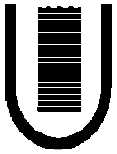
Virtual CPU - Eniac



Università degli Studi di Roma “Tor Vergata”

Dr.ssa Veronica Marchetti

Ulteriori esempi...

Cosa accade a fronte della esecuzione delle diverse operazioni:

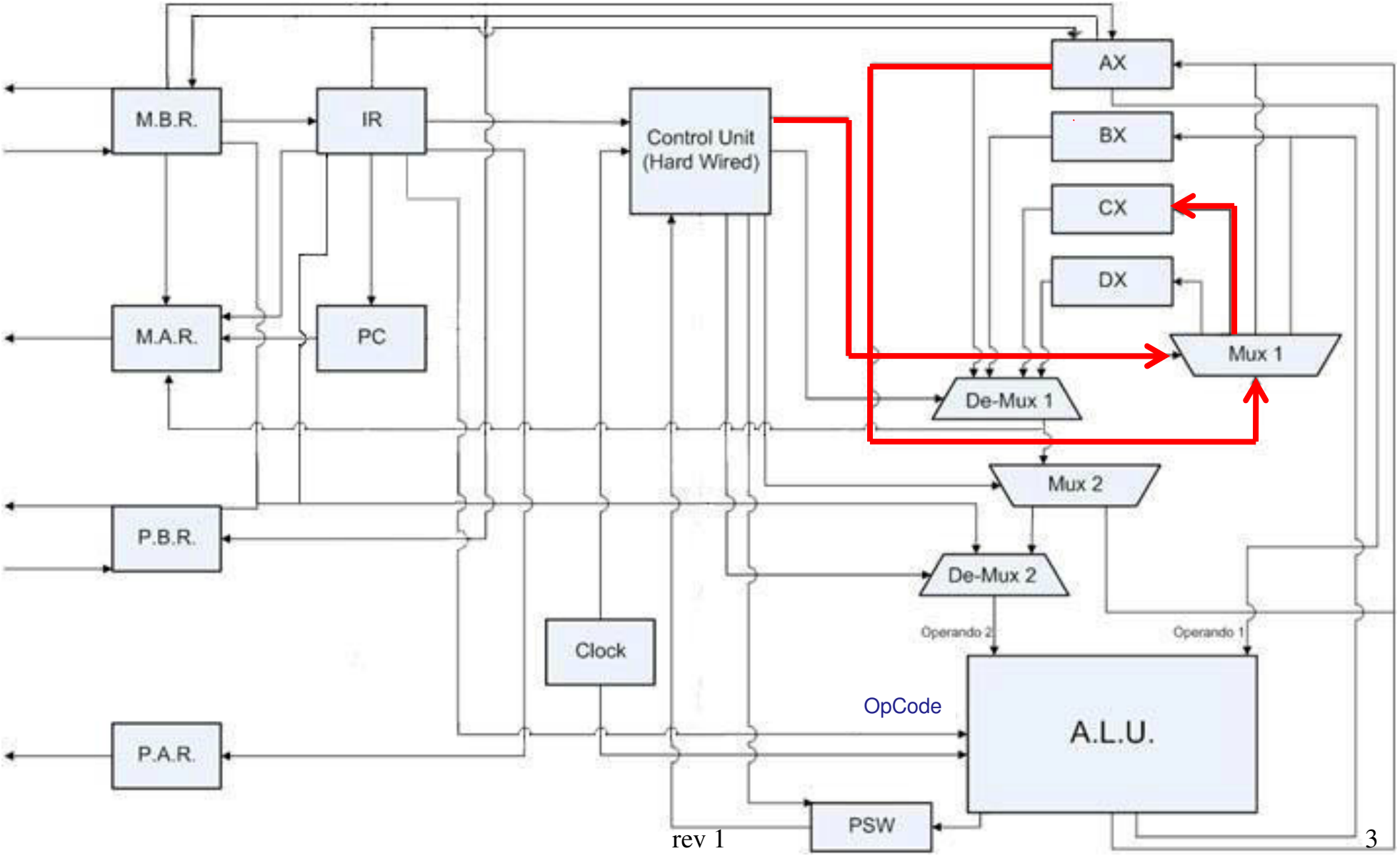
all'interno di vCPU

- Memorizzazione
- Sottrazione
