

D16/M MICROPROGRAM ROMs

BASE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 0						ROM 1						ROM 2						ROM 3						ROM 4																				
				JAO	JAI	JAJ	JAK	JAL	JAM	(HEXADECIMAL)	JMP0 UNCONDITIONAL	JMP1 RUN / IM	JMP2 SKIP / OR=0	JMP3 M / AC=0	JMP4 ID / P	JMP5 ID++ / CF	JMP6 xx / OVF	JMP7 xx / IE_INT	(HEXADECIMAL)	IE_CLR	IE_SET	SKIP_CLR	SKIP_SET	RUN_CLR	/IR_LD	STATE_0	STATE_1	(HEXADECIMAL)	ALU_OV_EN	/FR_EN	FR_LD	CF_CLR	CF_CV	CF_AC15	CF_AC0	CF_SET	(HEXADECIMAL)	PC_EN	PC_LD	PC_INC	/ALU_EN	ALU_CV_EN	ALU_FS0	ALU_FS1	ALU_FS2	(HEXADECIMAL)		
FETCH	00	00	0000	0	0	0	0	0	0	0	00	0	0	0	0	0	0	1	0	02	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	1	09
	00	01	0001	0	0	0	0	1	0	1	0B	0	0	0	0	0	1	0	0	04	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	1	0	0	0C
	00	02	0002	0	0	0	0	0	1	0	04	0	0	0	0	1	0	0	0	08	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	1	09
	00	03	0003	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	1	01	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	04	0004	0	0	0	0	0	1	1	06	0	0	0	1	0	0	0	0	10	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	1	0	0	0C
INDIRECT	00	05	0005	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	1	01	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	06	0006	0	0	0	0	1	0	0	08	0	0	1	0	0	0	0	0	20	0	1	1	0	0	0	0	0	60	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	07	0007	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	1	01	0	1	1	0	0	0	0	0	60	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	08	0008	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	0	1	1	0	0	0	0	0	60	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	09	0009	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	0	1	1	0	0	0	0	0	60	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
SKIP	00	0A	000A	0	0	0	0	0	1	1	07	0	0	0	0	0	0	0	1	01	0	1	1	0	0	0	0	0	60	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	0B	000B	0	0	0	0	1	1	0	0D	0	0	0	0	1	0	0	0	08	0	0	1	0	0	1	0	0	24	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	0C	000C	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	0D	000D	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	0	0	1	0	0	0	0	0	20	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	1	0	0	0C
INTERRUPT	00	20	0020	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	21	0021	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	22	0022	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	1	09
	00	23	0023	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	1	E1	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	00	24	0024	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	25	0025	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	26	0026	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	00	27	0027	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	1	1	1	0	0	0	0	0	E0	0	0	0	0	0	0	0	0	0	00	0	0	0	0	1	0	0	0	08

D16/M MICROPROGRAM ROMs

BASE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5							(HEXADECIMAL)	ROM 6							(HEXADECIMAL)	ROM 7							(HEXADECIMAL)	ROM 8							(HEXADECIMAL)				
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD		/OR_EN	ROR	ASR	LSR	SHL	ROL	AC_LD		/AC_EN	SR_EN	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ		READ	WRITE	INT_ACK	(HEXADECIMAL)	/IX_LD	/IX_EN	/IX_LD		/IX_EN	(SPARE)	(SPARE)	(SPARE)
FETCH	00	00	0000	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	1	1	0	0	0	0	0	0	C0	1	1	1	1	0	0	0	0	F0
	00	01	0001	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	00	02	0002	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	00	03	0003	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	04	0004	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	1	0	0	1	0	1	0	0	94	1	1	1	1	0	0	0	0	F0
INDIRECT	00	05	0005	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	06	0006	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	00	07	0007	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	00	08	0008	0	0	1	1	1	0	0	1	39	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	09	0009	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
SKIP	00	0A	000A	0	0	1	1	0	1	0	1	35	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	0B	000B	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	0C	000C	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
INTERRUPT	00	0D	000D	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	20	0020	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	00	21	0021	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	00	22	0022	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	00	23	0023	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	1	0	1	05	1	1	1	1	0	0	0	0	F0
	00	24	0024	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	00	25	0025	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	0	0	00	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	00	26	0026	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
00	27	0027	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0	

