DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TM 11-5830-200-20

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

TO 31S3-3MC364-24

REPRODUCING EQUIPMENT MC-364-D AND PUBLIC ADDRESS SET AN/UIH-2

ORGANIZATIONAL MAINTENANCE
SECOND ECHELON

This reprint includes all changes in effect at the time of publication; changes 4 and 6.

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

JANUARY 1959

WARNING

HIGH VOLTAGE

is used in this equipment.

DEATH ON CONTACT

may result if safety precautions
are not observed

Be careful not to contact high-voltage connections or any power connections when using this equipment. Turn off the power before making any connections. Turn off the power and discharge all high-voltage capacitors before doing any work inside the equipment. Be extremely careful when working on or near the power transformer.

Changes in force: C 4 and C 6

TM 11-5830-200-20

***C 6**

CHANGE
No. 6

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 8 May 1968

Organizational Maintenance Manual
PUBLIC ADDRESS SET AN/UIH-2; REPRODUCING EQUIPMENT MC-364-D; LOUDSPEAKER LS-148/U; REPRODUCERS, SOUND RP-104/UIH-2 AND RP-104A/UIH-2; AND TURNTABLE MX-932/U

TM 11-5830-200-20, 7 January 1959, is changed as follows:

Note. The parenthetical reference to a previous change (example: page 1 of C 4) indicates that pertinent material was published in that change.

Page 2. Make the following changes:

Paragraph 1. Delete subparagraph b and the note.

Delete subparagraph c and the note (as changed by C 5, 25 Jul 63).

Add the following after paragraph 1 (as added by C 5, 25 Ju) 63) :

1.1. Indexes of Publications

a. *DA Pam* 310-4. Refer to the latest issue of DA 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.

Add paragraph 1.2 after paragraph 1.1.

1.2. Forms and Records

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

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Pub 378 (Navy), AFR 71-4 (Air Force), and MCO P4030.29 (Marine Corps).

c. *Discrepancy* in Shipment *Report (DISREP)* (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Report of *Equipment Publication Improvements.* Report of errors, omissions, and recom-

***This change supersedes c 5, 25 July 1963.**

mendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N. J. 07703.

Note. For applicable forms and records. see paragraph 3. TM 11-5830-200-10.

Page 5, paragraph 7. Add the following note under the paragraph heading:

Note. On public address sets procured on contract No. DAABO5-67-C-2335. loosen the two red screws under the turntable (fig. 13.1), to float the motor before operating it. Tighten the screws again before transporting the public address set.

Page 7. Delete paragraphs 8, 9, and 10 (as changed by C 5, 25 Jul 63) and substitute:

8. Scope of Organizational Maintenance

The maintenance duties normally performed by the organizational maintenance man are listed below.

a. Replacement of defective fuse or indicator lamp (TM 11-5830-200-10).

b. Quarterly preventive maintenance services and checks (para 10.2).

c. Lubrication (para 11).

d. Visual inspection (para 12).

e. Troubleshooting (para 13).

j. Tube testing and replacement (para 14).

g. Parts replacement (para 15 through 18).

h. Adjustments (para 19 through 22).

9. Tools and Test Equipment

The tools and test equipment required for maintenance of the public address set are listed in appendix II.

10. Preventive Maintenance

a. Preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all categories concerned with the equipment and includes the inspection, testing, and repair or replacement of parts, subassemblies, or units that inspection and tests indicate probably would fail before the next scheduled periodic service. Preventive maintenance checks and services of the public address set at the organizational category are made at quarterly intervals unless otherwise directed by the commanding officer. Lubricate the equipment monthly as specified in paragraph 11.

b. Maintenance forms and records to be used and maintained on this equipment are specified in TM 38-750.

10.1. Quarterly Maintenance

Quarterly preventive maintenance checks and services on the public address sysem are required. Perodic daily and weekly services constitute a part of the quarterly preventive maintenance checks and services and must be performed concurrently. All deficiencies or shortcomings will be recorded in accordance with the requirements of TM 38-750. Perform all checks and services listed in the quarterly maintenance checks and services chart (para 10.2), in the sequence listed.

10.2. Quarterly Preventive Maintenance Checks and Services Chart

Sequence No.	Item to be inspected	Procedure	References
1	Completeness	See that the equipment is complete (app II. TM 11-5830-200-10).	
2	Installation	See that the equipment is properly installed (para 4-7).	
3	Cleanliness	See that the equipment is clean (para 20.4. TM 11-5830-200-10).	
4	Preservation	Check all surfaces for evidence of fungus. Remove rust and corrosion and spot-paint bare spots	Para 10.3.
5	Publications	See that all publications are complete, serviceable, and current.	DA Pam 310-4
6	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
7	Lubrication	Lubricate the equipment monthly.	Para 11 and fig. 5 through 8.
8	Pluck out items	Inspect clamps and seating of pluckout Items. Check for wrong, bent, or broken parts.	
9	Turntable motor	Inspect the turntable motor for signs of overheating.	Fig. 5.
10	Capacitors	Check to see that all capacitors are properly mounted and have not been overheated.	
11	Resistors, bushings, and insulators	Inspect the items for cracks, chipping, blistering, moisture. and discoloration.	
12	Terminal boards	Check to see that all terminal boards are securely mounted Tighten if necessary.	
13	Fuses and lamps	See that the fuse and lamp are of the correct value. Replace if necessary	App II
14	Cables and connectors	Check the condition of the connectors on the power cable. motor cable, and cable on the pickup arm. Inspect microphone and loudspeaker cables for defects. Replace cables if necessary.	Fig. 2 and 11 and app II.
15	Stylus and cartridge	Check the seating of the stylus and the cartridge. On the RP-104/UIH-2. the cartridge should turn easily when the stylus selector lever is turned. Replace if necessary	Para 16 and 17
16	Controls	While making the operating checks, observe that the mechanical action of each knob, lever, and switch is smooth and free of external or internal binding.	
17	Operating check	Refer to paragraph 21. TM 11-5830-200-10	Para 12 and 13
18	Spare parts	Check all spare parts (operator and organizational) for general condition and method of storage There should be no evidence of overstock, and all shortages must be on valid requisitions.	App II. TM 11-5830-200-10. and TM 11-5830-200-20P

10.3. Cleaning and Touchup Painting Instructions

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

Page 8 (as changed by C 5, 25 Jul 63). Delete figure 3.

Page 9 (as changed by C 5, 25 Jul 63). Delete figure 4.

Page 20. Make the following changes:

Add paragraph 20.1 after paragraph 20.

20.1. Adjusting 78 Rpm Turntable Speed of Public Address Sets Procured on Contract DAABO5-67-C-2335 (fig. 13.1)

a. Connect the public address set to a 115- or 230-volt ac power source.

b. Place a record on the turntable.

c. Place the stroboscope disk (fig. 13) on the record.

d. Connect the stroboscope to the OUTLET receptacle.

e. Place the speed selector lever into the 78 step groove.

f. Turn on the power to the reproducer and to the stroboscope.

g. Hold the stroboscope lamp over the selected ring on the stroboscope disk.

h. Observe the stroboscope pattern. If the pattern is not stationary, adjust the speed as follows :

(1) Loosen the 3 step-groove assembly screws about 2 turns.

(2) Move the step-groove assembly slowly until the stroboscope pattern is stationary.

(3) Tighten the step-groove assembly screws carefully.

(4) Repeat the procedures in (1), (2), and (3) above until the desired result is obtained.

Add paragraph 21.1 after paragraph 21.

21.1 Adjusting 45 Rpm Turntable Speed of Public Address Sets Procured on Contract DAABO5-67-C-2335 (fig. 13.1)

a. Connect the public address set to a 115- or 230-volt ac power source.

b. Place a record on the turntable.

c. Place the stroboscope disk (fig. 13) on the record.

d. Connect the stroboscope to the OUTLET receptacle.

e. Place the speed selector lever into the 45 step groove.

f. Turn on the power to the reproducer, and to the stroboscope.

g. Hold the stroboscope lamp over the selected ring on the stroboscope disk.

h. Observe the stroboscope pattern. If the pattern is not stationary, adjust the speed as follows:

(1) Loosen the 3 step-groove assembly screws about 2 turns.

(2) Move the step-groove assembly slowly until the stroboscope pattern is stationary.

(3) Tighten the step-groove assembly screws carefully.

(4) Repeat the procedures in (1). (2), and (3) above until the desired result is obtained.

Page 21. Add paragraph 22.1 after paragraph 22.

22.1. Adjusting 331/3 Rpm Turntable Speed of Public Address Sets Procured on Contract DAABO5-67-C-2335 (fig. 13.1)

a. Connect the public address set to a 115- or 230-volt ac power source.

b. Place a record *on* the turntable.

c. Place the stroboscope disk (fig. 13) on the *record*

d. Connect the stroboscope to the OUTLET receptacle.

e. Place the speed selector lever into the 33 step groove.

f. Turn on the power to the reproducer, turntable motor, and to the stroboscope.

g. Hold the stroboscope lamp over the selected ring on the stroboscope disk.

h. Observe the stroboscope pattern. If the pattern is not stationary, adjust the speed as follows :

(1) Loosen the 3 step-groove assembly screws about 2 turns.

(2) Move the step-groove assembly slowly until the stroboscope pattern is stationary.

(3) Tighten the step-groove assembly *screws* carefully.

(4) Repeat the procedures in (1), (2), and (3) above until the desired result is obtained.

Note. The 16 rpm speed is not used.

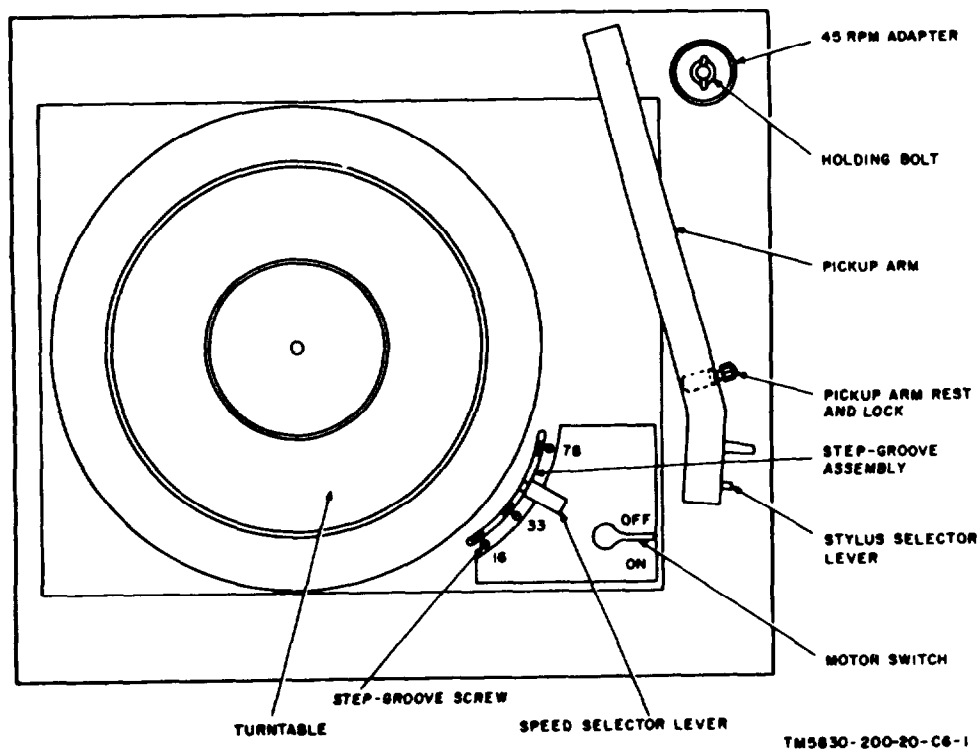


Figure 13.1 Reproducer of public address sets procured on contract *DAAB05-67-C-2335.*

Page 26, appendix I (as changed by C 5, 25 Jul 63. Add the following:

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 38-750	Army Equipment Record Procedures.

By Order of the Secretary of the Army:

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

Official :

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:
- USASA (2)
- CNGB (1)
- ACSC-E (2)
- Dir/Trans (1)
- CofEngrs (1)
- TSG (1)
- CofSptS (1)
- USAARENBD (2)
- USAIB (5)
- USACDC Agcy (1)
- USAMC (5)
- USCONARC (5)
- ARADCOM (5)
- ARADCOM Rgn (2)
- OS Maj Comd (4)
- LOGCOMD (2) except
  - 1st LOGCOMD (10)
  - 9th LOGCOMD (10)
- USA MICOM (4)
- USASTRATCOM (4)
- USAESC (70)
- 1st Cav Div (5)
- MDW (1)
- Armies (2)
- Corps (2)
- USAC (3)
- 15th USASA Fld Sta (5)
- Svc Colleges (2)
- Br Svc Schools (5) except
  - USASCS (20)
  - USASESS (30)
- USATC Armor (2)
- USATC Inf (2)
- USASTC (2)
- WRAMC (1)
- Army Pic Cen (2)
- USACDCEC (10)
- AV Comm Cen (5)
- USAPC (5)
- Instl (2) except
  - Fort Gordon (10)
  - Fort Huachuca (10)
  - Fort Carson (23)
  - Fort Knox (12)
  - WSMR (5)

Army Dep (2) except
- LBAD (14)
- SAAD (30)
- TOAD (14)
- LEAD (7)
- SHAD (3)
- NAAD (5)
- SVAD (5)
- CHAD (3)
- ATAD (10)
- SIAD (5)
- TEAD (5)

Gen Deps (2)
Sig Set Gen Deps (5)
Sig Dep (12)
Sig FLDMS 12)
AMS (1)
USAERDAA (2)
USAERDAW (13)
USACRREL (2)
USABIOLABS (5)
USAPA (5)
MAAG (2)
USARMIS (2)
USARMA (2)
USAG. Arlington Hall (5)
Rocky Mountain Arsenal (5)
Units org under fol TOE
(2 copies each)
- 11-7
- 11-57
- 11-97
- 11-98
- 11-117
- 11-155
- 11-157
- 11-387
- 11-500 (AA-AC, FC-FL)
- 11-557
- 11-587
- 11-592
- 11-597
- 19-35
- 19-36
- 19-256
- 19-316

NC: State AC (3) ; units -- same as active Army except allowance is one copy per unit.

USAR: None.