- Salto condizionato e non

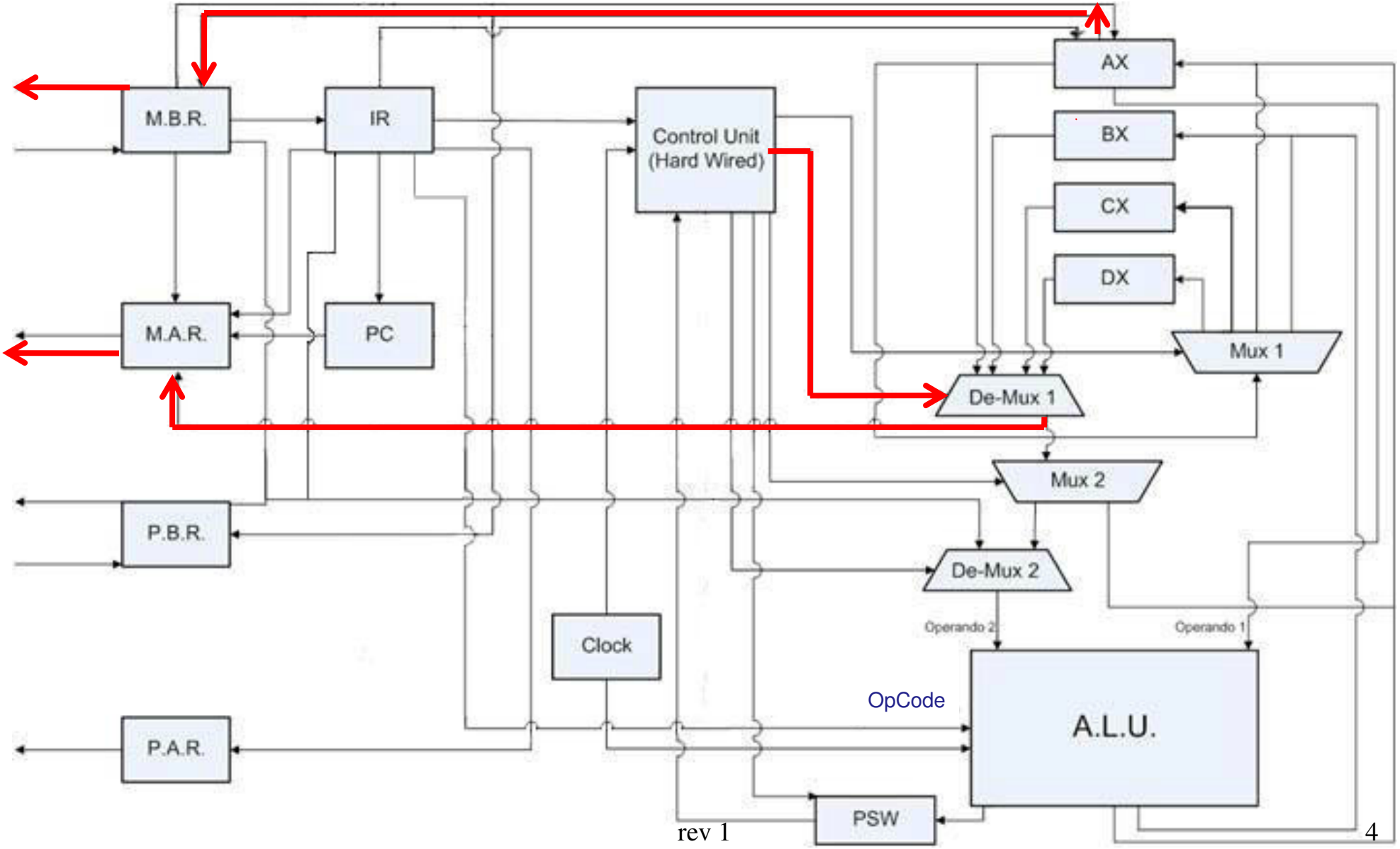
all'interno della ALU

- Incremento e decremento
- Negazione logica

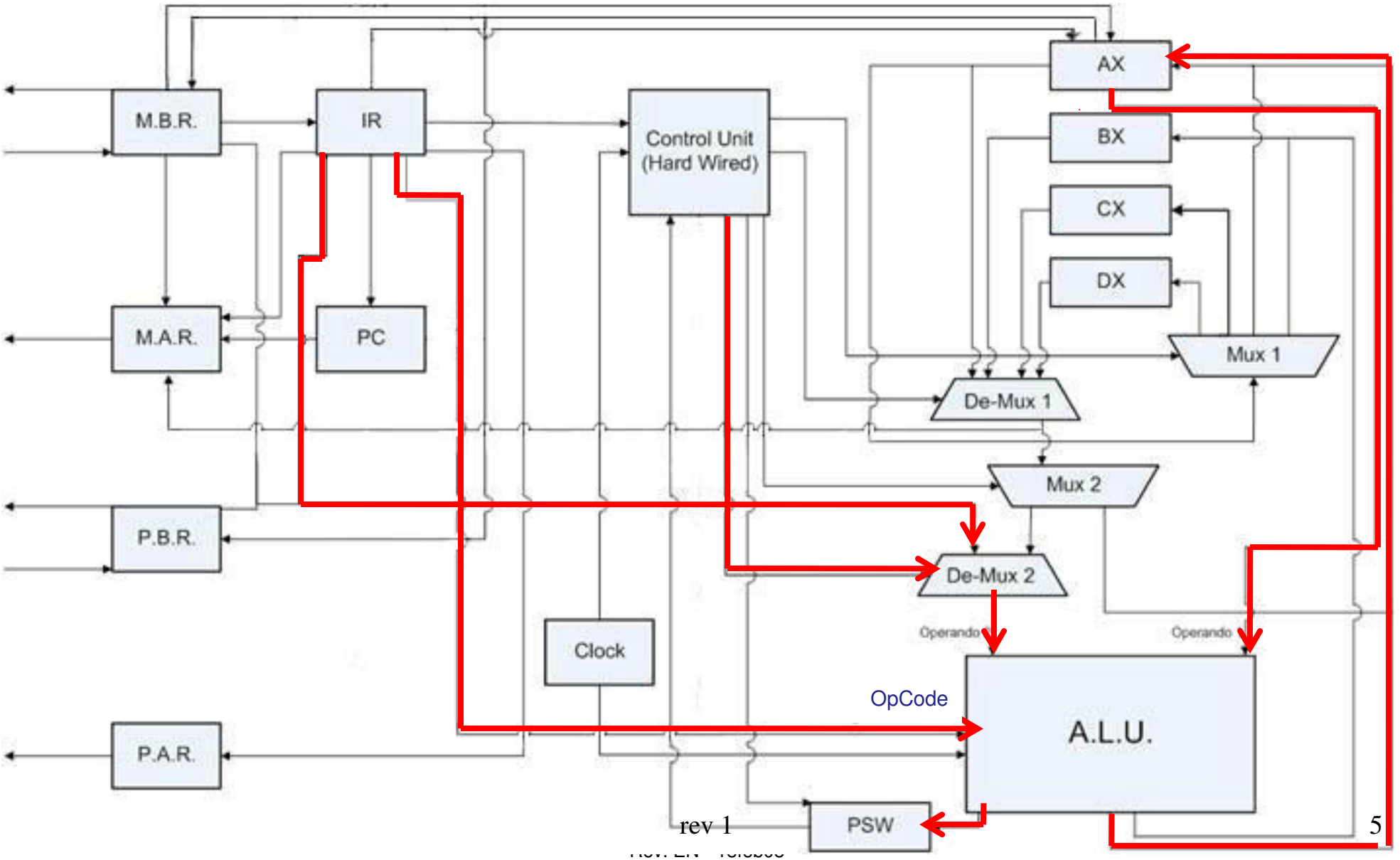
STORE CX


AX
BX
CX
DX
M.B.R.
IR
Control Unit
(Hard Wired)
M.A.R.
PC
Mux 1
De-Mux 1
Mux 2
P.B.R.
De-Mux 2
Operando 2
Operando 1
Clock
OpCode
A.L.U.
P.A.R.
PSW

