

Prom Name	Rev	Part No.	Location	Page	Comments
SwitchProm	R	F93427	i14	14	New Rev for 16K Control Store CP 256 x 4
KernPC16Prom	B	F93427	h14	15	Standard 256 x 4
CSIntProm	D	F93453	e20	22	Standard 1K x 4
StackVirtProm	I	F93427	h24	15	Standard 256 x 4
ScheduleProm	D	F93453	h18	14	Standard 1K x 4
ErrorProm	E	F93453	g14	15	Standard 1K x 4
IBProm-PC.0	G	F93453	i17	05	Standard 1K x 4
IBProm-PC.4	G	F93453	h17	05	Standard 1K x 4
DesMpProm.0	B	F93427	a16	33	Added to control DES logic 256 x 4
DesMpProm.4	B	F93427	b16	33	Added to control DES logic 256 x 4
DesSpProm	A	F93427	b15	33	Added to control DES logic 256 x 4

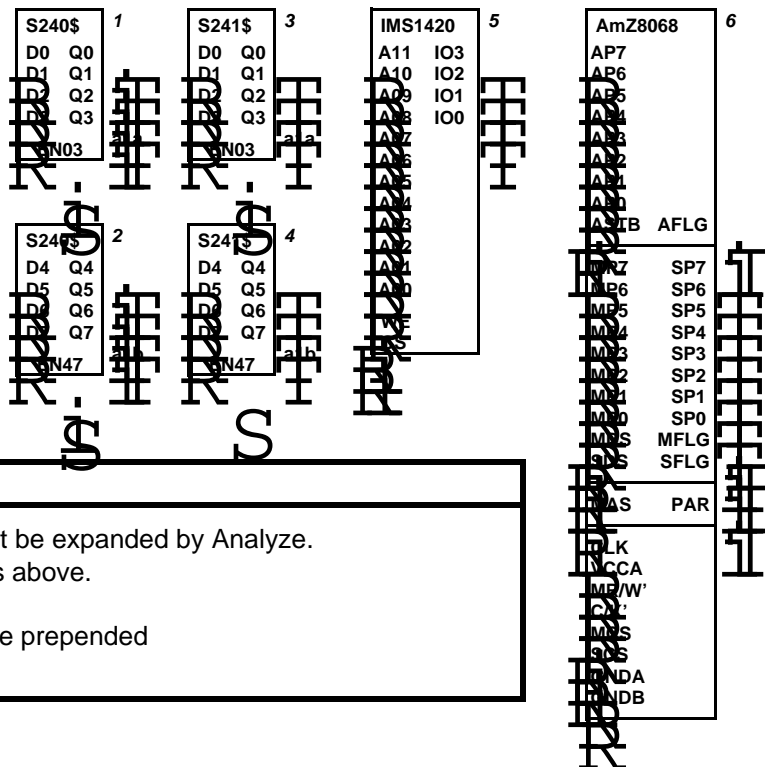
Prom files are stored on [Indigo]<Dandelion>CPE>Proms>*

Bringover /a [Indigo]<Dandelion>CPE>DfFiles>Proms.df to fetch all files, sources, tools, etc.

Labels:

Switch i14 Rev-R	KernPC16 h14 Rev-B	CSInt e20 Rev-D	StackVirt h24 Rev-I	Schedule h18 Rev-D	Error g14 Rev-E	IB-PC.0 i17 Rev-G	IB-PC.4 h17 Rev-G	DesMp.0 a16 Rev-B	DesMp.4 b16 Rev-B	DesSp b15 Rev-A
Switch i14 Rev-R	KernPC16 h14 Rev-B	CSInt e20 Rev-D	StackVirt h24 Rev-I	Schedule h18 Rev-D	Error g14 Rev-E	IB-PC.0 i17 Rev-G	IB-PC.4 h17 Rev-G	DesMp.0 a16 Rev-B	DesMp.4 b16 Rev-B	DesSp b15 Rev-A
Switch i14 Rev-R	KernPC16 h14 Rev-B	CSInt e20 Rev-D	StackVirt h24 Rev-I	Schedule h18 Rev-D	Error g14 Rev-E	IB-PC.0 i17 Rev-G	IB-PC.4 h17 Rev-G	DesMp.0 a16 Rev-B	DesMp.4 b16 Rev-B	DesSp b15 Rev-A
Switch i14 Rev-R	KernPC16 h14 Rev-B	CSInt e20 Rev-D	StackVirt h24 Rev-I	Schedule h18 Rev-D	Error g14 Rev-E	IB-PC.0 i17 Rev-G	IB-PC.4 h17 Rev-G	DesMp.0 a16 Rev-B	DesMp.4 b16 Rev-B	DesSp b15 Rev-A

