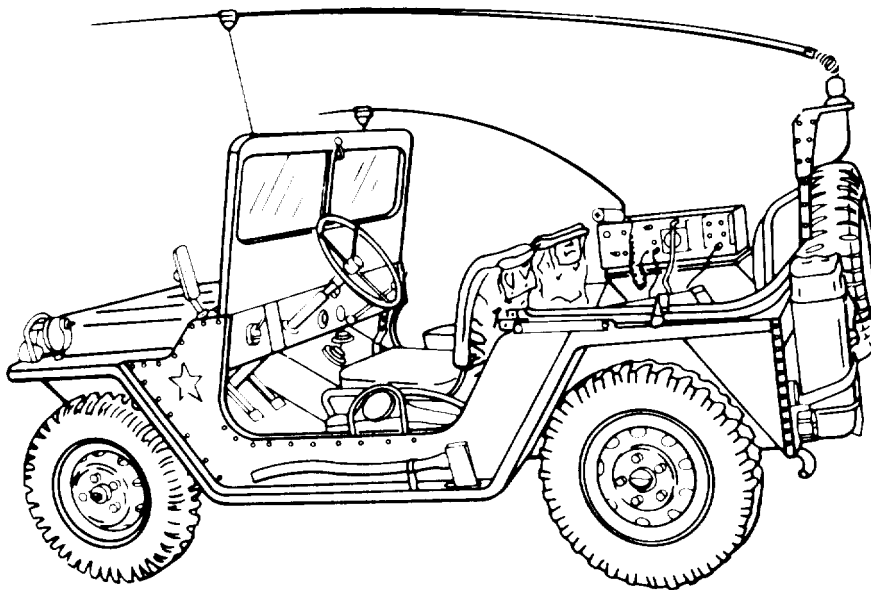


# ARMY TM 11-5820-401-20-1 NAVY EE150-JA-MMO-010/E154 VRC 12, 43

## TECHNICAL MANUAL

### ORGANIZATIONAL MAINTENANCE



This copy is a reprint which includes current pages from Changes 1 and 2.

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**RADIO SETS: AN/VRC-12 (NSN 5820-00-223-7412),  
AN/VRC-43 (NSN 5820-00-223-7415), AN/VRC-44  
(NSN 5820-00-223-7417), AN/VRC-45 (NSN 5820-00-223-7418),  
AN/VRC-46 (NSN 5820-00-223-7433), AN/VRC-47  
(NSN 5820-00-223-7434), AN/VRC-48 (NSN 5820-00-223-7435),  
AN/VRC-49 (NSN 5820-00-223-7437)  
(USED WITHOUT INTERCOM SET)**

DEPARTMENTS OF THE ARMY AND NAVY

3 JANUARY 1984

TECHNICAL MANUAL  
NO. 11-5820-401-20-1  
EE150-JA-MMO-010/E154 VRC 12, 43

DEPARTMENTS  
OF THE ARMY AND THE NAVY  
Washington, DC, 3 January 1984

# Organizational Technical Manual

**RADIO SETS: AN/VRC-12 (NSN 5820-00-223-7412),  
AN/VRC-43 (NSN 5820-00-223-7415), AN/VRC-44 (NSN 5820-00-223-7417),  
AN/VRC-45 (NSN 5820-00-223-7418), AN/VRC-46 (NSN 5820-00-223-7433),  
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AN/VRC-49 (NSN 5820-00-223-7437)  
(USED WITHOUT INTERCOM SET)**

## REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5007. For Navy, mail comments to the Commander, Naval Electronic Systems Command, ATTN: ELEX 8122, Washington, DC 20360. In either case, a reply will be furnished direct to you.

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\*This manual, together with TM 11-5820-401-20-2, -10-1, and -10-2, supersedes TM 11-5820-401-12 including all changes.

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## HOW TO USE THIS MANUAL

This manual is designed to help you do organizational maintenance for any one of the eight AN/VRC-12 series radio sets installed in wheeled vehicles.

The front cover index is provided for quick reference to important information by general listings. The index on the final pages will help locate specific information by alphabetical listing.

Measurements in the manual are given in both English and Metric Units.

Read all preliminary information found at the beginning of each procedure. It has important information and safety instructions you must follow before beginning work.

Warning pages are at the beginning of this manual. You should learn the warnings before doing maintenance on the equipment and always follow appropriate safety procedures and precautions.

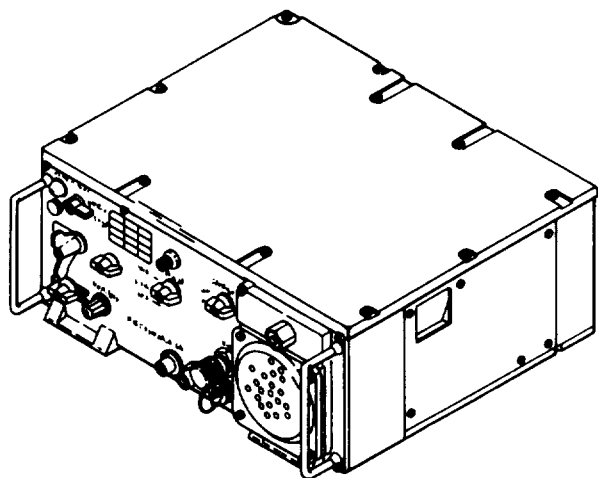
Paragraphs in this manual are numbered by chapter and order of appearance within a chapter. A subject index appears at the beginning of each chapter section to help you find the exact paragraph you are looking for.

