

**TECHNICAL MANUAL.**

**OPERATOR'S, ORGANIZATIONAL, DIRECT  
SUPPORT AND GENERAL SUPPORT  
MAINTENANCE MANUAL**

**TEST FACILITIES SET  
AN/TPM-24(V)4  
(NSN 6625-01-086-5129)**

**HEADQUARTERS, DEPARTMENT OF THE ARMY  
31 JANUARY 1983**

TECHNICAL MANUAL

No. 11-6625-2398-15-4

{

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 WASHINGTON, DC, 31 January 1983

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT  
 AND GENERAL SUPPORT MAINTENANCE MANUAL**

TEST FACILITIES SET AN/TPM-24(V)4

(NSN 6625-01-086-5129)

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703. In either case, a reply will be furnished directly to you.

**TABLE OF CONTENTS**

		Paragraph	Page	
CHAPTER SECTION	1	INTRODUCTION .....	.....	
	I	General.....	1-1	1-1
	II	Description and Data.....	1-5	1-1
CHAPTER	2	INSTALLATION .....	2-1	2-1
SECTION	3	OPERATING INSTRUCTIONS .....	3-1	3-1
	I	Operator's Controls and Connectors.....	3-1	3-1
	II	Operation.....	3-2	3-2
CHAPTER SECTION	4	OPERATOR'S AND ORGANIZATIONAL MAINTENANCE .....	4-1	4-1
	I	General.....	4-1	4-1
	II	Lubrication.....	4-3	4-1
	III	Maintenance.....	4-4	4-1
CHAPTER	5	FUNCTIONING .....	5-1	5-1
SECTION	6	GENERAL SUPPORT MAINTENANCE .....	6-1	6-1
	I	General Troubleshooting Information.....	6-1	6-1
	II	Component Troubleshooting .....	6-4	6-3
CHAPTER	7	REPAIR .....	7-1	7-1
	8	GENERAL SUPPORT TESTING PROCEDURES.....	8-1	8-1
SECTION	9	SHIPMENT, LIMITED STORAGE, AND DEMOLITION TO PREVENT ENEMY USE..	9-1	9-1
	I	Shipment and Limited Storage .....	9-1	9-1
	II	Demolition of Materiel to Prevent Enemy Use.....	9-3	9-1
APPENDIX	A	REFERENCES.....	A-1	A-1

		Paragraph	Page
SECTION	B	COMPONENTS OF END ITEM LIST..... B-1	
	I	Introduction..... B-1	
	II	Integral Components of End Item (Not Applicable) .....	
	III	Basic Issue Items ..... B-2	
APPENDIX	C	ADDITIONAL AUTHORIZATION LIST (NOT APPLICABLE) .....	
SECTION	D	MAINTENANCE ALLOCATION ..... D-1	
	I	Introduction..... D-1	
SECTION	II	Maintenance Allocation Chart For Test Facilities Set ANITPM-24(V)4..... D-3	
	III	Tools and Test Equipment Requirements for Test Facilities Set ANITPM-24(V)4 D-7	
IV	Remarks ..... D-8		
APPENDIX	E	EXPENDABLE SUPPLIES AND MATERIALS LIST ..... E-1	
SECTION	I	INTRODUCTION..... E-1	
	II	EXPENDABLE SUPPLIES AND MATERIALS LIST ..... E-2	
INDEX		..... I-1	