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 0								ROM 1							ROM 2							ROM 3							ROM 4															
				JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN			
LDA	01	00	0080	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	01	01	0081	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	01	02	0082	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	01	7F	00FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
LDS	02	00	0100	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	02	01	0101	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	02	02	0102	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	02	7F	017F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
STA	03	00	0180	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	03	7F	01FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
STS	04	00	0200	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	04	7F	027F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
ADD	05	00	0280	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	05	01	0281	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	05	7F	02FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	1	0	0	1	1	13	0	1	1	0	0	0	0	0	60
ADC	06	00	0300	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	06	01	0301	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	06	7F	037F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	1	0	0	1	1	13	0	1	1	1	0	0	0	0	70
SUB	07	00	0380	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	07	01	0381	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	07	7F	03FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	1	0	0	1	1	13	0	1	0	0	0	0	0	0	40
SBC	08	00	0400	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	08	01	0401	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	08	7F	047F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	1	0	0	1	1	13	0	1	0	1	0	0	0	0	50
AND	09	00	0480	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	09	01	0481	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	09	7F	04FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	1	1	0	0	0	0	0	0	C0

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								ROM 6								ROM 7								ROM 8											
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN	(HEXADECIMAL)	ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN	(HEXADECIMAL)	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK	(HEXADECIMAL)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	(HEXADECIMAL)	
LDA	01	00	0080	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	01	01	0081	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	01	02	0082	0	0	1	1	0	0	0	0	30	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	01	7F	00FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
LDS	02	00	0100	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	02	01	0101	0	0	0	1	0	0	0	1	11	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	02	02	0102	0	0	0	1	0	0	0	0	10	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	02	7F	017F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
STA	03	00	0180	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	03	7F	01FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	00	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
STS	04	00	0200	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	04	7F	027F	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
ADD	05	00	0280	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	05	01	0281	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	05	7F	02FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
ADC	06	00	0300	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	06	01	0301	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	06	7F	037F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
SUB	07	00	0380	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	07	01	0381	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	07	7F	03FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
SBC	08	00	0400	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	08	01	0401	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	08	7F	047F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
AND	09	00	0480	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	09	01	0481	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	09	7F	04FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 0								ROM 1							ROM 2								ROM 3							ROM 4																
				J A0	J A1	J A2	J A3	J A4	J A5	J A6	BASE/EXECUTE	(HEXADEDECIMAL)	JMP0 UNCONDITIONAL	JMP1 RUN /IM	JMP2 SKIP /OR=0	JMP3 M /AC=0	JMP4 ID /P	JMP5 ID++ /CF	JMP6 xx /OVF	JMP7 xx /IE_INT	(HEXADEDECIMAL)	STATE_1	STATE_0	/IR_LD	RUN_CLR	SKIP_SET	SKIP_CLR	IE_SET	IE_CLR	(HEXADEDECIMAL)	CF_SET	CF_ACO	CF_ACI5	CF_CV	CF_CLR	FR_LD	/FR_EN	ALU_OV_EN	(HEXADEDECIMAL)	ALU_FS2	ALU_FS1	ALU_FS0	ALU_CV_EN	/ALU_EN	PC_INC	PC_LD	PC_EN	(HEXADEDECIMAL)		
ORA	0A	00	0500	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0A	01	0501	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0A	7F	057F	0	0	0	0	0	0	1	0		20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	
XOR	0B	00	0580	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0B	01	0581	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0B	7F	05FF	0	0	0	0	0	0	1	0		20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	
ISZ	0C	00	0600	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0C	01	0601	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0C	02	0602	1	0	0	0	0	1	0	0		84	0	0	0	0	0	1	0	0	04	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0C	03	0603	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	1	0	1	0	0	1	0	0	A4	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0C	04	0604	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	1	0	1	0	1	0	0	0	A8	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
DSZ	0D	00	0680	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0D	01	0681	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0D	02	0682	1	0	0	0	0	1	0	0		84	0	0	0	0	0	1	0	0	04	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0D	03	0683	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	1	0	1	0	0	1	0	0	A4	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0D	04	0684	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	1	01	1	0	1	0	1	0	0	0	A8	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JMP	0E	00	0700	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0E	01	0701	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0E	7F	077F	0	0	0	0	0	0	1	0		20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
JOZ	0F	00	0780	1	0	0	0	0	0	1	0		82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0F	01	0781	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0F	02	0782	1	0	0	0	0	1	0	0		84	0	0	0	0	1	0	0	0	08	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0F	03	0783	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	0F	04	0784	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	0F	7F	07FF	0	0	1	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JNZ	10	00	0800	1	0	0	0	0	0	1	0		82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	10	01	0801	1	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	10	02	0802	1	0	0	0	0	1	0	0		84	0	0	0	0	1	0	0	0	08	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	10	03	0803	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	10	04	0804	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	10	7F	087F	0	0	1	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								ROM 6								ROM 7								ROM 8											
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN	(HEXADecimal)	ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN	(HEXADecimal)	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK	(HEXADecimal)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	(HEXADecimal)	
ORA	0A	00	0500	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0A	01	0501	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0A	7F	057F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
XOR	0B	00	0580	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0B	01	0581	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0B	7F	05FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
ISZ	0C	00	0600	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0C	01	0601	0	0	1	1	1	0	0	1	39	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0C	02	0602	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	0C	03	0603	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0C	04	0604	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
DSZ	0D	00	0680	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0D	01	0681	0	0	1	1	0	1	0	1	35	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0D	02	0682	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	0D	03	0683	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0D	04	0684	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JMP	0E	00	0700	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0E	01	0701	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0E	7F	077F	0	0	1	1	0	0	1	0	32	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JOZ	0F	00	0780	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0F	01	0781	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	0F	02	0782	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0F	03	0783	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0F	04	0784	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	0F	7F	07FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JNZ	10	00	0500	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	10	01	0500	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	10	02	0500	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	10	03	0500	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	10	04	0500	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	10	7F	0500	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 0								ROM 1							ROM 2							ROM 3							ROM 4															
