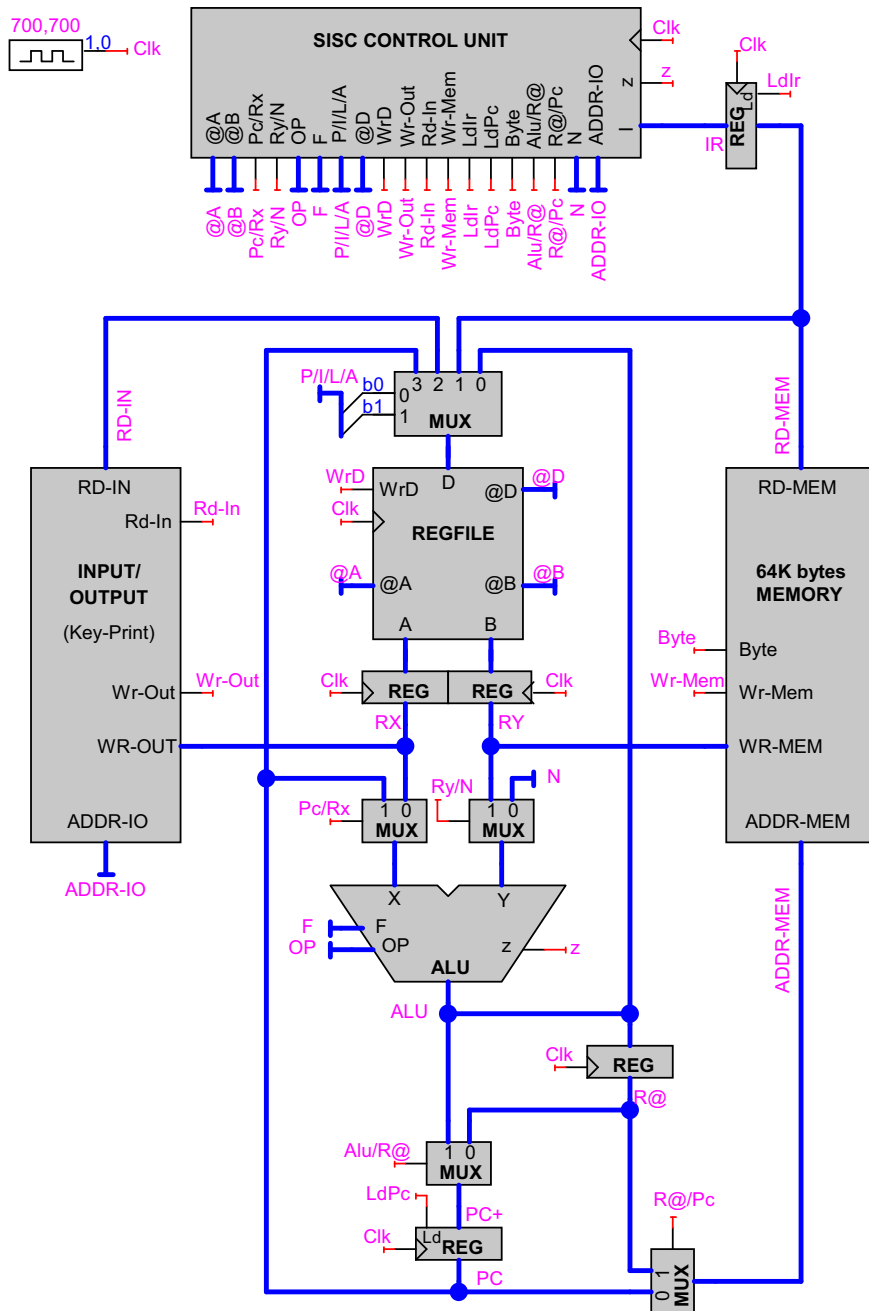


SISC

Simple Instruction Set Computer

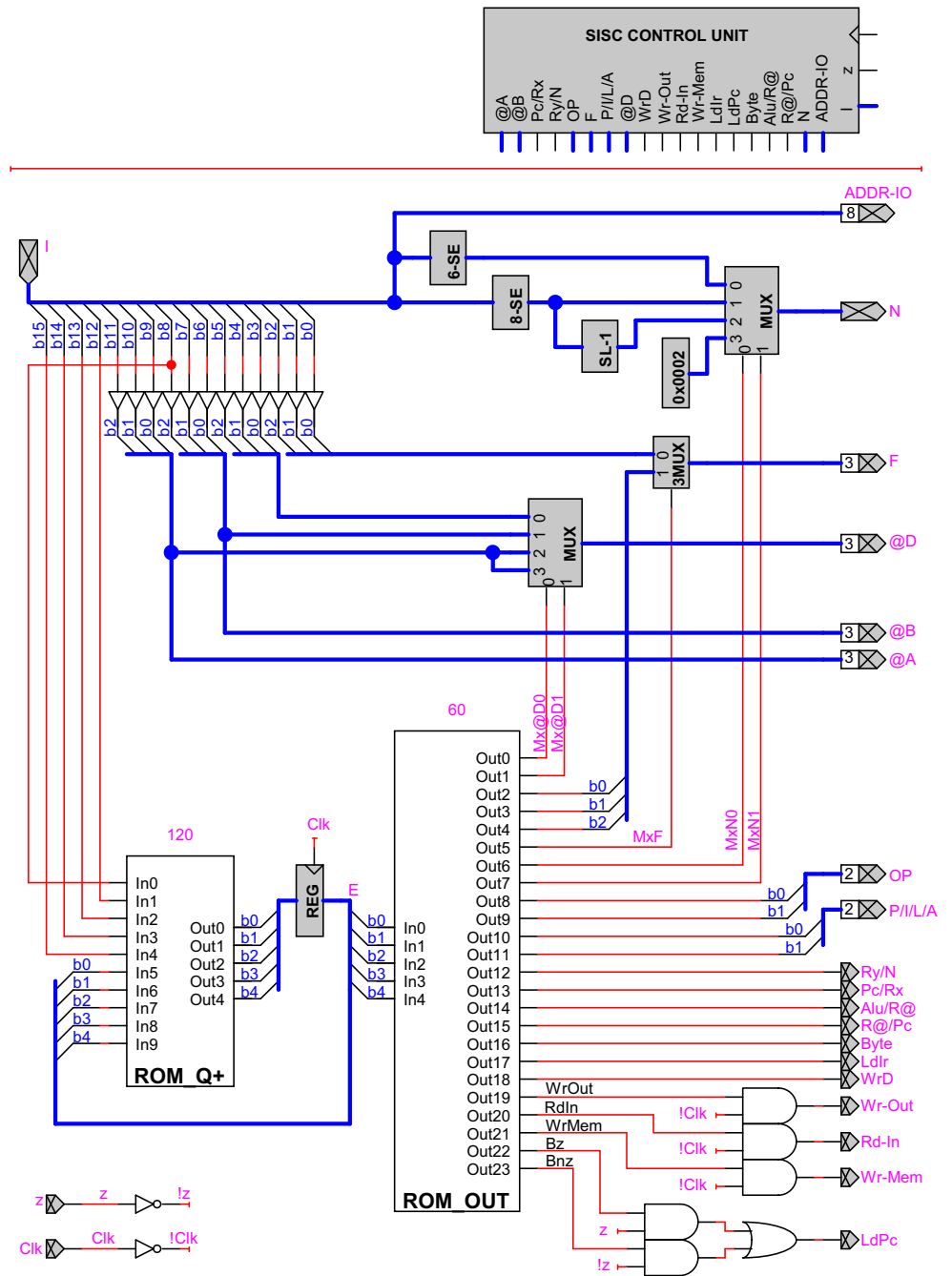
SISC



Bloque SISC CONTROL UNIT

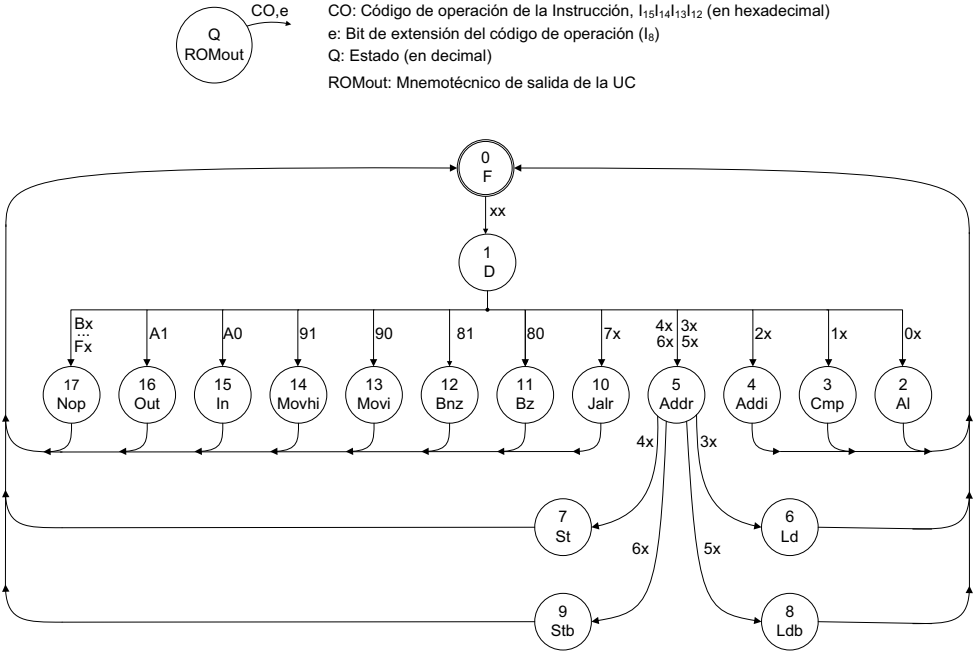
Control Unit of the SISC Computer

SISC CONTROL UNIT



SISA. Formato y codificación

16-bit Instruction																Mnemonic	Format
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