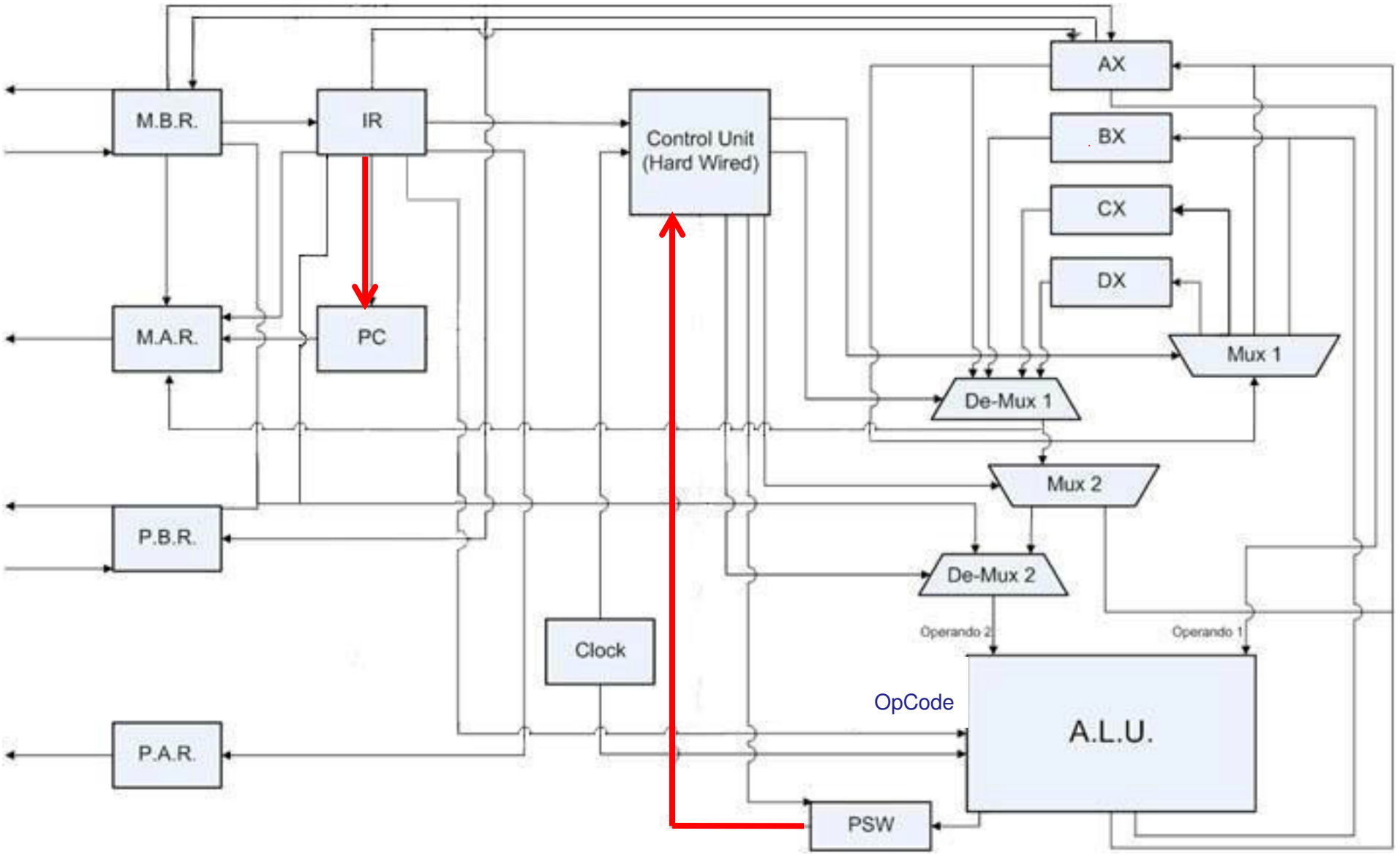
STORE @CX


AX
BX
CX
DX
M.B.R.
IR
Control Unit
(Hard Wired)
M.A.R.
PC
Mux 1
De-Mux 1
Mux 2
P.B.R.
De-Mux 2
Operando 2
Operando 1
Clock
OpCode
A.L.U.
P.A.R.
PSW