				JA0	JA1	JA2	JA3	JA4	JA5	JA6	BASE/EXECUTE	(HEXADECIMAL)	JMP0 UNCONDITIONAL	JMP1 RUN / IM	JMP2 SKIP / OR=0	JMP3 M / AC=0	JMP4 ID / P	JMP5 ID++ / CF	JMP6 xx / OVF	JMP7 xx / IE_INT	(HEXADECIMAL)	STATE_1	STATE_0	/IR_LD	RUN_CLR	SKIP_SET	SKIP_CLR	IE_SET	IE_CLR	(HEXADECIMAL)	CF_SET	CF_AC0	CF_AC15	CF_CY	CF_CLR	FR_LD	/FR_EN	ALU_OV_EN	(HEXADECIMAL)	ALU_FFS2	ALU_FFS1	ALU_FFS0	ALU_CY_EN	/ALU_EN	PC_INC	PC_LD	PC_EN	(HEXADECIMAL)
JPL	11	00	0880	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	11	01	0881	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	11	02	0882	1	0	0	0	0	1	0	0	84	0	0	0	1	0	0	0	0	10	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	11	03	0883	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	11	04	0884	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	11	7F	08FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JMI	12	00	0900	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	12	01	0901	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	12	02	0902	1	0	0	0	0	1	0	0	84	0	0	0	1	0	0	0	0	10	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	12	03	0903	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	12	04	0904	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	12	7F	097F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JOC	13	00	0980	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	13	01	0981	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	13	02	0982	1	0	0	0	0	1	0	0	84	0	0	1	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	13	03	0983	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	13	04	0984	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	13	7F	09FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JNC	14	00	0A00	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	14	01	0A01	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	14	02	0A02	1	0	0	0	0	1	0	0	84	0	0	1	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	14	03	0A03	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	14	04	0A04	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	14	7F	0A7F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
JOV	15	00	0A80	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	15	01	0A81	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	15	02	0A82	1	0	0	0	0	1	0	0	84	0	1	0	0	0	0	0	0	40	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	15	03	0A83	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	15	04	0A84	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A
	15	7F	0AFF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								ROM 6								ROM 7								ROM 8											
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN	(HEXADECIMAL)	ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN	(HEXADECIMAL)	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK	(HEXADECIMAL)	/IX_LD	/IX_EN	/IX_LD	/IX_EN	(SPARE)	(SPARE)	(SPARE)	(HEXADECIMAL)	
JPL	11	00	0880	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	11	01	0881	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	11	02	0882	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	11	03	0883	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	11	04	0884	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	11	7F	08FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JMI	12	00	0900	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	12	01	0901	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	12	02	0902	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	12	03	0903	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	12	04	0904	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	12	7F	097F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JOC	13	00	0980	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	13	01	0981	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	13	02	0982	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	13	03	0983	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	13	04	0984	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	13	7F	09FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JNC	14	00	0A00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	14	01	0A01	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	14	02	0A02	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	14	03	0A03	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	14	04	0A04	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	14	7F	0A7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
JOV	15	00	0A80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	15	01	0A81	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	15	02	0A82	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	15	03	0A83	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	15	04	0A84	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	15	7F	0AFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								(HEXADECIMAL)	ROM 6								(HEXADECIMAL)	ROM 7								(HEXADECIMAL)	ROM 8								(HEXADECIMAL)
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN		ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN		AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK		(HEXADECIMAL)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	
JNV	16	00	0B00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	16	01	0B01	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	16	02	0B02	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	16	03	0B03	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	16	04	0B04	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	16	7F	0B7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
CSR	17	00	0B80	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	17	01	0B81	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	17	02	0B82	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	17	03	0B83	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	17	7F	0BFF	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
INP	18	00	0C00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	18	7F	0C7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	1	1	0	0	0C	1	1	1	1	0	0	0	0	F0
OUT	19	00	0C80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	19	7F	0CFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	00	0	0	0	0	1	0	1	0	0A	1	1	1	1	0	0	0	0	F0
INC	1A	00	0D00	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1A	01	0D01	0	0	1	1	1	0	0	1	39	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1A	7F	0D7F	0	0	1	1	0	0	0	0	30	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
DEC	1B	00	0D80	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1B	01	0D81	0	0	1	1	0	1	0	1	35	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1B	7F	0DFF	0	0	1	1	0	0	0	0	30	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
COM	1C	00	0E00	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1C	7F	0E7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
NEG	1D	00	0E80	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1D	7F	0EFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
SET	1E	00	0F00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1E	7F	0F7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
CLR	1F	00	0F80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	1F	7F	0FFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								(HEXADECIMAL)	ROM 6								(HEXADECIMAL)	ROM 7								(HEXADECIMAL)	ROM 8								(HEXADECIMAL)
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN		ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN		(HEXADECIMAL)	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE		INT_ACK	(HEXADECIMAL)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	
SHL	20	00	1000	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	20	7F	107F	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
LSR	21	00	1080	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	21	7F	10FF	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
ASR	22	00	1100	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	22	7F	117F	0	0	1	1	0	0	0	1	31	0	1	0	0	0	0	1	0	42	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
ROL	23	00	1180	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	23	7F	11FF	0	0	1	1	0	0	0	1	31	0	0	0	0	1	0	1	0	0A	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
ROR	24	00	1200	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	24	7F	127F	0	0	1	1	0	0	0	1	31	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
LSW	25	00	1280	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	25	7F	12FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	1	07	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
SCF	26	00	1300	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	26	7F	137F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
CCF	27	00	1380	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	27	7F	13FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
PSA	28	00	1400	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	28	01	1401	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	28	7F	147F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	00	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
POA	29	00	1480	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	29	7F	14FF	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	1	1	0	06	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
PSF	2A	00	1500	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	2A	01	1501	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2A	7F	157F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
POF	2B	00	1580	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2B	7F	15FF	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0

