DAZZLE DOODLE

The Cromemco Dazzle-Doodle software is designed to allow the user to draw full-color pictures on the screen of an ordinary color TV under joystick control. The hardware required is a Cromemco JS-1 joystick console, a Cromemco D+7A interface for the joystick console, and a Cromemco TV Dazzler for the TV display interface. When using the Cromemco Dazzler games diskette, simply type "DOODLE" to begin execution of this program.

To use the Dazzle-Doodle program simply depress either button 2, 3, or 4 on the joystick console and begin "drawing" with the joystick. Button 2 is for red, 3 gives green, and button 4 is for blue. More than one of these buttons may be depressed for a combination of colors. Button 1 is used to erase the picture. The screen may also be filled with color by depressing button 1 while at the same time depressing one or more of buttons 2, 3, or 4. A source listing of the program is given below:

Address	Contents	Comments
000 000	303 JMP	Jump to main program (optional
000 001	000	instruction for execution to begin
000 002	002	at zero in memory).
002 000	076 MVI , A	Main program begins here.
001	204	
002	323 OUT	Out to Dazzler to display picture
003	016	from 2K to 4K in memory.
004	076 MVI , A	
005	060	
006	323 OUT	Out to Dazzler for 64X64 mode
007	017	full color.
010	333 IN	Input from JS-1 console switches.
011	030	
012	057 CMA	
013	366 ORI	
014	020	
015	037 RAR	
016	107 MOV B , A	Save in B register state of switches.
017	332 JC	Jump if switch #1 is depressed.

Address	Contents	Comments
002 020	146	
021	002	
022	333 IN	Input joystick x-axis.
023	031	
024	306 ADI	
025	100	
026	362 JP	Jump if voltage within range.
027	033	
030	002	
031	006 MVI B	Otherwise put zeros in B register
032	000	to prevent screen write.
033	037 RAR	
034	137 MOV E , A	Put X displacement in E.
035	333 IN	Input joystick y-axis.
036	032	
037	306 ADI	
040	100	
041	362 JP	Jump if voltage within range.
042	046	
043	002	
044	006 MVI B	Otherwise put zeros in B register
045	000	to prevent screen write.
046	037 RAR	
047	057 CMA	
050	127 MOV D , A	Put Y displacement in D register.
051	000 NOP	
052	000 NOP	
053	000 NOP	
054	346 ANI	The following instructions are used
055	077	to generate a 64X64 Dazzler address
056	147 MOV H , A	in HL given that the X,Y coordinates
057	346 ANI	are in DE.
060	040	
061	204 ADD H	
062	147 MOV H , A	
063	173 MOV A , E	
064	346 ANI	
065	040	
066	264 ORA H	
067	017 RRC	
070	017 RRC	
071	017 RRC	
072	017 RRC	
073	147 MOV H , A	
074	173 MOV A , E	
075	017 RRC	
076	346 ANI	
077	017	
100	157 MOV L , A	
101	174 MOV A , H	
102	346 ANI	
103	360	
104	265 ORA L	
105	157 MOV L , A	
106	174 MOV A , H	

Address	Contents	Comments
002 107	346 ANI	
110	007	
111	366 ORI	This sets the addresses of picture
112	010	between 2K and 4K in memory.
113	147 MOV H , A	
114	116 MOV C , M	Fetch data byte from memory.
115	173 MOV A , E	
116	017 RRC	Put LSB of X in carry.
117	332 JC	Jump to write in upper nybble
120	132	of data byte.
121	002	
122	076 MVI A	
123	017	
124	240 ANA B	Strip color information from B.
125	261 ORA C	OR with present memory data.
126	167 MOV M , A	Replace with new memory data.
127	303 JMP	Jump back to the beginning.
130	004	
131	002	
132	076 MVI A	
133	017	
134	240 ANA B	Strip color information from B.
135	007 RLC	Shift into upper half of byte.
136	007 RLC	
137	007 RLC	
140	007 RLC	
141	261 ORA C	OR with present memory data.
142	167 MOV M , A	Replace with new memory data.
143	303 JMP	Jump back to the beginning.
144	004	
145	002	
146	041 LXI H	Start of memory clear routine.
147	000	Address of first byte
150	010	of Dazzler picture.
151	076 MVI A	
152	017	
153	240 ANA B	Strip color from B.
154	117 MOV C , A	
155	007 RLC	Copy in upper half of byte.
156	007 RLC	
157	007 RLC	
160	007 RLC	
161	261 ORA C	
162	117 MOV C , A	
163	161 MOV M , C	Store new data in memory.
164	043 INX H	Increment memory location.
165	174 MOV A , H	
166	376 CPI	Check to see if at 4K.
167	020	
170	322 JNC	Jump if through.
171	004	
172	002	
173	303 JMP	Otherwise loop for new location.
174	163	
175	002	