

Code:	Instruction:	Signals:	Description:
Main instructions:			
xxxxxxx	FETCH	1 CO, MI 2 RDO, II, CE	Fetch-Cycle, gets executed for every instruction.
00000001	LDA	3 IO, MI 4 RDO, AI 5 RST	Byte gets copied to A-register.
00000010	LDB	3, IO, MI 4 RDO, BI 5 RST	Byte gets copied to B-register.
00000011	ADD	3 IO, MI 4 RDO, BI 5 EO, AI, SF 6 RST	Byte from A-register gets added to byte in A-register.
00000100	SUB	3 IO, MI 4 RDO, BI 5 SO, AI, SF 6 RST	Byte from A-register gets subtracted to byte in A-register.
00000101	OUT	3 AO, OI 4 RST	Byte gets copied from the A-register to the output-register.
00000110	JMP	3 IO, J 4 RST	Jumps to given RAM-address.
00000111	JC	3 IO, J 4 RST	Jumps to given RAM-address , if carry-flag is set.
00001000	JZ	3 IO, J 4 RST	Jumps to given RAM-address , if zero-flag is set.
00001001	JE	3 IO, J 4 RST	Jumps to given RAM-address , if expansion-flag is set.
00001010	INA	3 INPO, AI 4 RSTINP 5 RST	Byte in input-register gets copied into the A-register
00001011	INR	3 IO, MI 4 INPO, RDI 5 RSTINP 6 RST	Byte in input-register gets saved in given RAM-address
00001100	HLT	3 HLT	Halts the computer.
00001101	SVA	3 IO, MI 4 RDI, AO 5 RST	Byte in A-register gets saved in given RAM-address.
00001110	SVB	3 IO, MI 4 RDI, BO 5 RST	Byte in B-register gets saved in given RAM-address.
Instructions for the expansion:			
00001111	RTE0	3 IO, MI 4 RDO, E7, E3 5 SF	Byte from RAM gets copied into the expansion.
00010000	RTE1	3 IO, MI 4 RDO, E7, E3, E0 5 SF	Byte from RAM gets copied into the expansion.
00010001	RTE2	3 IO, MI 4 RDO, E7, E3, E1 5 SF	Byte from RAM gets copied into the expansion.
00010010	RTE3	3 IO, MI 4 RDO, E7, E3, E1, E0 5 SF	Byte from RAM gets copied into the expansion.
00010011	RTE4	3 IO, MI 4 RDO, E7, E3, E2 5 SF	Byte from RAM gets copied into the expansion.
00010100	RTE5	3 IO, MI 4 RDO, E7, E3, E2, E0 5 SF	Byte from RAM gets copied into the expansion.
00010101	RTE6	3 IO, MI 4 RDO, E7, E3, E2, E1 5 SF	Byte from RAM gets copied into the expansion.
00010110	RTE7	3 IO, MI 4 RDO, E7, E3, E2, E1, E0 5 SF	Byte from RAM gets copied into the expansion.

00010111	ETR0	3 IO, MI 4 RDI, E7, E4, E3 5 SF	Byte from RAM gets saved in given RAM-address.
00011000	ETR1	3 IO, MI 4 RDI, E7, E4, E3, E0 5 SF	Byte from RAM gets saved in given RAM-address.
00011001	ETR2	3 IO, MI 4 RDI, E7, E4, E3, E1 5 SF	Byte from RAM gets saved in given RAM-address.
00011010	ETR3	3 IO, MI 4 RDI, E7, E4, E3, E1, E0 5 SF	Byte from RAM gets saved in given RAM-address.
00011011	ETR4	3 IO, MI 4 RDI, E7, E4, E3, E2 5 SF	Byte from RAM gets saved in given RAM-address.
00011100	ETR5	3 IO, MI 4 RDI, E7, E4, E3, E2, E0 5 SF	Byte from RAM gets saved in given RAM-address.
00011101	ETR6	3 IO, MI 4 RDI, E7, E4, E3, E2, E1 5 SF	Byte from RAM gets saved in given RAM-address.
00011110	ETR7	3 IO, MI 4 RDI, E7, E4, E3, E2, E1, E0 5 SF	Byte from RAM gets saved in given RAM-address.
00011111	ATE0	3 AO, E7 4 SF	Byte from A-register gets copied into the expansion.
00100000	ATE1	3 AO, E7, E0 4 SF	Byte from A-register gets copied into the expansion.
00100001	ATE2	3 AO, E7, E1 4 SF	Byte from A-register gets copied into the expansion.
00100010	ATE3	3 AO, E7, E1, E0 4 SF	Byte from A-register gets copied into the expansion.
00100011	ATE4	3 AO, E7, E2 4 SF	Byte from A-register gets copied into the expansion.
00100100	ATE5	3 AO, E7, E2, E0 4 SF	Byte from A-register gets copied into the expansion..
00100101	ATE6	3 AO, E7, E2, E1 4 SF	Byte from A-register gets copied into the expansion.
00100110	ATE7	3 AO, E7, E2, E1, E0 4 SF	Byte from A-register gets copied into the expansion.
00100111	ETA0	3 AI, E7, E4 4 SF	Byte from the expansion gets copied into the A-Register.
00101000	ETA1	3 AI, E7, E4, E0 4 SF	Byte from the expansion gets copied into the A-Register.
00101001	ETA2	3 AI, E7, E4, E1 4 SF	Byte from the expansion gets copied into the A-Register.
00101010	ETA3	3 AI, E7, E4, E1, E0 4 SF	Byte from the expansion gets copied into the A-Register.
00101011	ETA4	3 AI, E7, E4, E2 4 SF	Byte from the expansion gets copied into the A-Register.
00101100	ETA5	3 AI, E7, E4, E2, E0 4 SF	Byte from the expansion gets copied into the A-Register.
00101101	ETA6	3 AI, E7, E4, E2, E1 4 SF	Byte from the expansion gets copied into the A-Register.
00101110	ETA7	3 AI, E7, E4, E2, E1, E0 4 SF	Byte from the expansion gets copied into the A-Register.