		EXT_FLAG	MAddr_MUX	MEM_WR	LP_MUX	LP_WR	G_MUX	G_WR	Q_MUX	Q_WR	B_MUX	B_WR	A_MUX	A_WR	Y_MUX	Y_WR	X_MUX	X_WR	Z_MUX	Z_WR	ALU_OP
AD	**Step**																				
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into X		1														0	1			
pulse 3	Load A into Y														1	1					
pulse 4	A = ALU(X,Y,add)												1	1							ADD
pulse 5	Set EXT flag to 0	0																			
pulse 6	Load PC into X																1	1			
pulse 7	Load 1 into Y														2	1					
pulse 8	Z = ALU(X,Y,add)																		1	1	ADD
SU																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into X		1														0	1			
pulse 3	Load A into Y														1	1					
pulse 4	A = ALU(X,Y,sub)												1	1							SUB
pulse 5	Set EXT flag to 0	0																			
pulse 6	Load PC into X																1	1			
pulse 7	Load 1 into Y														2	1					
pulse 8	Z = ALU(X,Y,add)																		1	1	ADD
MASK																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into X		1														0	1			
pulse 3	Load A into Y														1	1					
pulse 4	A = ALU(X,Y,and)												1	1							AND
pulse 5	Set EXT flag to 0	0																			
pulse 6	Load PC into X																1	1			
pulse 7	Load 1 into Y														2	1					
pulse 8	Z = ALU(X,Y,add)																		1	1	ADD
CS																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into A		1				0	1					0	1							
pulse 3	Load Inv(A) into A												2	1							
pulse 4	Set EXT flag to 0	0																			
pulse 5	Load PC into X																1	1			
pulse 6	Load 1 into Y														2	1					
pulse 7	Z = ALU(X,Y,add)																		1	1	ADD
XCH																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Load mem(S) into G		1				0	1													
pulse 3	Load A into mem(S)			1																	
pulse 4	Load G into A												3	1							
pulse 5	Set EXT flag to 0	0																			
pulse 6	Load PC into X																1	1			
pulse 7	Load 1 into Y														2	1					
pulse 8	Z = ALU(X,Y,add)																		1	1	ADD
MP																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into X		1														0	1			
pulse 3	Load A into Y														1	1					
pulse 4	LP = ALU(X,Y,mp0)				1	1															MP0
pulse 5	A = ALU(X,Y, mp1)												1	1							MP1
pulse 6	Set EXT flag to 0	0																			
pulse 7	Load PC into X																1	1			
pulse 8	Load 1 into Y														2	1					
pulse 9	Z = ALU(X,Y,add)																		1	1	ADD
DIV																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into X		1														0	1			
pulse 3	Load A into Y														1	1					
pulse 4	Q = ALU(X,Y,mp0)				1	1															MP0
pulse 5	A = ALU(X,Y, mp1)												1	1							MP1
pulse 6	Set EXT flag to 0	0																			
pulse 7	Load PC into X																1	1			
pulse 8	Load 1 into Y														2	1					
pulse 9	Z = ALU(X,Y,add)																		1	1	ADD
TS																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Load A into mem(S)			1																	
pulse 3	Set EXT flag to 0	0																			
pulse 4	Load PC into X																1	1			
pulse 5	Load 1 into Y														2	1					
pulse 6	Z = ALU(X,Y,add)																		1	1	ADD
INDEX																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Mem(S) into A		1										0	1							
pulse 3	Load S into X																2	1			
pulse 4	Load 1 into Y														2	1					
pulse 5	B = ALU(X,Y,ADD)										1	1									ADD
pulse 6	Mem(S+1) into X																0	1			
pulse 7	Load A into Y														1	1					
pulse 8	A = ALU(X,Y,add)												1	1							ADD
pulse 9	Load A into mem(S+1)			1																	
pulse 10	Set EXT flag to 0	0																			
pulse 11	Load PC into X																1	1			
pulse 12	Load 1 into Y														2	1					
pulse 13	Z = ALU(X,Y,add)																		1	1	ADD
TC																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Load Z into Q								2	1											
pulse 3	Load B into Z																		2	1	
pulse 4	Set EXT flag to 0	0																			
pulse 5	Load PC into X																1	1			
pulse 6	Load 1 into Y														2	1					
pulse 7	Z = ALU(X,Y,add)																		1	1	ADD
CSS																					
pulse 1	Mem(PC) into B		0								0	1									
pulse 2	Load Mem(S) into A		1										0	1							
pulse 3	Load 1,2,3,4 into Y														3	1					
pulse 4	Load Z into X																2	1			
pulse 5	Z = ALU(X,Y,add)																		1	1	ADD
pulse 6	Load 0,1 into Y														4	1					
pulse 7	Load A,~A into X																3	1			
pulse 8	A =ALU(X,Y,add)												1	1							ADD
pulse 9	Set EXT flag to 0	0																			