

Sheet1

\PH* PH | currInt<<2
 \PL* PL | currInt<<2

\decode (int != currInt) & (dIn[7:5] != 011) & !useK & !skip ? CurrInt = int, >>>> unfetch

dIn[7:5] == 011 skip
 DIn[6:5] != 11 dIn[3:0] == 1111
 DIn[6:5] != 11 DIn[3:2] != 11 dIn[1:0] == 11
 DIn[6:5] != 11 DIn[3:2] == 11 DIn[1:0] != 11
 DIn[6:5] != 11 DIn[3:2] != 11 DIn[1:0] != 11
 DIn[7:5] != 111 DIn[3:2] != 11 dIn[1:0] == 11
 DIn[7:5] != 111 DIn[3:2] != 11 DIn[1:0] != 11
 (dIn[7:5] == 111) & (dIn[3:2] == 11) & !skip ? >>>> jump
 (dIn[7:1] == 1110110) & skip ? >>>> skip2
 (dIn[7:1] == 1110111) & skip ? Skip = 0, >>>> fetch
 (dIn[7:2] == 111111) & skip ? >>>> skip1

\mA IR[7:5] == 111 ? IR[3:2] : IR[6:5]
 \mL IR[7:5] == 111 ? !IR[4] | IR[3:2] : !IR[7] | IR[6:5]
 \mCin IR[7:5] == 111 ? !IR[4] & IR[2] : !IR[7] & IR[5]
 \S {00,IR[3:2]}
 \D {00,IR[1:0]}
 \kD UseK ? 0011 : {00,IR[1:0]}

label	rA	rB	rW	dIn	dOut	wMem	aSel	bSel	logSel	Cin	sA7	A7	sA0	A0
fetch	PH*	PL*	PL*	?	?		0	0 B	B	1	0 x		0 x	
fetchII	x	PH*	PH*	Inst	?		0	0 B	B	1	0 x		0 x	
fetchI	x	x	No	Inst	?		0	0 B	B	0	0 x		0 x	
unfetch	PH*	PL*	PL*	?	?		0	-2 B	B	1	0 x		0 x	
skip2	PH*	PL*	PL*	?	?		0	0 B	B	1	0 x		0 x	
skip1	PH*	PL*	PL*	?	?		0	0 B	B	1	0 x		0 x	
test	K	K	K	?	?		0	0 B	^	cnd	0 x		0 x	
mathRR	S	kD	D	?	?		0 mA	B	mL	mCir	0 x		0 x	
kmathRR	S	kD	K	?	?		0 mA	B	mL	mCir	0 x		0 x	

	skip	!skip	!skip
		useK	!useK
= 0	>>> fetch	>>> test	>>> test
	>>> skip2	>>> kmathZZ	>>> mathZZ
	>>> skip1	>>> kmathRZ	>>> mathRZ
	>>> skip1	>>> kmathZR	>>> mathZR
	>>> fetch	>>> kmathRR	>>> mathRR
	>>> skip2	>>> kmathZI	>>> mathZI
	>>> skip1	>>> kmathRI	>>> mathRI

wIR wFL

```

0  0 C ? >>>> fetchII : fetchI
1  0 >>>> decode
1  0 >>>> decode

0  0 >>>> fetch

0  0 >>>> skip1
0  0 skip = 0, >>>> fetch

0  0 useK = IR[4], skip = cnd & !IR[4], >>>> fetch

0  1 >>>> fetch

0  1 UseK = 1, >>>> fetch

```