EXECUTE SEQUENCE	ROM 0										ROM 1							ROM 2							ROM 3							ROM 4																			
	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	JA0	JA1	JA2	JA3	JA4	JA5	JA6	BASE/EXECUTE	(HEXADECIMAL)	JMP0 UNCONDITIONAL	JMP1 RUN / IM	JMP2 SKIP / OR=0	JMP3 M / AC=0	JMP4 ID / P	JMP5 ID++ / CF	JMP6 xx / OVF	JMP7 xx / IE_INT	(HEXADECIMAL)	STATE_1	STATE_0	/IR_LD	RUN_CLR	SKIP_SET	SKIP_CLR	IE_SET	IE_CLR	(HEXADECIMAL)	CF_SET	CF_AC0	CF_AC15	CF_CV	CF_CLR	FR_LD	/FR_EN	ALU_OV_EN	(HEXADECIMAL)	ALU_FS2	ALU_FS1	ALU_FS0	ALU_CV_EN	/ALU_EN	PC_INC	PC_LD	PC_EN	(HEXADECIMAL)			
ENI	2C	00	1600	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	1	0	A2	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
DII	2D	00	1680	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	1	A1	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
RTN	2E	00	1700	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	2E	7F	177F	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	88	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A	
RTI	2F	00	1780	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	2F	01	1781	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	1	1	0	06	0	0	0	0	1	0	0	0	08	
	2F	02	1782	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	2F	03	1783	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	2F	04	1784	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	2F	05	1785	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0	1	0	01	1	0	1	0	0	0	1	0	A2	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0A	
NOP	30	00	1800	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	30	7F	187F	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
LDX	31	00	1880	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	0	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	31	01	1881	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	31	02	1882	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	31	7F	18FF	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
LDY	32	00	1900	1	0	0	0	0	0	1	0	82	0	0	0	0	0	0	1	0	0	0	02	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	32	01	1901	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	32	02	1902	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	32	7F	197F	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
STX	33	00	1980	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	33	7F	19FF	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
STY	34	00	1A00	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	34	7F	1A7F	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
INX	35	00	1A80	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	35	01	1A81	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	0	0	0	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	
	35	7F	1AFF	0	0	1	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08	