For explanation of abbreviations used, see AR 320-50

Organizational Maintenance Manual

PUBLIC ADDRESS SET AN/UIH-2; REPRODUCING EQUIPMENT MC-364-4; LOUDSPEAKER LS-148/U; REPRODUCERS, SOUND RP-104/UIH-2 AND RP-104A/UIH-2; AND TURNTABLE MX-932/U

TM 11-5830-200-20
TO 31S3-3MC364-32
CHANGES No. 4

DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
WASHINGTON 25. D.C., 27 *August 1962*

TM 11-5830-200-20/TO 31S3-3MC364-32, 7 January 1959, is changed as follows:

The title is changed as shown above. (As changed by C 3, 29 Sep 60).

Page 2, paragraph 1. Add subparagraph c.

c. Any comments concerning omissions and discrepancies in appendix II will be prepared on DA Form 2028 and forwarded direct to Commanding Officer, U.S. Army Signal Materiel Support Agency, ATTN: SIGMS-M, Fort Monmouth, N.J.

Page 27. Appendix II (As changed by C 3, 29 Sep 60). Delete and substitute the attached appendix II.

Page 31. Delete appendix III (as deleted by C *3,* 29 Sep 60).

APPENDIX II (Superseded)

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

1. General

a. This appendix assigns maintenance functions to be performed on components, assemblies, and subassemblies by the lowest appropriate maintenance echelon.

b. Columns in the maintenance allocation chart are as follows:

(1) *Component.* This column shows only the nomenclature or standard item name. Additional descriptive data is included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies which are part of a component are listed immediately below that component, and the subassemblies which are part of an assembly are listed immediately below that assembly. Each generation breakdown (components, assemblies, or subassemblies) are listed in disassembly order or alphabetical order.

(2) *Maintenance function.* This column indicates the various maintenance functions allocated to the echelons.

(a) Service. To clean, to preserve, and to replenish lubricants.

(b) Adjust. To regulate periodically to prevent malfunction.

(c) Inspect. To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

*** These changes supersedes C 3, 29 September 1960.**

(d) Test. To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

(e) Replace. To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.

(f) Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

(g) *Align.* To adjust two or more components of an electrical system so that their functions are properly synchronized.

(h) *Calibrate.* To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

(i) *Overhaul.* To restore an item to *completely serviceable* condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "inspect and repair only as necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

(j) Rebuild. To restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.

(3) 1st, 2d, 3d, 4th, 5th echelons. The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(4) Tools required. This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform the maintenance function.

(5) Remarks. Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding columns.

c. Columns in the allocation of tools for maintenance functions are as follows:

(1) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

(2) Ist, 2d, 3d, 4th, 5th echelon. The dagger (†) symbol in these columns indicates the echelons normally allocated the facility.

(3) *Tool code.* This column lists the tool code assigned.

2. Maintenance by Using Organizations

When this equipment is used by signal services organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

SECTION II MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PART OR COMPONENT	MAINTENANCE FUNCTION	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOLS REQUIRED	REMARKS
PUBLIC ADDRESS SET AN/UIH-2								
	service	X						Clean Exterior
			X				10	
	adjust		X				10	Speed control
					X		1,9	
	inspect		X				10	Discoloration of components due to over Heating Wiring, Pick up stylus.
	test	X						Operation
							1, 7, 10	Tubes, Turntable speed, voltage and resistance, measurements to determine circuit condition trouble shooting.
				X			3, 7, 8	
					X		1, 2, 3, 5, 7, 9	All testing Use tool code 6 inplace of tool code 7 for 5th Echelon only.
	replace							
	repair		X				10	
	overhaul				X		9	
LOUDSPEAKER ASSEMBLY LS-148/U	inspect	X						Physical damage
	test		X				4, 10	Continuity
	replace		X				10	
	repair			X			8	
REPRODUCER SOUND RP-104/UIH-2; RP-104A/UIH-2	adjust				X		1, 8, 9	
	inspect		X				10	
	test	X						Operational
			X				1, 7, 10	Tubes, voltage, resistance to determine circuit condition
				X			3,7,8	Trouble shooting
					X		1, 2, 3, 5, 7, 9	All Testing use code 6 inplace of Tool Code 7 for 5th Echelon only
	replace		X				10	
	repair			X			8	
	overhaul				X		9	

SECTION III MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOL CODE	REMARKS
AN/UIH-2; MC-364-D; (INCL LS-148/U; RP-104/UIH-2; RP-104A/UIH-2; MX-932/U) (continued)							
ANALYZER, SPECTRUM TS-723/U				+	+	1	
AUDIO OSCILLATOR TS-382/U				+	+	2	
MULTIMETER METER TS-352/U			+	+	+	1	
MULTIMETER AN/URM-105		+				4	
VOLTMETER METER ME-30A/U				+	+	5	
TEST SET, ELECTRON TUBE TV-2/U					+	6	
TEST SET, ELECTRON TUBE TV-7/U		+	+	+		7	
TOOL KIT TK-87/U			+	+	+	8	
TOOL KIT TK-88/U				+	+	9	
TOOL KIT TK-88/U		+				10	
TOOL KIT TK-115/U							

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PART OR COMPONENT	MAINTENANCE FUNCTION	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOLS REQUIRED	REMARKS
AN/UIH-2; MC-364-D; (INCL LS-148/U; RP-104/UIH-2; RP-104A UIH-2; MX-932/U) (continued)								
REPRODUCING EQUIPMENT MC-364D	service	X						Clean Exterior
			X				10	
	adjust		X				10	Speed control
					X		1,9	
	inspect		X				10	Discoloration of components due to over Heating Wiring, pick up stylus.
	test	X						Operation
			X				1, 7, 10	Tubes, turntable speed, voltage resistance,
				X			3, 7, 8	Measure to determine circuit condition
					X		1, 2, 3, 5, 7, 9	All testing (use tool code 6 inplace of tool code 7 for 5th Echelon only.
	repair		X				10	
	overhaul				X		9	
LOUDSPEAKER ASSEMBLY LS-148/U	inspect	X						
	test		X				4, 10	
	replace		X				10	
	repair			X			8	
TURNTABLE MX-932/U	adjust			X			1,9	
			X				10	Speed control
	test	X						Operational
							4,10	Motor continuity, wiring, Mechanical operation
			X				10	
	replace		X	X			8	
	repair		X				10	Crystal and stylus of reporducing Arm only
	overhaul				X		9	

BY ORDER OF THE SECRETARIES OF THE ARMY AND THE AIR FORCE:

G. H. DECKER,
General, United States Army,
Chief of Staff.

Official :

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

CURTIS E. LEMAY,
Chief of Staff, United States Air Force.

Official :

R. J. PUGH,
Colonel, United States Air Force,
Director of Administrative Services.

Distribution:

Active Army:

DASA (6)
USASA (2)
CNGB (1)
Tech Stf. DA (1) except
CSigO (14)
Tech Stf Bd (1)
USCONARC (5)
USAARTYBD (1)
USAARMBD (2)
USAIB (1)
USARADBD (2)
USAAVNBD (1)
USA Abn Elct & SPWAR Bd
(1)
USAATBD (1)
ARADCOM (2)
ARADCOM, Rgn (2)
OS *Maj* Comd (3)
OS Base Comd (2)
LOGCOMD (2)
MDW (1)
Armies (2)
Corps (2)
Instl (2)
Ft Monmouth (63)
USATC AD (2)
USATC Engr (2)
USATC Inf (2)
USATC FA (2)
USATC Armor (2)
USAOMC (2)
Svc Colleges *(2)*
Br Svc Sch (2)
Gen Dep (2)
Sig Sec, GENDEP (5)
Sig Dep (12) except
Sacramento Sig Dep (17)
WRAMC (1)
USA Trans Tml Comd (1)
Army Tml (1)
POE (1)
OSA (1)
USAEPG (2)
AFIP (1)
AMS (1)
Army Pic Cen (2)
EMC (1)
Yuma Test Sta (2)
USA Strat Comm Comd (4)
USASSA (25)
USASSAMRO (1)
USARCARIB Sig Agcy (1)
USA Sig Msl Spt Agcy (13)
Sig Fld Maint Shops (3)
Def Log Svc Cen (1)
USA Corps (3)
JBUSMC (2)
USA Cml Cen &
CMLCMATCOM (5)
Pine Bluff Cml Arsenal (5)
William Beaumont Gen Hosp
(5)
Ord Dist (5)
Jefferson PG (5)
USMA (5)
Anniston Ord Dep (5)
Blue Grass Ord Dep (5)
Mt Rainier Ord Dep (5)
Navajo Ord Dep (5)
Sierra Ord Dep (2)
Tooele 0rd Dep (5)
Units org under fol TOE :
(2 copies each)
11-7
11-16
11-57
11-97
11-98
11-117
11-155
11-157
11-500 (AA-AE) (4)
11-557
11-587
11-592
11-597
19-256
19-316
55-78

NC: State AG (3) ; Units--Same as Active Army except allowance is one copy to each unit.

USAR: None.

For explanation of abbreviations used, see AR 320-50.

TECHNICAL MANUAL
No. 11-5830-200-20
TECHNICAL ORDER
No. 31S3-3MC364-24

DEPARTMENTS OF THE ARMY
AND THE AIR FORCE

WASHINGTON 25, D.C., *7 January 1959*

REPRODUCING EQUIPMENT MC-364-D AND PUBLIC ADDRESS SET AN/UIH-2 ORGANIZATIONAL MAINTENANCE, SECOND ECHELON

***This manual supersedes so much of TM 11-436, 9 September 1947, including C 2, 9 March 1954, and C3, 18 August 1958, as pertains to organizational maintenance.**

CHAPTER 1

INTRODUCTION

1. Scope

a. This manual covers installation and organizational maintenance of Reproducing Equipment MC-364-D and Public Address Set AN/UIH-2. The operating instructions for this equipment are contained in TM 11-5830-200-10, Reproducing Equipment MC-364-D and Public Address Set AN/UIH-2, Operator's Manual.

b. Forward comments concerning this manual to the Commanding Officer, United States Army Signal Publications Agency, Fort Monmouth, N.J.

Note. For applicable forms and records, see paragraph 2, TM 11-5830-200-10.

2. Internal Differences in Models

This paragraph covers only items that organizational maintenance personnel service.

a. Refer to the *differences in models* paragraph in TM 11-5830-200-10 for information on exterior differences.

b. Differences among the reproducers are listed in (1) below and differences between the microphones in (2) below.

(1) *Reproducer.*

Item	MX-932/U	RP-104/UIH-2	RP-104A/UIH-2
Turntable drive	Driving shaft (spindle).	Driving disk	Driving shaft (spindle).
Speed change components	Lever control linked to two-speed gear assembly.	Lever control linked to three-speed cam assembly.	Knob control linked to three-speed gear assembly.
Stroboscope disk	Calibrated for two speeds.	Calibrated for three speeds.	Calibrated for three speeds.
INPUT connector	Two twist-lock male contacts.	Two curved male contacts	Two curved male contacts.
Power cable	Not interchangeable with power cable of RP-104(*)/UIH-2.	Interchangeable with power cable of RP-104A/UIH-2 only.	Interchangeable with power cable of RP-104/UIH-2 only.
Reference symbols:			
SPEAKER connectors		J5 and J6	J5 and J6.
INPUT connector		J3	J3.
Cartridge		PU1	PUI.

(2) Microphone.

Item	M-23/U	M-43/U
Type	Unidirectional	Omnidirectional.
Connector.	2-prong male which requires Special Purpose Cable CX-1207/U.	3-hole female which requires Special Purpose Cable CX-2150/U.

CHAPTER 2

INSTALLATION

3. Unpacking

(fig.1)

a. Packaging and Packing Data. When packaged for shipment, the public address set is packed in a wooden case. The dimensions, volume, and weight of the *MC-364-D* and the AK/UIH-2, when prepared for shipment, are listed separately in the chart below

Equipment	Dimensions (in.)	Volume (cu ft)	Weight (Ib)
MC 364-D	37x22x16	7.5	142
AN/UIH-2	37x22xI6	7. 5	168

6. Unpacking.

(1) Cut the metal straps and remove them from the wooden packing case.

(2) Remove the nails from the wooden cover with a nail puller; remove the wooden cover.

(3) 0pen the case liner, the outer corrugated carton, and the foil barrier and expose the inner corrugated cartons.

(4) Open the inner corrugated cartons and expose the reproducer case and the loudspeaker assembly case.

(5) Remove the wadding and lift out the two cases.

(6) Open both cases and remove dust from the components with a soft, lint-free cloth.

4. Checking Unpacked Equipment

a. Remove the cover from the reproducer and check to see that spare fuses arc in the holder on the back (fig. 1, TM 11-5830-200-10). Unscrew the thumbscrews that secure the access door and be sure the electron tubes are securely mounted in their sockets (fig. 10). Secure the access door and replace the cover on the reproducer

b. Remove both rear covers from the loudspeaker assembly (fig. 12). Check to see that the loudspeaker diaphragms are not torn. Check the cables for frayed ends and kinks. Open the spare parts compartment and the microphone compartment and check the condition of the contents. Close the compartment covers and replace the rear covers.

c. Check the equipment against the packing list. When no packing list accompanies the equipment, the table of components (TM 11-5830--200-10) and/or the packaging data (par. 3) may be used as a general check to indicate the equipment which *probably* has been packed.

d. Check the overall equipment for any loss or damage that might have occurred during shipment. If the equipment has been damaged or is incomplete, refer to the forms and records paragraph in TM 11-5830-200-10.

e. If the equipment has been used or reconditioned, check to see whether it has been changed by a modification work order (MWO). If modified, the MWO number will be marked on the equipment near the nomenclature plate.

5. Siting

a. General. The site where the public address set will be located is governed by the operational situation and by the type of housing facilities available (tents, buildings, etc.). If possible, choose a location where a flat area is available for setting up the equipment. Be sure that an adequate power source is available (115 or 230 volts, *50 to 60* cycles).

b. Reproducer and Microphone. Locate the reproducer where there is enough room for the operator to operate the controls. When the microphone is being used, the microphone user should be easily and clearly seen by the reproducer operator.

c. Loudspeakers. Place the loudspeakers to the right and the left of the reproducer. If the loudspeakers are placed out-of-doom, provide shelter against inclement weather conditions. When the microphone is being used position the loudspeakers (face away from the microphone) to reduce feedback (howling).

