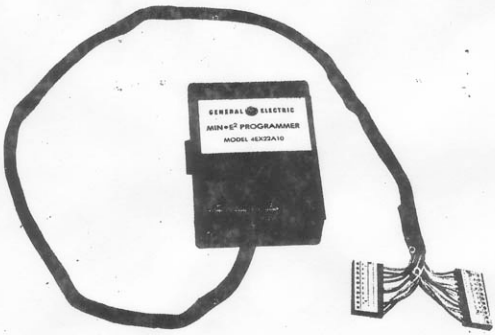
MOBILE RADIO

OPERATING AND MAINTENANCE MANUAL

FOR

EEPROM PROGRAMMER 4EX22A10

(9C851060G1)



Maintenance Manual LBI31189B

EEPROM PROGRAMMER 4EX22A10

DESCRIPTION

The Model 4EX22A10 Programmer allows manual programming of the EEPROM used in various General Electric programmed two-way mobile radios.

The programmer is enclosed in a small plastic housing and requires no battery for operation. It is intended for use when a simple change is to be made in the field or when a small quantity of radios are to be maintained.

Referring to Figure 1, there are three rotary switches, S3, S4, and S5. Switch S3 determines the channel address and is set to the appropriate channel (equivalent to those on the control panel of the radio). Switch S4 determines the function which is being addressed: Rx Frequency, Tx Frequency, CG Tone or Code, and CCT duration. S5 sets the hex code bits within each function.

PROGRAMMING

There are also two push switches, S1 for "write" and S2 for "store". S1 is pushed after each address setting to input the data into temporary memory. S2 is pushed after all changes have been entered, to permanently store the data in the EEPROM. Slide switch S6 is used to select a second PROM.

It is <u>not</u> necessary to reprogram all the data <u>to</u> change a function - the individual functions can be changed without affecting the rest of the memory.

When finished "writing" to the temporary memory, push S2 to "store" the data in permanent memory. Programming is now complete and the unit is ready for operation. Verification of programming must be made by testing the radio with normal test equipment (e.g.: frequency counter).

In Phoenix-S/SX radios which use the 'MODE A/B' switch, the second section (MODE B) of the worksheet is used just like the 'MODE A' section, except the function addresses are different; 8 9ABCDEF in lieu of 0 1234567.

In Delta-S/SX radios, 'MODE B' programming is identical to 'MODE A' but a second PROM in the radio is used. Also the PROM Select Switch S6 on the Programmer must be set to PROM 1 for 'MODE A' or to PROM 2 for 'MODE B'.

"Blank" transmit or receive channels may be programmed. When a receive channel is blank, the receiver will stay muted. When a transmit channel is blank, the transmitter is disabled. To program a blank channel the data address (under the 'MODE A' function S or 'MODE B' function D) is set to 'F'. The remaining four data addresses no longer have any effect.

Note that it is <u>not</u> necessary to reprogram all information in the EEPROM. A selected frequency, tone, etc., on any channel(s) can be changed and the rest of the memory will not be modified.

EX22K10 Programmer

The EEPROM must be powered-on <u>during</u> programming (radio turned on).

Programming is different for each product line and some of the tables differ as well - be sure to use the correct product information.

As an illustration (see Figure 2) a radio would be programmed by setting S3 to the channel address. Then working horizontally across Channel 1, S4 is set to the first receive function ("0") and S5 is set to the appropriate RF bit. This information is written with S1 and the process repeated. When complete, S2 is used to store the data in EEPROM memory. Actual addresses are provided with tables in the product supplements which show channel address, carrier control time, Channel Guard tones and codes, and receive and transmit frequencies.

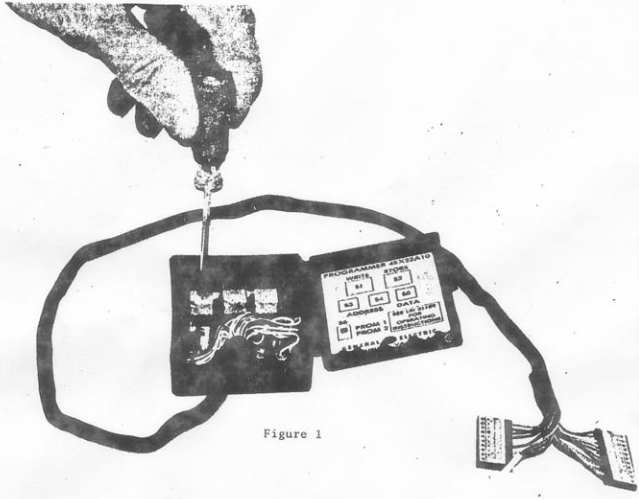


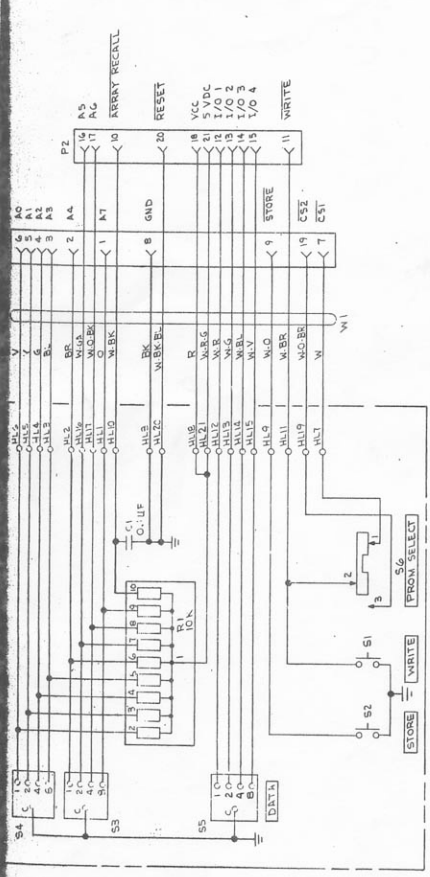
Figure 1

PHOENIX-S/SX WORKSHEET MODE A

NARROWBAND ☐
WIDEBAND ☐

	Chan Addr	Receive Functions	Chan Addr	Transmit Functions	Set
		CG Type (Frequency) (CG)		(CCT) (Frequency) (CG)	
	(S3)	0 1 2 3 4 5 6 7	(S3)	0 1 2 3 4 5 6 7	← S4
Channel 1 Mode A	2	"HEX CODES" / "RECORDED DATA"	3	"HEX CODES" / "RECORDED DATA"	← S5
Channel 2 Mode A	4		5		← S5
Channel 3 Mode A	6		7		← S5

(Figure 2 LBI31189)



TRUTH TABLE
S3, S4, S5

POS.	1	2	4	8
0	X	X	X	X
1		X	X	X
2	X		X	X
3			X	X
4	X	X		X
5		X		X
6	X			X
7				X
8	X	X	X	
9		X	X	
A	X		X	
B			X	
C	X	X		
D		X		
E	X			
F				

X = CONTACT CLOSURE

MODEL NO. PL-19C851026G1 REV LETTER

(19C851026, Rev. 1)

SCHEMATIC DIAGRAM

EEPROM PROGRAMMER
4EX22A10