DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DS, GS, AND DEPOT MAINTENANCE MANUAL

RECEIVING SET,
RADAR DATA
AN/TKQ-2

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TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY
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DS, GS, and Depot Maintenance Manual
RECEIVING SET, RADAR DATA AN/TKQ-2
(Chapters 1 through 1 1)

(Chapters 12 through 15 in TM 11-5840-294-35/2)

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*This manual, together with TM 11-5840-294-35/2, 1 March 1968, supersede TM 11-540-294-3, 8 July 1966.

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CHAPTER 1
INTRODUCTION

1-1. Scope

a. The instructions for direct support, general support, and depot maintenance for Receiving Set, Radar Data AN/TKQ-2 and Test Facilities Kit MK-1148/TKQ-2 are published in two manuals. Chapters 1 through 11 are contained in TM 115840-294-5/1; chapters 12 through 15 are contained in TM 11-840294-35/2. Included are functional analysis instructions for troubleshooting, testing, aligning, and repairing the equipment, and replacing maintenance parts. A1so included are the tools, materials, and test equipment required for maintenance.

b. The complete technical manual for this equipment includes TM 11-5840-294-12.

c. 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 forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AM-SELME-NMP-AD, Fort Monmouth, N. J., 07703.

NOTE
For applicable forms and records, refer to TM 11-5840-294-12.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 3104 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 any modification work orders (MWO's) pertaining to the equipment.

CHAPTER 2
GENERAL FUNCTIONS OF RECEIVING SET, RADAR DATA AN/TKQ-2

2-1. General

a. Receiving Set, Radar Data AN/TKQ-2 (data receiving set) is the ground-based portion of a data transfer system that is part of Radar Reconnaissance System AN/UPD2(V). The airborne portion of the data transfer system is Transmitting Set, Radar Data AN/AKT-18 (data transmitting set) which receives radar mapping data from Radar Surveillance Set AN/APS-94C (radar Set). The data transmitting set produces an encoded converted video signal from the radar mapping data and transmits this signal on a frequency-modulated (FM) ultra-high frequency (UHF) carrier signal (225.0- to 399.95 mc-range) to the data receiving set. The data receiving set recovers the encoded converted video signal from the UHF carrier signal (data radio signal) and produces photo-radar maps in the form of photographic film strips. The filmstrips show fixed and moving targets in the ground area under observation by the radar set.

b. Information contained in the encoded video signal recovered by the data receiving set is as follows:

(1) Fixed- and moving-target video data.

(2) Rangemark data.

(3) Map orientation data including aircraft groundspeed and drift angle data.

(4) Aircraft identification data.

(5) Aircraft present position data.

c. The data receiving set also includes equipment for two-way FM radio communications with the surveillance aircraft in the 30.0- to 75.95-mc frequency range.

d. Major units included in the data receiving set are as follows:

(1) Antenna-Radome AS-1097A/GR (data antenna),

(2) Receiver, Radio R-1335/G (data receiver),

(3) Converter-Storer, Signal Data CV2093/TKQ-2 (d/a converter),

(4) Decoder, Video KY-64/TK-2 (video decoder),

(5) Indicator, Radar Target 1P-795/ TKQ-2 (target indicator),

(6) Power Supply PP-4339/TKQ-2 (high voltage (hv) power supply),

(7) Power Supply PP-4338/TKQ-2 (power supply),

(8) Recorder- Processor - Viewer, Radar Mapping RO-166B/UP or RO-166C/UP (processor-viewer),

(9) Receiver-Transmitter, Radio RT524/VRC (communication receiver-transmitter),

(10) Power Supply PP-605/G (28 volt dc power supply),

(11) Antenna AT-912/VRC (communication antenna),

(12) Shelter, Electrical Equipment 5-339/ TKQ-2 (shelter),

(13) Generator Set, Gasoline Engine, Trailer Mounted PU375/G (generator set). Major component signal and power interrelationships shown in the Receiving Set, Radar