Control Signals

AO - A REGISTER OUT
AI - A REGISTER IN
BO - B REGISTER OUT
BI - B REGISTER IN
ΣO - SUM OUT
MI - MEMORY ADDRESS REGISTER IN
RO - RAM OUT
RI - RAM IN
IO - INSTRUCTION REGISTER OUT
II - INSTRUCTION REGISTER IN
CO - PROGRAM COUNTER OUT
CI - PROGRAM COUNTER IN
CE - PROGRAM COUNTER ENABLE
OI - OUTPUT REGISTER IN

Assembly Definitions

0x0 LDA (LOAD A) - LOADS VALUE FROM RAM INTO THE A REGISTER
CO MI
RO II CE
IO MI
RO AI
0x1 LDB (LOAD B) - LOADS VALUE FROM RAM INTO THE B REGISTER
CO MI
RO II CE
IO MI
RO BI
0x2 STA (STORE A) - STORES VALUE FROM A REGISTER TO RAM
CO MI
RO II CE
IO MI
AO RI
0x3 STB (STORE B) - STORES VALUE FROM B REGISTER TO RAM
CO MI
RO II CE
IO MI
BO RI
0x4 ADD (ADD) - ADDS THE CONTENTS OF THE A AND B REGISTER INTO THE A REGISTER
CO MI
RO II CE
ΣO AI
0x5 ADDR (ADD RAM) - ADDS THE CONTENTS OF THE A AND B REGISTER INTO RAM
CO MI
RO II CE
IO MI
ΣO RI
0x6 JMP (JUMP) - JUMPS TO PROGRAM LINE
CO MI

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       RO     II     CE
       IO     CI
0x7 OUT  (OUTPUT A REGISTER) - OUTPUTS A REGISTER TO DISPLAY
       CO     MI
       RO     II     CE
       AO     OI
0x8 OUTR (OUTPUT RAM) - OUTPUTS RAM VALUE TO DISPLAY
       CO     MI
       RO     II     CE
       IO     MI
       RO     OI
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Assembly Definitions Decoded

	AO	AI	BO	BI	ΣO	MI	RO	RI	IO	II	CO	CI	CE	OI
0x0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	0	1	0	0	0	0	1	0	0	0	0	0	0	0
0x1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	0	0	0	1	0	0	1	0	0	0	0	0	0	0
0x2	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	1	0	0	0	0	0	0	1	0	0	0	0	0	0
0x3	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	0	0	1	0	0	0	0	1	0	0	0	0	0	0
0x4	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	1	0	0	1	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0x5	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	0	0	0	0	1	0	0	1	0	0	0	0	0	0
0x6	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0	0	1	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0x7	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0x8	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0
	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	0	0	0	1