KPK 8 BIT PROGRAMMABLE COMPUTER INSTRUCTION SET ARCHITECTURE (MULTIPLY - MICROCODE)

CPU Op.Code	CPU Op.Code	CPU Function	CPU Instruction Set				
			CLK-1	CLK-2	CLK-3	CLK-4	CLK-5
0000	0	No Operation	CO-E, RA-O, IR-I	MA-I, CO-O			
0001	1	LOAD-A	CO-E, RA-O, IR-I	IR-O, MA-I			
0010	2	LOAD-B & ADD	CO-E, RA-O, IR-I	RA-O, IR-I, CO-E	RA-O, R(B)-I	R(A)-I, ∑-O, F-I	
0011	3	LOAD-B & SUB	CO-E, RA-O, IR-I	RA-O, IR-I, CO-E	RA-O, R(B)-I	R(A)-I, SU-E, ∑-O, F-I	
0100	4	STORE-A	CO-E, RA-O, IR-I	RA-I, R(A)-O			
0101	5	LOAD IMMEDIATE	CO-E, RA-O, IR-I	IR-O, R(A)-I			
0110	6	JUMP	CO-E, RA-O, IR-I	IR-O, J-E	RA-O, IR-I, CO-E		
0111	7	JUMP-CARRY	CO-E, RA-O, IR-I	IR-O, J-E	RA-O, IR-I, CO-E		
1000	8	JUMP-ZERO	CO-E, RA-O, IR-I	IR-O, J-E	RA-O, IR-I, CO-E		
1001	9	-					
1010	10	-					
1011	11	-					
1100	12	-					
1101	13	-					
1110	14	OUTPUT	CO-E, RA-O, IR-I	R(A)-O, OP-I			
1111	15	HALT	CO-E, RA-O, IR-I	CLK-I			

Legends:

CO-E : Program Counter ENABLE
CO-O : Program Counter OUT
R(A)-I : Register -A IN
R(A)-O : Register -A OUT
F-I : Flags REG. IN

RA-I : RAM IN
RA-O : RAM OUT
R(B)-I : Register -B IN
R(B)-O : Register -B OUT

IR-I : Instruction REG. IN
IR-O : Instruction REG. OUT
J-E : Jump ENABLE
∑-O : ALU SUM OUT
SU-E : ALU Subtract ENABLE

MA-I : Memory Address REG. IN
MA-O : Memory Address REG. OUT
OP-I : Output REG. IN
ZF : Zero Flag
CF : Clear Flag

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