

TM 11-6625-1830-12

TECHNICAL MANUAL

**OPERATOR'S AND ORGANIZATIONAL
MAINTENANCE MANUAL**

TEST SET GROUPS, RADAR

0Q-64(V)1/APS-94D AND

0Q-94(V)2/APS-94D

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1970

TECHNICAL MANUAL
No. 11-6625-1830-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 26 September 1970

Operator's and Organizational Maintenance Manual

TEST SET GROUPS, RADAR OQ-64(V)1/APS-94D AND

OQ-64(V)2/APS-D

PART ONE

	Paragraph	Page
TEST SET GROUPS, RADAR OQ-64(V)1/APS-94D AND OQ64(V)2/APS-94S		
LESS INTERFACE TEST, ANTENNA DRIVE TS-3974/APS-94D		
Chapter 1. INTRODUCTION		
Section I. GENERAL		1-1
Scope	1-1	1-1
Indexes of publications	1-2	1-1
Forms and records	1-3	1-1
Section II. Description and Data		1-1
Purpose and use	1-4	1-1
Differences in equipment	1-5	1-2
Technical characteristics	1-6	1-2
Components and dimensions	1-7	1-3
Common names	1-8	1-3
Description of Control, Test Set C-8495/APS-94D	1-9	1-5
Description of Interface Test, Radio Frequency TS-2975/APS-94D	1-10	1-5
Description of Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D	1-11	1-6
Description of minor components	1-12	1-7
Chapter 2. INSTALLATION AND OPERATING INSTRUCTIONS		
Section I. Service Upon Receipt of Equipment- Unpacking	2-1	2-1
Checking unpacked equipment	2-2	2-1
Initial installation	2-3	2-2
Section II. Operating Instructions		2-4
Control, Test Set C-8495/APS-94D, controls, indicators, and jacks	2-4	2-4
Interface Test, Radio Frequency TS-2975/APS-94D, controls, indicators, and jacks	2-5	2-6
Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D	2-6	2-7
Preliminary operating procedures	2-7	2-10
Mounting Receiver-Transmitter, Radar RT-899/APS-94D on Interface Test, Radio Frequency TS-2975/APS-94D	2-8	2-12
Removal of Receiver-Transmitter, Radar TS-899/APS-94D from Interface Test, Radio Frequency TS-2975/APS-94D	2-9	2-13
Mounting Subassembly 2A1 to Interface Test, Radio Frequency TS-2975/APS-94D and Receiver-Transmitter RT-899/APS-94D under test	2-10	2-16
Performance check	2-11	2-18
Power Meter 2A4, coarse zero	2-12	2-19
Operating procedure	2-13	2-19
Stopping procedure	2-14	2-19
Chapter 3. OPERATOR'S MAINTENANCE INSTRUCTIONS		
Section I. Scope and Materials		3-1
Scope of maintenance	3-1	3-1
Materials required	3-2	3-1

	Paragraph	Page
Chapter 3. OPERATOR'S MAINTENANCE INSTRUCTIONS—Continued		
Section II. Operator's Preventive Maintenance	3-1	3-1
Preventive maintenance, general	3-3	3-1
Operator's preventive maintenance checks and service periods	3-4	3-1
Cleaning	3-5	3-2
Section III. Operator's Troubleshooting	3-3	3-3
General troubleshooting information	3-6	3-3
Removal and replacement of panel lights	3-7	3-4
Chapter 4. ORGANIZATIONAL MAINTENANCE		
Section I. General	4-1	4-1
Scope of maintenance	4-1	4-1
Tools, test equipment and materials required	4-3	4-1
Section II. Organizational Preventive Maintenance	4-1	4-1
General	4-3	4-1
Organizational preventive maintenance checks and service periods	4-4	4-1
Touchup painting	4-5	4-2
Lubrication	4-6	4-2
Adjustment of case latch tension	4-7	4-2
Section III. Organizational Troubleshooting	4-2	4-2
General	4-8	4-2
Cable continuity check and repair	4-9	4-3
Chapter 5. SHIPMENT, LIMITED STORAGE, AND DEMOLITION TO PREVENT ENEMY USE		
Section I. Shipment And Limited Storage	5-1	5-1
Disassembly of equipment	5-1	5-1
Repacking for shipment or limited storage	5-2	5-1
Section II. Demolition of Material to Prevent Enemy Use	5-2	5-2
Authority for demolition	5-3	5-2
Methods of destruction	5-4	5-2
PART TWO		
INTERFACE TEST, ANTENNA DRIVE TS-2974/APS-94D		
Chapter 6. INTRODUCTION		
General	6-1	6-1
Purpose and use	6-2	6-1
Technical characteristics of Interface Test, Antenna Drive TS-2974/APS-94D	6-3	6-1
Components and dimensions	6-4	6-2
Common names	6-5	6-2
Description of equipment	6-6	6-2
Description of minor components	6-7	6-2
Chapter 7. INSTALLATION AND OPERATING INSTRUCTIONS		
Section I. Service upon receipt of equipment	7-1	7-1
Unpacking	7-1	7-1
Checking unpacked equipment	7-2	7-1
Section II. Operating instructions	7-2	7-2
Interface Test, Antenna Drive TS-2974/APS-94D controls, indicators, and jacks	7-3	7-2
Preliminary operating procedure	7-4	7-2
Performance check	7-5	7-5
Operating procedure	7-6	7-5
Stopping procedure	7-7	7-5
Chapter 8. OPERATOR'S MAINTENANCE INSTRUCTIONS		
Section I. Scope and Materials	8-1	8-1
Scope of maintenance	8-1	8-1
Materials required	8-2	8-1
Section II. Operator's preventive maintenance	8-1	8-1
Preventive maintenance, general	8-3	8-1
Operator's preventive maintenance checks and service periods	8-4	8-1
Cleaning	8-5	8-2