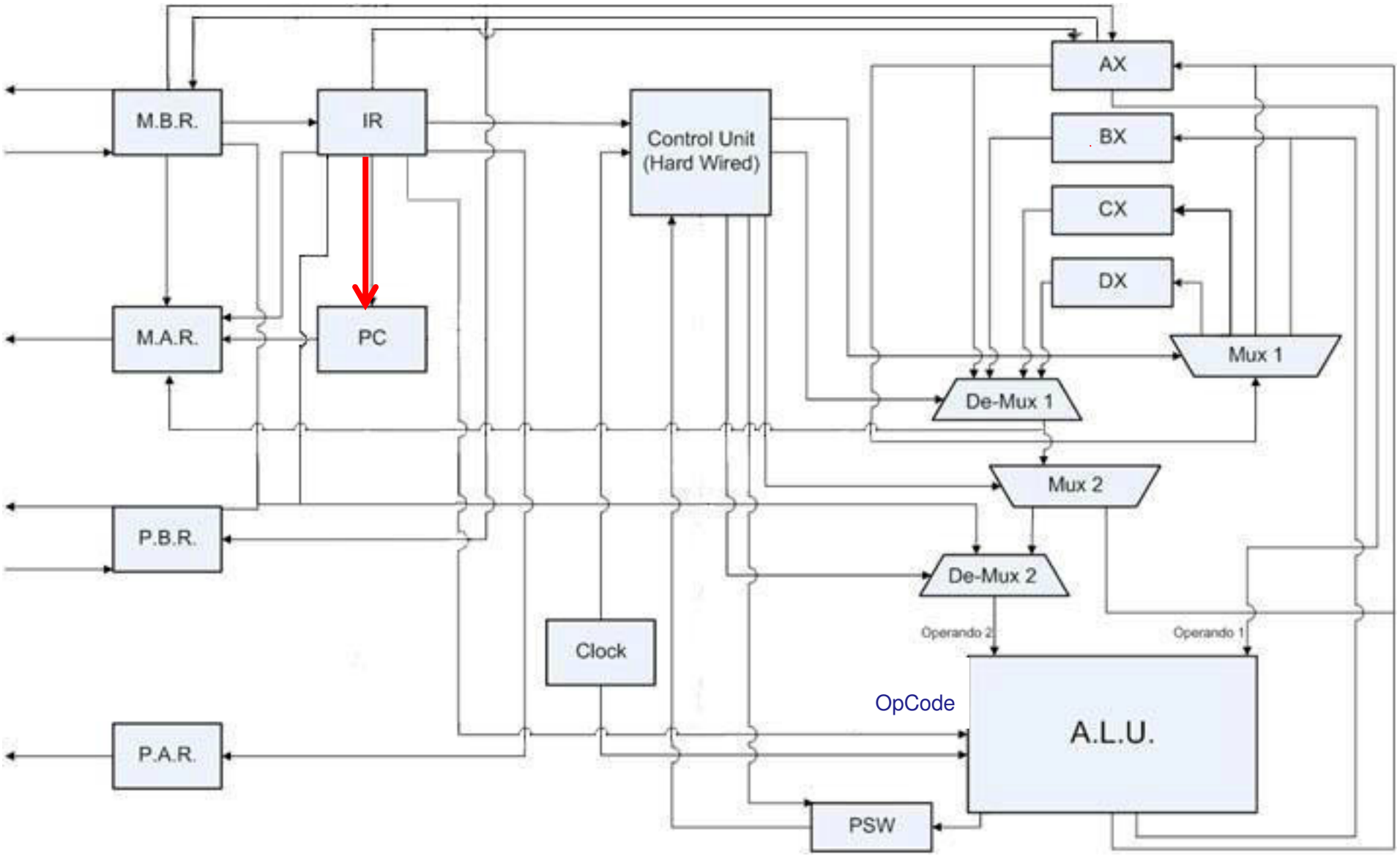
SUB 0


AX
M.B.R.
IR
Control Unit
(Hard Wired)
BX
CX
DX
M.A.R.
PC
Mux 1
De-Mux 1
Mux 2
P.B.R.
De-Mux 2
Operando
Operando
Clock
OpCode
A.L.U.
P.A.R.
PSW

