EEPROM PROGRAMMER (FOR BALLY/ASTROCADE)

PROGRAM BELOW USES BIT FIDDLER'S MLM TO COPY TO EEPROM. CALL 4E10H. SOURCE TO COPY BEGINS AT 6000H. COPY DESTINATION IS AT 8000H.

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COPY    4E10H  21 00 60    LD HL, SOURCE      HL= SOURCE ADDRESS
               11 00 80    LD DE, DESTIN      DE= DESTINATION ADDRESS
               01 00 20    LD BC, BYTES       BC= # OF BYTES TO COPY (SEE NOTE BELOW)
COPY1          CD 26 4E    CALL DELAY         WAIT 12.3m SEC
               ED A0       LDI                COPY A BYTE
               78          LD A, B
               B1          OR C
               4E20H 20 F7 JR NZ, COPY1
               DF          RST 18H            ] WRITE "OK".
               B6 26       DEFW 26B6H         ] (PROGRAMMING IS DONE.
                                              ]  USE MLM CHAR STRING.)
               C9          RET                RETURN TO MLM
DELAY  4E26H   3E 0F       LD A, 15D                                    7
DELAY1         F5          PUSH AF
               3E 59       LD A, 89D
DELAY2         3D          DEC A              ] 1447 T STATES   15x1447= 21705
               20 FD       JR NZ, DELAY2
               F1          POP AF
               3D          DEC A                          15x4    =   60
               4E30H 20 F6 JR NZ                  (14x12)+7   =  175
               C9          RET                                    ----
                                                                   10
                                                                  21957 T STATES
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Z80 CLOCK $\Phi = 1.78 MHz$ $T = \frac{1}{f} = \frac{1}{1.78 \times 10^{-6}} = 560 nSEC$ $21957(560 \times 10^{-9}) = 12.3$ mSEC PER BYTE

(CYCLES/SEC)

8K BYTE PROGRAMMING TIME = $8 \times 1024 \times 12.3 \times 10^{-3} = 101$ SEC

NOTE: 8K BYTES = $8(1024_D) = 8192$ BYTES = 2000H
4K = $4(1024) = 4096$ = 1000H
2K = $2(1024) = 2048$ = 0800H

BYTES TO LOAD INTO BC

CHECK PROGRAMMING (CALL $4E33_H$)

CHECK	$4E33_H$	21 00 80	LD HL, 8000_H	HL = CHECK ADDRESS
		11 00 60	LD DE, 6000_H	DE = COMPARE ADDRESS
		01 00 20	LD BC, 2000_H	BC = # OF BYTES TO CHECK
CHECK1	$4E3C_H$	1A	LD A, (DE)	A = COMPARE BYTE
		13	INC DE	DE = NEXT COMPARE ADDRES
		ED A1	CPI	CHECK A BYTE
		20 07	JR NZ, ERROR	IF ERROR, REPORT IT
	$4E42_H$	EA 3C 4E	JP PE, CHECK1	IF NO ERROR, CHECK ANOTHER B
		DF	RST 18_H	WRITE "OK" (USE MLM CHAR STRING)
		B6 26	DEFW $26B6_H$	
		C9	RET	RETURN BYTE
ERROR		DF	RST 18_H	WRITE "ERR" (USE MLM CHAR STRING)
		B2 26	DEFW $26B2_H$	
		2B	DEC HL	BACK UP CHECK ADDRESS
		7C	LD A, H	DISPLAY CHECK ADDRESS IN ERROR (USE MLM REG A DISPLAY)
		CD 5E 24	CALL RGDIS	
	$4E51_H$	7D	LD A, L	
		CD 5E 24	CALL RGDIS	
		C9	RET	RETURN TO MLM