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DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL FOR MODEM, DIGITAL DATA MD-1002/G (NSN 5820-01-043-7646)

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DEPARTMENTS OF THE ARMY, THE NAVY, AND THE AIR FORCE

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CHAPTER 1
INTRODUCTION

1 - 1. Scope

This manual contains the necessary information for troubleshooting, repair and maintenance of Modem, Digital Data MD-1002/G, hereinafter referred to as the QPSK/BPSK modem. Chapter 2 provides a detailed explanation of circuit operation. Direct support troubleshooting and maintenance procedures for the modem are provided in chapter 3, and chapter 4 provides information for general support maintenance. Chapter 5 provides necessary information for the modem power supply, including functional description, maintenance, repair, and troubleshooting. Appendix A contains references and appendix B defines mnemonics used on diagrams.

NOTE

Refer to TM 38-750 for maintenance forms and records, TM 750-244-2 for destruction of Army electronics materiel to prevent enemy use, TM 740-90-1 for administrative storage, DA Pam 310-4 for applicable technical manuals, DA Pam 310-7 for current modification work orders, and to TM 11-5820-847-12, paragraph 1-6, for reporting equipment improvement recommendations

1 - 2. Equipment Designators

Throughout this manual, assemblies and subassemblies are identified by reference designation; e.g., A2A1, A2A2, etc. These designators are the same as those marked on the equipment. The maintenance allocation chart in TM 11-5820-847-12 and the repair parts and special tools lists in TM 11-5820-847-20P 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	FGC
	Modem, Digital Data MD- 1002/ G	SM-D-877605	00
A1	Control Panel	SM-D-877611	01
A1A1	Switch Assembly, Input Data Rate	SM-D-742008	0101
A1A2	Switch Assembly, I Channel Symbol Rate	SM-D-742008	0102
A2	RF Modem and Bit Sync Assembly	SM-D-877607	02
A2A1	QPSK/BPSK Data Receiver and Modulator	SM-D-877650	0201
A2A2	70-MHz Oscillator	SM-D-731193	0202
A2A4	Quantizer, Phase Channel	SM-D-731213	0203
A2A5	Dump Circuit, Phase Channel	SM-D-731209	0204
A2A6	Integrator, Phase Channel	SM-D-731205	0205
A2A8	Quantlzer, I Channel	SM -D-731213	0206
A2A9	Dump Circuit, I Channel	SM-D-731209	0207
A2A10	Integrator, I Channel	SM-D-731205	0208
A2A12	Data Detector and Driver, I Channel	SM-D-731173	0209
A2A14	Phase Adjust and Detector Driver	SM-D-877680	0210
A2A16	70-MHz Gain Control Amplifier	SM -D-877675	0211
A2A18	Filters and Distribution Amplifier	SM-D-877645	0212
A2A19	Coherent Detector and AGC Loop Amplifier	SM-D-877665	0213
A2A20	X2/X4 Multiplier	SM-D-877660	0214
A2A22	Reference X2/X4 Multiplier	SM-D-877655	0215
A2A24	Phase Lock Loop Amplifier and Sweep Circuit	SM -D-877670	0216
A2A26	Modulation Filter	SM-D-731185	0217
A2A27	70-MHz Output Amplifier	SM-D-731189	0218
A2A29	Bit Sync Buffer	SM-D-877695	0219