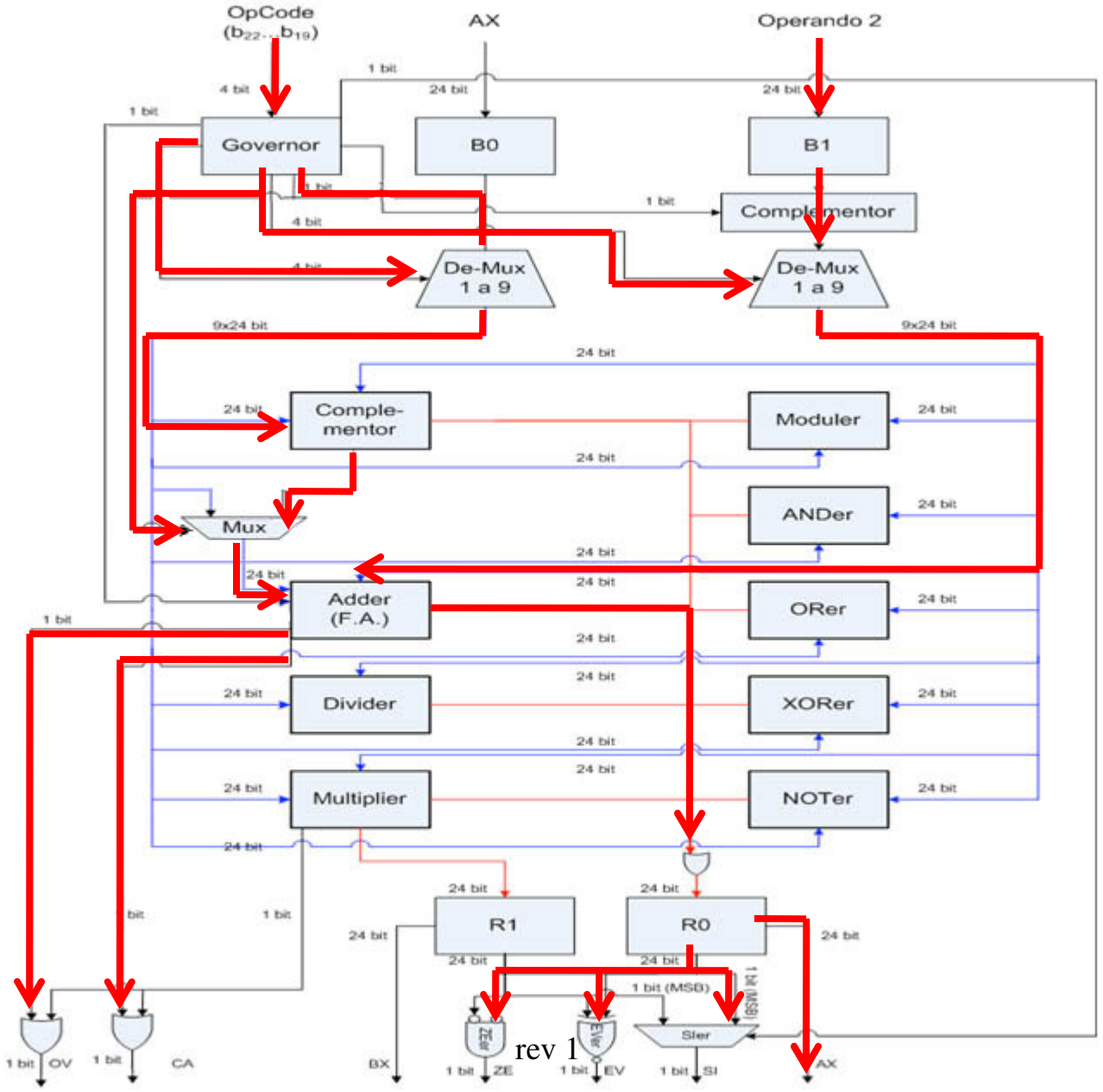
JZ 21


AX
BX
CX
DX
M.B.R.
IR
Control Unit
(Hard Wired)
M.A.R.
PC
Mux 1
De-Mux 1
Mux 2
P.B.R.
De-Mux 2
Operando 2
Operando 1
Clock
OpCode
A.L.U.
P.A.R.
PSW

