

Combinatorial control

The setting of the control lines is completely determined by the opcode fields of the instruction.

Instr.	and	or	add	sub	slt	lw	sw	beq	j
Func _t [5:0]	(AND)	(OR)	(ADD)	(SUB)	(SLT)	-	-	-	-
ALUop[1:0]	(Funct)	(Funct)	(Funct)	(Funct)	(Funct)	ADD	ADD	SUB	-
Operation[2:0]	000	001	010	110	111	010	010	110	-
ALUsrc	0	0	0	0	0	1	1	0	-
MemRead	-	-	-	-	-	1	0 ^a	-	-
MemWrite	0	0	0	0	0	0	1	0	0
MemtoReg	0	0	0	0	0	1	-	-	-
RegDst	1	1	1	1	1	0	-	-	-
RegWrite	1	1	1	1	1	1	0	0	0
Branch	0	0	0	0	0	0	0	1	-
Mbranch	0	0	0	0	0	0	0	Zero	-
Jump	0	0	0	0	0	0	0	0	1

^aThis assumes no memory read and write at the same time.

