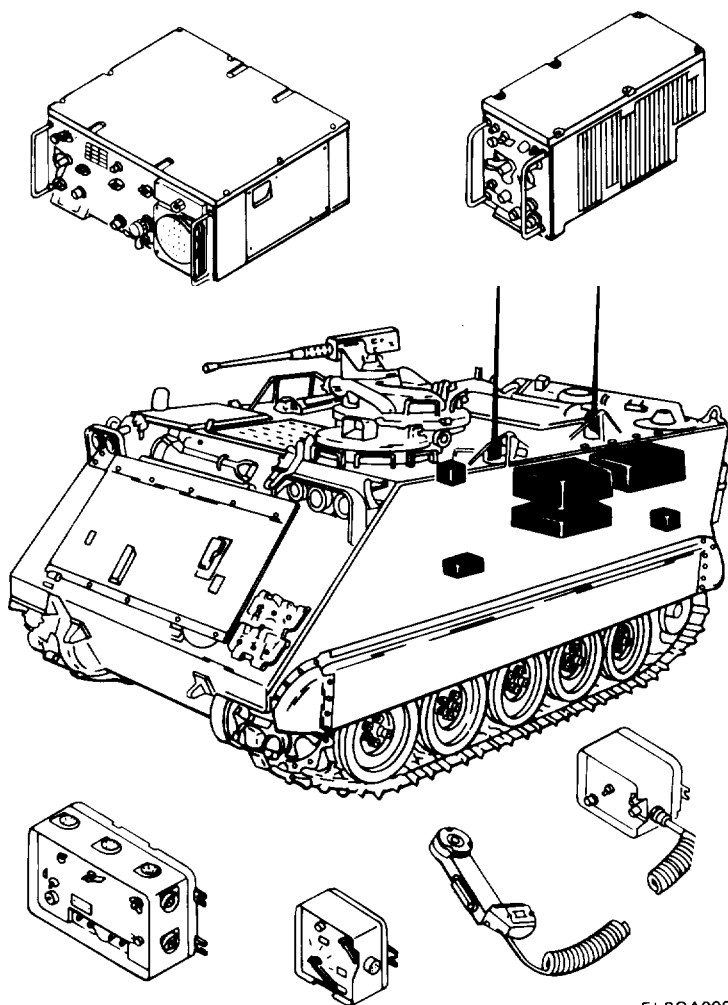


ARMY TM 11-5820-401-20-2 NAVY EE150-JA-MMO-020/E154 VRC 12, 43

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL



EQUIPMENT DESCRIPTION AND DATA	PAGE 1-5
--------------------------------------	----------

PRINCIPLES OF OPERATION	PAGE 1-55
----------------------------	-----------

INSTALLATION PROCEDURES	PAGE 2-3
----------------------------	----------

PREVENTIVE MAINTENANCE CHECKS	PAGE 3-2
-------------------------------------	----------

TROUBLESHOOTING	PAGE 3-16
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OPERATIONAL CHECKS	PAGE 3-187
-----------------------	------------

MAINTENANCE	PAGE 3-273
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PREPARATION FOR STORAGE AND SHIPMENT	PAGE 3-326
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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 WITH INTERCOM SET AN/VIC-1(V))**

DEPARTMENTS OF THE ARMY AND NAVY

3 JANUARY 1984

TECHNICAL MANUAL
NO. 11-5820-401-20-2
EE150-JA-MMO-020/E154 VRC 12, 43

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

Organizational Maintenance 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 582-00-223-7433), 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 WITH INTERCOM SYSTEM AN/VIC-1(V))

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 directly 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 Electronics Systems Command, ATTN: ELEX 8122, Washington, DC 20360. A reply will be furnished directly to you.