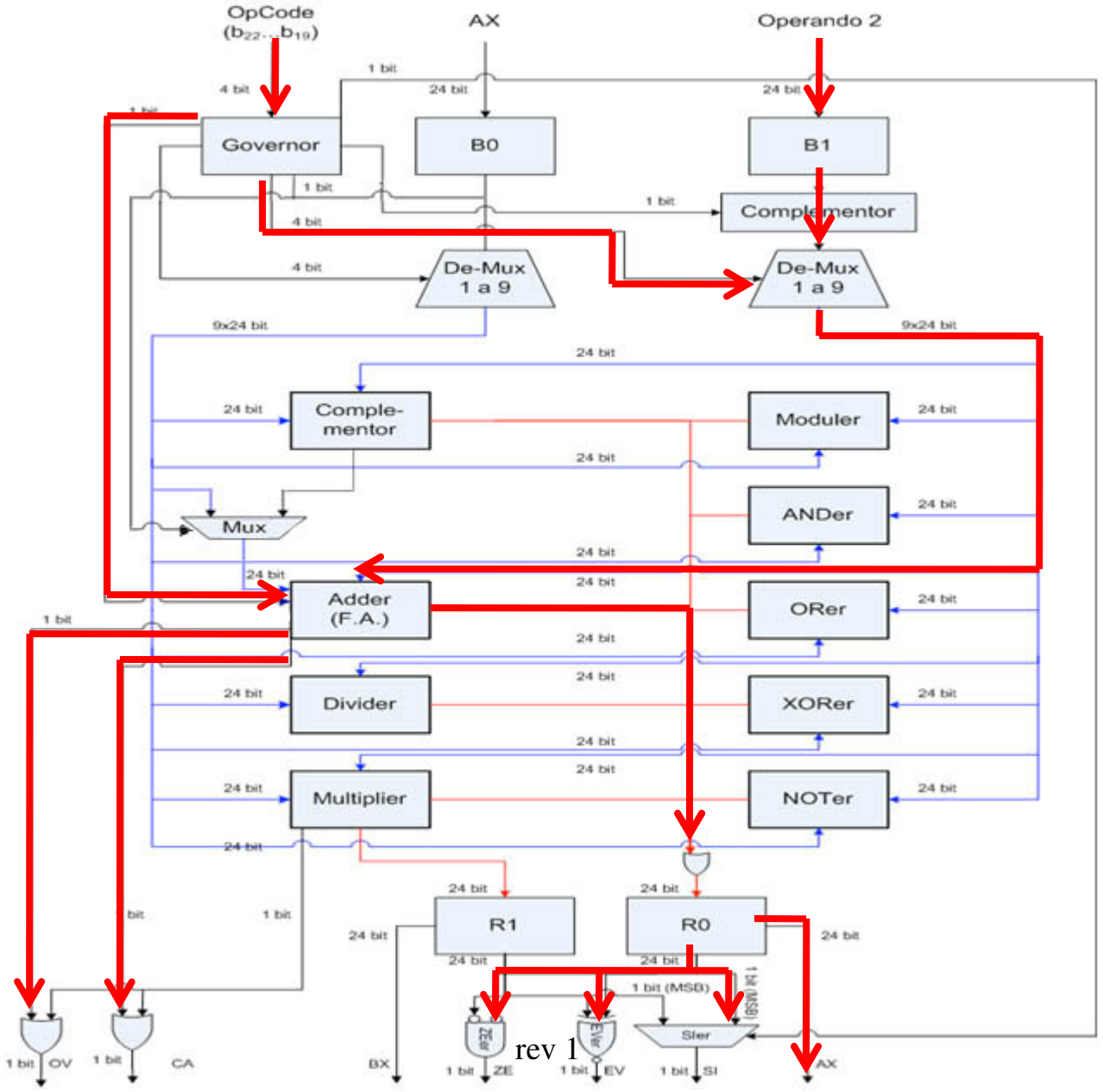
JMP 11


AX
M.B.R.
IR
Control Unit
(Hard Wired)
BX
CX
DX
M.A.R.
PC
Mux 1
De-Mux 1
Mux 2
P.B.R.
De-Mux 2
