TECHNICAL MANUAL

DS, GS, AND DEPOT MAINTENANCE MANUAL

RADAR SETS AN/APS-94B AND AN/APS-94C

HEADQUARTERS, DEPARTMENT OF THE ARMY
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RADAR SURVEILLANCE SETS

AN/APS-94B AND AN/APS-94C

NOTE

This manual contains chapters 1 and 2. Chapters 3 through 6 are in TM 11-5895-287-35/2.

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2-213	5895-284-35/1-TM-213-	Amplifier V11 (PP-2404A/APS-94), simplified schematic diagram
2-214	5895-284-35/1-TM-214--	Cathode follower V10, simplified schematic diagram
2-215	5895-284-35/1-TM-215	Series regulator V9, simplified schematic diagram
2-216	5895-284-35/1-TM-216-	Regulated + 300-volt/unregulated + 400-volt bridge rectifier (PP-2404/APS-94), simplified schematic diagram
2-217	5895-284-35/1-TM-434-	Unregulated +400/+250-volts dc distribution diagram
2-218	5895-284-35/1-TM-217--	Regulated + 300-volt/unregulated +400-volt bridge rectifier (PP-2404A/APS-94), simplified schematic diagram
2-219	5895-284-35/1-TM-218-	Differential amplifier V4, simplified schematic diagram
2-220	5895-284-35/1-TM-219-	Amplifier V3 (PP-2404/APS-94), simplified schematic diagram
2-221	5895-284-35/1-TM-220--	Amplifier V3 (PP-2404A/APS-94), simplified schematic diagram
2-222	5895-284-35/1-TM-221,	Cathode follower V2, simplified schematic diagram

Figure No.	Identification No.	Figure caption
2-223	5895-284-35/1-TM-222	Series regulator V1A (PP-2404/APS-94), simplified schematic diagram
2-224	5895-284-35/1-TM-223	Series regulator V1A (PP-2404A/APS-94), simplified schematic diagram
2-225	5895-2884-35/1-TM-224	Regulated +150-volt/unregulated +250-volt bridge rectifier, simplified schematic diagram
2-226	5895-284-35/1-TM-225,	Differential amplifier V8, simplified schematic diagram
2-227	5895-284-35/1-TM-226,	Amplifier V7 (PP-2404/APS-94), simplified schematic diagram
2-228	5895-284-35/1-TM-227	Amplifier V7 (PP-2404/APS-94A), simplified schematic diagram
2-229	5895-284-35/1-TM-228,	***cathode follower V6,*** simplified schematic diagram
2-230	5895-284-35/1-TM-229,	Series regulators V1B and V5, simplified schematic diagram
2-231	5895-284-35/1-TM-230,	Regulated -l&volt bridge rectifier (PP-2404/APS-94), simplified schematic diagram
2-232	5895-284-35/1-TM-231,	Regulated - 10-volt bridge rectifier (PP-2404A/APS-94), simplified schematic diagram
2-233	5895-284-35/1-TM-232	Differential amplifier Q6/Q6, simplified schematic diagram
2-234	5895-284-35/1-TM-233	Emitter follower Q4, simplified schematic diagram
2-235	5895-284-35/1-TM-234,	Amplifier Q3, simplified schematic diagram
2-236	5895-284-35/1-TM-235	Emitter follower Q2, simplified schematic diagram
2-237	5895-284-35/1-TM-236,	Series regulator Q1 (PP-2404/APS-94), simplified schematic diagram
2-238	5895-284-35/1-TM-237,	Series regulator Q1 (PP-2404A/APS-94), simplified schematic diagram
2-239	5895-284-35/1-TM-238,	Regulated + 18-volt circuit, simplified schematic diagram
2-240	5895-284-35/1-TM-435-	Regulated + 18 volts-dc distribution diagram
2-241	5895-284-35/1-TM-239,	Power supply overload circuit, SN 1 through 17 (667), simplified schematic diagram
2-242	5895-284-35/1-TM-240,	Power supply overload circuit, SN 18 and on, simplified schematic diagram
2-243	5895-284-35/1-TM-241,	Advisory lights (+ 28-volt or + Q-volt dc) control circuit, simplified schematic diagram

CHAPTER 1

INTRODUCTION

1-1. General

a. Scope. This manual covers direct support, general support, and depot maintenance procedures for Radar Surveillance Sets AN/APS-94B and AN/APS-94C. It includes functioning of the equipment, block diagram discussions, and system theory (chapter 2) ; direct. support troubleshooting, adjustment and alignment. repair, and removal and replacement (chapter 3) ; direct support testing procedures (chapter 4) ; general support troubleshooting. repair, removal and replacement, and disassembly- and reassembly procedures (chapter 5) ; foldout illustrations in chapter 6, and depot maintenance in TM 11-5895-284-35/3. The manual lists tools, test equipment, and materials required for direct support, general support and depot maintenance.

b. Technical Manuals. The complete technical manual for this equipment includes :

(1) Operating and organizational maintenance procedures in TM 11-5895-284-12.

(2) Theory of operation and block diagram analysis **in TM 11-5895-284-35/1.**

(3) Direct and general support maintenance procedures in TM 11-5895-284-35/2.

(4) Depot maintenance procedures in TM 11-5895-284-35/3.

NOTE

Applicable forms and records are covered in TM 11-5895-284-12.

1-2. Indexer of Publications

Refer to the latest issue of DA PAM 310-4 to determine whether there **are** new editions. changes, or additional publication pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions in TM 38-750.

b. Report of Packaging and Handling Deficiencies. **Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publication 378 (Navy), AFR 71-4 (Air Force), MCO P4610-5 (Marine Corps).**

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 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Reporting of Equipment Manual Improvements. Report of errors, omissions, and recommendations for improving this manual 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 : AMSEL-MR-NMP-EM, Fort Monmouth, N.J. 07703.

1-4. Differences in Models

The Converter. Analog to Digital CV-2016/APS-94B performs the same function in Radar Surveillance Set AN/APS-94B as Converter Storer, Signal Data CV-2094/A performs in Radar Surveillance Set AN/APS-94C. The difference in models is that Radar Surveillance Set AN/APS-94C is designed for use with Transmitting Set, Radar Data AN/AKT-18 and both models are adaptable to Transmitting Set Radar Data AN/AKT-16.

1-5. Common Names

Components that have been assigned cumbersome nomenclature and are mentioned frequently in this manual are referred to by common names. The common names assigned to these components are listed in TM 11-5895-284-12.

1-6. Reference Designators

In the **unit numbering system,** all reference designation numbers of parts within a component of the radar set start with the number assigned to that component. The complete reference designation of a part of a subassembly of that component starts with the number of the unit. followed by the letter A, followed by the number of the subassembly, the class of the part. and then the number Of the part within the subassembly. Thus, resistor 5A4R26 is the 26th resistor in the fourth **subassembly** of the fifth component of **the radar set.** Therefore, resistor 5A4R26 would be resistor ***R26*** in the modulator-comparator module of