INST FETCH	T0	PC_OUT	MAR_IN		
	T1	RAM_OUT	IR_IN (INST)	PC_INC	
HALT [0000]	T2	HALT			
	T3				
	T4				.
LOAD X [0001]	T2	IR_OUT	MAR_IN		
	T3	RAM_OUT	REG_A_IN		
	T4				
ADD X [0010]	T2	IR_OUT	MAR_IN		
	T3	RAM_OUT	REG_B_IN		
	T4	ALU_ADD_REQUEST	ALU_OUT	REG_A_IN	SET_FLAG
SUB X [0011]	T2	IR_OUT	MAR_IN		
	T3	RAM_OUT	REG_B_IN		
	T4	ALU_SUB_REQUEST	ALU_OUT	REG_A_IN	SET_FLAG
DISPLAY [0100]	T2	REG_A_OUT	DISPLAY		
	T3				
	T4				
STORE X [0101]	T2	IR_OUT	MAR_IN		
	T3	REG_A_OUT	RAM_IN		
	T4				
LOAD IMD [0110	T2	IR_OUT	REG_A_IN		
	T3				
	T4				
INC X [0111]	T2	IR_OUT	REG_B_IN		
IR = OPCODE + 4bit Num	T3	ALU_ADD_REQUEST	ALU_OUT	REG_A_IN	SET_FLAG
	T4				
DEC X [1000]	T2	IR_OUT	REG_B_IN		
IR = OPCODE + 4bit Num	T3	ALU_SUB_REQUEST	ALU_OUT	REG_A_IN	SET_FLAG
	T4				
JUMP X [1001]	T2	IR_OUT	PC_IN		
	T3				
	T4				
JUMP IF_CAR X [1010]	T2	IR_OUT	PC_IN		
	T2				
	T3				
	T4				
JUMP IFZ X [1011]	T2	IR_OUT	PC_IN		
	T2				
	T3				
	T4				

AVAILABLE CONTROL SIGNALS
-FLAG_SET
-MAR_LOAD
-WE (RAM_IN)
-MEM_OUT
-IR_OUT
-IR_LOAD
-LOAD_A
-ENABLE_A (REG_A_OUT)
HALT
ALU_OUT
SUB/-ADD
-LOAD_B
DISP
PC_INC
-PC_OUT
-PC_LOAD