SLIDE NUT, WASHER, GASKET AND CLAMP OVER TAPERED BRAID, MAKING SURE INNER SHOULDER OF CLAMP IS POSITIONED TIGHTLY AGAINST END OF JACKET.
STEP 4		FLARE BACK BRAID, TRIM IF NECESSARY, TRIM DIELECTRIC TO DIMENSION SHOWN. DO NOT NICK INNER CONDUCTOR. CUT OFF INNER CONDUCTOR 7/64" FROM DIELECTRIC.
STEP 5		SOLDER CONTACT ON INNER CONDUCTOR REMOVE EXCESS SOLDER. DO NOT OVER HEAT DIELECTRIC AS IT WILL BECOME SWOLLEN AND WILL NOT ENTER BODY AND INSULATOR PROPERLY.
STEP 6		INSERT CABLE AND HARDWARE INTO PLUG BODY. MAKE SURE GASKET IS PROPERLY SEATED ON SHARP EDGE OF CLAMP AFTER NUT IS STARTED, TIGHTEN WITH WRENCH.  NOTE: SHARP EDGE OF CLAMP MUST SPLIT GASKET.

EL6625-2405-15-TM-24

Figure 3-5. Assembly instructions for BNC rf cable connector on CX-12176/ARM.



## CHAPTER 4

### SHIPMENT, LIMITED STORAGE, AND DEMOLITION OF MATERIEL

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#### Section I. SHIPMENT AND LIMITED STORAGE

##### 4-1. Disassembly of Equipment (figs. 1-1 and 1-2)

Prepare the maintenance accessories kit for shipment or storage as follows:

*a.* Disconnect all cables from the maintenance accessories kit connectors.

*b.* Check to see that all retaining screws on the breakout boxes and the termination box are Secure.

*c.* Coil each cable assembly carefully and place the cables and the termination box (fig. 1-2) into the cover of the maintenance accessories kit carrying case. Secure the cables with the retaining straps.

*d.* Group the extender cards into sets as listed in b, c, and d of paragraph 1-6, wrap in clear

plastic, if available, and place in cover compartments as shown in figure 1-2.

*e.* Snap the small adapters into their clips as shown in figure 1-2.

*f.* Insert the technical manual into the compartment provided.

*g.* Set the breakout boxes into their respective brackets (fig. 1-1).

*h.* Close the case and secure the latches.

##### 4-2. Packaging for Shipment

Wrap the maintenance accessories kit in water-proof paper and place the package in a corrugated carton. Use reinforced gummed tape for sealing the corrugated cartons. If limited storage is expected, place the carton within an outer carton and seal.

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

##### 4-3. Authority for Demolition

This equipment, in relation to other equipments on-site, will have a low order of priority for demolition. However, demolition of the equipment will be accomplished upon the order of the commander. The destruction procedures outlined in paragraph 4-4 will be used to prevent further use of the equipment.

##### 4-4. Methods of Destruction

*a.* If a complete destruction of the equipment cannot be accomplished in the time available, destroy the following components in the order given:

- (1) Breakout boxes.
- (2) Extender cards.
- (3) Extender cables and termination box.
- (4) Technical manuals.

*b.* Use any of the following methods:

(1) *Smash.* Smash all components. Use sledges, axes, hand axes, pickaxes, hammers, or crowbars.

(2) *Cut.* Cut cables and circuit wiring.

(3) *Burn.* Burn the technical manuals, use gasoline, kerosene, or oil.

(4) *Dispose.* Bury or scatter the destroyed parts in slit trenches, foxholes, or throw them into streams.



**APPENDIX A**  
**REFERENCES**

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DA Pam310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals, (Types 4,6,7,8, and 9) Supply Bulletins and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB 746-10	Field Instructions for Painting and Preserving Electronics Command equipment.
TB SIG 222	Solder and Soldering.
TM 9-213	Painting Instructions for Field Use.
TM 11-5821-259-35	DS, GS, and Depot Maintenance Manual: Radio Set AN/ARC-114.
TM 11-5821-260-35	DS, GS, and Depot Maintenance Manual: Radio Set AN/ARC-115.
TM 11-5821-261-35	DS, GS, and Depot Maintenance Manual: Radio Set AN/ARC-116.
TM 11-6625-366-15	Organizational, DS, GS, and Depot Maintenance Manual: Multimeter TS-352B/U.
TM 11-6625-928-12	Operation and Organizational Maintenance Manual: Test Facilities Kit MK-994/AR.
TM 11-6625-2405-25P	Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Maintenance Accessories Kit MK-1192/ARM,
TM 38-760	Army Equipment Record Procedures.