Operando 2
Operando 1
Clock
OpCode
A.L.U.
P.A.R.
PSW

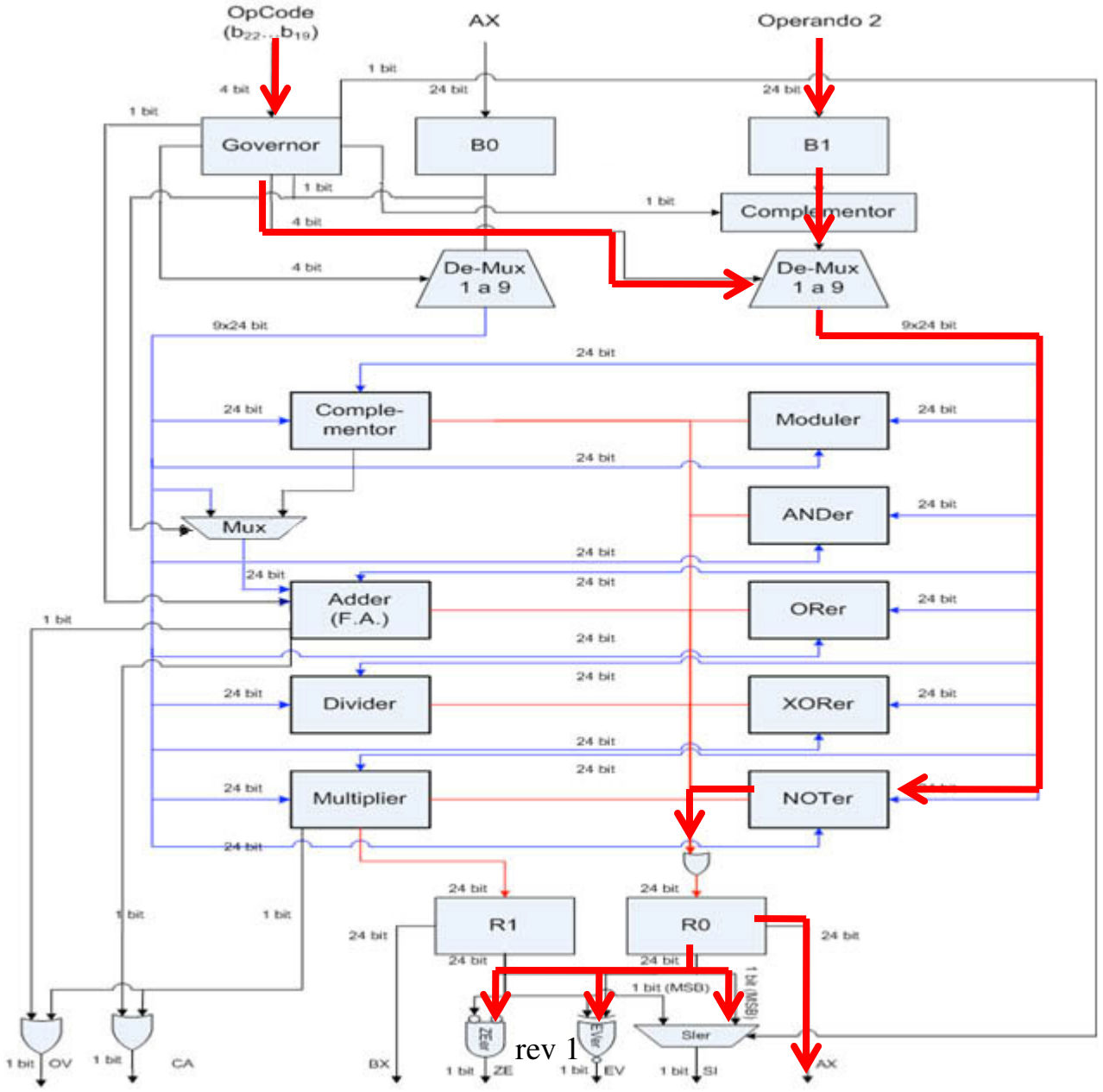
‘DEC X’ : Cosa accade all’interno dell’ ALU



