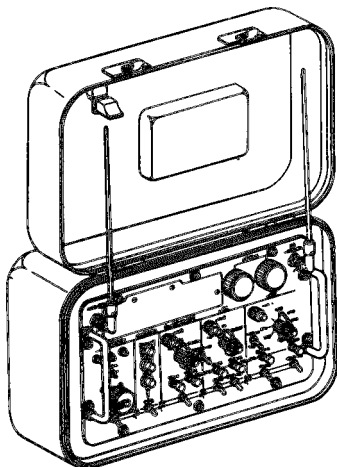


**OPERATOR'S  
AND ORGANIZATIONAL  
MAINTENANCE MANUAL**



**TEST SET, RECEIVER  
AN/ARM-186  
(NSN 6625-00-557-1168)**

**OPERATION  
PAGE 2-1**

**MAINTENANCE  
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CHECK  
PAGE 3-10**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

17 SEPTEMBER 1984

TECHNICAL MANUAL

No. 11-6625-2976-12

HEADQUARTERS

DEPARTMENT OF THE ARMY

Washington, DC, 17 September 1984

**Operator's and Organizational Maintenance Manual**

TEST SET, RECEIVER AN/ARM-186  
(NSN 6625-00-557-1168)

**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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Communicationa-Electronics Command and Fort Monmouth, AITN: DRSEL-ME-MP, Fort Monmouth, Fort Monmouth, New Jersey 07703-5007.

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\* This manual supersedes so much of TM 11-6625-2976-14, 20 January 1981 as pertains to operator's and organizational maintenance.

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## HOW TO USE THIS MANUAL

**This manual is designed to help you operate and maintain the Test Set, Receiver AN/ARM-186. Maintenance of the test set is limited to procedures that do not require it to operate as part of a specific communications system. The front cover boxed entries are provided as quick reference to important information. There is also an alphabetical index located in the final pages for use in finding more specific items of information.**

**Paragraphs in this manual are numbered by chapter and order of appearance within a chapter. A subject index appears at the beginning of each chapter listing sections that are included in that chapter. A more specific subject index is located at the beginning of each section to help you find the exact paragraph you are looking for.**

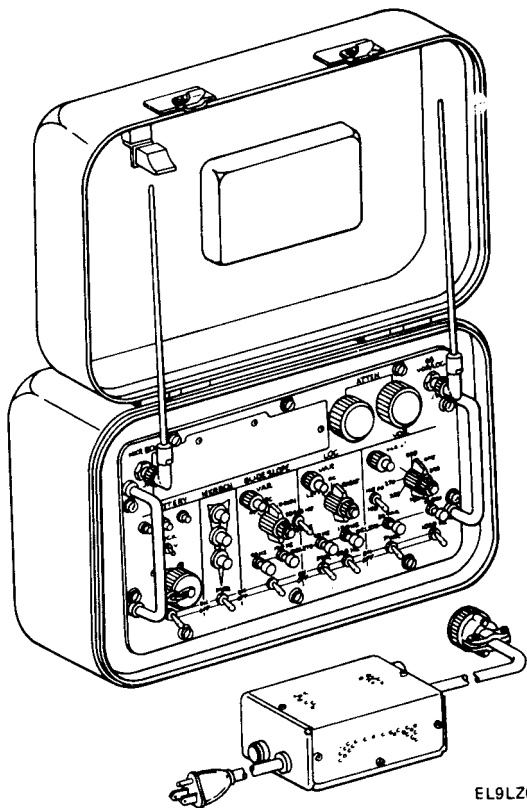
**Warning pages are located in the front of this manual. You should learn all warnings before operating or performing maintenance procedures on the equipment.**

**Read all preliminary material found at the beginning of each task. It contains important information and safety instructions necessary to complete procedures.**

**Instructions for using troubleshooting chart are located in paragraph 3-8.**

**There is a Maintenance Allocation Chart (MAC) located in appendix B.**

**Some measurements in this manual are given in both US standard and metric units.**



EL9LZ001

**Test Set, Receiver AN/ARM-186**

# CHAPTER 1

## INTRODUCTION

| Subject                         | Section | Page |
|---------------------------------|---------|------|
| General Information . . . . .   | I       | 1-1  |
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## OVERVIEW

this chapter supplies both general and specific information about the Test Set, Receiver AN/ARM-I 86, and acquaints the user with characteristics and purpose.

### Section I GENERAL INFORMATION

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## 1-1. **SCOPE.**

This manual covers operation and maintenance of Test Set, Receiver AN/ARM-186. The operator is authorized to do organizational level maintenance.

The purpose of the equipment is to generate both rf and audio signals for use in cockpit checks of VOR, localizer, glideslope, and marker beacon receivers in aircraft.

## 1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.

### REPORT OF MAINTENANCE AND UNSATISFACTORY EQUIPMENT

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750 as contained in Maintenance Management Update.

### 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 4355.73A/ AFR 400-54/MCO 4430.3F.

### DISCREPANCY IN SHIPMENT REPORT (DISREP) (SF 361)

Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38NAVSUPINST 4610.33C/ AFR 75-18/MCO P4610.19D/DIAR 4500.15.

### 1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your Test Set, Receiver AN/ARM-I 86 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 SF 368 (Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703-54307. A reply will be sent to you.