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								(HEXADecimal)	ROM 6								(HEXADecimal)	ROM 7								(HEXADecimal)	ROM 8								(HEXADecimal)
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN		ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN		AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK		(HEXADecimal)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	
ENI	2C	00	1600	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
DII	2D	00	1680	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
RTN	2E	00	1700	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2E	7F	177F	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
RTI	2F	00	1780	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2F	01	1781	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	2F	02	1782	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2F	03	1783	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	1	1	0	06	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
	2F	04	1784	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	2F	05	1785	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	1	1	0	0	0	0	F0
NOP	30	00	1800	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	30	7F	187F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
LDX	31	00	1880	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	31	01	1881	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	0	1	1	1	0	0	0	0	70
	31	02	1882	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	0	1	1	1	0	0	0	0	70
	31	7F	18FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
LDY	32	00	1900	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	32	01	1901	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	0	1	0	0	0	0	D0
	32	02	1902	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	0	1	0	0	0	0	D0
	32	7F	197F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
STX	33	00	1980	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	33	7F	19FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	02	0	0	0	1	0	0	1	0	12	1	0	1	1	0	0	0	0	B0
STY	34	00	1A00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	34	7F	1A7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	0	0	0	0	0	E0
INX	35	00	1A80	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	0	1	1	0	0	0	0	B0
	35	01	1A81	0	0	1	1	1	0	0	1	39	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	35	7F	1AFF	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	0	1	1	1	0	0	0	0	70

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 0								ROM 1								ROM 2								ROM 3								ROM 4																	
				(HEXADECEIMAL)								(HEXADECEIMAL)								(HEXADECEIMAL)								(HEXADECEIMAL)								(HEXADECEIMAL)																	
				JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JMP0 UNCONDITIONAL	JMP1 RUN / IM	JMP2 SKIP / OR=0	JMP3 M / AC=0	JMP4 ID / P	JMP5 ID++ / CF	JMP6 xx / OVF	JMP7 xx / IE_INT	IE_CLR	IE_SET	SKIP_CLR	SKIP_SET	RUN_CLR	/R_LD	STATE_0	STATE_1	CF_SET	CF_AC0	CF_AC15	CF_CY	CF_CLR	FR_LD	/FR_EN	ALU_OV_EN	ALU_FS2	ALU_FS1	ALU_FS0	ALU_CY_EN	/ALU_EN	PC_INC	PC_LD	PC_EN										
INY	36	00	1B00	1	0	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	36	01	1B01	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
INS	36	7F	1B7F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	37	00	1B80	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
DEX	37	7F	1BFF	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	38	00	1C00	1	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
DEY	38	01	1C01	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	38	7F	1C7F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
DES	39	00	1C80	1	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
	39	01	1C81	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MAX	3A	7F	1D7F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3A	00	1D00	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MAY	3B	7F	1DFF	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3B	00	1D80	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MAS	3C	7F	1E7F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3C	00	1E00	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MXA	3D	7F	1EFF	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3D	00	1E80	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MYA	3E	7F	1F7F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3E	00	1F00	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MSA	3F	7F	1FFF	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	3F	00	1F80	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08
MSA	40	7F	207F	0	0	1	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08									
	40	00	2000	1	1	1	1	1	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	1	01	1	0	1	0	0	0	0	0	A0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	08