#### LIST OF ILLUSTRATIONS

Figure No	Title	Page
1-1	Test Facilities Set ANITPM-24(V)4 .....	1-0
1-2	Transit Case IA1 .....	1-4
1-3	Hybrid Attenuator IA1A1 .....	1-5
1-4	Accessory Case 1A1A2 .....	1-6
1-5	Test Facilities Set Cables .....	1-8
1-6	Test Facilities Set Minor Components (Sheet 1 of 2) .....	1-10
1-6	Test Facilities Set Minor Components (Sheet 2 of 2) .....	1-11
1-7	Shorting Connector 1A1A2AT6.....	1-11
2-1	Test Facilities Set AN/TPM-24(V)4, Packaging .....	2-2
2-2	Test Bed Setup .....	2-4
3-1	Hybrid Attenuator 1A1A1, Operating Control, and Connectors .....	3-2
6-1	Hybrid Attenuator 1A1A1 Schematic Diagram.....	6-2
6-2	Cable 1A1W1 (SM-D-787808), Schematic Diagram .....	6-5
6-3	Cable 1A1W2 (SM-D-787809), Schematic Diagram .....	6-6
6-4	Cables 1A1W3 and W4 (CG-37501TPM-24(V)), Schematic Diagram .....	6-6
6-5	Cable 1A1W5 (SM-D-986522), Schematic Diagram .....	6-7
6-6	Cables 1A1W6, W7, and W8 (CG-3754/TPM-24(V)), Schematic Diagram .....	6-7
6-7	Cables 1A1W9 (SM-D-986535) and 1AIW10 (SM-D-986536), Schematic Diagram .....	6-8
6-8	Cables 1A1A2W1, W2, and W3 (CG-129161TPM-24(V)), Schematic Diagram .....	6-9
6-9	Cable 1A1A2W4 (SM-D-986530), Schematic Diagram .....	6-10
6-10	Cable 1A1A2W5 (SM-D-986531), Schematic Diagram .....	6-11
6-11	Fault Isolation Card IA1A4, Schematic Diagram .....	6-12
6-12	Shorting Plug 1A1A2AT6 (SM-C-787960), Schematic Diagram.....	6-13
7-1	Hybrid Attenuator Assembly IA1A1, Internal View.....	7-1
7-2	Stripping Details, Cable 1A1W1 and W2 .....	7-3
7-3	Stripping Details, Cables 1A1W3, W4 and W6 through W10 .....	7-4
7-4	Typical Connector Assembly for Cables 1AIW3 and W4.....	7-5
7-5	Stripping Details, Cable 1A1W5P1 .....	7-6
7-6	Stripping Details, Cable 1AIW5P2 through P5 .....	7-7
7-7	Connector Exploded View, Cable 1A1W5P2 through P5.....	7-8
7-8	Connector Assembly, Cable 1AIW5P2 through P5.....	7-8
7-9	Typical Connector Assembly .....	7-10
7-10	Typical Connector Stripping Details.....	7-11