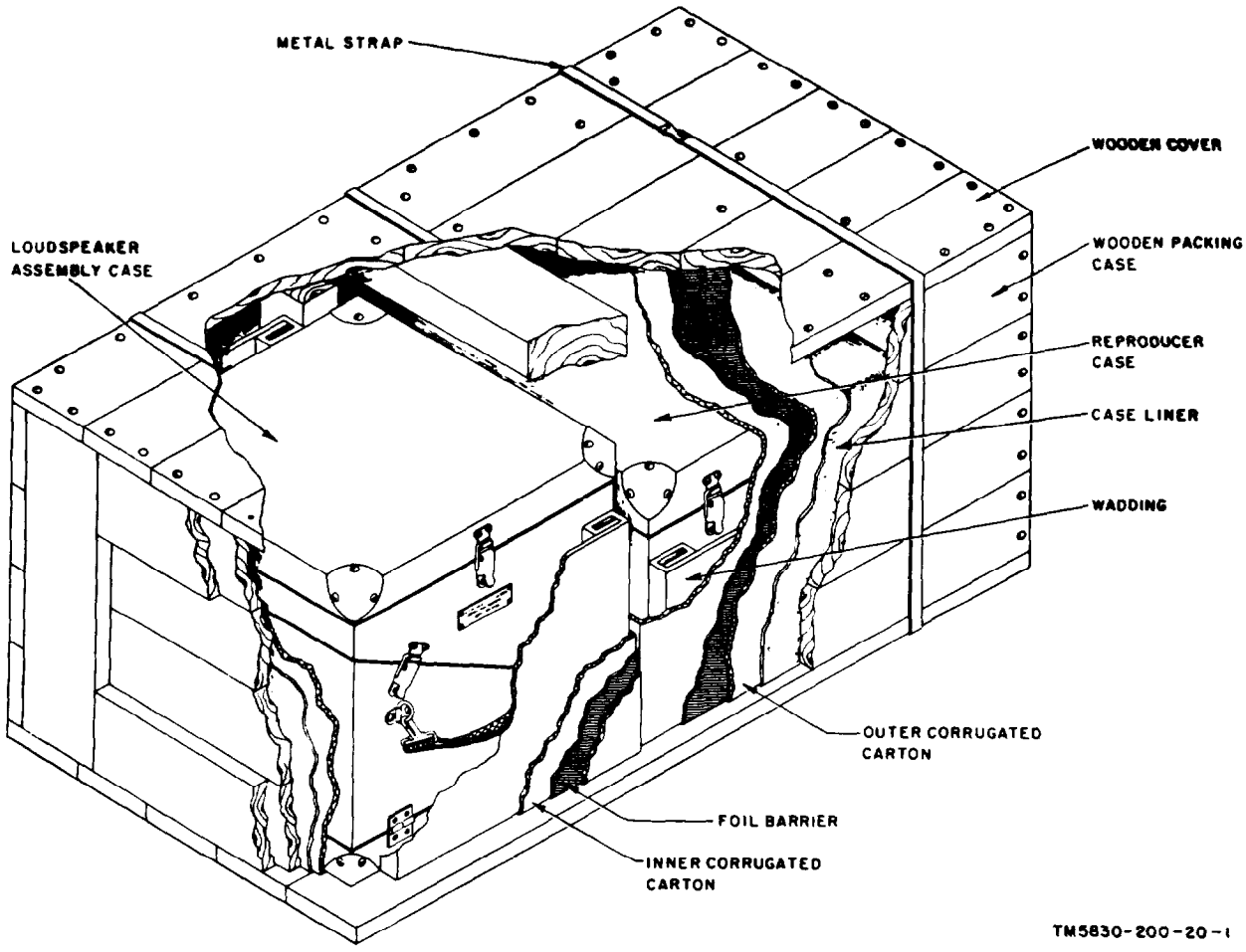


Figure 1. Packaging diagram.

6. Controls and Connectors

In addition to the indicator and controls listed in TM 11-5830-200-10, the following controls and connectors are used by second echelon maintenance personnel.

Note. For location of the controls and connectors, refer to the appropriate illustrations in TM 11-5830-200-10.

Control or connector	Position	Function
Voltage selector switch	115V	Adapts reproducer for 115-volt, 50- to 60-cps operation.
	230V	Adapts reproducer for 230-volt, 50, to 60-cps operation.
MIC connector		Connects input signal from microphone, through microphone cable, to reproducer.
SPEAKER connectors		Connects output signal from reproducer, through loudspeaker cables, to loudspeaker.
INPUT connector		Connects power source, through power cable, to reproducer.
OUTLET connector		Connects power to stroboscope.
Speed regulator:		
MX-932/U		Lever adjustments: Toward F increases turntable speed. Toward S decrease turntable speed.
RP-104/UIH-2		Lever adjustments: Toward F increases turntable speed. Toward S decreases turntable speed.
RP-104A/UIH-2		Rotary adjustment: Toward + increases turntable speed Toward -- decreases turntable speed.

7. Connections

a. General. The public address set can be connected *for* the following types of operation:

(1) Playback ; reproducing recorded information (c below).

(2) Public address; amplifying speech (d below).

(3) Mixer; superimposing speech during playback (e below).

b. Preliminary Setting of *Controls (figs.* 4 through 7, TM 5830-200-10). Before making any circuit connections (c through e below), perform the following to prevent possible damage to the equipment.

(1) Place the motor switch in the OFF position.

(2) Turn the MIC, PHONO, and TONE-POWER OFF controls to their 0 position.

(3) Loosen the thumbscrew on the voltage selector switch lock.

(4) Measure the line voltage and move the voltage selector switch to the position that matches the voltage of the line; tighten the thumbscrew.

(5) Check the turntable motor as follows:

(a) MX-932/U. Loosen both wing nuts until the turntable motor rides free.

(b) RP-104/UIH-2. Loosen the single wing nut until the turntable motor rides free.

(c) RP-104A/UIH-2. Check to see that the turntable motor rides free on the rubber shock mounts.

c. Playback Connections (figs. 2 and 12). Connect the equipment for reproduction of recorded information as follows:

(1) Interconnect the female connector *of* each loudspeaker cable and a SPEAKER connector.

(2) Insert the two male connectors of each loudspeaker cable into the receptacles of a loudspeaker.

(3) Connect the female connector of the power cable to the INPUT connector.

(4) Connect the male connector of the power cable to the power source outlet.

d. Public Address Connections (figs. 2 and 12). To connect' the equipment for amplification of speech, proceed as follows:

(1) Connect the equipment for playback (c above).

(2) Secure one end of the microphone cable (par. *2b(2))* to the MIC connector.

(3) Secure the other end of the microphone cable to the microphone.

e. Mixer Connections. To connect the equipment for mixer operation, follow the procedures in d above.

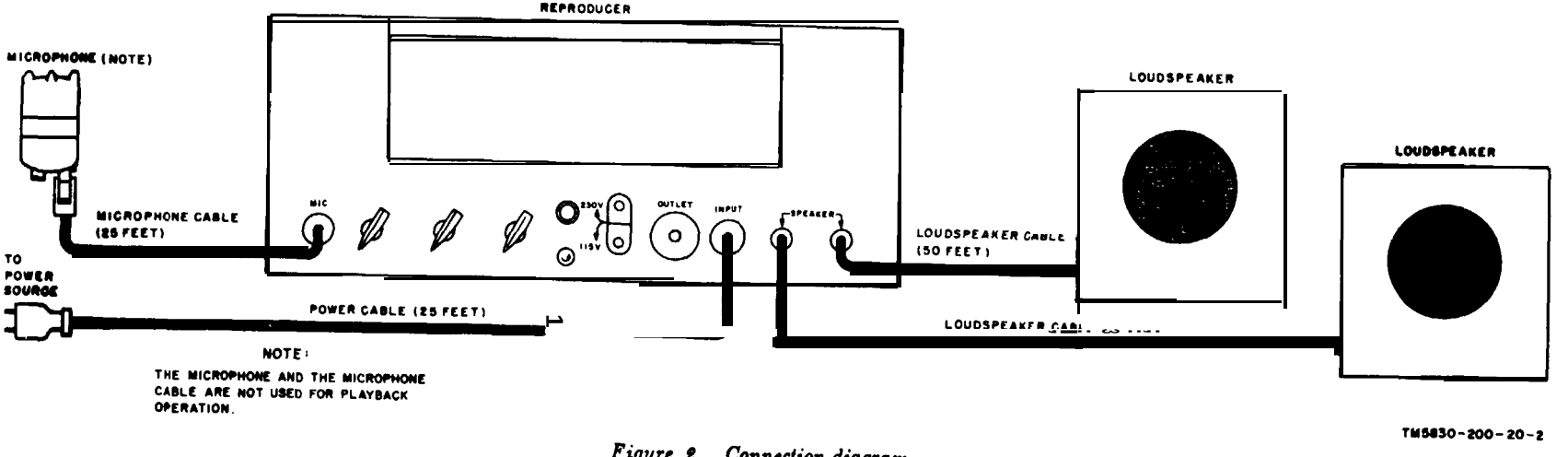


Figure 2. Connection diagram.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I. GENERAL MAINTENANCE

8. Scope of Organizational Maintenance

a. The maintenance duties normally performed by the organizational maintenance man are listed in *b* below. These duties are limited by the available spare parts, tools, materials, and test equipment.

b. Organizational maintenance for the public address set consists of the following:

(1) Replacement of defective fuse or indicator lamp (TM 11-5830-200-10).
(2) Preventive maintenance (par. 10).
(3) Lubrication (par. 11).
(4) Visual inspection (par. 12).
(5) Troubleshooting (par. 13).
(6) Tube testing and replacement (par. 14).
(7) Parts replacement (pars. 15 through 18).
(6) Adjustments (pars. 19 through 22).

9. Tools, Materials, and Test Equipment

Parts normally stocked for organizational maintenance are listed in the organizational repair parts and special tool list for this equipment. The tools, materials, and test equipment required for organizational maintenance are listed below.

a. Tools and Test Equipment.

(1) Tool Equipment TE-41.
(2.) Multimeter TS-297/U.
(3) Electron Tube Test Set TV-7/U.

b. Materials.

(1) Cleaning Compound (Federal stock No. 7930-395-9542).
(2) Cleaning cloth.
(3) Lubricating oil, general purpose, preservative (PL Special).
(4) Lubricating oil, internal combustion engine (OE-10).

10. Preventive Maintenance

***a.* Use of *DA Form* 11-238.** DA Form 11-238 (figs. 3 and 4) is a preventive maintenance check list to be used by the organizational maintenance man. Items not applicable to the equipment are lined out in the figures. References in the ITEM block in the figure are to paragraph that contain additional maintenance information pertinent to the particular item. Instructions for the use of the form appear on the form. Additional preventive maintenance information concerning items 1 through 7 and 9 through 11 on DA Form 11-238 will be found in the preventive maintenance portion of TM 11-5830-200-10.

b. Items. The following information is supplementary to DA Form 11-238. The item numbers correspond to the ITEM numbers on the form.

Item	Maintenance procedures
10	Check the condition of the cable in the pickup *arm.* Check the condition of the connectors on the strobscope, power cable, and motor cable.
15	Check the seating of the stylus and the cartridge. On the RP-104(*)/UIH-2, the cartridge should turn easily when the stylus selector lever is turned. Check the seating of the electron tubes.
22	Inspect the turntable motor for signs of overheating; lubricate as necessary (par. 11).

11. Lubrication

***Caution:* When lubricating the equipment, be sure that no oil or grease collects on the surface of the equipment or on any adjacent components-Oil will cause the rubber shock mounts to deteriorate and will also cause dust to collect.**

a. General.

(1) *Cleaning.* Clean all parts to be lubricated with a lint-free cloth or a stiff bristled brush slightly moistened with Cleaning Compound.

***Warning:* Cleaning Compound is flammable and its fumes are toick. Provide adequate ventilation; do not use near flame.**

(2) *Lubricating.* Do not lubricate excessively. Lubrication points that are dif-

ADDITIONAL ITEMS FOR 20 AND 30 ECHELON INSPECTIONS	CONDITION
26. [redacted]	
27. CHECK FOR NORMAL OPERATION.	X
28. [redacted]	

IF DEFICIENCIES NOTED ARE NOT CORRECTED DURING THE INSPECTION, INDICATE ACTION TAKEN FOR CORRECTION.

ITEMS 4, 22, AND 27. POWER TRANSFORMER LEAKS. REPORTED TO HIGHER ECHELON FOR REPLACEMENT.

4

FOLD

MAINTENANCE CHECK LIST FOR SIGNAL EQUIPMENT
SOUND EQUIPMENT, RADIO, DIRECTION FINDING
RADAR, CARRIER, RADIOSONDE AND TELEVISION
(AR 750-625)

EQUIPMENT NOMENCLATURE

PUBLIC ADDRESS SET AN/UIH-2

EQUIPMENT SERIAL NUMBER

1378

INSTRUCTIONS

This form may be used for a period of one month by using the correct dates and weeks of the month. It is to be used as a Preventive Maintenance check list for Signal equipment in actual use, or for a check on equipment prior to issue.

1. For detailed Preventive Maintenance instructions see:
   a. The Technical Manual *(in TM 11 series)* for the equipment. *(See DA Pamphlet Number 310-4)*
   b. The Supply Bulletin *(SB 11-100 series)* for the equipment. *(See DA Pamphlet Number 310-4)*
   c. The Department of the Army Lubrication Order. *(See DA Pamphlet Number 310-4)*

2. The following action will be taken by either the Communications Officer/ Chief for 1st echelon, or the Inspector for higher echelon:
   a. Enter Equipment Nomenclature and Serial Number.
   b. Strike out items that do not apply to the equipment.

3. Operator/Inspector will enter in the columns entitled CONDITION, on the proper line, a notation regarding the condition, using symbols specified under LEGEND.

4. After operator completes each daily inspection he will initial over the appropriate dates under "Daily Condition for Month", then return form to his supervisor.

TYPE OF INSPECTION

OPERATOR	2/3 ECHELON	DATE	SIGNATURE
	✓	30 APR '58	N. Raymond

DA FORM 1 MAY 57 11-238

REPLACES DA FORMS 11-238, 1 NOV 55; 11-239, 11-244, 11-245, 11-246, 11-249, 11-250, AND 11-251, WHICH ARE OBSOLETE.

TM5830-200-20-3

Figure 3. DA Form 11-238, pages 1 and 4.

LEGEND for marking conditions:
Satisfactory, ✓.
Adjustment, Repair or Replacement required, X.
Defect corrected, (X).