**APPENDIX B**  
**(Deleted)**

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## APPENDIX C MAINTENANCE ALLOCATION

### Section I. INTRODUCTION

#### C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Maintenance Accessories Kit MK-1192/ARM. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

Code	Maintenance category
C	Operator/Crew
O	Organizational Maintenance
F	Direct Support Maintenance
H	General Support Maintenance
D	Depot Maintenance

*d. Tools and Equipment.* The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

*e. Remarks.* Self explanatory.

#### C-2. Explanation of Format for Maintenance Allocation Chart

*a. Group Number.* Group numbers indicate the relation of listed items to the next higher assembly.

*b. Component Assembly Nomenclature.* This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

*c. Maintenance Function.* This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

#### C-3. Explanation of Format for Tool and Test Equipment Requirements

*a. Tools and Equipment.* The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

*b. Maintenance Category.* The codes in this column indicate the maintenance category normally allocated the facility.

*c. Nomenclature.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

*d. Federal Stock Number.* This column lists the Federal stock number.

*e. Tool Number.* Not used.

### Section III. MAINTENANCE ALLOCATION CHART

Group No.	Component Assembly Nomenclature	Maintenance Function											Tools and Equipment	Remarks		
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild				
a	b															
1.	Maintenance Accessories Kit MK-1192/ARM	O		O											1	See Notes 1 and 2
			F												2, 3	See Notes 2 and 6
															H	
1A	Common Accessories															
	Adapters & Connectors	O		O							O				1	See Note 4
	Cable Assemblies, Special	O		O							O				1	See Note 4

Group No. a	Component Assembly Nomenclature b	Maintenance Function c										Tools and Equipment d	Remarks	
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul			Rebuild
1B	AN/ARC-114 Accessories												1	See Note 2
	Adapter, Breakout	O	F	O				O		F			2, 3	See Note 3
	MX-8497/ARM	O		O				O					1	See Note 4
	Extenders, Module		F										2, 3	See Note 3
1C	Cable Assembly, CX-12172/ARM	O		O				O		F			1	See Note 4
			F										2, 3	See Note 3
	AN/ARC-115 Accessories Adapter, Breakout MX-8498/ARM	O	F	O				O		F			1	See Note 2
	Extenders, Module	O	F	O				O		F			2, 3	See Note 3
1D	Cable Assembly CX-12173/ARM	O		O				O		F			1	See Note 4
			F										2, 3	See Note 3
	AN/ARC-116 Accessories Adapter, Breakout MX-8499/ARM	O	F	O				O					1	See Note 2
	Extenders, Module	O	F	O				O					2, 3	See Note 3
1E	Cable Assembly, CX-12174/ARM	O		O				O		F			1	See Note 4
			F										2, 3	See Note 3
	Microphone/Headset Termination MX-2500/ARM	O	F	O				O		F			1	See Note 2
													See Note 5	

**Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS**

Tool or test equipment reference code	Maintenance category	Nomenclature	FSN	Tool No.
1	O	Tool Kit, Electronics Equipment TK-101/G	5180-064-5178	
2	F, H	Tool Kit, Electronics Equipment TK-106/G	5180-610-8117	
3	F, H	Multimeter TS-352B/U	6625-553-0142	

**Section IV. REMARKS**

Reference code	Remarks
Note 1	Direct Support performs Organizational Maintenance
Note 2	Perform operational check. Visually inspect for broken/cracked connectors, jacks, frayed wiring, missing accessories. Clean unit. Repair by component replacement.
Note 3	Perform continuity checks. Repair defective components and cabling. Replace jacks connectors and switches.
Note 4	Perform visual inspection. Replace missing items. Clean.
Note 5	Perform continuity and resistance checks. Repair defective components and cabling. Replace connectors, jacks, switches, resistors.



By Order of the Secretary of the Army:

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