Instructions for using troubleshooting tables are located in paragraph 3-7.

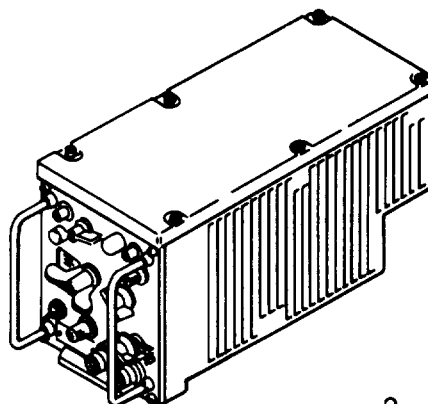
Instructions for performing the PMCS are located in paragraph 3-4.

Instructions for installing items of equipment are located in paragraph 2-4.

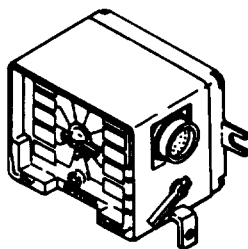
Instructions for evaluating the performance of the equipment are located in paragraph 3-13.



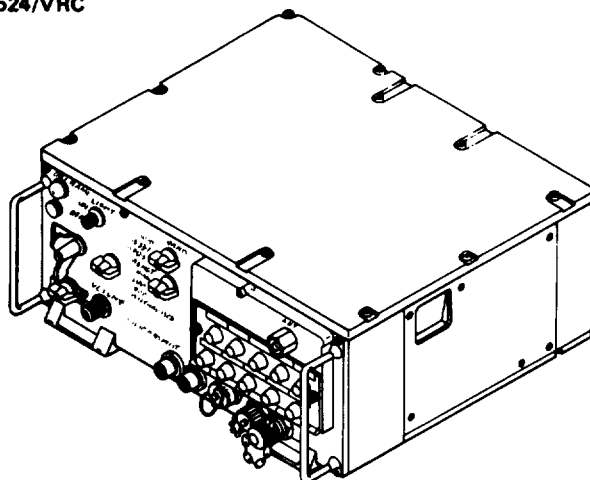
RECEIVER-TRANSMITTER  
RT-524/VRC



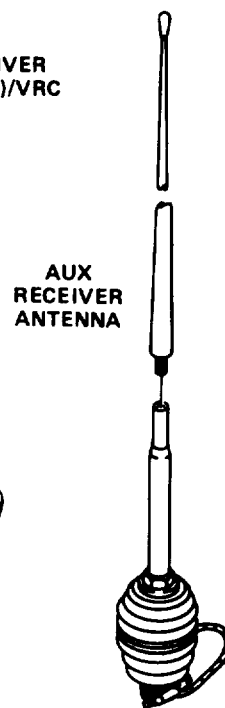
RECEIVER  
R-442(\*)/VRC



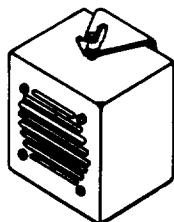
CONTROL BOX  
C-2742/VRC



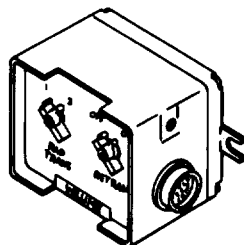
RECEIVER-TRANSMITTER  
RT-246/VRC



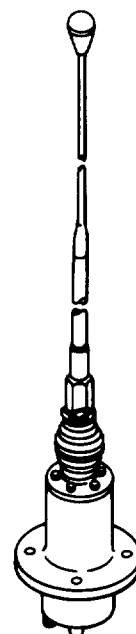
AUX  
RECEIVER  
ANTENNA



LOUDSPEAKER  
LS-454/U



CONTROL BOX  
C-2299/VRC



RT ANTENNA  
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EL8NZ001

**CHAPTER 1****INTRODUCTION**

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**OVERVIEW**

This chapter provides general information about the communication-electronics (C-E) items of equipment that make up the AN/VRC-12 series of radio sets installed in wheeled vehicles. Specifically, this chapter covers the names and model numbers of the C-E components, common maintenance forms and records associated with the components, general administrative procedures for the components, and specific descriptions and data about each component. It also presents the basic principles of operation for each circuit of a typical radio set.

**Section I GENERAL INFORMATION**

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**1-1. SCOPE.**

Type of Manual: This manual covers the organizational level of maintenance for the AN/VRC-12 series of radio sets.

Model Numbers and Equipment Names: The AN/VRC-12 series of radio sets consists of the following eight configurations: AN/VRC-12, AN/VRC-43, AN/VRC-44, AN/VRC-45, AN/VRC-46, AN/VRC-47, AN/VRC-48 and AN/VRC-49.

Purpose of Radio Sets: The purpose of the AN/VRC-12 series of radio sets is to provide short range, two-way radio communication in the 30- to 75.95-MHz range, using frequency-modulated (FM) transmission and reception.

The radio sets are used in vehicles such as jeeps, trucks and other wheeled vehicles. When the radios are installed in tanks and armored personnel carriers, refer to TM 11-5820-401-20-2/EE150-JA-MMO-020/E154 VRC 12,43.

This radio set series provides for command and control of the vehicle over the two-way radio link.