DAILY CONDITION FOR MONTH OF APRIL 1958

NO.	DAILY ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2D 3D ECHELON
1.	COMPLETENESS AND GENERAL CONDITION OF EQUIPMENT [illegible] carrying cases, [illegible] cables, microphones, tubes, spare parts, technical manuals).																																✓
2.	CLEAN DIRT AND MOISTURE FROM [illegible], MICROPHONES, [illegible] COMPONENT PANELS.																																✓
3.	INSPECT CONTROLS FOR NORMAL OPERATION. TAP CONTROLS LIGHTLY FOR EVIDENCE OF CUT-OUT FROM LOOSE CONTACTS.																																(X)
4.	CHECK FOR NORMAL OPERATION OF EQUIPMENT. BE ALERT FOR UNUSUAL OPERATION OR CONDITION.																																X

WEEKLY	CONDITION EACH WEEK 1ST	2D	3D	4TH	5TH	2D 3D ECH
5. CLEAN [illegible] EXTERIORS OF CASES. [illegible]						✓
6. INSPECT [illegible] EXPOSED METAL SURFACES FOR RUST, CORROSION.						✓
7. INSPECT [illegible], CABLE, [illegible] FOR CUTS, KINKS, BREAKS, FRAYING, UNDUE STRAIN.						✓
8. [illegible]						
9. INSPECT CANVAS [illegible] ITEMS FOR MILDEW, TEARS, FRAYING.						✓
10. INSPECT ACCESSIBLE ITEMS FOR LOOSENESS: SWITCHES, KNOBS, [illegible] CONNECTORS, [illegible], MOTORS, PILOT LIGHTS, [illegible], ETC. PAR.10b						✓
11. CLEAN AND/OR INSPECT AIR FILTERS, BRASS NAME PLATES, [illegible].						✓
12. [illegible]						

ADDITIONAL ITEMS FOR 2D AND 3D ECHELON INSPECTIONS	CONDITION
13. [illegible]	
14. [illegible]	

ADDITIONAL ITEMS FOR 2D AND 3D ECHELON INSPECTIONS	CONDITION
15. INSPECT SEATING OF READILY ACCESSIBLE PLUCK-OUT ITEMS: TUBES, LAMPS, FUSES, [illegible] CONNECTORS. [illegible] PAR.10b	✓
16. [illegible]	
17. [illegible]	
18. INSPECT RESISTORS, BUSHINGS AND INSULATORS FOR CRACKS, CHIPPING, BLISTERING, MOISTURE, DISCOLORATION.	✓
19. CLEAN AND TIGHTEN SWITCHES, [illegible] AND INTERIORS OF CHASSIS AND CABINETS NOT READILY ACCESSIBLE.	✓
20. [illegible]	
21. INSPECT TERMINALS OF LARGE FIXED CAPACITORS AND RESISTORS FOR DIRT, CORROSION, LOOSE CONTACTS.	✓
22. INSPECT TRANSFORMERS, CHOKES, POTENTIOMETERS AND RHEOSTATS FOR OVERHEATING AND OIL LEAKAGE. PAR.10b	X
23. [illegible]	
24. [illegible]	
25. [illegible]	

CONTINUED ON PAGE 4

2 3

TM5830-200-20-4

Figure 4. DA Form 11-238, pages 2 and 3.

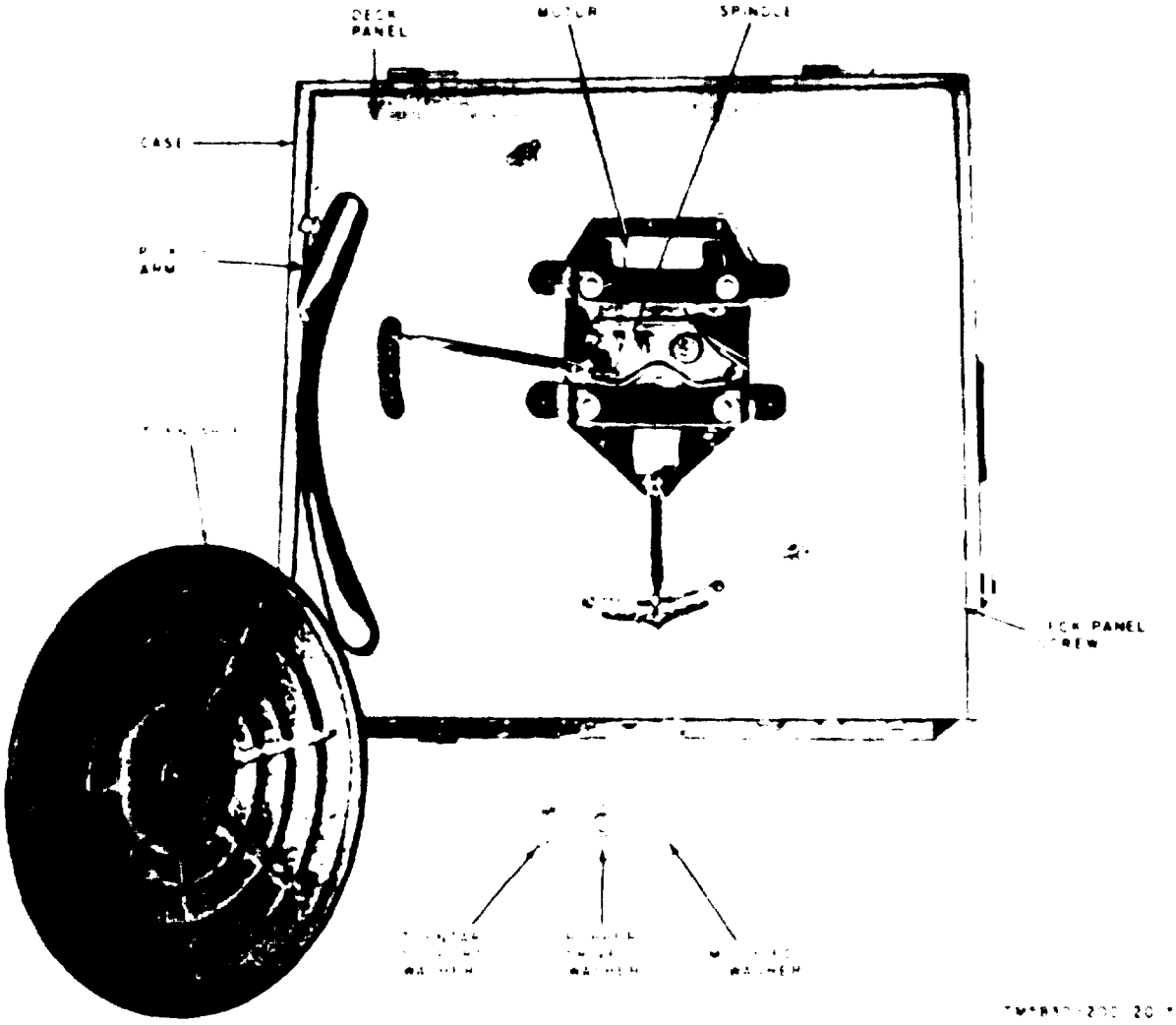


Figure 5. MX-932lU, top view, turntable removed.

ficult to reach may be lubricated with the aid of a small bare wire or toothpick.

(3) *Intervals.* Lubricate the equipment once a month. A month interval consists of 30 days of S-hour operation. If the equipment is operated more than 8 hours a day, the lubrication intervals will have to be adjusted to prevent excessive wear. For example, if the equipment is operated 16 hours a day instead of 8, the turntable motor will have to be lubricated every 15 days instead of every month. In very hot weather or under dusty atmospheric conditions, the equipment will require more frequent lubrication.

b. Lubrication of *MX-932/U.* To lubricate the MX-932/U. proceed as follows:

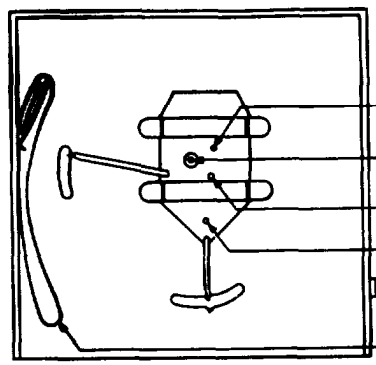
(1) Remove the modified C-washer (fig. 5) from the turntable shaft (spindle) and remove the turntable.

(2) Remove the rubber drive washer and the turntable support washer from the spindle.

(3) Remove the deck panel screws and lift the front of the deck panel from the case.

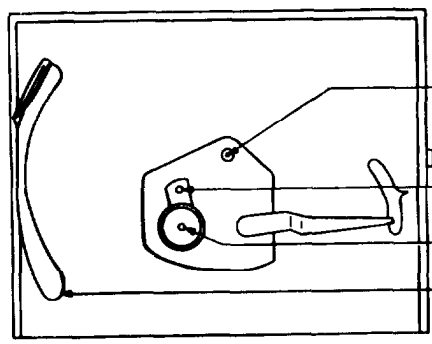
(4) Disconnect the pickup arm cable and the motor cable from the chassis.

(5) Apply 2 or 3 drops of oil (PL Special) to the base of the spindle, pivot bearings, gear case, and governor (A, fig. 6).



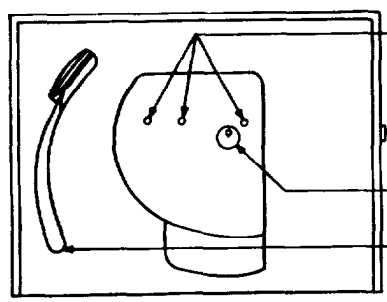
INTERVAL	LUBRICANT	
M	PL	GEAR CASE. APPLY 1 OR 2 DROPS.
M	PL	SPINDLE. APPLY 1 OR 2 DROPS.
M	PL	GEAR CASE. APPLY 1 OR 2 DROPS.
M	PL	GOVERNOR. APPLY 1 OR 2 DROPS.
M	OE-10	FASTENERS, HINGES, AND LATCHES. APPLY 1 DROP TO EACH.
M	PL	PIVOT BEARINGS. APPLY 1 OR 2 DROPS.

A. MX-932/U



INTERVAL	LUBRICANT	
M	PL	SPINDLE. APPLY 1 OR 2 DROPS.
M	OE-10	FASTENERS, HINGES, AND LATCHES. APPLY 1 DROP TO EACH.
M	PL	IDLER SLIDE ASSEMBLY. APPLY 1 OR 2 DROPS.
M	PL	DRIVE WHEEL. APPLY 1 OR 2 DROPS.
M	PL	PIVOT BEARINGS. APPLY 1 OR 2 DROPS.

B. RP-104/UIH-2



INTERVAL	LUBRICANT	
M	PL	MOTOR. APPLY 1 OR 2 DROPS TO EACH HOLE.
M	OE-10	FASTENERS, HINGES, AND LATCHES. APPLY 1 DROP TO EACH.
M	PL	FELT PAD (AT BASE OF SPINDLE). APPLY 1 OR 2 DROPS.
M	PL	PIVOT BEARINGS. APPLY 1 OR 2 DROPS.

C. RP-104A/UIH-2

LUBRICANTS	INTERVAL
PL - LUBRICATING OIL, GENERAL PURPOSE, PRESERVATIVE	M - MONTHLY
OE-10 - LUBRICATING OIL, INTERNAL COMBUSTION ENGINE	

TM5830-200-20-10

Figure *8. Lubrication of MX-932/U and RP-104(*)/UIH-2.*

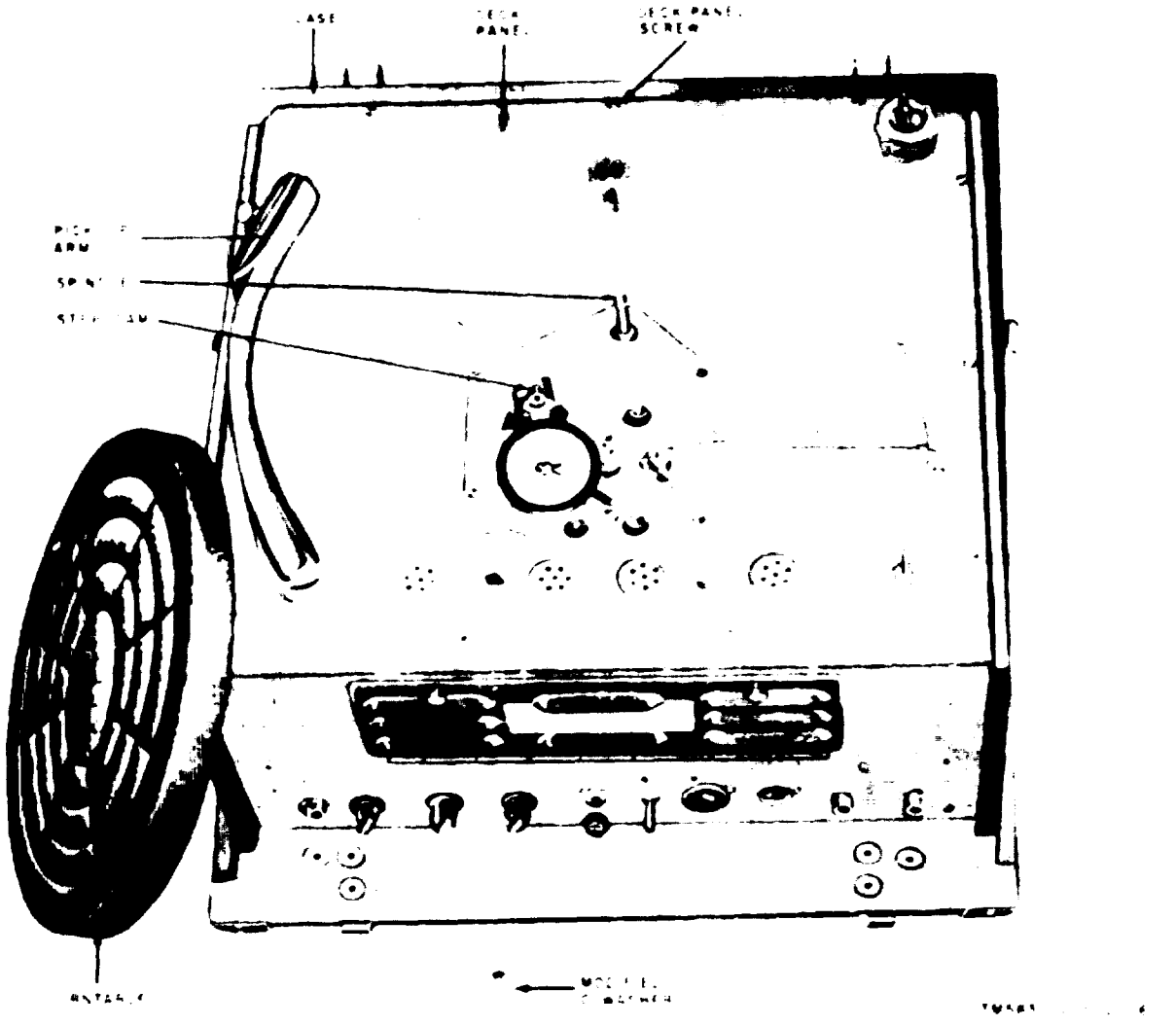


Figure *7. RP-104IUIH-2, top view, turntable removed.*

(6) Apply 1 drop of oil (OE-10) to the fasteners, hinges, and latches.

