TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT

MAINTENANCE MANUAL

FOR

MODEM, DIGITAL

DATA MD-920 A/G

(NSN 5820-00-155-8576)

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

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1976

Technical Manual
No. 11-5820-804-34
Technical Publication
NAVELEX 0969-LP-169-4021
Technical Order
TO 31R5-2G-272

DEPARTMENTS OF THE ARMY,

THE NAVY, AND THE AIR FORCE

WASHINGTON, DC 8 June 1976

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL FOR MODEM, DIGITAL DATA MD-920A/G (NSN 5820-01-057-6356)

REPORTING OF ERRORS

You can improve this manual by recommending improvements using DA Form 2028-2 located in the back of the manual. Simply tear out the self addressed form, fill out as shown on the sample, fold it where shown, and drop it in the mail. If there are no blank DA Form 2028-2's in the back of the manual use standard DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward to: Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703.

For Air Force, use USAFLC Form 252 (Request to TO Revision or Change). Forward direct to prime ALC/MST.

For Navy, mail comments direct to: Commander, Naval Electronics Systems Command, LP code 04F4, P.O. Box 8337, San Diego, California 92138.

A reply will be furnished direct to you.

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1
INTRODUCTION

1-1. Scope

This manual contains necessary information for troubleshooting, repair and maintenance of Modem, Digital Data MD-920A/G, hereafter referred to as the ICF modem. Chapter 2 provides a detailed explanation of circuit operation. Direct support troubleshooting and maintenance procedures for the ICF modem are provided in chapter 3 and chapter 4 provides information for general support maintenance of the ICF modem. Chapter 5 provides necessary information for the modem power supply, including functional description, maintenance, repair, and troubleshooting. Appendix A contains references, appendix B contains wire lists, and appendix C defines mnemonics used on diagrams.

NOTE

Refer to TM 38-750 for Forms and Records, TM 750-224-2 for Destruction of Army Materiel to Prevent Enemy Use, and TM 740-90-1 for Administrative Storage.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 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. Equipment Designators

Throughout this manual, assemblies and subassemblies are identified by reference designation; e.g., A2A1, A2A1A1, etc. These designators are the same as those marked on the equipment. The maintenance allocation chart in TM 11-5820-804-12 and the repair parts and special tools lists in TM 115820-804-20P and 34P are, however, organized in functional group code (FGC) sequence. To facilitate use of all equipment documentation, a reference designation to functional group code cross reference index is provided in table 1-1.

Table 1-1. Reference Designation/FGC Cross Reference

Reference designator	*Name*	*Assembly number*	*Functional group*
	Modem, MD-920A/G.	SM-D-759601	00
A1	Control Panel	SM-D-759656	01
A1A1	Switch Assembly.	SM-D-742008	0101
A1A2	Switch Assembly.	SM-D-742008	0102
A2	Modem Assembly	SM-D-759658	02
A2A1	Synthesizer and Bit Sync Assembly	SM-D-759603	0201
A2A1A1A1	Counter Encoder.	SM-D-742105	020101
A2A1A1A2	Programmable Divider.	SM-D-742109	020102
A2A1A1A3	Reference Oscillator.	SM-D-742129	020103
A2A1A1A5	Reference Divider.	SM-D-742133	020104
A2A1A1A6	45 MHz Phase Lock Loop.	SM -D-742113	020105
A2A1A1A8	45 MHz Amplifier.	SM-D-742117	020106
A2A1A1A10	Mixer/Output Amplifier.	SM-D-74125	020107
A2A1A1A11	15 MHz Amplifier.	SM-D-742121	020108
A2A1A1A12	Stable Clock	SM-D-731201	020109
A2A1A1 A14	Reference Divider.	SM-D-742133	020110
A2A1A1A15	Digital A1 To Analog Converter	SM-D-731217	020111
A2A1A1A16	Loop Filter	SM-D-731221	020112
A2A1A1A17	Transmit Bit Detector .	SM-D-742045	020113
A2A1A1A21	Line Driver	SM-D-742053	020114
A2A1A1A22	Line Driver	SM-D-742053	020115
A2A1A1A23	Line Driver	SM-D-742053	020116
A2A1A2A1	LOS/Cable Receiver and Decoder	SM-D-742089	020117
A2A1A2A2	NRZ Interface	SM-D-877791	020118
A2A1A2A3	LOS/Cable Driver	SM-D-742081	020119
A2A1A2A4	Input Interface .	SM-D-742037	020120
A2A1A2A5	Coder Interface .	SM-D-742049	020121
A2A1A2A6	Coder Switch	SM-D-742041	020122