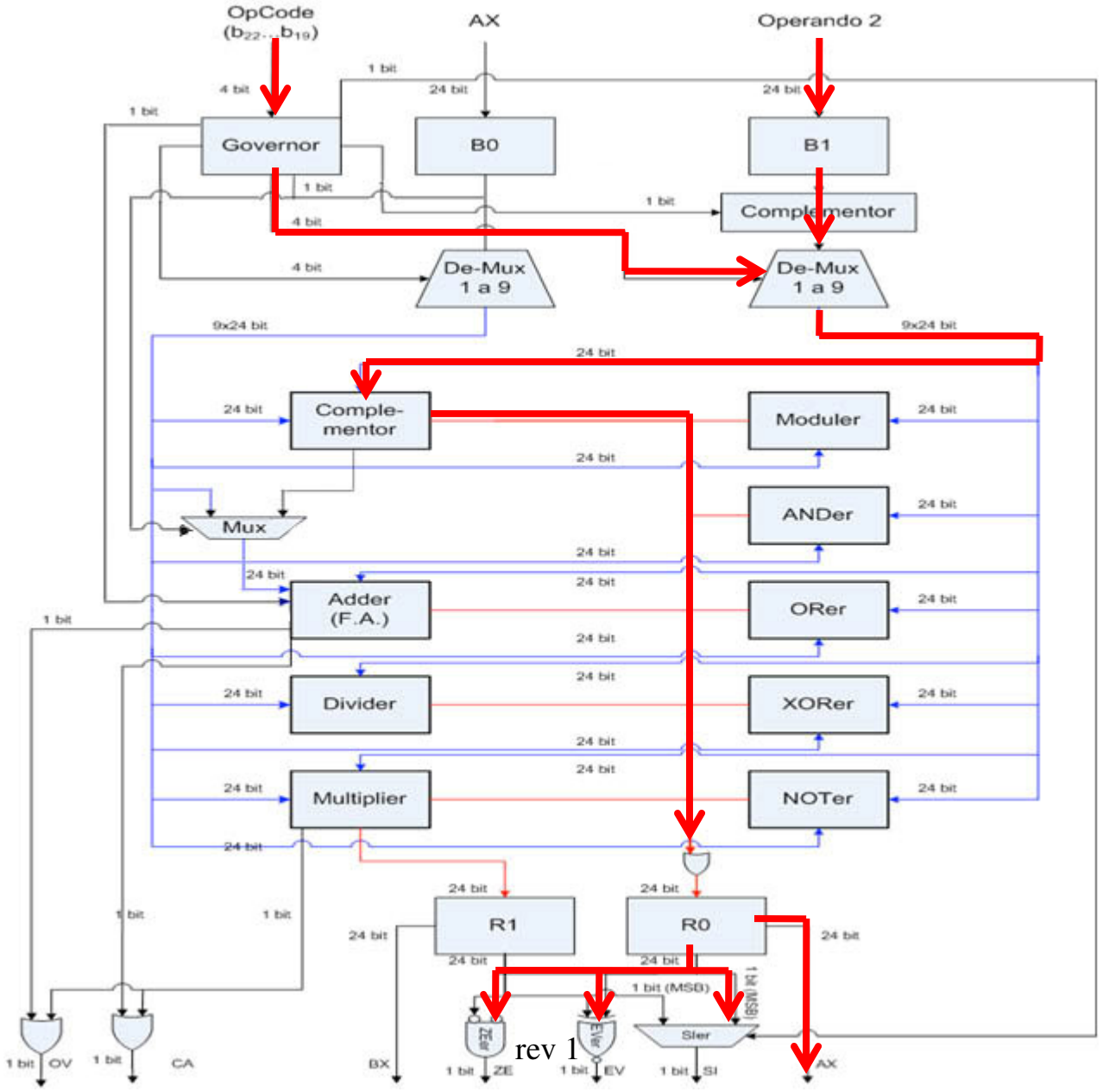
‘INC X’ : Cosa accade all’interno dell’ ALU



‘NOT X’ : Cosa accade all’interno dell’ ALU



‘NEG X’ : Cosa accade all’interno dell’ ALU



Eniac

- Emulatore di una CPU virtuale progettata e realizzata dal Dott. Mauro Codella e Dott. Dario Dussoni nell'ambito delle loro Tesi di Laurea con il Prof. Enrico Nardelli.

- Attualmente il software è reperibile alla seguente URL :

  http://sourceforge.net/projects/eniac/