(7) Remove any excess oil with a lint-free cloth slightly moistened with Cleaning Compound; dry thoroughly.

(8) Replace the deck panel (fig. 5) on the case, connect the pickup arm cable and the motor cable to their respective receptacles, and secure the deck panel in place with the deck panel screws.

(9) Replace the turntable support washer, the rubber drive washer, and the turntable on the spindle; secure with the modified C-washer.

c. Lubrication of RP-104(*)/UIH-2. To lubricate the RP-104(*)/UIH-2, proceed as follows:

(1) Follow the procedures in *b(1)* and (3) above (fig. 7 or 8).

(2) Apply 1 or 2 drops of oil (PL Special) to the base of the spindle (B. fig. 6), pivot bearings and :

(a) The center of the drive wheel and the idler slide assembly on the RP-l04/ UIH-2 (B, fig. 6).

(b) The felt pad and the motor on the RP-104A/UIH-2 (C, fig. 6).

(3) Follow the procedures in b(6) through (8) above.

(4) Replace the turntable and secure with the modified C-washer.

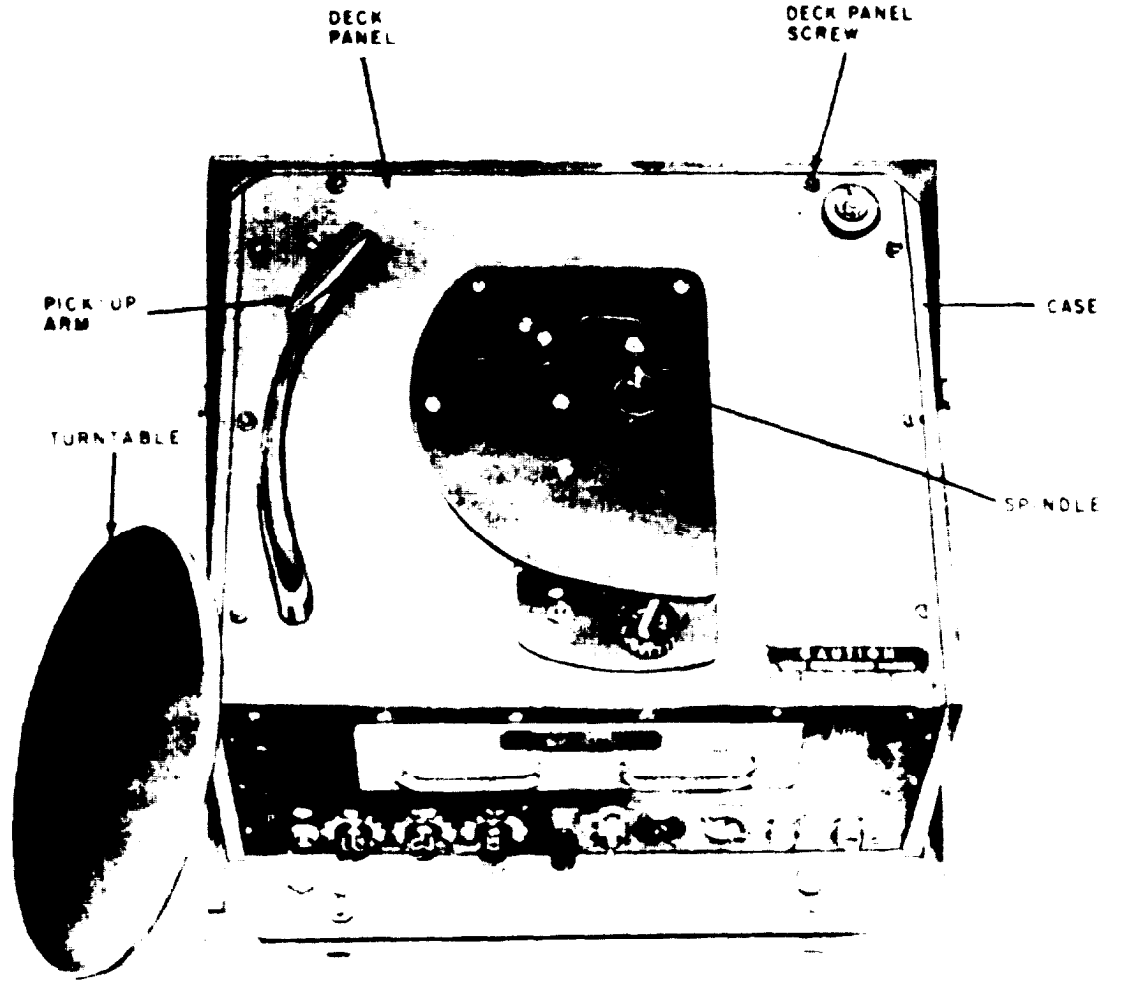


Figure 8. RP-104A/UIH-2, top view, *turntable removed.*

Section II. TROUBLESHOOTING

12. Visual Inspection

Before operating the equipment, inspect the following for obvious defects:

a. Panel and chassis components.

b. The seating of all connectors.

c. The electron tubes when power is applied to the equipment . They should light.

d. The condition of the pickup arm and the cartridge.

13. Troubleshooting Check List

The following chart is furnished to help locate trouble in the public address set. Only those corrective measures which the organizational maintenance man can accomplish are given. If the measure suggested does not restore normal equipment performance, troubleshooting is required at field maintenance level. Note on the repair tag what corrective measures were taken.

a. General. Before using the troubleshooting check list, examine the repair tag to determine whether the trouble has been noted. If the trouble has not been noted on the repair tag, perform the procedures outlined in the equipment performance check list (TM 11-5083-200-10).

b. Check List. In performing the checks outlined below, refer to figures 5 through 12 and to applicable illustrations in TM 11-5083-200-10.

Item No.	Symptom	Probable cause	Corrective measures
1	POWER indicator does not light when power is applied to equipment.	Defective power cable.....	Repair or replace power cable.
		Defective INPUT connector.....	Replace INPUT connector (fig. 9), P3 on MX-932/U or J3 on RP-104(*)/-UIH-2.
		Defective OUTLET connector J4..	Replace OUTLET connector J4 (fig. 9).
		Defective TONE-POWER OFF control.	Turn in equipment for higher echelon repair.
		Defective voltage selector switch....	Turn in equipment for higher echelon repair.
2	No output from either loudspeaker when thumb is rubbed across stylus.	Defective tube or tubes.....	Check tubes V1 through V5 (par. 14) and replace as necessary.
		Defective SPEAKER connectors.....	Replace SPEAKER connectors (fig. 9), P5 and P6 on MX-932/U or J5 and J6 on RP-104(*)/UIH-2.
		One or both loudspeakers defective.	Repair slight tears or replace defective loudspeaker (par. 18).
		Defective cartridge.....	Replace cartridge (par. 16 or 17).
		Defective pickup arm cable.....	Turn in equipment for higher echelon repair.
		Defective PHONO control.....	Turn in equipment for higher echelon repair.
3	Quality of reproduction unsatisfactory.	Low line voltage.....	Check power line voltage and remove any excessive load.
		Turntable speed out of adjustment.	Adjust turntable speed (para. 20, 21, or 22).
		One or both loudspeakers defective.	Repair slight tears or replace defective loudspeaker (par. 18).
		Defective speed change control.....	Turn in equipment for higher echelon repair.
		Defective TONE-POWER OFF control.	Turn in equipment for higher echelon repair.
4	Pickup arm does not move easily.	Defective pickup arm.....	Repair or replace pickup arm (par. 16 or 17).
		Insufficient lubrication.....	Lubricate pickup arm (par. 11).
5	No output from loudspeakers when microphone is used.	Defective microphone cable.....	Repair or replace microphone cable.
		Defective MIC connector J2-.....	Replace MIC connector J2 (fig. 9).
		Defective microphone.....	Replace microphone.
		Defective tube or tubes.....	Check tubes V1 through V5 (par. 14) and replace as necessary.
		Defective SPEAKER connectors....	Replace defective SPEAKER connectors (fig. 9), P5 and P6 on MX-932/U or J5 and J6 on RP-104(*)/UIH-2.
		One or both loudspeakers defective.	Repair or replace defective loudspeaker (par. 18).
		Defective MIC control.....	Turn in equipment for higher echelon repair.
		Defective audio input transformer T1.	Turn in equipment for higher echelon repair.
6	Howling heard from loudspeakers.	Tube V1 defective.....	Check tube V1 (par. 14) and replace, if necessary.
		Defective MIC control.....	Turn in equipment for higher echelon repair.
		Defective TONEPOWER OFF control.	Turn in equipment for higher echelon repair

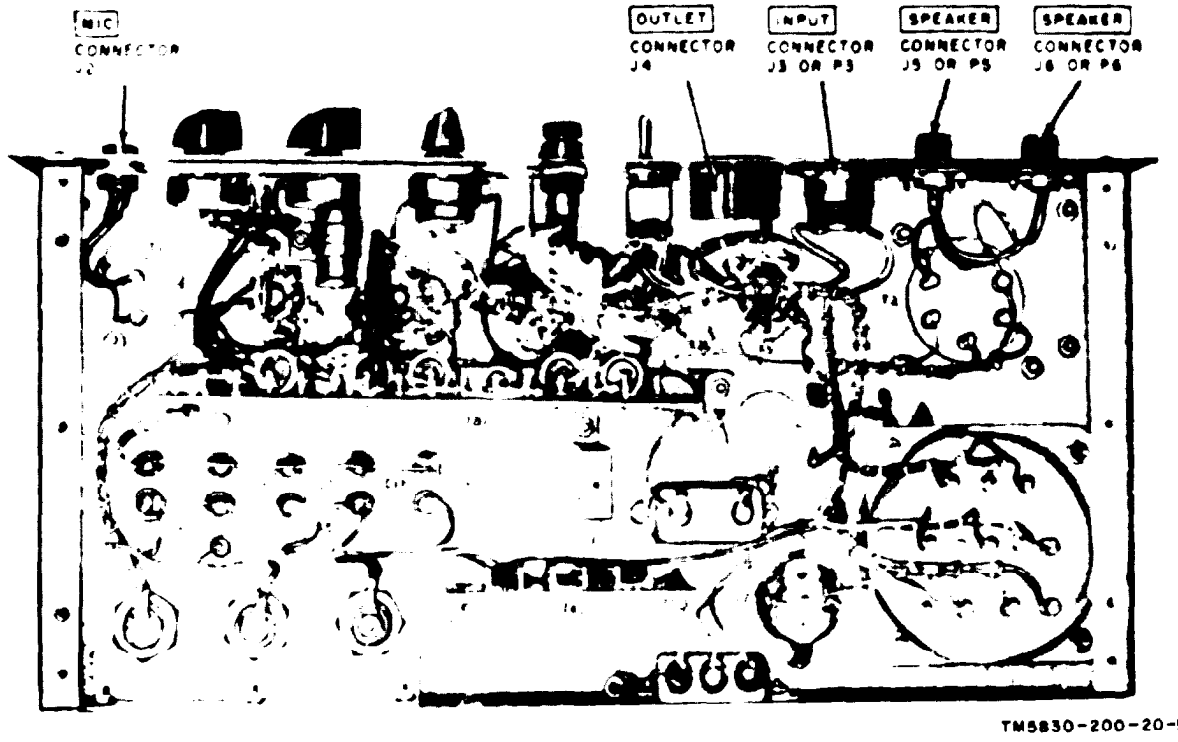


Figure 9. Reproducer, bottom view, showing location of connectors.

14. Tube Testing and Replacement

(fig. 10)

Warning: Do not touch the tubes immediately after shutdown. Severe burns may result from contact with the envelopes of hot tubes.

a. *Tube Testing Techniques.* When trouble occurs, check all cabling, connectors, and the FUSE before removing any tubes. If tube failure is suspected, use the applicable procedure below to check the tubes.

Caution: **Never rock or rotate a tube when removing it from a socket; pull it straight out.**

(1) *Using tube tester.* Remove and test one tube at a time. Discard a tube only if its defect is obvious, or if the tube tester shows it to be defective. Do not discard a tube that tests at or slightly below its minimum test limit. Replace the original tube or install a new one if required, before testing the next one.

(2) *Tube substitution method.* Replace a suspected tube with a new tube. If this does not correct the trouble, remove the new tube and replace the original tube. Repeat this procedure with each suspected tube until the defective tube is located.

b. Preferred-Type Tubes. A preferred-type electron tube, type 5Y3WGTA, has been developed as a direct replacement for nonpreferred type 5Y3GT. The 5Y3 type tube is used in the power supply. When replacement of a 5Y3 type tube is necessary, replace it with a 5Y3WGTA. Do not substitute a 5Y3GT for a 5Y3WGTA.

