DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST RECEIVING SET, RADAR DATA AN/TKQ-2

This copy is a reprint which includes current pages from Changes I through 7. Title was changed by Change 7.

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Operator and Organizational Maintenance Manual Including Repair Parts and Special Tool Lists RECEIVING SET, RADAR DATA ANITKQ-2 (NSN 5840-00-1681568) AND AN/TKQ-2A (NSN 5840-01-012-8623) AND TEST FACILITIES KIT MK-1148/TKQ-2 (NSN 6625.00-113-9764)

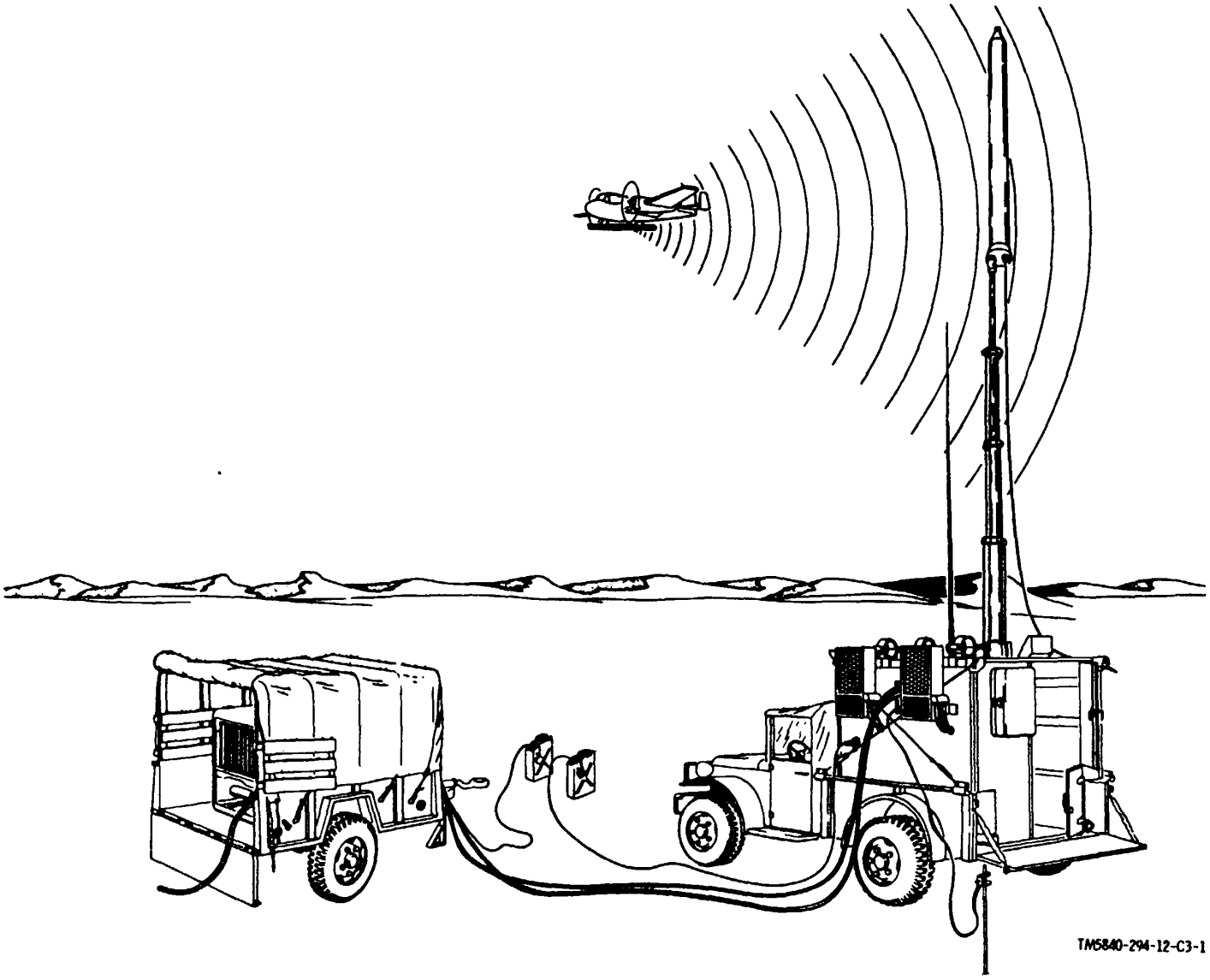

Figure 1-1. Typical Receiving Set, Radar Data AN/TKQ-2 installation with data antenna extended.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Receiving Set, Radar Data AN/TKQ-2 and covers its operation and operator and organizational maintenance. It includes operation under usual and unusual conditions, cleaning and inspection of the equipment, and replacement of parts available to operator and organizational maintenance personnel. The maintenance allocation chart (MAC) appears in appendix C. and the basic issue item list appears in appendix B.

1-2. Indexes of Publications

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

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by 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/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

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 4610.33A/AFR 75-18/MCO P4610.19B and DSAR 4500.15.

1-3.1. Reporting of Errors

The 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 forwarded direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

1-3.2. Reporting Equipment Improvement Recommendations (EIR)

EIR's will be prepared using DA Form 2407 (Maintenance Request). Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, New Jersey 07703. A reply will be furnished direct to you.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. Receiving Set, Radar Data ANTKQ-2 is the ground-based portion of the data transfer system of Radar Surveillance System AN/UPD-2(V) (airborne radar mapping and data transfer system). From data received from the airborne portion of the data transfer system (Transmitting Set, Radar Data AN/AKT-18), the AN/TKQ-2 produces photo-radar maps in the form of photographic filmstrips. The filmstrips show fixed and moving targets in the ground area under observation by the airborne radar set.

b. The airborne portion of the AN/UPD-2(V) includes Radar Surveillance Set AN/APS-94C and Transmitting Set, Radar Data AN/AKT- 18. During a mission, the AN/APS-94C, a side-looking airborne radar (SLAR), scans a wide area beneath and to one side or both sides of the aircraft flightpath. As it scans the area under observation, the AN/APS-94C develops one set of video signals for fixed targets (ft) and another set of video signals for moving targets (mt). The video signals, a synchronizing signal, and various map orientation data are fed to the AN/AK'T-18, which compresses and encodes the information and transmits it as a frequency-modulated (FM) encoded converted video signal to the ground-based AN/TKQ-Z For details on the AN/APS94C, refer to TM 11-5895-284-12. For details on the AN/AKT-18,refer to TM 11-5841-25512.

c. The ANJ/TKQ2 is sited within ultra-high frequency (uhf) radio receiving range of the airborne AN/AK'T-18. Voice radio communication between the operator of the AN/TKQ-2 and the operator of the AN/AKT-18 is provided by Receiver-Transmitter, Radio RT-524/VRC (part of the AN/TKQ-2) and a radio receiver-transmitter in the aircraft.

d. Upon receiving the encoded converted video signal from the AN/AKT-18, and the AN/TKQ2 decodes the signal into its components and records the map information and present position display (ppd) data on photographic filmstrips. It is possible to simulataneously record the same information on