0	0	0	0	a	a	a	b	b	b	d	d	d	f	f	f	AND, OR, XOR, NOT, ADD, SUB, SHA, SHL, CMPLT, CMPLT, -, CMPEQ, CMPLTU, CMPLTU, -, -	3R
0	0	0	1	a	a	a	b	b	b	d	d	d	f	f	f		
0	0	1	0	a	a	a	d	d	d	n	n	n	n	n	n		
0	0	1	1	a	a	a	d	d	d	n	n	n	n	n	n	LD	2R
0	1	0	0	a	a	a	b	b	b	n	n	n	n	n	n		
0	1	0	1	a	a	a	d	d	d	n	n	n	n	n	n		
0	1	1	0	a	a	a	b	b	b	n	n	n	n	n	n		
0	1	1	1	a	a	a	d	d	d	x	x	x	x	x	x		
1	0	0	0	a	a	a	0	n n n n n n n n								BZ	1R
							1									BNZ	
1	0	0	1	d	d	d	0	n n n n n n n n								MOVI	
							1									MOVHI	
1	0	1	0	d	d	d	0	n n n n n n n n								IN	
				a	a	a	1									OUT	



Funcionalidad de la ALU

F			OP			
b_2	b_1	b_0	1 1	1 0	0 1	0 0
0	0	0	---	X	CMPLT (X, Y)	AND (X, Y)
0	0	1	---	Y	CMPLT (X, Y)	OR (X, Y)
0	1	0	---	MOVHI(X, Y)	---	XOR(X, Y)
0	1	1	---	X&(~1)	CMPEQ (X, Y)	NOT (X)
1	0	0	---	---	CMPLTU (X, Y)	ADD (X, Y)
1	0	1	---	---	CMPLTU (X, Y)	SUB (X, Y)
1	1	0	---	---	---	SHA(X, Y)
1	1	1	---	---	---	SHL(X, Y)