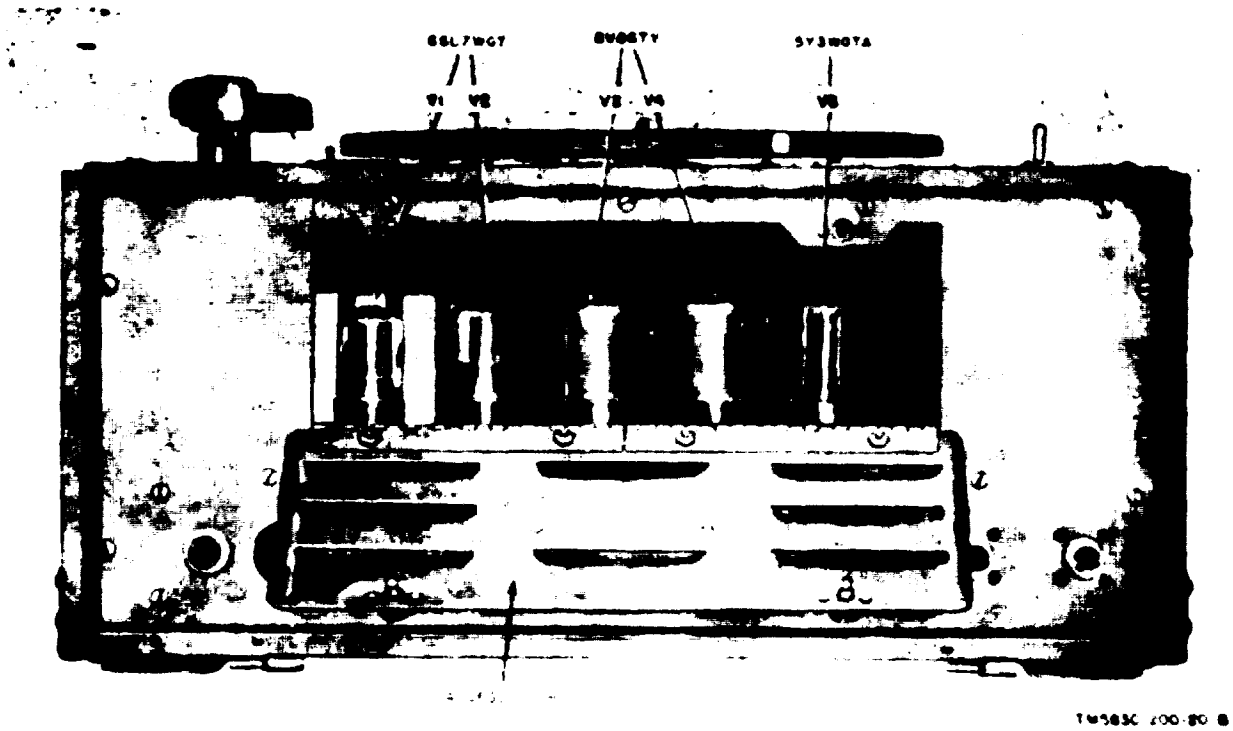


Figure 10. Location of tubes.

Section III. PARTS REPLACEMENT

15. Parts Replacement Techniques

a. When repair or replacement is necessary, follow the sequence of instructions given until the defective part, is reached. Do not attempt to replace parts until they are completely accessible. The order of disassembly may be varied if necessary.

b. During disassembly, group the parts to avoid confusion during reassembly. To facilitate reassembly, loosely replace screws and minor parts on, or in, the unit to which they belong.

16. Disassembly and Reassembly of Pickup Arm, MX-932/U

(A, fig. 11)

a. Disassembly.

(1) Raise the pickup arm (5) to the vertical position.

(2) Remove the screws (8) that secure the cartridge (7) in place.

(3) Loosen the set screw (10) and remove the stylus (9).

(4) Unsolder the clips (6) from the terminals of the cartridge (7).

Caution: **Be extremely careful when unsoldering the clips. Too much heat will damage the cartridge.**

(5) Remove the deck panel from the case (par. 11b(3)).

(6) Unscrew the hexagonal nut (2, fig. 11) and remove the star washer (3) and the pivot bearing (4). The pickup arm (5) will now be free of the deck panel (not shown).

(7) Gently pull the pickup arm cable (11) out of the pickup arm (5).

b. Cleaning and Inspection.

(1) Clean all metal components, except the stylus, with a clean lint free cloth slightly moistened with Cleaning Compound; dry thoroughly.

(2) Check the pickup arm (5), the cartridge (7), and the stylus (9); replace as necessary.

(3) Check the pickup arm cable connector (1) and cable (11); if the connector or cable is defective, higher echelon repair is required.

(4) Before reassembly, lubricate (par. 11b(4) and (6)) the pivot bearing (4, fig. 11).

c. Reassembly.

(1) Insert the pickup arm cable (11) through the threaded shaft and gently pull until it reaches the head of the pickup arm (5).

(2) Solder the clips (6) to the terminals of the cartridge (7).

Caution: **Be extremely careful when soldering the clips to the terminals, Too much heat will damage the cartridge.**

(3) Insert the stylus (9) in the cartridge (7) and tighten the set screw (10).

(4) Place the cartridge (7) in the pickup arm (5) and secure it with the screws (8).

(5) Gently pull out any slack that may remain in the pickup arm cable (11).

(6) Replace the pickup arm (5) in the deck panel (not shown).

(7) Slide the pivot bearing (4) and the star washer (3) onto the threaded shaft and secure the entire unit to the deck panel with the hexagonal nut (2).

(8) Secure the pickup arm in the arm rest (not shown). (9) Replace the deck panel on the case (par. 11b(7)).

17. Disassembly and Reassembly of Pickup Arm, RP-104(*)-UIH-2

(B, fig. 11)

a. Disassembly.

(1) Raise the pickup arm (5) to the vertical position.

(2) Remove the stylus shield (18) and the styluses (not shown) from the cartridge (17).

(3) Remove the clips (6) from the terminals of the cartridge (17).

(4) Loosen the set screws (12) and remove the stylus selector lever (13).

Note. Check and note the position and color code of the cartridge (17) with respect to the stylus selector lever (13). The gold dot indicates the standard groove side (78 revolutions per minute (rpm)) and the red dot the microgroove side (331/3 and 45 rpm).

(5) Pull the shank of the cartridge (17) out of the hole in the mounting bracket (15).

(6) Remove the screws (14); the mounting bracket (15) and the washers (16) will be free.

(7) Gently pull the pickup arm cable (11) out of the pickup (5).

b. Cleaning and Inspection.

(1) Clean all metal components, except the styluses, with a clean lint-free cloth slightly moistened with Cleaning Compound; dry thoroughly.

(2) Check the pickup arm (5), the cartridge (17), and the styluses (not shown) ; replace as necessary.

(3) Check the pickup arm cable connector (1) and cable (11) ; if the connector or cable is defective, higher echelon repair is required.

(4) Before reassembly, lubricate (par. 11b(4) and (6)) the pivot bearing (4, fig. 11).

c. Reassembly.

(1) Insert the pickup arm cable (11) through the threaded shaft and gently pull until it reaches the head of the pickup arm (5).

(2) Replace the washers (16) and the mounting bracket (15) in the pickup arm (5) and secure them with the screws (14).

(3) Insert the shank of the cartridge (17) into the hole in the mounting bracket (15).

Note. Be sure that the retainer spring on the mounting bracket engages the tine on the cartridge (17).

(4) Replace the stylus selector lever (13) and tighten the set screw (12). Be sure that the lever is in the same position as in a (4) above.

(5) Slide the clips (6) onto the terminals of the cartridge (7). If necessary, gently crimp the clips to secure them to the terminals.

(6) Replace the styluses (not shown) in the cartridge (17) and replace the stylus shield (18).

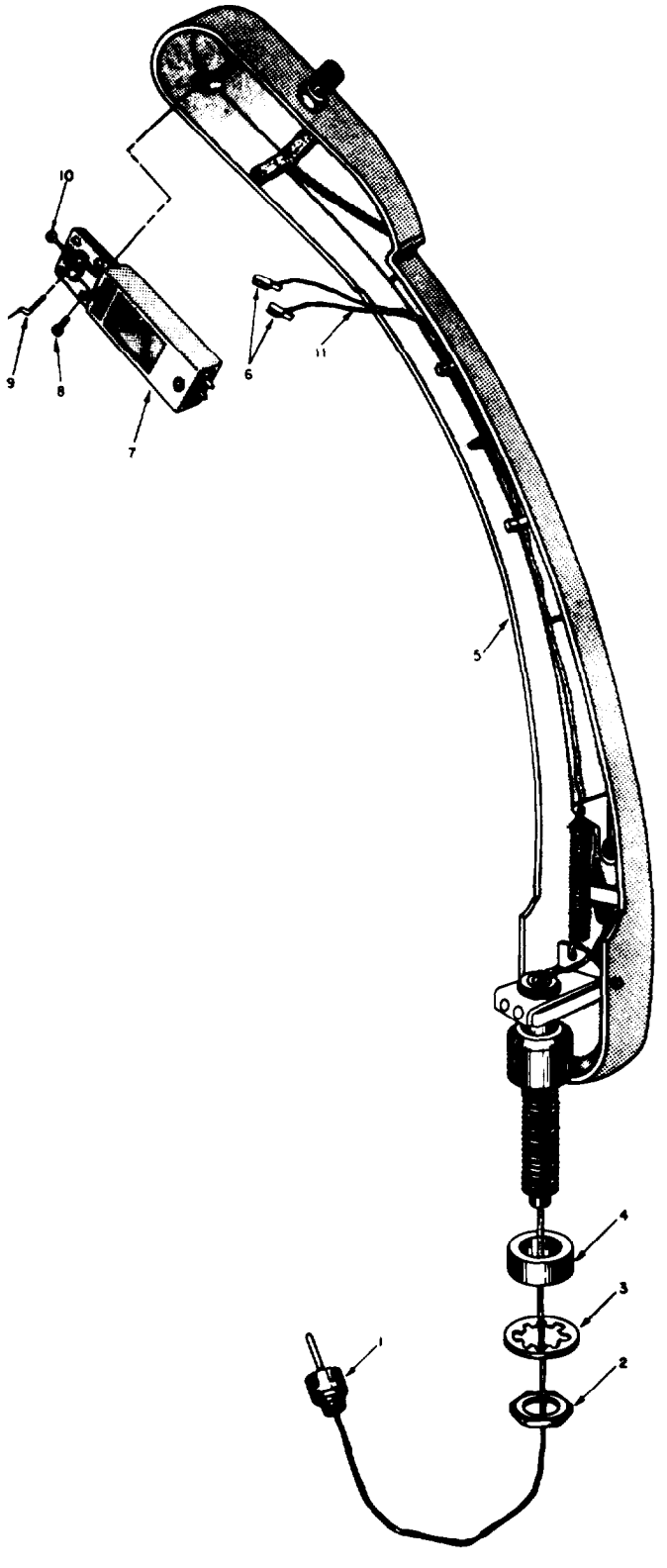
(7) Follow the procedures in paragraph 16a(5) through (8).

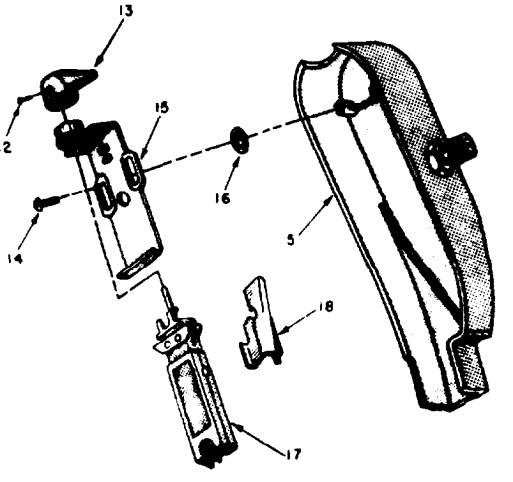
18. Loudspeaker Assembly Repairs (fig. 12)

Replace the loudspeaker cover or the loudspeaker as follows:

a. Remove the rear cover from the cabinet. Disconnect the loudspeaker cables from the loudspeakers.

b. Remove the screws, washers, and nuts that





B. PICK-UP ARM AND SOUND REPRODUCER CARTRIDGE OF RP-104(*)/UIH-2.

NOTE:
EXCEPT FOR DIFFERENCES IN THE HEAD, THE PICK-UP ARMS OF MX-932/U AND RP-104(*)/UIH-2 ARE IDENTICAL.

Figure 11. Pickup arm, expolded view.

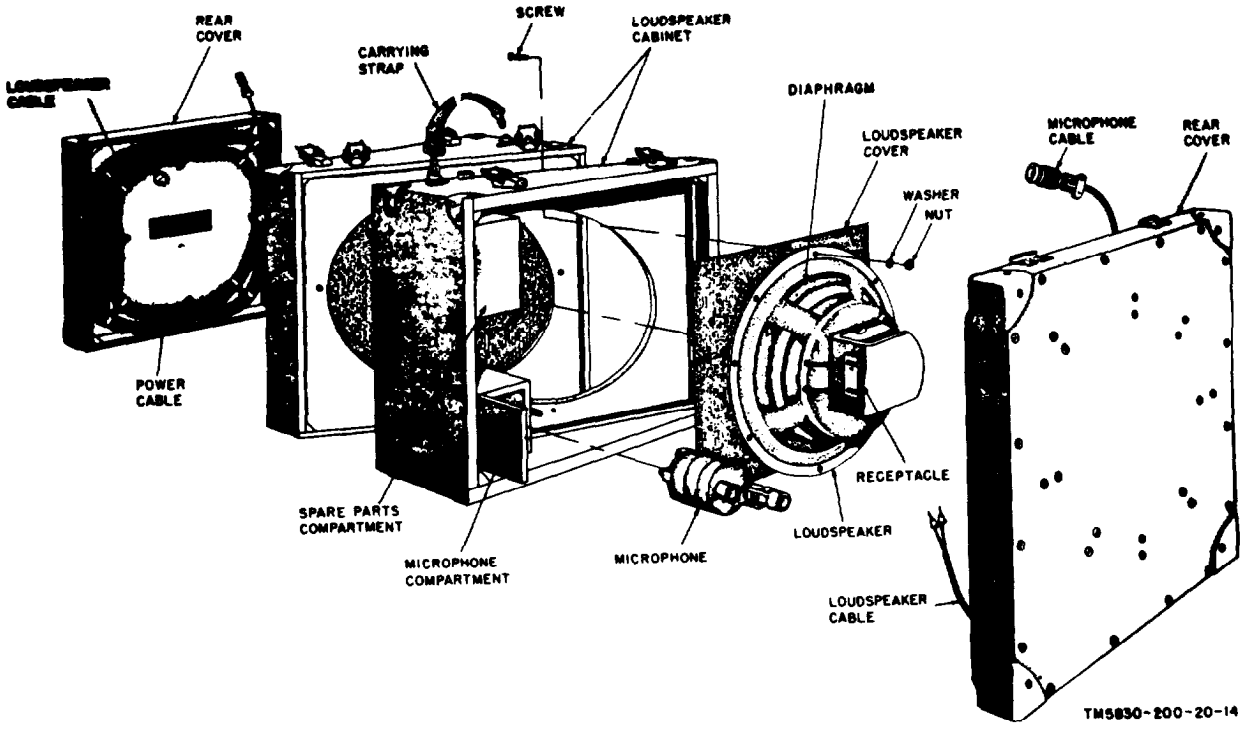


Figure 12. Loudspeaker assembly, exploded view.

secure the loudspeaker cover and the loudspeaker in place.

c. Carefully remove dust and dirt from the surfaces *of* the exposed items.

d. Check the loudspeaker cover and the diaphragm for breaks or tears.

