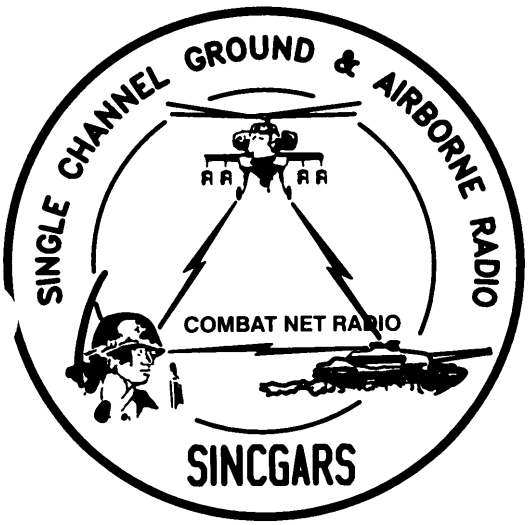
TM 11-5820-890-20-3

UNIT LEVEL MAINTENANCE HANDBOOK
SINCGARS ICOM GROUND RADIOS



GROUND ICOM RADIO SETS

AN/PRC-119A (NSN 5820-01-267-9482) (EIC: L2Q),
AN/VRC-87A (NSN 5820-01-267-9480) (EIC: L22),
AN/VRC-88A (NSN 5820-01-267-9481) (EIC: L23),
AN/VRC-89A (NSN 5820-01-267-9479) (EIC: L24),
AN/VRC-90A (NSN 5820-01-267-5105) (EIC: L25),
AN/VRC-91A (NSN 5820-01-267-9478) (EIC: L26),
AN/VRC-92A (NSN 5820-01-267-9477) (EIC: L27)

HEADQUARTERS, DEPARTMENT OF THE ARMY
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Technical Manual

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Headquarters
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Washington, D.C. 28 February 1995

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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 back of this manual direct to: Commander, US Army Communications– Electronics Command and Fort Monmouth, ATTN: AMSEL-LC–LM–LT, Fort Monmouth, New Jersey 07703–5007.

In either case a reply will be furnished direct to you.

TABLE OF CONTENTS

TABLE OF CONTENTS Continued

TABLE OF CONTENTS Continued

SECTION I

INTRODUCTION

1.1 YOUR "UNIT MAINTENANCE HANDBOOK"

PURPOSE. Your "Unit Level Maintenance Handbook," TM 11-5820-890-20-3 (Short Title: TM 20-3), is designed for you, the unit level SINCGARS maintainer, to use in the field, inside combat vehicles, and in all kinds of weather. This handbook assumes that you are a trained SINCGARS maintainer and have ready access to TM 11-5820-890-20-1 and TM 11-5820-890-20-2 (Short Titles TM 20-1 and TM 20-2), "Unit Maintenance Manual," which contain detailed maintenance instructions. Your logbook size handbook contains abbreviated troubleshooting procedures, which when properly applied will provide the same results as the procedures contained in TM 20-1. Your handbook also offers selected technical data which you may use as guides or memory joggers. The basic purpose of this manual is to provide you essential job information that you can carry with you in the field. It is expected that you will refer to TM 20-1 and TM 20-2 whenever more detailed information is required.

BASIS OF ISSUE. This logbook size handbook is issued on the basis of one per unit level SINCGARS maintainer. You are encouraged to treat this guide as "personal property," adding notes and making changes as your experience warrants. It is intended that this manual be taken with you whenever you are required to work on SINCGARS radios in the field.

LOCATING SUBJECTS. Several features of this handbook make it easy for the unit maintainer to find desired material. There is a complete Table of Contents at the front of the manual, a detailed Subject Index at the rear. Also, Sections IV and V have Tables of Contents at the front of each section.

GOAL. The goal is to provide the unit maintainer adequate guidance to be able to troubleshoot, properly identify, and correct most problems encountered in the field for both manpack and vehicular radios. It does not replace or preclude the need to use TMs 20-1 and 20-2 when more specific, in-depth guidance is required for job performance.

