

INSTRUCTION SUMMARY

0	N	IDLE, M(R(N)) → LIGHTS
1	N	R(N)+1
2	N	R(N)-1
4	N	M(R(N)) → D, R(N)+1
5	N	D → M(R(N))
8	N	RO(N) → D
9	N	R1(N) → D
A	N	D → RO(N)
B	N	D → R1(N)
C	N	DO → ROO(N)
7	8	T → M(R(X))

D	N	N → P
E	N	N → X
F	0	M(R(X)) → D
F	1	M(R(X))/D → D
F	2	M(R(X))&D → D
F	3	M(R(X))+D → D
F	4	M(R(X)) PLUS D → D, FC → DF
F	5	M(R(X)) MINUS D → D, FC → DF
F	6	SHIFT D, 1 B R → DF
6	8	INPUT BYTE → M(R(X))
7	0	M(R(X)) → XP, R(X)+1 RESET IM

3	0	Y	Y → RO(P) UNCONDITIONAL BRANCH
3	1	Y	Y → RO(P) IF D≠0
3	2	Y	Y → RO(P) IF D=0
3	3	Y	Y → RO(P) IF DF=1
3	4	Y	Y → RO(P) IF EF1=1 (INPUT BYTE READY)
3	5	Y	Y → RO(P) IF EF2=1 (TAPE ON)
3	6	Y	Y → RO(P) IF EF3=1
3	7	Y	Y → RO(P) IF EF4=1 (ERROR)

**6 2** & M(R(X)) = **0 0** TURN SELECTED I/O OFF, R(X)+1

**6 1** & M(R(X)) = **0 1** SELECT INPUT (CARD/SWITCH), R(X)+1

**6 2** & M(R(X)) = **0 1** SET SELECT INPUT TO PROGRAM MODE, R(X)+1

**6 2** & M(R(X)) = **0 2** SET SELECT INPUT TO DIRECT MODE, R(X)+1

**6 1** & M(R(X)) = **0 3** SELECT TAPE I/O, R(X)+1

**6 2** & M(R(X)) = ~~0 1~~ SET TAPE IN TO PROGRAM MODE, R(X)+1

**6 2** & M(R(X)) = ~~0 2~~ SET TAPE IN TO DIRECT MODE, R(X)+1

**6 2** & M(R(X)) = **4 0** SET TAPE OUT TO WRITE MODE, R(X)+1

**6 3** & M(R(X)) = **0 0** TAPE OFF & SPEAKER OFF, R(X)+1

**6 3** & M(R(X)) = **0 1** TAPE ON & SPEAKER OFF, R(X)+1

**6 3** & M(R(X)) = **0 2** TAPE OFF & SPEAKER ON, R(X)+1

**6 3** & M(R(X)) = **0 3** TAPE ON & SPEAKER ON, R(X)+1

**6 1** & M(R(X)) = **0 2** SELECT TV OUT, R(X)+1

**6 2** & M(R(X)) = **0 1** SET TV TO 32x32 MODE, R(X)+1

**6 2** & M(R(X)) = **0 2** SET TV TO 16x**64** MODE, R(X)+1

RESET SWITCH: 0000 → R(0), IDLE, ALL I/O OFF, 0 → P, CLOCK OFF

RUN: BEGINS EXECUTION WITH INSTRUCTION @ M(R(1))

FIGURE - 9