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								(HEXADECIMAL)	ROM 6								(HEXADECIMAL)	ROM 7								(HEXADECIMAL)	ROM 8								(HEXADECIMAL)
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN		ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN		AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK		(HEXADECIMAL)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	
INY	36	00	1B00	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0
	36	01	1B01	0	0	1	1	1	0	0	1	39	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	36	7F	1B7F	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	0	1	0	0	0	0	D0
INS	37	00	1B80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	37	7F	1BFF	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
DEX	38	00	1C00	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	0	1	1	0	0	0	0	B0
	38	01	1C01	0	0	1	1	0	1	0	1	35	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	38	7F	1C7F	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	0	1	1	1	0	0	0	0	70
DEY	39	00	1C80	0	0	1	1	0	0	1	1	33	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0
	39	01	1C81	0	0	1	1	0	1	0	1	35	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	39	7F	1CFF	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	0	1	0	0	0	0	D0
DES	3A	00	1D00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3A	7F	1D7F	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
MAX	3B	00	1D80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3B	7F	1DFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	0	1	1	1	0	0	0	0	70
MAY	3C	00	1E00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3C	7F	1E7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	0	1	0	0	0	0	D0
MAS	3D	00	1E80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3D	7F	1EFF	0	0	0	1	0	0	0	1	11	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
MXA	3E	00	1F00	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3E	7F	1F7F	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	0	1	1	0	0	0	0	B0
MYA	3F	00	1F80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	3F	7F	1FFF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	0	0	0	0	0	E0
MSA	40	00	2000	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	40	7F	207F	0	0	1	0	0	0	0	1	21	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								(HEXADECIMAL)	ROM 6								(HEXADECIMAL)	ROM 7								(HEXADECIMAL)	ROM 8								(HEXADECIMAL)
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN		ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN		AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK		(HEXADECIMAL)	/IX_LD	/IX_EN	/IV_LD	/IV_EN	(SPARE)	(SPARE)	(SPARE)	
PSX	41	00	2080	0	1	1	1	0	0	0	1	71	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	41	01	2081	0	0	1	0	0	0	0	1	21	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0	
	41	7F	20FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	0	1	1	0	0	0	0	B0	
POX	42	00	2100	0	0	1	0	0	0	0	1	21	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0	
	42	7F	217F	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	0	1	1	1	0	0	0	0	70	
PSY	43	00	2180	0	1	1	1	0	0	0	1	71	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	43	01	2181	0	0	1	0	0	0	0	1	21	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0	
	43	7F	21FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	0	0	0	0	0	E0	
POY	44	00	2200	0	0	1	0	0	0	0	1	21	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0	
	44	7F	227F	1	0	1	1	0	0	0	1	B1	0	0	0	0	0	1	0	02	0	0	0	1	0	1	0	0	14	1	1	0	1	0	0	0	0	D0	
BSW	45	00	2280	0	0	1	1	0	0	1	1	33	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	01	2281	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	02	2282	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	03	2283	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	04	2284	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	05	2285	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	06	2286	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	07	2287	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	08	2288	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	09	2289	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	0A	228A	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	0B	228B	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	0C	228C	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	0D	228D	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	45	0E	228E	0	0	1	1	0	0	0	1	31	0	0	0	1	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0	
	45	7F	22FF	0	0	1	1	0	0	0	1	31	0	0	0	0	0	1	1	0	06	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0