HOW TO USE YOUR UNIT MAINTENANCE HANDBOOK. Use of TM 20-3 is illustrated in this example. A unit maintainer is called to a combat vehicle that has a radio problem. By questioning the radio operator, the maintainer determines the general nature of the problem. The unit maintainer then performs the appropriate Operational Check found in the Handbook, performing each step in the manner and the order prescribed. This procedure will take the maintainer to the point where the faulty component is identified, or the maintainer is referred to one or more specific troubleshooting guide to use. Once the faulty component has been identified and either replaced or repaired, the maintainer again performs the Operational Check to ensure that the entire system is in fact operational. Handbook chapters entitled Cable Schematics and Selected Graphics provide additional information which may be of use to the maintainer during the troubleshooting and replacement/repair effort. When the problem can be isolated to components other than the radio system (e.g. VIC-1, Control-Monitor, RCU, Single Radio Mount), the maintainer must use TM 20-2 rather than the handbook to continue troubleshooting.

1.2 SCOPE

This "Unit Level Maintenance Handbook, " TM 20-3 contains troubleshooting guides and selected technical data applicable to SINCGARS ICOM Ground Radios, AN/PRC-119A and AN/VRC-87A trough AN/VRC-92A. Abbreviated Troubleshooting Guides (TSG) provide identical procedures to those found in TM 20-1. In general, these guides tell the maintainer "what" needs to be done, but not "how." Cable schematics and selected graphics offer the experienced unit maintainer additional information on which to troubleshoot and replace or repair faulty components.

1.3 AVOIDING "FALSE PULLS"

A "False Pull" is what occurs when a component or LRU is identified as faulty and sent to Direct Support Maintenance when in fact the item is operational. False Pulls hurt your unit in several ways. A piece of equipment has been needlessly removed from the unit, reducing mission readiness and operational capabilities. Also, replacing an operational component with a like item did nothing to correct the problem which started the maintenance action. And, importantly, the number of good components needlessly sent to DS for maintenance can reflect positively or negatively on your unit maintainers, as well as slowing down the repair process for actual failed components.

How can False Pulls be avoided? Recognizing the nature of electrical and electronic component failures, it may not be possible to avoid ever experiencing a False Pull. But, it is possible to avoid all but a few. Here is how. Follow some simple, straight froward rules:

a. **Don't** guess; **DO** troubleshoot.

b. **Don't** rely on memory; **DO** use your Handbook or TM.

c. **Don't** chase symptoms; **DO** perform the Operational Check.

d. **Don't** "pull and push;" **DO** replace/repair the component identified by the Operational Check or TSG.

e. **Don't** send replaced item to DS without double-checking; **DO** test LRU again after replacement to verify that it is faulty.

1.4 MAINTENANCE FORMS, RECORDS, AND REPORTS

REPORTS OF MAINTENANCE AND UNSATISFACTORY EQUIPMENT. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

REPORTING OF ITEM AND PACKING DISCREPANCIES. Fill out and forward SF 364 (Report of Discrepancy [ROD]) as prescribed in AR 735-11-2/DLAR 4140.55/SECNAVINST 4355. 18/AFR 400-54/MCO 4430.3J.

TRANSPORTATION DISCREPANCY REPORT (TDR) (SF 361). Fill out and forward TDR (SF 361) as prescribed in AR 55-38/NAVSUPINST 461 0.33 C/AFR 75-18/MCO P4610.19/DLAR 4500.15.

1.5 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your series of radio sets needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about the design. Put your comments on an SF 368 (Product Quality Deficiency Report). Mail it to: US Army CECOM, ATTN: AMSEL-LC-ED-CFO, Fort Monmouth New Jersey 07703-5023. We will send you a reply.

1.6 REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of away to improve the procedures, please let us know. Mail your letter or DA form 2028–2 (forms located in the back of this handbook) to: US Army CECOM, ATTN: AMSEL-LC-LM-LT, Fort Monmouth New Jersey 07703-5007. We will reply direct to you.

1.7 SECURITY CLASSIFICATION AND MARKING

The ICOM SINCGARS ground combat net radio is designated as a Controlled Cryptographic Item (CCI). Handle in accordance with TB 380-41-5.

1.8 DESTRUCTION OF ARMY ELECTRONICS MATERIEL

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