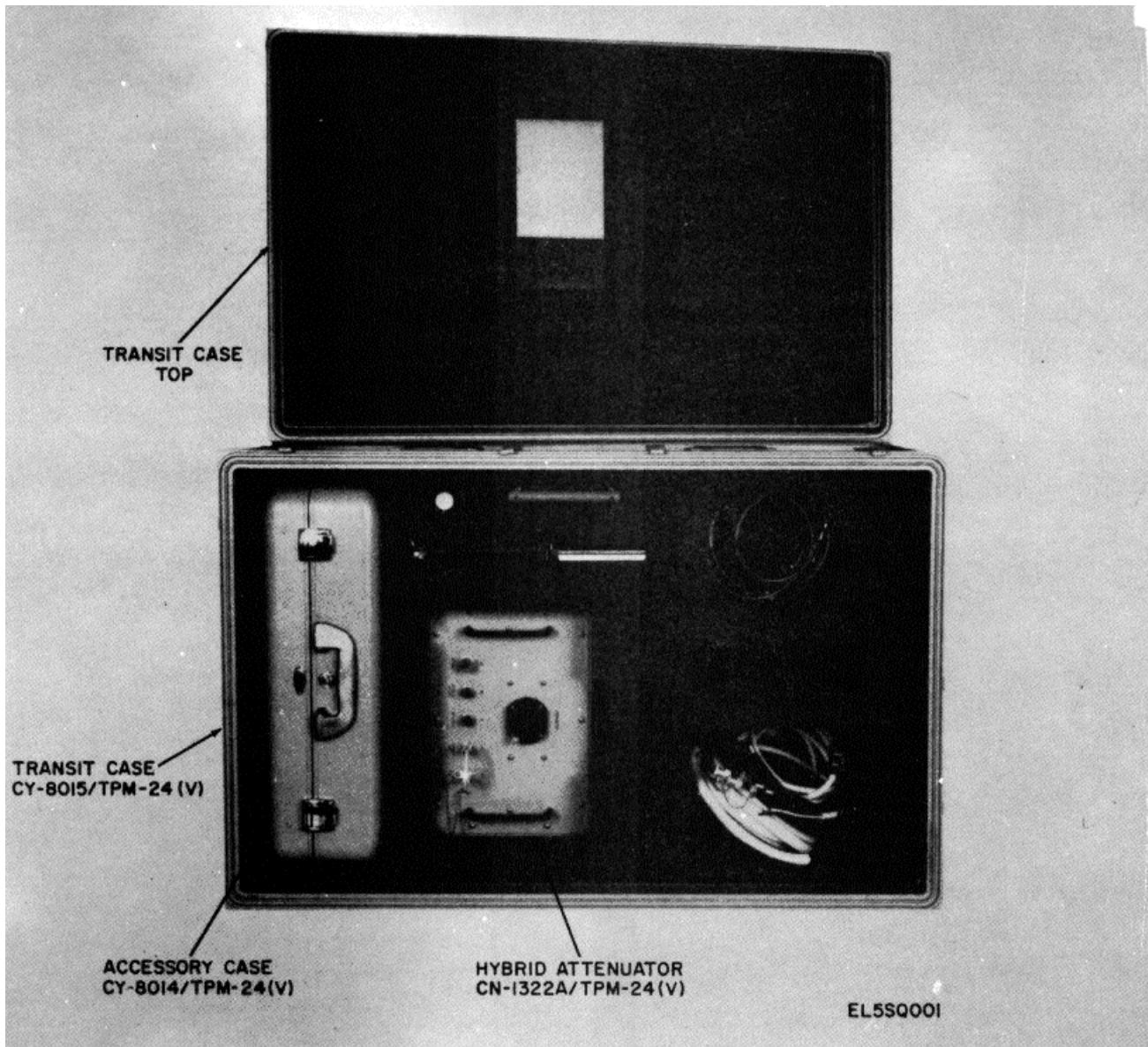


Figure 1-1. Test Facilities Set AN/TPM-24(V)4.

## CHAPTER 1

### INTRODUCTION'

---

#### Section I. GENERAL

##### **1-1. Scope**

(Fig. 1-1)

This manual describes Test Facilities Set AN/TPM-24(V)4 and provides instructions for its installation, use, and maintenance. The manual includes instructions for cleaning, inspection, troubleshooting, testing, repair, and removal and replacement of components within the set. It also lists tools, materials, and test equipment required for maintenance. A functional description of the equipment is also provided.

##### **1-2. Consolidated Index of Army Publications and Blank Forms**

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

##### **1-3. Maintenance Forms, Records, and Reports**

*a Reports of Maintenance and Unsatisfactory Equipment.*

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance

Management System (TAMMS).

*b. Report of Packaging and Handling Deficiencies.*

Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73/AFR 400-54/ MCO 4430.3E.

*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/NAVSUPINST 4610.33B/AFR 75-18/MCO P4610.19C/DLAR 4500.15.

##### **1-4. Reporting Equipment Improvement Recommendations (EIR)**

If your Test Facilities Set AN/TPM-24(V)4 needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703. We'll send you a reply.

#### Section II. DESCRIPTION AND DATA

##### **1-5. Purpose and Use**

a Test Facilities Set AN/TPM-24(V)4 provides for interconnection of Interrogator Set AN/TPX-46(V)7 (IFF set) and test equipment which, together, comprise a test bed for the IFF set.

Components of Test Facilities Set AN/TPM-24(V)4 consist of Hybrid Attenuator CN-3222A/ TPM-24(V), a set of cables, and minor components.

b.Hybrid Attenuator CN-3222A/TPM-24(V) is provided for use in performing RF measurements in the RF sum and difference channels of the IFF set at challenge and reply frequencies.

c.Cable assemblies are provided for IFF set power connections, for connection of the IFF set to test bed test equipment and for extending the

modules of the IFF set processor assembly.

d.Minor components are used in performing specific maintenance procedures on the IFF set. The maintenance procedures are provided in TM 11-5895-824-40, General Support Maintenance Manual, Interrogator Set AN/TPX-46(V)7.

##### **1-6. Tabulated Data for Hybrid Attenuator Assembly**

CN-1322A/TPM-24(V)

*a. Hybrid Junction.* The following is a summary of the characteristics of the hybrid junction:

Impedance .....	50 ohms, nominal
Frequency range .....	1000-1200 MHz
Nominal coupling.....	3.0 +0.3, -0 db
Max. deviation.....	+0.25 db