EXECUTE SEQUENCE	ROM 0		ROM 1							ROM 2							ROM 3							ROM 4																															
	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	(HEXADECEIMAL)							(HEXADECEIMAL)	(HEXADECEIMAL)							(HEXADECEIMAL)	(HEXADECEIMAL)																																			
				JAO	JAI	JAJ	JAK	JAL	JAM	JAN		JAO	JAI	JAJ	JAK	JAL	JAM	JAN		JAO	JAI	JAJ	JAK	JAL	JAM	JAN	JAO	JAI	JAJ	JAK	JAL	JAM	JAN																						
BSL	46	00	2300	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	01	2301	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	02	2302	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	03	2303	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	04	2304	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	05	2305	1	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08
	46	06	2306	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	0	0	0	0	01	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	1	0	0	0	0	02	0	0	0	0	1	0	0	0	0	08
	46	7F	237F	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	1	0	0	0	0	02	0	0	0	0	1	0	0	0	0	08
BSR	47	00	2380	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	01	2381	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	02	2382	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	03	2383	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	04	2384	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	05	2385	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	47	06	2386	1	1	1	1	1	1	1	1	FF	0	0	0	0	0	0	0	0	0	0	0	01	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	1	0	0	0	0	02	0	0	0	0	1	0	0	0	0	08
	47	7F	23FF	0	0	1	0	0	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	80	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	1	0	0	0	0	02	0	0	0	0	1	0	0	0	0	08
BRK	48	00	2400	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	48	01	2401	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	48	02	2402	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	1	09	
	48	03	2403	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	1	1	1	0	0	0	0	0	0	E0	
	48	04	2404	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	48	05	2405	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	48	06	2406	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	
	48	07	2407	1	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	00	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	0	0	00	0	0	0	0	1	0	0	0	0	08	
	48	08	2408	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0	0	0	01	1	0	1	0	0	0	0	0	0	0	A0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	1	0	0	0A	
HLT	FF	00	7F80	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0	0	0	01	1	0	1	1	0	0	0	0	0	0	B0	0	0	0	0	0	0	0	1	0	02	0	0	0	0	1	0	0	0	0	08	

D16/M MICROPROGRAM ROMs

EXECUTE SEQUENCE	BASE ADDRESS	STEP ADDRESS	PHYSICAL ROM ADDRESS (BIT-PACKED BASE AND STEP ADDRESSES)	ROM 5								ROM 6								ROM 7								ROM 8											
				SP_INC	SP_DEC	/SP_LD	/SP_EN	OR_INC	OR_DEC	OR_LD	/OR_EN	(HEXADECIMAL)	ROR	ASR	LSR	SHL	ROL	AC_LD	/AC_EN	SR_EN	(HEXADECIMAL)	AR_LD	HI_Z	(SPARE)	MEM_REQ	IO_REQ	READ	WRITE	INT_ACK	(HEXADECIMAL)	/IX_LD	/IX_EN	/IX_LD	/IX_EN	(SPARE)	(SPARE)	(SPARE)	(HEXADECIMAL)	
BSL	46	00	2300	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	01	2301	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	02	2302	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	03	2303	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	04	2304	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	05	2305	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	06	2306	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	46	7F	237F	0	0	1	1	0	0	0	1	31	0	0	0	1	0	0	1	0	12	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
BSR	47	00	2380	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	01	2381	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	02	2382	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	03	2383	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	04	2384	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	05	2385	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	06	2386	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	47	7F	23FF	0	0	1	1	0	0	0	1	31	0	0	1	0	0	0	1	0	22	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
BRK	48	00	2400	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	48	01	2401	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	48	02	2402	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	48	03	2403	0	1	1	1	0	0	1	1	73	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
	48	04	2404	0	0	1	0	0	1	0	1	25	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	48	05	2405	0	1	1	1	0	0	0	1	71	0	0	0	0	0	0	0	0	00	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	48	06	2406	0	0	1	0	0	0	0	1	21	0	0	0	0	0	0	1	0	02	1	0	0	0	0	0	0	0	80	1	1	1	1	0	0	0	0	F0
	48	07	2407	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	1	0	0	1	0	12	1	1	1	1	0	0	0	0	F0
	48	08	2408	0	0	1	1	0	0	0	0	30	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0
HLT	FF	00	7F80	0	0	1	1	0	0	0	1	31	0	0	0	0	0	0	1	0	02	0	0	0	0	0	0	0	0	00	1	1	1	1	0	0	0	0	F0