### 1-4. DESTRUCTION OF ARMY ELECTRONICS MATERIEL TO PREVENT ENEMY USE.

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

### 1-5. ADMINISTRATIVE STORAGE.

Preventive maintenance, as described in chapter 3, section III, shall be done prior to administrative storage of equipment. When removing the equipment from administrative storage, PMCS shall be done to insure operational readiness.

**Administrative storage of equipment shall be done in accordance with TM 740-90-1. Disassembly and repackaging of equipment for shipment or limited storage are covered in paragraphs 3-13, 3-14, and 3-15.**



## 1-8. NOMENCLATURE CROSS-REFERENCE LIST.

This list contains common names used throughout this manual in place of official nomenclature.

| COMMON NAME | OFFICIAL NOMENCLATURE          |
|-------------|--------------------------------|
| test set    | Test Set, Receiver AN/ARM-I 86 |

## 1-7. SAFETY, CARE, AND HANDLING.

Be sure to obey all Warnings, Cautions, and Notes in this manual. Failure to follow directions could result in serious injury to personnel and/or damage to equipment.

### WARNING

Dangerous voltages exist at several points throughout this equipment. When equipment is operated with covers removed, DO NOT touch exposed connections or components. Some transistors have voltages present on their cases. Disconnect power before cleaning equipment or replacing parts.

The tips of the extended antennas create a potential hazard to the eyes. Take care, when moving or operating test set, to prevent eyes from coming in contact with antennas.

## 1-7. SAFETY, CARE, AND HANDLING - CONTINUED.

### WARNING

Fumes of TRICHLOROTRIFLUOROETHANE are poisonous. Provide adequate ventilation whenever you use TRICHLOROTRIFLUOROETHANE. Do not use solvent near heat or open flame. TRICHLOROTRIFLUOROETHANE will not burn, but heat changes the gas into poisonous, irritating fumes. DO NOT breathe the fumes or vapors. TRICHLOROTRIFLUOROETHANE dissolves natural skin oils. DO NOT get the solvent on your skin. Use gloves, sleeves and an apron which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

When testing aircraft receivers, place test set in a position best suited for use. Be careful not to drop test set. Personal injury, damage to test set, and/or aircraft could result.

Before operating test set, make sure batteries are installed correctly.

Before installing test set, rotate pressure relief valve located on bottom of test set case to allow case pressure and atmospheric pressure to balance.

## 1-7. SAFETY, CARE. AND HANDLING - CONTINUED.

Battery charger may be left connected to ramp test set indefinitely without any damage. However, if charger is left connected to test set and power to charger is removed, batteries will discharge through charger circuitry.

## Section II EQUIPMENT DESCRIPTION

| Subject  | Para | Page |
|--|------|------|
| Equipment Characteristics, Capabilities,<br>and Features . . . . . | 1-8  | 1-6  |
| Location and Description of Major<br>Components . . . . .          | 1-9  | 1-8  |
| Equipment Data . . . . .   | 1-10 | 1-9  |

## 1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

### PURPOSE OF TEST SET

The AN/ARM-186 is a lightweight, test set used for portable cockpit checks of the VOR, ILS, and MB avionics systems.

## 14. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED.

### **MAJOR TEST SET COMPONENTS**

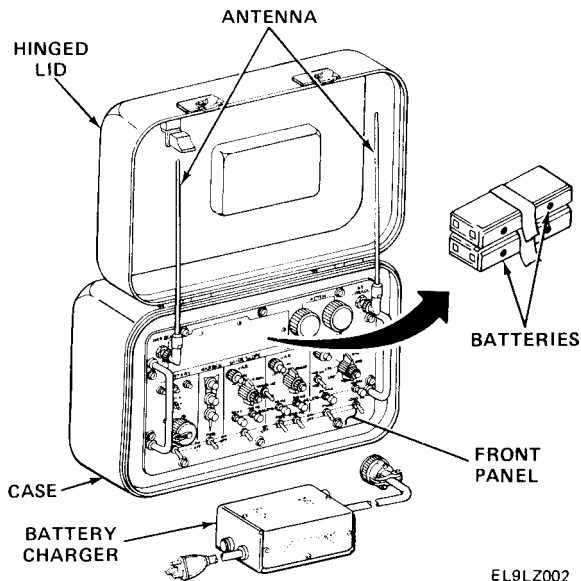
- weatherproof case
- Pressure relief valve
- Removeable, hinged lid
- Two antennas
- switch actuator
- Battery charger

### FEATURES

- All-weather operations
- battery operated
- Highly portable
- Easy removal from case of operating unit
- Safety switch preventing close cover operation
- Internal voltage check for testing battery voltages
- Selectable VOR bearings from 0 to 315 degrees
- Adjustable VOR radials:  $\pm 10$  degrees
- Variable signal strength provision for aircraft navigation flag checks
- Selectable carrier frequencies
- Modulation tone (1020 Hz) for audio receiver circuit checks
- Performance of channel/rejection tests

# 1-9. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

## TEST SET, RECEIVER AN/ARM-186



Front Panel. All test set controls and indicators are on front panel.

Case and Hinged Lid. The case and hinged lid provide a weatherproof enclosure for test set.