(1) Replace the loudspeaker if the diaphragm is torn.

(2) Replace the loudspeaker cover if it is torn or broken.

e. Place the loudspeaker cover and the loudspeaker in the cabinet and secure them in place with the screws, washers, and nuts.

f. Replace the rear cover on the loudspeaker cabinet.

---

1. Pickup arm cable connector (P1).
2. Hexagonal nut.
3. Star washer.
4. Pivot bearing (part of pickup arm)
5. Pickup arm (O27).
6. Clips.
7. Cartridge (MX-932/U) (E1).
8. Screws.
9. Stylus.
10. Set screw.
11. Pickup arm cable.
12. Set screw.
13. Stylus selector lever.
14. Screw.
15. Mounting bracket.
16. Washer.
17. Cartridge (RP-104(*)/UIH-2) (PU1).
18. STYLUS SHIELD.

Figure. 11-Continued.

Section IV. TURNTABLE SPEED ADJUSTMENTS

19. General

a. The speed of the reproducer turntable can be adjusted with the turntable operating at-

(1) 78 rpm (par. 20).
(2) 45 rpm (par. 21).
(3) 33 1/3 rpm (par. 22).

b. To adjust properly the turntable speed at any rpm, it is necessary to know the frequency of the input power. When the frequency is precisely 50 cycles per second (cps) or 60 cps, the stroboscope assembly is used as the adjustment guide. When the frequency is between 50 and 60 cps, the applicable procedure in paragraph *20b, 21b,* or *22b* must be used as the adjustment guide.

Note. Commercial power frequency is usually 50 or 60 cps, ±0.4 cps. If a military generator power source is being used, check the frequency meter on the generator to determine the output frequency.

20. Adjusting 78 Rpm Speed

When the input frequency is precisely 50 or 60 cps, follow the adjustment procedure in a below. When the input frequency is between *50* and 60 cps, follow the adjustment procedure in *b* below.

a. Input Frequency 50 or 60 Cps.

(1) Note the location of the appropriate ring (78.92 rpm at 50 cps, 78.28 rpm at 60 cps) on the stroboscope disk (fig. 13) and plow the disk on the turntable.
(2) Connect the cable of the stroboscope to the OUTLET connector on the reproducer.
(3) Turn the TONE-POWER OFF control clockwise.
(4) Place the motor switch in the ON position.
(5) Move the speed change lever to the 78-rpm position.
(6) Hold the tamp of the stroboscope over the selected ring ((1) above) and observe the pattern of the ring.

Note. If the turntable speed is too fast or too slow, the pattern of the ring will appear to move.

(7) If the pattern of the ring appears to move, adjust the speed regulator until the pattern appears stationary.
(8) Place the motor switch in the OFF position and turn the TONE-POWER OFF control to o.
(9) Remove the stroboscope disk from the turntable and disconnect the stroboscope cable.

b. Input Frequency Between 50 and 60 Cps.

(1) Make an index mark on the rim of the turntable.
(2) Turn the TONE-POWER OFF control clockwise and place the motor switch in the ON position.
(3) Move the speed change control to the 78-rpm position.
(4) Use a stop watch (or a watch with a second hand), and count the number of turntable revolutions for a time interval of 10 seconds.
(5) If the number of revolutions for the 10-second interval is less than 13, use the speed regulator to increase the turntable speed.
(6) If the number of revolutions for the 10-second interval is more than 13, use the speed regulator to decrease the turntable speed.

Note. It may be necessary to repeat the procedures in (4) through (6) above a number of times before accurate adjustment is obtained.

21. Adjusting 45-rpm Speed (RP-104(*)/UIH-2)

When the input frequency is precisely 50 or 60 cps, follow the adjustment procedure in a below. When the input frequency is between 50 and 60 cps, follow the adjustment procedure in *b* below.

a. Input Frequency 50 or 60 Cps.

(1) Note the location of the appropriate ring (45.45 rpm at 50 cps, 45 rpm at 60 cps) on the stroboscope disk (fig. 13) and place the disk on the turntable.
(2) Set up the equipment (par. 20a(2) through (4)).
(3) Move the speed change lever to the 45-rpm position.
(4) Adjust the reproducer speed (par. 20a(6) through (9)).

b. Input Frequency Between 50 and 60 Cps.

(1) Set up the equipment (par. *20b(1)* and (2)).
(2) Move the speed change control to the 45-rpm position.
(3) Adjust the reproducer speed (par. *20b(4)* through (7)) by using a time interval of 12 seconds for 9 revolutions.

22. Adjusting 33 1/3rpm Speed

When the input frequency is precisely 50 or 60 cps, follow the adjustment procedure in a below. When the input frequency is between 50 and 60 cps, follow the adjustment procedure in *b* below.

a. Input Frequency 50 *or 60 Cps.*

(1) Note the location of the appropriate 331/3-rpm ring (50 or 60 cps) on the stroboscope disk (fig. 13) and place the disk on the turntable.

(2) Set up the equipment (par. 20a(2) through (4)).

(3) Move the speed change lever to the 331/3 rpm position.

(4) Adjust the reproducer speed (par. 20a(6) through (9)).

b. Input Frequency Between 50 and 60 Cps.

(1) Set up the equipment (par. 20b(1) and (2)).

(2) Move the speed change control to the 331/3-rpm position.

(3) Adjust the reproducer speed (par. *20b(4)* through (7)) by using a time interval of 18 seconds for 10 revolutions.

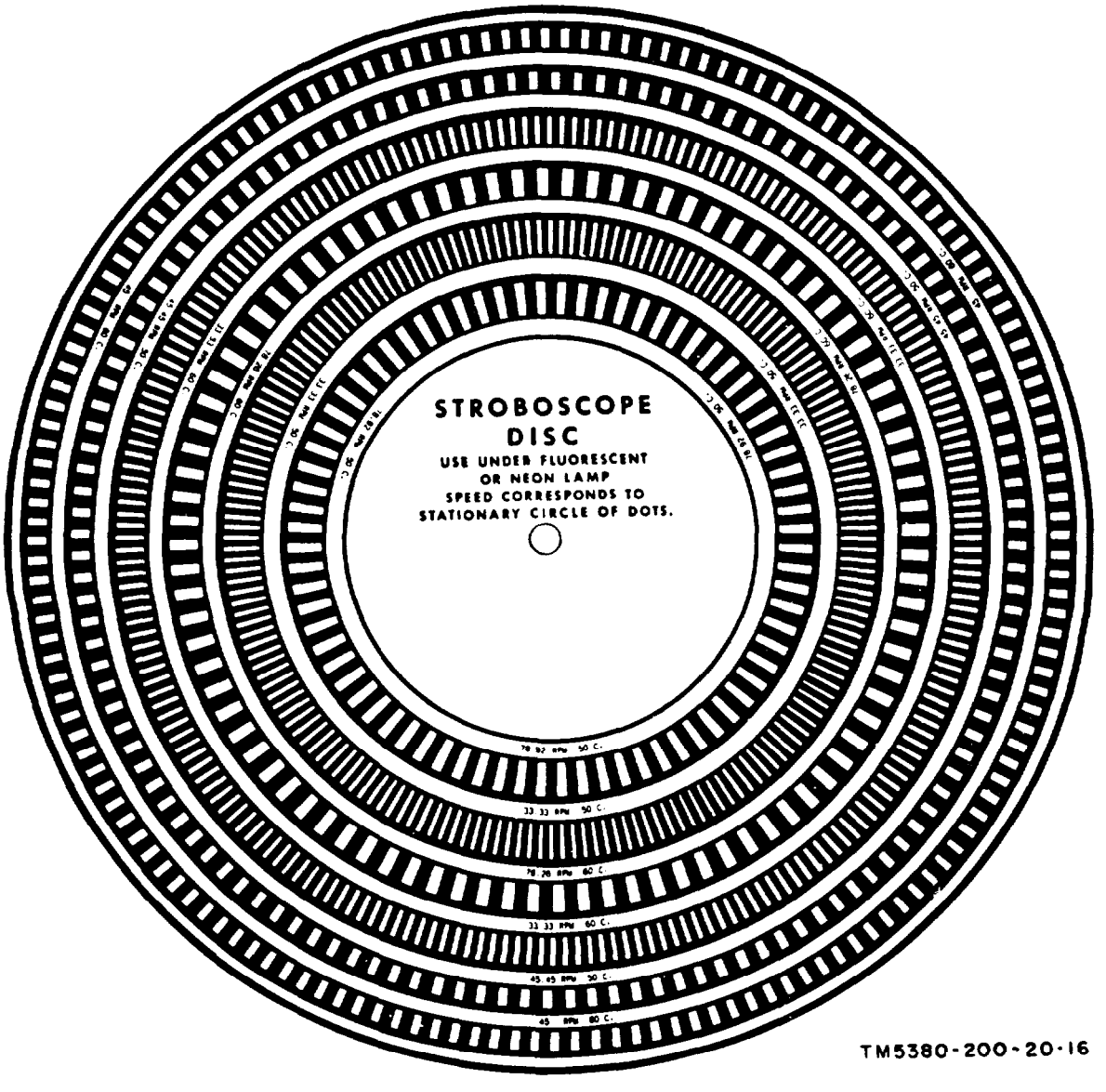


Figure 13. Stroboscope disk.

CHAPTER 4

GENERAL THEORY

23. **Public Address Set**

a. The input signal to the reproducer of the public address set can be supplied from a record during playback operation (par. 24a), from a microphone during public address operation (par. *24b),* or from a record and a microphone during mixer operation (par. 24c). The amplified signal may be connected to either one or two loudspeakers, depending on the size of the audience and the operational area.

b. When used for playback, the reproducer provides four stages of amplification before feeding the signal to the loudspeakers. When used as a public address system, the reproducer provides five stages of amplification before feeding the signal to the loudspeakers.

c. Direct current voltages (plate and screen) and alternating current voltages (filaments, turntable, and stroboscope) are furnished by the power supply.

24. Block Diagram Analysis

a. Playback Operation. When the equipment is used for playback operation, the signal path is as follows :

(1) The sound reproducer cartridge in the pickup arm (fig. 14) generates the signal voltage. The signal voltage, controlled by the PHONO (volume) control, is fed through an isolating network to the input amplifier (V1B) .

(2) The output of the input amplifier (V1B) is fed through the voltage amplifier (V2A) to the phase inverter (V2B).

(3) The two outputs of the phase inverter (V2B) are fed through the power output stages (V3 and V4) and through the audio output transformer (T2) to the SPEAKER connectors (fig. 2).

(4) From the SPEAKER connectors the signal is fed through the loudspeaker cables to the loudspeakers.

b. Public Address Operation. When the equipment is used for public address operation, the signal path is as follows:

(1) The signal voltage, generated in the microphone (fig 14), is fed through the microphone cable to the MIC connector on the reproducer (fig. 2).

(2) From the MIC connector the signal is coupled through the audio input transformer (T1) (fig. 14) to the preamplifier (V1A).

(3) The output of the preamplifier (VIA), controlled by the MIC (volume) control, is fed through an isolating network to the input amplifier (V1B).

(4) The signal path from the input amplifier (V1B) to the loudspeakers is the same as that discussed in a (2) through (4) above.

c. Mixer Operation. When the equipment is used for mixer operation, both signal paths (a and *b* above) are used simultaneously. This simultaneous use of both signal paths permits amplifying speech during playback.

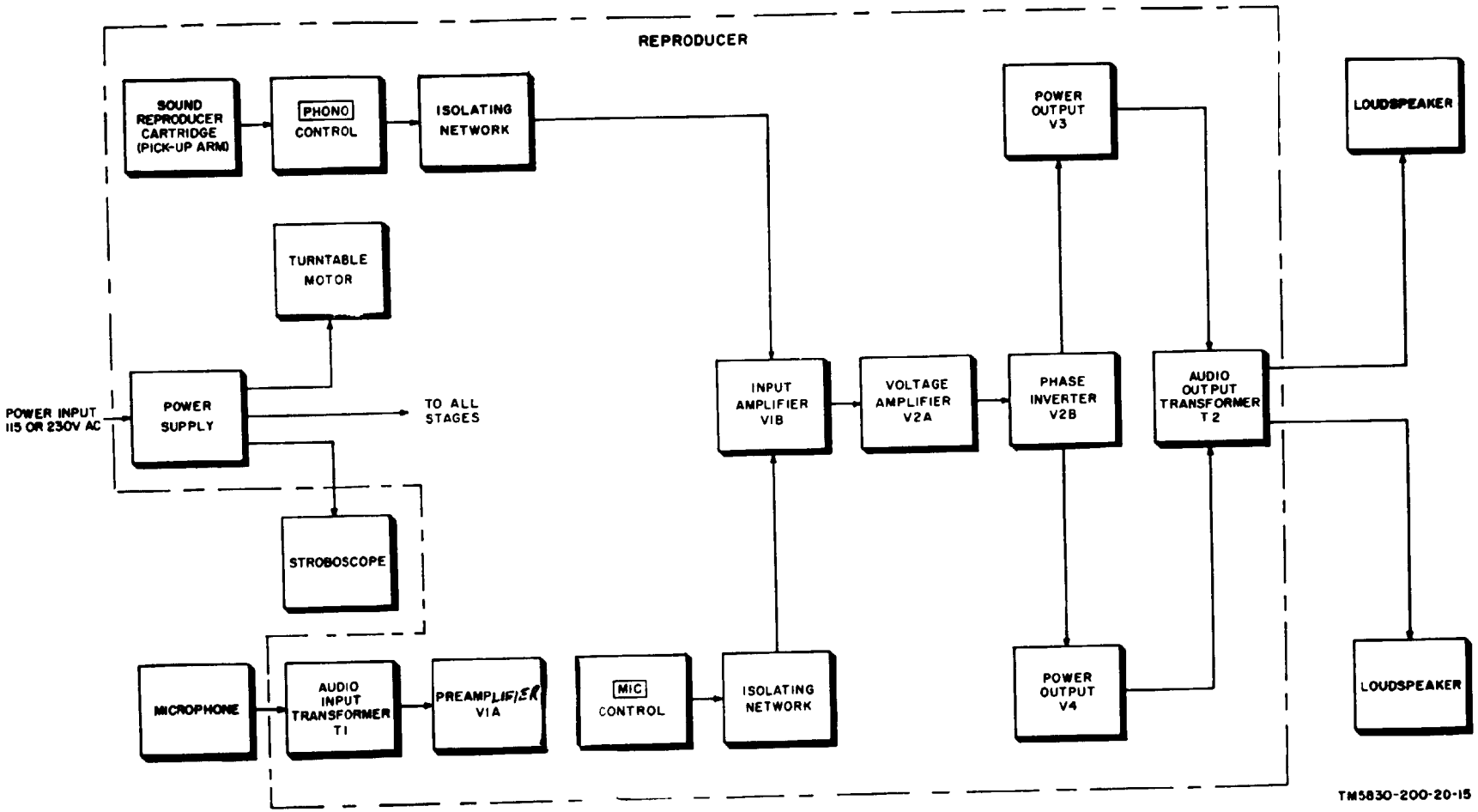


Figure 14. Public address set, block diagram.

