

MythSim Microcode Language Quick Reference

Register Set

a_sel=n	Place the value in register n (0-7) on the a_bus .
b_sel=n	Place the value in register n (0-7) on the b_bus .
ri_sel	Store result in the register defined in ir_ri .
rj_sel	Place the value in the register defined by ir_rj on the a_bus .
rk_sel	Place the value in the register defined by ir_rk on the b_bus .
rn_write	Store the result_bus value into register n (0-7).

Arithmetic Logic Unit

alu_sel=	NOT	NOT(a_bus) => alu_bus
	OR	OR(a_bus, b_bus) => alu_bus
	AND	AND(a_bus, b_bus) => alu_bus
	XOR	XOR(a_bus, b_bus) => alu_bus
	ADD	a_bus + b_bus + c_in => alu_bus
	SUB	a_bus + NOT(b_bus) + c_in => alu_bus
	ADDA	a_bus + c_in => alu_bus
	SUBA	a_bus -1 + c_in => alu_bus
c_in	Set the c_in to 1 for use by ALU operations (4-7).	

Memory Interface

result_sel=	ALU	Place the alu_bus value on the result_bus .
	MDR	Place the mdr value on the result_bus .
	IR_CONST4	Place ir_const4 on the result_bus . (ir_const4 = last 4 bits of ir0)
	IR_CONST8	Place ir_const8 on the result_bus . (ir_const8 = all 8 bits of ir0)
ir0_sel=	LOAD	Load the value on the memory_bus into ir0 (Instruction Register 0).
ir1_sel=	LOAD	Load the value on the memory_bus into ir1 (Instruction Register 1).
mar_sel=	LOAD	Load the value on the alu_bus into the mar (Memory Address Register).
mdr_sel=	LOAD_ALU	Load the value on the alu_bus into the mdr (Memory Address Register).
	LOAD_MEM	Load the value on the memory_bus into the mdr (Memory Data Register).
read	Place the value at the main memory address mar on the memory_bus .	
write	Write the value of mdr to the main memory location mar .	

Control Structures

goto label	Jump to the given label.	
if status_line then goto label_1 (else goto label_2) endif	If the value of status_line =1 then goto label_1 else goto label_2 .	
	status_line	Description
	m7	most significant bit from alu_bus
	c_out	carry bit from the alu_bus
	v	overflow bit from the ALU
	wait	wait signal from Main Memory

