

**TECHNICAL MANUAL**

**OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL  
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS**

**SIMULATOR, RADIO FREQUENCY SM-442A/GRC**

This copy is a reprint which includes current pages from Changes 1 and 2. The title was changed by C1 to read as shown above.

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HEADQUARTERS  
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**Operator's and Organizational Maintenance Manual  
 Including Repair Parts and Special Tools List  
 SIMULATOR, RADIO FREQUENCY SM-442A/GRC**

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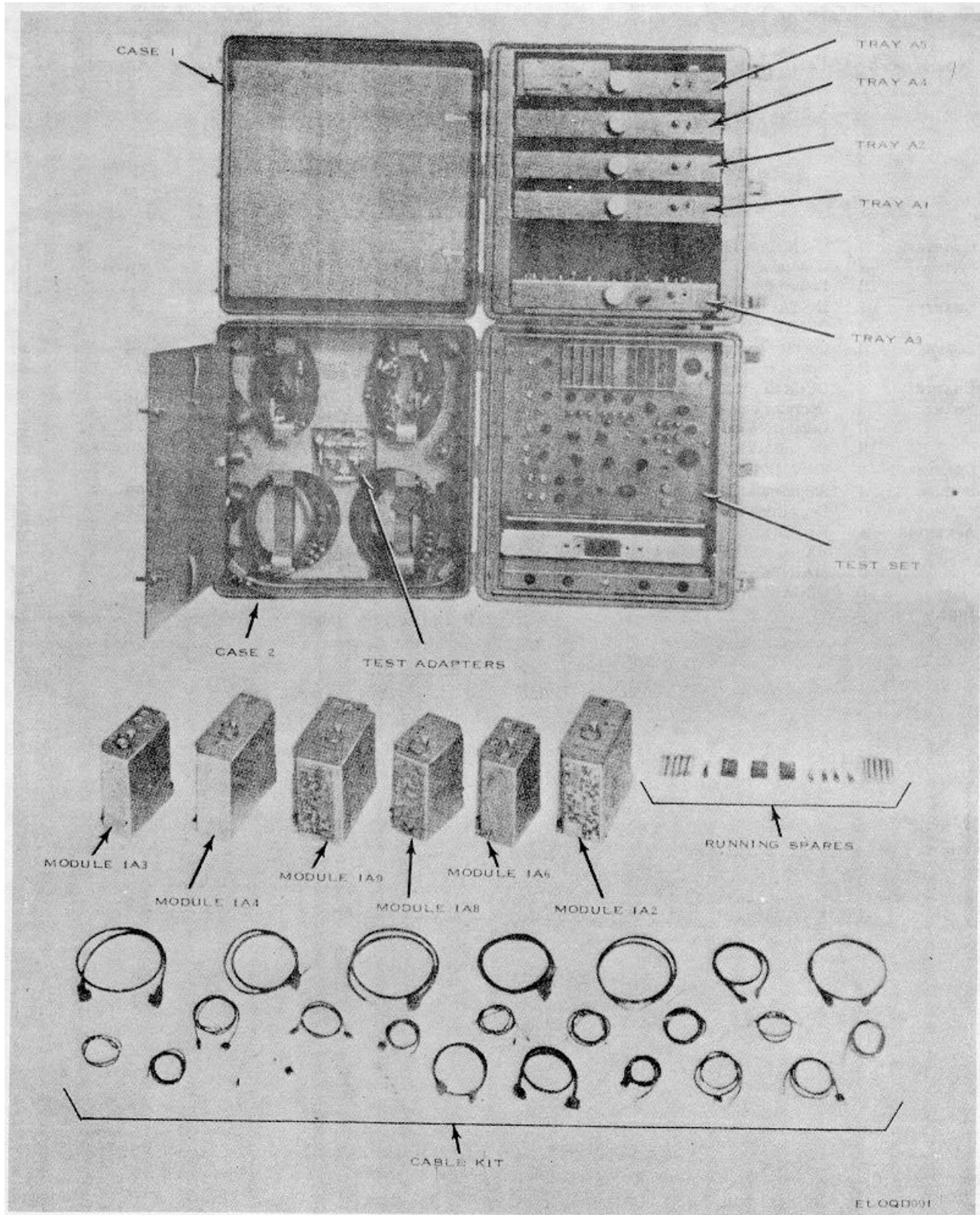


Figure 1-1. Simulator, Radio frequency SM-442A/GRC and running spares.

**CHAPTER 1  
INTRODUCTION**

**Section I. GENERAL**

**1-1. Scope of Manual**

This manual describes Simulator, Radio Frequency SM-442A/GRC (fig. 1-1) and covers its installation, operation, and maintenance. It includes operation, cleaning, and inspection of the equipment, and replacement of parts available to the operator and organizational maintenance personnel.

**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 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 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 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 5548 and DSAR 4500.15.

*d. Administrative Storage.* The procedures for administrative storage are outlined in TM 740-90-1; however, the exact procedure in repacking for limited storage depends on the materials available and the conditions under which the equipment is to be stored.

**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-MAQ, Fort Monmouth, NJ 07703.

**Section II. DESCRIPTION AND DATA**

**1-4. Purpose and Use**

The SM-442A/GRC (fig. 1-1) serves as a simulator that provides stimulus controls, mechanical coupling, resistive power loads, and direct current (dc) and alternating current (ac) power which are necessary to conduct a performance test of Radio Set AN/GRC-106 with the use of standard external test equipment. When the SM442A/GRC is used to test the modules of Receiver-Transmitter, Radio RT-662/GRC or Amplifier, Radio Frequency AM-3349/GRC-106, it supplies the stimulus inputs and controls which are normally supplied by the remaining unit. When the SM442A/GRC is used to test the modules of the AN/GRC-106, it supplies the stimulus, the mechanical coupling, the power, the switching information, and loads which are normally supplied by the parent unit.

**1-5. Technical Characteristics**

Primary power requirements 27 ± 2 volts dc at 10 amperes min. (from external power supply).  
 Power consumption 400 watts, max.  
 Transportability Air, rail, or vehicular (intact in shipping crate).  
 Cabling requirements Input power cable (W15, W16, or W17) plus cables specified for a particular test. Cables secured from supplied cable kit.  
 Dc output voltages -30 volts at 3 ma.  
 + 20 .volts at 500 ma.  
 +27 volts at 10 amp., max.  
 + 125 volts at 50 ma.  
 +200 volts at 158 ma.  
 Ac output voltages 6.3 volts at 0.75 amp.  
 Input frequencies 50 cps to 1 kc.  
 Output frequencies 1.750000 mc ± 100 cps,  
 1.751500 mc ± 100 cps,  
 1.752500 mc ± 100 cps.