Page

	HOW TO USE THIS MANUAL	ii
CHAPTER 1	INTRODUCTION	1-1
Section I	General Information.....	1-1
II	Equipment Description and Data	1-5
III	Principles of Operation	1-55
CHAPTER 2	INSTALLATION.....	2-1
Section I	Installation Tools and Materials.....	2-1
II	Service Upon Receipt	2-2
III	Installation Procedures.....	2-3
CHAPTER 3	ORGANIZATIONAL MAINTENANCE	3-1
Section I	Repair Parts, Special Tools, TM DE, and Support Equipment	3-1
II	Organizational Preventive Maintenance Checks and Services.....	3-2
III	Troubleshooting.....	3-16
IV	Maintenance Procedures.....	3-187
V	Preparation For Storage or Shipment.....	3-326

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

	Page
APPENDIX A	REFERENCES. A-1
APPENDIX B	MAINTENANCE ALLOCATION CHART B-1
APPENDIX C	EXPENDABLE SUPPLIES AND MATERIALS C-1
GLOSSARY	 Glossary1
INDEX	 Index1
FOLDOUTS	 FO-1

HOW TO USE THIS MANUAL

This manual is designed to help you do organizational maintenance for the eight AN/VRC-12 series radio sets installed with the AN/VIC-1(V) in tracked vehicles.

The front cover provides a Table of Contents for quick reference to important information by general listing. The Index on the final pages will help locate specific information by alphabetical listing.

Measurements in this 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.

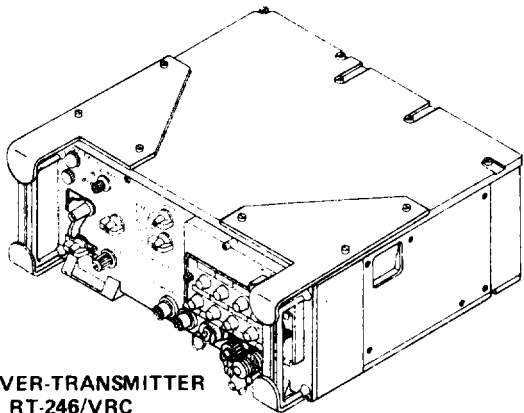
Warning pages are at the beginning of this manual. You should learn the warnings before doing maintenance on the equipment, and always follow appropriate safety procedures and precautions.

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.

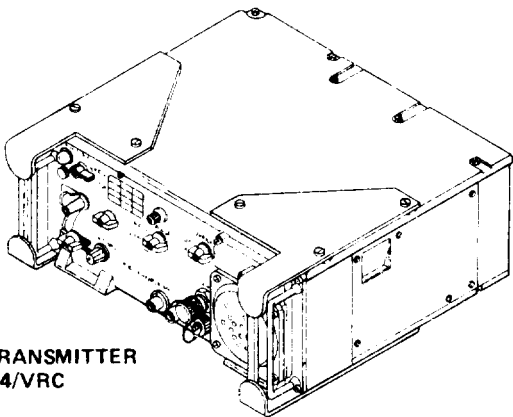
Instructions for using troubleshooting tables are located in paragraph 3-7.

Instructions for performing the PMCS are located in paragraph 3-5.

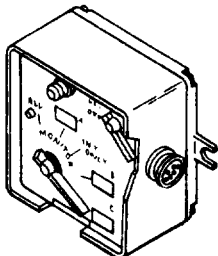
Instructions for installing items of equipment are located in chapter 2, section III.
Instructions for evaluating the performance of the equipment are located in paragraph 3-15.



