

Instruction Set Summary

Number	Instruction	Description	Bytes	Flags
0	HALT	Stop executing instructions (performs the same task as pressing the CPU RUN/STOP button)	1	None
1	NOP	No operation	1	None
2	SPEED	Set the speed that the CPU steps through each instruction once the CPU is running	2	None
3	COPYLR	Copy a literal value to the specified RAM location	3	None
4	COPYLA	Copy a literal value to the Accumulator	2	None
5	COPYAR	Copy the contents of the Accumulator to the specified RAM location	2	None
6	COPYRA	Copy the contents of the specified RAM location to the Accumulator	2	Zero
7	COPYRR	Copy the contents of one RAM location to another RAM location	3	Zero
8	ADDLA	Add a literal value to the Accumulator (result stored in Accumulator)	2	Carry, Zero
9	ADDRA	Add the contents of a RAM location to the Accumulator (result stored in Accumulator)	2	Carry, Zero
10	SUBLA	Subtract a literal value from the Accumulator (result stored in the Accumulator)	2	Carry, Zero
11	SUBRA	Subtract the contents of the specified RAM location from the Accumulator (result stored in Accumulator)	2	Carry, Zero
12	ANDLA	AND a literal value with the Accumulator (result stored in Accumulator)	2	Zero
13	ANDRA	AND the contents of the specified RAM location with the Accumulator (result stored in Accumulator)	2	Zero
14	ORLA	OR a literal value with the Accumulator (result stored in Accumulator)	2	Zero
15	ORRA	OR the contents of the specified RAM location with the Accumulator (result stored in Accumulator)	2	Zero
16	XORLA	XOR a literal value with the Accumulator (result stored in Accumulator)	2	Zero
17	XORRA	XOR the contents of the specified RAM location with the Accumulator (result stored in Accumulator)	2	Zero
18	DECR	Decrement the contents of the specified RAM location by one	2	Zero
19	INCR	Increment the contents of the specified RAM location by one	2	Zero
20	DECRJZ	Decrement the contents of the specified RAM location by one, if the result IS zero, skip the next two lines of code	2	Zero
21	INCRJZ	Increment the contents of the specified RAM location by one, if the result IS zero, skip the next two lines of code	2	Zero
22	SHIFTRL	Shift the contents of the specified RAM location left (through the carry flag) by one	2	Carry
23	SHIFTRR	Shift the contents of the specified RAM location right (through the carry flag) by one	2	Carry
24	CBR	Clear the specified bit within the specified RAM location	3	None
25	SBR	Set the specified bit within the specified RAM location	3	None
26	BCRSC	Check the specified bit within the specified RAM location, if it IS a ZERO, skip the next two lines of code	3	None
27	BCRSS	Check the specified bit within the specified RAM location, if it IS a ONE, skip the next two lines of code	3	None
28	JUMP	Jump to a specific RAM location and continue running instructions from there	2	None
29	CALL	Jump to a specific RAM location, continue running instructions from there, then return once a 'RETURN' or 'RETLA' instruction is executed	2	None
30	RETLA	Return to the very next RAM location after the 'CALL' instruction with a literal value stored in the Accumulator	2	None
31	RETURN	Return to the very next RAM location after the 'CALL' instruction	1	None

32	ADDRPC	Add the contents of a RAM location to the Program Counter	2	None
33	INITSP	Initialise the Stack Pointer	1	None
34	RANDA	Generates a random number between 1 and 255 (00000001 and 11111111) and stores it in the accumulator	1	None