

**THE OTHER REGISTERS AND MEMORY ADDRESSING**  
**HEX CODES FOR 8080 INSTRUCTIONS**

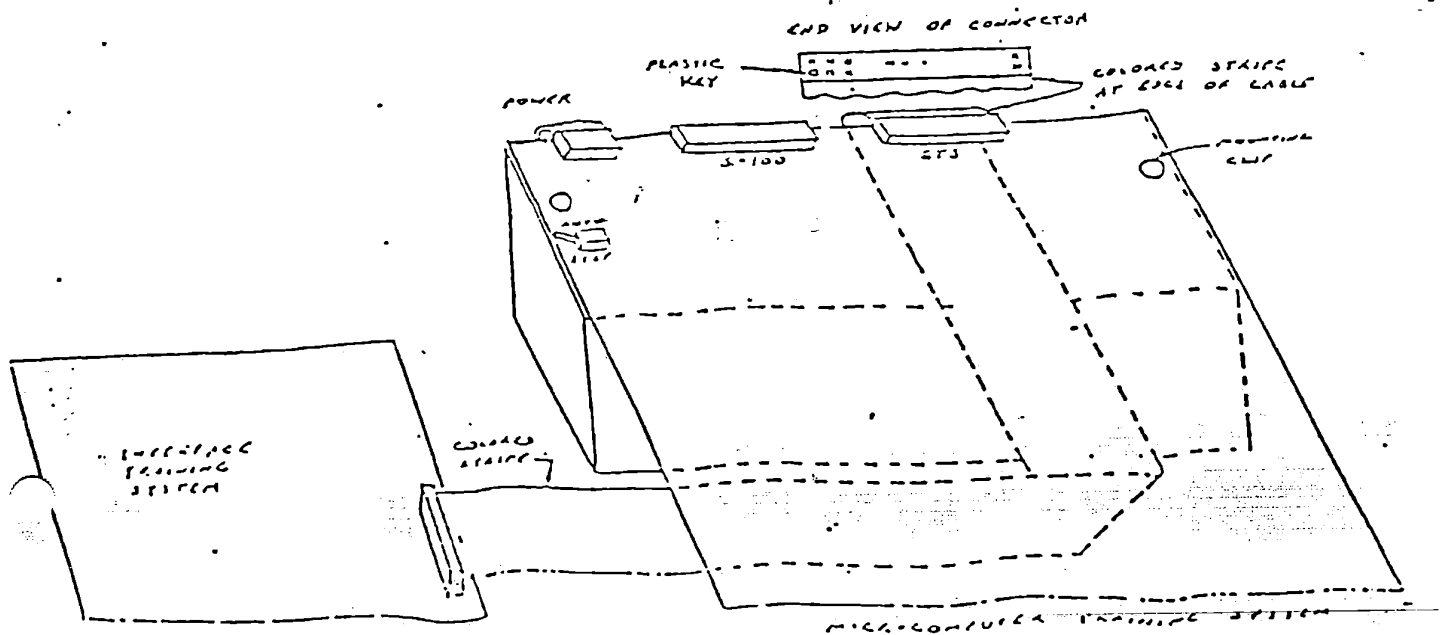
DATA TRANSFER	SOURCE REGISTER									IMMEDIATE (DATA FROM PROGRAM)
	A	B	C	D	E	H	L	M	SP	
MOV A,s	7F	78	79	7A	7B	7C	7D	7E		MVI A 3E
MOV B,s	47	40	41	42	43	44	45	46		MVI B 06
MOV C,s	4F	48	49	4A	4B	4C	4D	4E		MVI C 0E
MOV D,s	57	50	51	52	53	54	55	56		MVI D 16
MOV E,s	5F	58	59	5A	5B	5C	5D	5E		MVI E 1E
MOV H,s	67	60	61	62	63	64	65	66		MVI H 26
MOV L,s	6F	68	69	6A	6B	6C	6D	6E		MVI L 2E
MOV M,s	77	70	71	72	73	74	75	-		MVI M 36
LXI rp		01		11		21			31	2 DATA BYTES FROM PROGRAM
LDA addr	3A									ADDRESS FROM PROGRAM (2 BYTES)
STA addr	32									ADDRESS FROM PROGRAM (2 BYTES)
LDAX rp		0A		1A						ADDRESS FROM REGISTER PAIR
STAX rp		02		12						ADDRESS FROM REGISTER PAIR
LHLD addr						2A				ADDRESS FROM PROGRAM (2 BYTES)
SHLD addr						22				ADDRESS FROM PROGRAM (2 BYTES)
SPLH						F9				SP ← HL
PCHL						E9				PC ← HL (BRANCH)
XCHG						EB				DE ↔ HL
XTHL						E3				STACK TOP ↔ HL
PUSH rp		C5		D5		E5	PUSH PSW F5			SP ← SP - 2
POP rp		C1		D1		E1	POP PSW F1			SP ← SP + 2
COUNTING	A	B	C	D	E	H	L	M	SP	FLAGS AFFECTED
INR d	3C	04	0C	14	1C	24	2C	34		Z, S, P, AC
DCR d	3D	05	0D	15	1D	25	2D	35		Z, S, P, AC
INX rp		03		13		23			33	NONE
DCX rp		0B		1B		2B			3B	NONE
ARITH/LOGIC	A	B	C	D	E	H	L	M	SP	IMMEDIATE (DATA FROM PROGRAM)
DAD rp		09		19		29			39	
ADD s	87	80	81	82	83	84	85	86		ADI C6
ADC s	8F	88	89	8A	8B	8C	8D	8E		ACI CE
SUB s	97	90	91	92	93	94	95	96		SUI D6
SBB s	9F	98	99	9A	9B	9C	9D	9E		SBI DE
ANA s	A7	A0	A1	A2	A3	A4	A5	A6		ANI E6
XRA s	AF	A8	A9	AA	AB	AC	AD	AE		XRI EE
ORA s	B7	B0	B1	B2	B3	B4	B5	B6		ORI F6
CMP s	BF	B8	B9	BA	BB	BC	BD	BE		CPI FE
	INSTRUCTION									FLAGS
ACCUMULATOR AND CARRY	RLC 07	RRC 0F	RAL 17	RAR 1F	DAA 27	CMA 2F	STC 37	CMC 3F		ONLY THE CY FLAG IS AFFECTED EXCEPT: CMA NO FLAGS DAA ALL FLAGS
BRANCH UNCOND	JMP C3	CALL CD	RET C9	PCHL E9	HLT 76	NOP 00				BRANCH AND IN/OUT INSTRUCTIONS DO NOT AFFECT ANY FLAGS
COND NZ	C2	C4	C0							DATA TRANSFER INSTRUCTIONS DO NOT AFFECT ANY FLAGS EXCEPT: POP PSW AFFECTS ALL FLAGS
Z	CA	CC	C8							ARITHMETIC/LOGIC INSTRUCTIONS AFFECT ALL FLAGS EXCEPT: DAD AFFECTS CY ONLY
NC	D2	D4	D0							INR AND DCR AFFECT ALL FLAGS EXCEPT: CY
C	DA	DC	D8							INX AND DCX DO NOT AFFECT ANY FLAGS
PO	E2	E4	E0							
PE	EA	EC	E8							
PLUS	F2	F4	F0							
MINUS	FA	FC	F8							
INPUT/OUTPUT & INTERRUPT	IN DB	OUT D3	EI FB	DI F3						IN AND OUT ARE TWO BYTE INSTRUCTIONS WITH PORT ADDRESS
RESTART (CALL TO) HEX CODE	RST 0 0000 C7	RST 1 0008 CF	RST 2 0010 D7	RST 3 0018 DF	RST 4 0020 E7	RST 5 0028 EF	RST 6 0030 F7	RST 7 0038 FF		