	Paragraph	Page
Chapter 8. OPERATOR'S MAINTENANCE INSTRUCTIONS—Continued		
Section III. Operator's troubleshooting -----	8-2	
General troubleshooting information -----	8-6	8-2
Removal and replacement of panel lamps -----	8-7	8-3
Chapter 9. ORGANIZATIONAL MAINTENANCE		
Section I. General -----	9-1	
Scope of Maintenance -----	9 - 1	9-1
Tools, test equipment, and material required-----	9-2	9-1
Section II. Preventive maintenance -----	9-1	
General -----	9-3	9-1
Organizational preventive maintenance checks and services period -----	9-4	9-1
Touchup painting instructions -----	9-5	9-1
Adjustment of case latch tension -----	9-6	9-2
Lubrication -----	9-7	9-2
Section III. Organizational troubleshooting -----	9-2	
General -----	9-8	9-2
Cable continuity check and repair -----	9-9	9-3
Chapter 10. SHIPMENT, LIMITED STORAGE, AND DEMOLITION TO PREVENT ENEMY USE		
Section I. Shipment and limited storage -----	10-1	
Disassembly of equipment -----	10-1	10-1
Repackaging for shipment or limited storage -----	10-2	10-1
Section II. Demolition to prevent enemy use -----	10-1	
Authority for demolition -----	10-3	10-1
Methods of destruction -----	10-4	10-1
Reporting -----	10-5	10-2
APPENDIX A. REFERENCES -----	A-1	
B. MAINTENANCE ALLOCATION CHART -----	B-1	

LIST OF ILLUSTRATIONS

Number	Title	Page
PART ONE		
1-1	Control, Test Set C-8495/APS-94D, less minor components.	1-5
1-2	Interface Test, Radio Frequency TS-2975/APS-94D, less minor components.	1-6
1-3	Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D, less minor components.	1-7
1-4	Test Set Groups, Radar OQ-64 (V) 1/APS-94D, and OQ-64(V) 2/APS-94D, minor components.	1-10
2-1	Control, Test Set C-8495/APS-94D and Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D, typical packaging.	2-2
2-2	Interface Test, Radio Frequency TS-2975/APS-94D, typical packaging.	2-2
2-3	Interface Test, Radio Frequency TS-2975/APS-94D, subassembly 2A1 and minor component storage.	2-3
2-4	Interface Test, Radio Frequency TS-2975/APS-94D, metal lock spacers.	2-3
2-5	Control, Test Set C-8495/APS-94D, controls, indicators, and jacks.	2-11
2-6	Interface Test, Radio Frequency TS-2975/APS-94D, controls, indicators, and jacks (less power meter 2A4).	2-12
2-7	Interface Test, Radio Frequency TS-2975/APS-94D, power meter 2A4, controls, indicators, and jacks.	2-13
2-8	Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D, controls, indicators, and jacks.	2-14
2-9	Test Set Groups, Radar OQ-64 (V) 1/APS-94D, and OQ-64(V)2/APS-94D, typical test hookup to Receiver-Transmitter, Radar RT-899/APS-94D.	2-15
2-10	Test Set Groups, Radar OQ-64 (V) 1/APS-94D, OQ-64 (V) 2/APS-94D, typical test hookup to Receiver-Transmitter, Radar RT-899/APS-94D modules.	2-15
2-11	Mounting Receiver-Transmitter, Radar RT-899/APS-94D on Interface Test, Radio Frequency TS-2975/APS-94D.	2-16
2-12	Mounting subassembly 2A1 on Interface Test, Radio Frequency TS-2975/APS-94D and to Receiver-Transmitter, Radar RT-899/APS-94D.	2-17
PART TWO		
INTERFACE TEST, ANTENNA DRIVE TS-2974/APS-94D		
6-1	Interface Test, Antenna Drive TS-2974/APS-94D, less minor components.	6-3
6-2	Interface Test, Antenna Drive TS-2974/APS-94D, minor components.	6-4
7-1	Packaging of Interface Test, Antenna Drive TS-2974/APS-94D.	7-1
7-2	Interface Test, Antenna Drive TS-2974/APS-94D, controls, indicators, and jacks.	7-4
7-3	Antenna AS-2199/APS-94D, test setup.	7-5
7-4	Interconnecting Box J-2974/APS-94D, test setup.	7-5
7-5	Servo Amplifier 4A1, test setup.	7-6

