

TECHNICAL MANUAL

DIRECT SUPPORT MAINTENANCE MANUAL

R A D A R S E T

A N / M P Q - 4 A

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DIRECT SUPPORT MAINTENANCE MANUAL RADAR SET AN/MPQ-4A (NSN 5840-00-543-0759)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains direct support maintenance instructions for Radar Set AN/MPQ-4A. Included are general and detail analysis of the equipment, and instructions appropriate to direct support maintenance for troubleshooting, removing and replacing parts, and aligning and testing procedures. In addition, a list of abbreviations and definitions is contained in a glossary.

b. An asterisk in parentheses (*) is used to indicate models of an item of equipment that are sufficiently alike to be treated as a single model throughout the manual, thus: Dehydrator, Desiccant, Electric HD-264(*)/MPQ-4A represents the HD-264/MPQ-4A and the HD264A/MPQ-4A. When portions of these like models differ enough to require separate treatment, the applicable portions are identified throughout the manual.

c. Installation, operation, and operator's maintenance are covered in TM 11-5840-208-10. organizational maintenance is covered in TM 11-

5840-208-20. Additional coverage on equipment differences is provided in applicable portions of the manual.

1-2. Indexes of Publications

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.

NOTE

For additional forms and records, refer to TM 11-5840-208-10.

1-3. Administrative Storage

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 740-90-1.

1-4. Destruction of Army Electronics Materiel

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

Section II. DESCRIPTION AND DATA

1-5. Purpose and Use

a. Radar Set AN/MPQ-4A is a mobile, intercept-type (contracting) set designed primarily to locate hostile mortars and secondarily to adjust low-velocity artillery fire. Provision is made for local or remote operation of the radar set. The radar set operates in the 16,000 megaHertz frequency (K) band. Power is furnished by a trailer-mounted, gasoline engine generator set. Refer to TM 11-5840-208-10 for the complete listing of the operating components of the radar set.

b. A highly directional radio frequency beam is radiated and electro-mechanically traversed through two 445-mil horizontal arcs. One arc is displaced approximately 35 mils above the other. In the upper arc, the beam is known as the upper beam; in the lower arc, it is called the lower beam. A projectile passing through the beams causes signals (one from the lower beam and one from the upper beam) to appear on a cathode-ray indicator. The polar coordinates of the two points on the trajectory are established by the operator and are introduced into an electromechanical computer

which, by extrapolation and conversion, computes the grid reference of the weapon or point of burst.

1-6. Description

For a general description of the AN/MPQ-4A, refer to TM 11-5840-208-10.

1-7. Differences in Equipment

a. In several major components of Radar Set AN/MPQ-4A procured under contract number DAAB-05-67-C-2341, certain direct support maintenance repair parts having wide tolerance applications have been changed to conform to standard values. Although these parts differ from those in Radar Set AN/MPQ-4A procured under contract number DA-36-039-SC66333, both are interchangeable and will provide acceptable results.

b. For complete listing of differences in repair parts, refer to TM 11-5840-208-35P. The differences in models applicable to operation of the radar set are in TM 11-5840-208-10.

1-8. Tabulated Data.

For performance characteristics of the AN/MPQ-4A, refer to tabulated data in TM 11-5840-208-10.