

TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

TEST SET,

RADIO

AN USM-306 V 1

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

HEADQUARTERS, DEPARTMENT OF THE ARMY

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**Operator and Organizational Maintenance Manual
 Including Repair Parts and Special Tools Lists
 TEST SET, RADIO AN/USM-306(V)1**

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Figure 1-1. Test Set, Radio AN/USM-306(V)1.

**CHAPTER 1
INTRODUCTION**

Section I. GENERAL

1-1. Scope

This manual describes Test Set, Radio AN/USM-306(V)1 (fig. 1-1) which is a transmission measuring system, and provides instructions for installation, operation, and operator and organizational maintenance. It includes instructions for cleaning and inspection of equipment. and replacement of parts available to the operator and organizational repairman.

NOTE

Throughout this manual where reference is made to figures 1-2, 1-3, 1-4 and 1-5 the appropriate added figures 1-2.1, 1-3.1, 1-4.1 and 1-5.1 also apply. Figures 1-2 through 1-5 pertain to test units procured on Contract No. DAAB05-69-C-0767 whereas figures 1-2.1 through 1-5.1 pertain to test units procured on Contract No. DAAB07-78-C-3013 which include Serial Numbers (S/N) 1C through 53C.

1-2. Indexes of Publications

- a. *DA Pam 310-4.* Refer to DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.
- b. *DA Pam 310-7.* Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment. DA Pam 310-7 lists all authorized Department of the Army modification

work orders, identifying the type, model, series and Federal stock number of the item to be modified; number, date and classification of the MWO; category of maintenance authorized to perform the modification, and man-hours required to apply the modification to each item.

1-3. Forms and Records

- a. *Records of Maintenance and Unsatisfactory Equipment.* Use equipment forms and records in accordance with instructions given in TM 38-750.
- b. *Report of Packaging and Handling Deficiencies.* Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/ARF 71-13/MCO P4030.29A, and DLAR 4145.8.
- c. *Discrepancy in Shipment Report (DISREP) (S 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 and DLAR 4500.15.
- d. *Reporting of Equipment Manual Improvements.* Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward direct to Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth. N.J. 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

The Test Set, Radio AN/USM-306(V)1, is a transmission measuring system. It combines the functions of a radio frequency tuning unit, audioradio frequency monitor, and a spectrum analyzer unit. It provides a visual display, calibrated both in amplitude and frequency, of the signals present. A bandwidth of 120 kHz, 12 kHz, or 3.6 kHz may be selected for display. Signal frequency and amplitude may be measured from 1 kHz to 33.5 MHz and -109 to + 22 db respectively.

the units which comprise it.

- a. *Tuning Unit, Radio Frequency TN-527/U.*
(1) *Electrical specifications.*

Output frequencies:

Coarse tuning	40.1 to 73.6 MHz
Accuracy	Clock accuracy
Stability	Clock stability
Fine tuning	18.775 to 18.895
.....	MHz
Accuracy	±(10 Hz ± clock accuracy)
Stability	±(2 Hz/°C __clock stability)

1-5. Technical Characteristics

The technical characteristics of the Test Set, Radio AN/USM-306(V)1, are the individual characteristics of