LIST OF TABLES

Number	Title	Page
	PART ONE	
1 - 1	Components and Dimensions.	1 - 4
1 - 2	Common Names.	1 - 4
1 - 3	Control, Test Set C-8495/APS-94D, Cable Assemblies.	1 - 8
1 - 4	Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D, Cable Assemblies.	1 - 8
2 - 1	Packaging Data.	2 - 1
2 - 2	Control, Test Set C-8495/APS-94D, Controls Indicators and Jacks.	2 - 4
2 - 3	Interface Test, Radio Frequency TS-2975/APS-94D, Controls, Indicators And Jacks.	2 - 5
2 - 4	Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D, Controls, Indicators, And Jacks.	2 - 7
2 - 5	Module Test Set, Module Extender Cables.	2 - 19
5 - 1	Materials for Fabrication of Control Unit Shipping Box.	5 - 1
5 - 2	Materials for Fabrication of RF Test Set Shipping Box.	5 - 1
5 - 3	Materials for Fabrication of Module Test Set Shipping Box.	5 - 2
	PART TWO	
	INTERFACE TEST, ANTENNA DRIVE TS-2974/APS-94D	
6 - 1	Common Names	6 - 2
6 - 2	Interface Test, Antenna Drive TS-2974/APS-94D, Cable Assemblies.	6 - 2
7 - 1	Interface Test, Antenna Drive TS-2974/APS-94D, Controls, Indicators, And Jacks.	7 - 2
10 - 1	Materials for Fabrication of Test Set Shipping Box.	10 - 1

PART ONE

TEST SET GROUPS, RADAR OQ-64(V)1/APS-94D AND

OQ-64(V)1/APS-94D LESS

INTERFACE TEST, ANTENNA DRIVE TS-2974/APS-94D

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

This two-part manual describes Test Set Groups, Radar OQ-64(V)1/APS-94D and OQ-64(V)2/APS-94D. Part one covers the operation, maintenance and repair, shipment, and demolition of three components of Test Set Groups, Radar OQ-64(V)1/APS-94D and OQ-64(V)2/APS-94D; Control, Test Set C-8495/APS-94D, Interface Test, Radio Frequency TS-2975/APS-94D, and Interface Test, Electronic Circuit Plug-In Unit TS-2976/APS-94D. Part two covers the operation, maintenance and repair, shipment, and demolition of another component of Test Set Groups, Radar OQ-64(V)1/APS-94D and OQ-64(V)2/APS-94D, the Interface Test, Antenna Drive TS-2974/APS-94D. Both parts of the manual include information pertaining to cleaning and inspection of the equipment, repairs, and replacement of parts available to operator and organizational maintenance.

1-2. Index of Publication

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

b. DA Pam 310-7. Refer to the latest issue of DA Pam 310-7 to determine whether there

are any 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 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. Reporting of Equipment Manual Improvements. The reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N. J. 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. Purpose. Control, Test Set C-8495/APS-94D, Interface Test, Radio Frequency TS-2975/

APS-94D, and Interface Test, Electronic Circuit Plug-In TS-2976/APS-94D, which are parts of Test Set Groups, Radar OQ-64(V)1/APS-94D