# WARNING

NEVER CONNECT OR DISCONNECT CABLES WITH THE POWER ON. ALWAYS TURN OFF POWER BEFORE CONNECTING OR DISCONNECTING CABLES.

BE CERTAIN TO CONNECT CABLE PROPERLY BETWEEN MICROCOMPUTER AND INTERFACE SYSTEMS AS FOLLOWS:

- A. FOLD CABLE AS SHOWN.
- B. CONNECT CABLE TO MICROCOMPUTER. ROUTE CABLE UNDERNEATH MICROCOMPUTER BETWEEN MICROCOMPUTER AND POWER SUPPLY, THEN OUT LEFT SIDE OF MICROCOMPUTER. ATTACH TO INTERFACE SYSTEM. BE CERTAIN TO ORIENT CABLES AS SHOWN.



## ASSEMBLY PARTS LIST

Stock #	Qty	Description:
15639		Integrated Experiment Assembly Parts Kit

Reference No.

COMPONENTS:

NEW/1/81

Description	Stock No	UM	Req	Total	Short	Issue
Integrated Experiment Assembly PC Board (Stuffed)	15637	ea	1			
Ribbon Cable Assembly	72007	ea	1			
Associated Parts (Ziplok Plastic Bag)						
PROM "THMCTL"	15633	ea	1			
PROM "TUNMSG"						
PROM "MTRSPD"						
Mounting Feet With Screws	66606 67001	ea	2			
Spacer	15731	ea	1			
Program Cassette Library V1.3	15623	ea	1			
Resistors 1K 1/4W	30102	ea	2			
2K 1/4W	30202	ea	6			
10K 1/4W	30103	ea	2			
Capacitor 1µf 15V	12632	ea	1			
Hookup Wire 8", Stripped	13621	ea	4			
Box, Cardboard		ea	1			
Assembly Parts List #15639		ea	1			
Label for Box		ea	1			