CHAPTER 5

SHIPMENT AND LIMITED STORAGE

25. Disassembly

Disassemble the public address set for shipment or limited storage as follows:

Note. Refer to figure 12 and to appropriate illustrations in TM 11-5830-200-10.

a. Disconnect all cables.

b. Secure the cables in the rear covers of the loudspeaker assembly.

c. Replace the microphone in the microphone compartment.

d. Secure the motor support yoke on the MX-932/U or RP-104/UIH-2.

e. On the RP-104(*)/UIH-2, replace the stylus shield and the 45-rpm adapters.

f. Secure the pickup arm to the arm rest.

g. Secure the rear covers of the loudspeakers and then secure the loudspeaker assembly.

h. Replace the cover on the reproducer.

i. Hook the carrying strap in place.

26. Repackaging and Packing

The exact procedure for repackaging depends on the materials available, and the conditions under which the equipment is to be shipped or stored. Adapt the procedures outlined in *b and c* below whenever possible. The information concerning the original packaging (par. 3) will also be helpful.

a. Required Materials. The following chart lists the materials that are required for packaging and packing the public address set.

Quantity (approximate)	Materials	Federal stock number
26 ft.....	Steel strapping.....	8135-281-4073
36 sq ft.....	Waterproofed wrapping paper.	8135-171-0979
18 ft.....	Gummed paper tape.....	8135-271-1447
69 sq ft.....	Flexible fiberboard.....	8135-281-3921
20 ft.....	Waterproof adhesive tape-	8135-281-2700
1.....	Wooden packing case (37 in. x 22 in. x 16 in.).	

b. Packaging. Package the components of the public address set as follows:

(1) Tubes. The following procedure applies to tubes that are not secured in the reproducer.

(a) Package each tube in a double wrapping of flexible fiberboard.

(b) Secure the packages with gummed paper tape and place them in the spare parts compartment in the loudspeaker assembly

(2) Fuses and lamps. The following procedure applies to fuses and lamps that are not secured in the reproducer.

(a) Secure spare fuses in the clips on the inside of the reproducer cover.

(b) Package the spare lamps and any additional spare fuses with flexible fiberboard.

(c) Secure the package with gummed paper tape and place it in the spare parts compartment in the loudspeaker assembly.

(3) Cables.

(a) Coil the cables around the forms provided in the rear covers of the loudspeaker assembly.

(b) Secure the cables in place with the web straps.

(4) Microphone.

(a) Package the microphone with a double wrapping of flexible fiberboard.

(b) Secure the package with gummed paper tape and place it in the microphone compartment in the loudspeaker assembly.

(5) *Loudspeaker assembly.*

(a) Place the rear cover on each loudspeaker cabinet and secure the latches.

(b) Place the loudspeaker cabinets together and secure the latches; hook the carrying strap to the clips.

(c) Package the loudspeaker assembly in a double wrapping of flexible fiberboard and secure the package with gummed paper tape.

(6) Reproducer.

(a) Close the reproducer cover and secure the latches.

(b) Package the reproducer in a double wrapping of flexible fiberboard and secure the package with gummed paper tape.

(7) Operator's manual. Package two operator's manuals (TM 11-5830-200-10) with waterproofed wrapping paper and secure the package with waterproof adhesive tape.

c. Packing. Pack the two packages *(b(5)* and (6)) above in a wooden packing case as follows:

(1) Line the wooden packing case with waterproofed wrapping paper.

(2) Place both packages (loudspeaker assembly and reproducer) in the lined wooden packing case.

(3) Fill all voids with flexible fiberboard; make certain that the contents fit snugly and cannot move within the case.

(4) Place the packaged technical manuals *(b(7)* above) on top of the equipment.

(5) Seal the waterproofed wrapping paper with waterproof adhesive tape.

(6) Nail down the wooden cover.

Note. Strap the box with steel strapping only for intertheater shipments.

APPENDIX I

REFERENCES

The following list of references are applicable to organizational maintenance of this equipment:

TM 11-2535A..... Meter Test Equipments AN/GSM-1B and AN/GSM-1C.
TM 11-5083..... Electron Tube Test Sets TV-7/U, TV-7A/U, and TV-7B/U.
TM 11-5500..... Multimeter TS-297/U.
TM 11-5830-200-10..... Operator's Manual, Reproducing Equipment MC-364-D and Public Address Set AN/UIH-2.

APPENDIX II

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

1. General

The maintenance allocation portion of this manual assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon. It also specifies the facilities authorized at each echelon to perform the assigned maintenance functions.

2. Allocation of Maintenance Functions (Section II)

The column headings of section II are defined as follows :

a. *Part* or *Component.* This column shows only the nomenclature or standard item name. Additional descriptive data is included only where clarification is necessary to identify the part. Components and parts comprising *a* major end item are listed alphabetically. Assemblies and subassemblies are in alphabetical sequence with their components indented and listed alphabetically immediately below the assembly listing.

b. Related Operation. This column indicates the various maintenance functions allocated to the echelon capable of performing the operation. These are defined are follows:

(1) *Service.* To clean, to preserve, and to replenish fuel and lubricants.

(2) *Adjust.* To regulate periodically to prevent malfunction.

(3) *Inspect.* To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

(4) Test. To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages or meters.

(5) *Replace.* To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

(6) Repair. To restore to a serviceable condition by replacing unserviceable parts or by any other action required utilizing tools, equipment and skills available, to include welding, grinding, riveting. straightening, adjusting, etc.

(7) *Rebuild.* To restore to a condition comparable to new by disassembling the item to determine the condition of each of its component part's and reassembling it using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

c. 1st, 2nd, 3rd, 4th, 5th Echelons. The symbol X placed in column 3, 4, 5, 6, or 7 indicates that that echelon and higher echelons are responsible for the maintenance function indicated. Repair parts may not necessarily be stocked at the echelon indicated; refer to the applicable Repair Parts and Special Tools List.

d. Repair Facilities Code. The numbers in this column indicate tool, test and maintenance equipments required to perform the indicated maintenance function. These numbers are identified in Section III, Allocation of Tools for Maintenance Functions.

e. Remarks. Column 9 contains any notations necessary to clarify the data cited in the preceeding columns.

3. Allocation of Tools for Maintenance Functions (Section III)

a. Facilities Required for Maintenance Functions. This column lists the test and maintenance equipment required to perform the maintenance functions.

b. 1st, 2nd, 3rd, 4th, 5th Echelon. The symbol † placed in columns 3, 4, 5, and 6 indicates that the tool or test equipment is allocated to that echelon. (Column 2 not used.)

c. Repair Facilities Code. The numbers in this column are code numbers used in Section II to refer to the indicated item.

d. Remarks. Not used.

4. Maintenance by Using Organizations

When this equipment is used by Signal Service Organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

5. References

Additional instructions concerning maintenance of this equipment are contained in-

TM 11-5965-205-15P--Loudspeaker Assembly LS-148/U.

TM 11-5830-200-10-Reproducing Equipment MC-364-D and Public Address Set AN/UIH-2, Operator's Manual.

TM 11-5835-203-20P-Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart for Sound Reproducers RP-104/UIH-2 and RP-104A/UIH-2.

6. Comments or Suggestions

Any comments concerning omissions and discrepancies in this Maintenance Allocation Chart will be prepared on DA Form 2028 and forwarded directly to Commanding Officer, U.S. Army Signal Equipment Support Agency, Fort Monmouth, N.J., ATTN: SIGFM/ES-M.

SectionII

ALLOCATION OF MAINTENANCE FUNCTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PART OR COMPONENT	MAINTENANCE FUNCTION	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOLS REQUIRED	REMARKS
PUBLIC ADDRESS SET AN/UIH-2	repair			X			8	
	rebuild					X	8	
	service	X						External parts
	service		X				7	Interior parts
	inspect	X						External parts
	inspect		X				7	Interior parts
	adjust	X						Performs operator adjustments
	adjust						7	Performs initial adjustment and line up procedure
	adjust			X			3,8	All adjustments
	test		X				3,6,7	Performs, resistance, voltage and current Measurements to determine condition of circuits
	test				X		1 thru 4, 6, and 8	Frequency response power output and distortion, hum level operational requirements
CABLE ASSEMBLY CX-1207/U	repair		X					
CABLE, POWER ELECTRICAL	replace		X					
CONNECTOR PLUG ELECTRICAL (Ref Sym: P2 J8)	replace		X					
CONNECTOR, PLUG ELECTRICAL	replace		X					To be used w/M-43/U Microphone to adapt Cable Assembly CX-1207/U See Sig Bulletin SB 11-262
CABLE ASSEMBLY CX-1235/U	repair		X				7	
CONNECTOR, PLUG ELECTRICAL (Ref Sym: P5 P6)	replace		X					
PLUG, TIP	replace		X					
LOUDSPEAKER ASSEMBLY LS-148/U	replace		X					Separate Maintenance Allocation Chart
MICROPHONE DYNAMIC M-43/U	replace						7	
	service	X						Remove moisture
	inspect	X						
	test		X				3	Operation
	test				X		1, 2, 4	Final test
REPRODUCER, SOUND RP-104/UIH-2; V1 RP-104A/UIH-2	replace		X					Separate Maintenance Allocation Chart

Section II

ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FACILITIES REQUIRED FOR MAINTENANCE OPERATIONS	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	REPAIR FACILI-ITIES CODE	REMARKS
AN/UIH-2							
AUDIO OSCILLATOR TS-382A/U			+	+	+	1	
ANALIZER SPECTRUM TS-723/U				+	+	2	
MULTIMETER ME-77/U		+	+	+	+	3	
VOLTMETER ME-30A/U			+	+	+	4	
TEST SET ELECTRON TUBE TV-2/U					+	5	
TEST SET ELECTRON TUBE TV-7/U		+	+	+		6	
TOOL EQUIPMENT TE-41		+				7	
TOOL EQUIPMENT TE-113			+	+	+	8	

APPENDIX III

REPAIR PARTS AND SPECIAL TOOL LISTS

Refer to the following for maintenance parts information:

SIG 7 & 8 AN/UIH-2..... Public Address Set AN/UIH-2
SIG 7 & 8 LS-148/U..... Loudspeaker Assembly LS-148/U
SIG 7 & 8 MC-364..... Reproducing Equipment MC-364-A, B, C, D
SIG 7 & 8 MX-932/U..... Turntable MX-932/U

[AG 413.47 (27 Aug 58)]

BY ORDER OF THE SECRETARIES OF THE ARMY AND THE AIR FORCE:

MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

Official:

R. V. LEE,
Major General, *United States Army.*
The Adjutant General.

THOMAS D. WHITE,
Chief of Staff, United States Air Force.

OFFICIAL :

J. L. TARR,
Colonel, United States *Air Force,*
Director of Administrative Services.

DISTRIBUTION

Active Army:

ASA (2)
CNGB (1)
Technical Stf, DA (I) except CSigO (30)
Technical Stf Bd (1)
USCONAR (5)
USA Arty Bd (1)
USA Armor Bd (1)
USA Inf Bd (1)
USA Air Def Bd (1)
USA Abn & Elct Bd (1)
USA Avn Bd (1)
USA Armor Bd Test Set (1)
USA Air Def Bd Test Set (1)
USA Arctic Test Bd (1)
US ARADCOM (2)
US ARADCOM Rgn (2)
OS Maj Comd (5)
OS Base Comd (5)
Log Comd (5)
MDW (1)
Armies (5)
Corps (2)
Div (2)
USATC (2)
Svc Colleges (5)
Br Svc Sch (5) except USASCS (25)
Gen Depots (2) except Atlanta Gen Depot (None)
Sig Sec, Gen Depots (10)
Sig Depots (17)
Army Pictorial Cen (2)
Engr Maint Cen (1)
TASSA (13)
Mid- Western Rgn Ofc (TASSA) (1)
USA Sig Pub Agcy (8)
USA Sig Engr Agcy (1)
USA Comm Agcy (2)
USA Sig Eqp Spt Agcy (2)
USA Sig Msl Spt Agcy (13)
WRAMC (I)
AFIP (1)
AMS (1)
Ports of Emb (OS) (2)
Trans Terminal Comd (2)
Army Terminals (2)
OS Sup Agcy (2)
Yuma Test Sta (2)
Jefferson PG (5)
USA Elct PG (1)
Pine Bluff Arsenal (5)
Sig Lab (5)
Rocky MT Arsenal (5)
Sig Fld Main Shops (3)
Frankford Arsenal (5)
Fld Comd, AFSWP (5)
Mil Dist (1)
Sector Comd, USA Corps (F&s) (1)
USA Corps (Res) (I)
JBUSMC (2)
Mil Mis (2)

Units organized under following TOE's:

8-650 (2)
11-5 (2)
11-6 (2)
11-7 (2)
11-15 (2)
11-16 (2)
11-55 (2)
11-56 (2)
11-57 (2)
11-95 (2)
11-127 (2)
11-128 (2)
11-500 (AA-AE) (2)
11-537 (2)
11-557 (2)
11-587 (2)
11-592 (2)
11-597 (2)
19-256 (2)
20-300 (2)
30-500 (2)
33-67 (2)
39-51 (2)
39-61 (2)
39-71 (2)

NC: State AG (3); units-same as Active Army except allowance is one copy to each unit.
USAR: None.
For explanation of abbreviations used see AR 320-50.

* U.S. GOVERNMENT PRINTING OFFICE : 1985 O - 461-202 (20212)

PIN: 023031-006