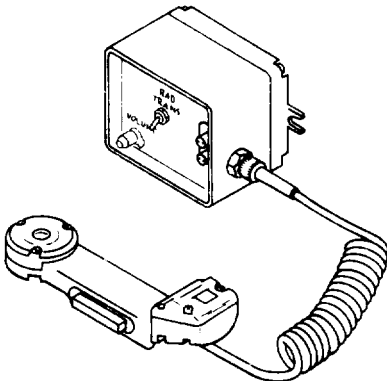
RECEIVER-TRANSMITTER
RT-246/VRC



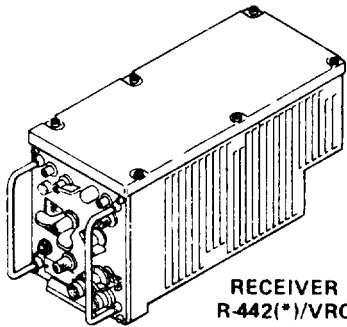
RECEIVER-TRANSMITTER
RT-524/VRC



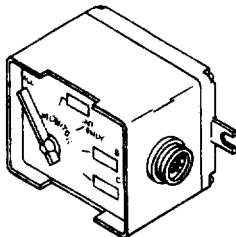
CONTROL BOX
C-2297/VRC



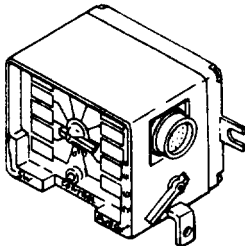
CONTROL BOX
C-2296/VRC



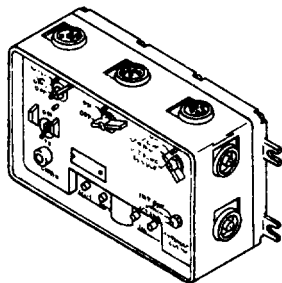
RECEIVER
R-442(*)/VRC



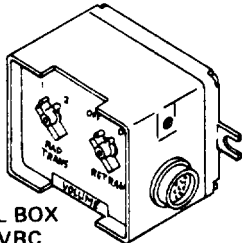
CONTROL BOX
C-2298/VRC



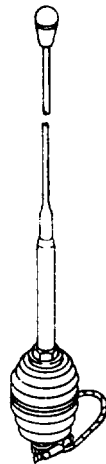
CONTROL BOX
C-2742/VRC



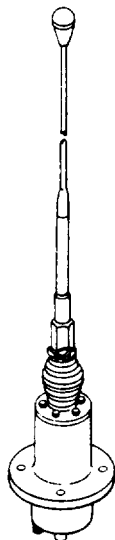
MAIN JUNCTION BOX
AM-1780/VRC



CONTROL BOX
C-2299/VRC



AUXILIARY RECEIVER
R-442 ANTENNA



RT ANTENNA
AS-1729/VRC

EL80A002

CHAPTER 1

INTRODUCTION

Subject	Section	Page
General information	I	1-1
Equipment Description and Data.	II	1-5
Principles of Operation	III	1-55

OVERVIEW

This chapter provides general information about the Communication - Electronic (C-E) items of equipment that make up the AN/VRC-12 series of radio-intercom systems installed in tracked 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-intercom system.

Section I GENERAL INFORMATION

Subject	Para	Page
Scope	1-1	1-1
Consolidated Index of Army Publications and Blank Forms	1-2	1-2
Reporting Equipment Improvement Recommendations (EAR.	1-3	1-2
Maintenance Forms, Records, and Reports	1-4	1-2
Destruction of Army Electronics Materiel to Prevent Enemy Use.....	1-5	1-2
Administrative Storage	1-6	1-2
Nomenclature Cross-Reference List	1-7	1-3
Hand Receipt Manual	1-8	1-4

1.1. SCOPE.

TYPE OF MANUAL: This manual covers organizational maintenance for communication (radio-intercom) systems in tracked vehicles. These systems consist of Intercommunication (intercom) Set AN/VIC-1(V) in combination with any eight AN/VRC-12 series of radio sets.

MODEL NUMBERS AND EQUIPMENT NAMES: The AN/VRC-12 series of radio sets consists of: 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.

The AN/V1C-1(V) intercom set consists of the main junction box/amplifier with combinations of crewmember control boxes (C-2297/VRC with C-2296/VRC and/or C-2298/VRC).

PURPOSE OF RADIO - INTERCOM SYSTEM: The AN/VIC-1 intercom set provides for communication between crewmembers of a tracked vehicle over wire communications. The AN/VRC-12 radio sets provide for communication command and control in a tracked vehicle over a two-way FM radio link.

The radio sets are used in tracked vehicles such as tanks and armored personnel carriers. When the radios are installed in jeeps, trucks, or other wheeled vehicles, refer to TM 11-5820-401-20-1/EE150-JA-MM0-010/E154VRC 12, 43.