Font 4 Macros

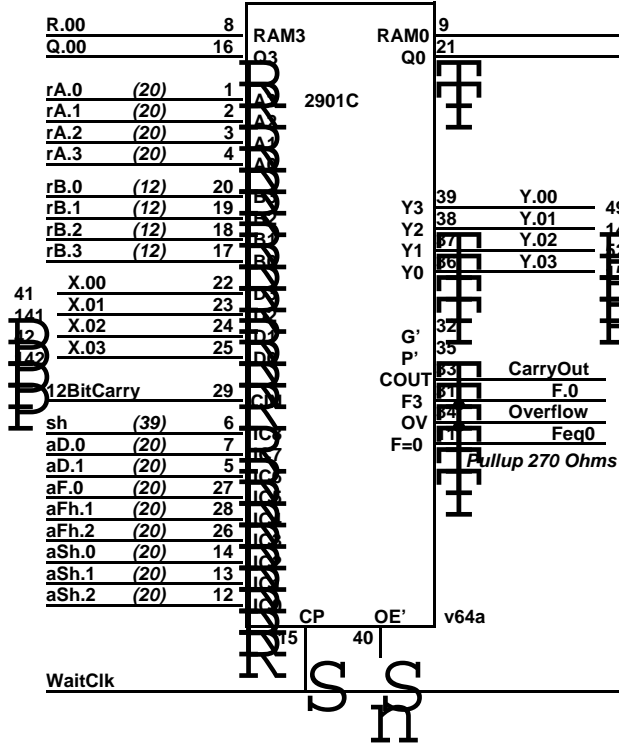


Important Notes:

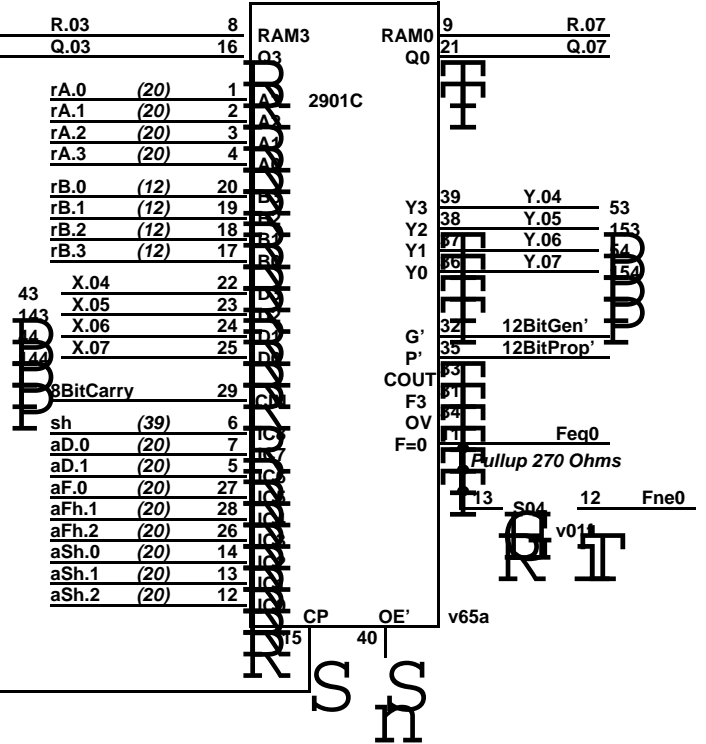
Only macros 0-9 are valid component names and will not be expanded by Analyze. Some of these drawings contain instances of the macros above. Those that do have a warning on them, see below left. There is a corresponding CPEDict.analyze that should be prepended to the dictionary chain.

Warning: This drawing contains font 4 macros!

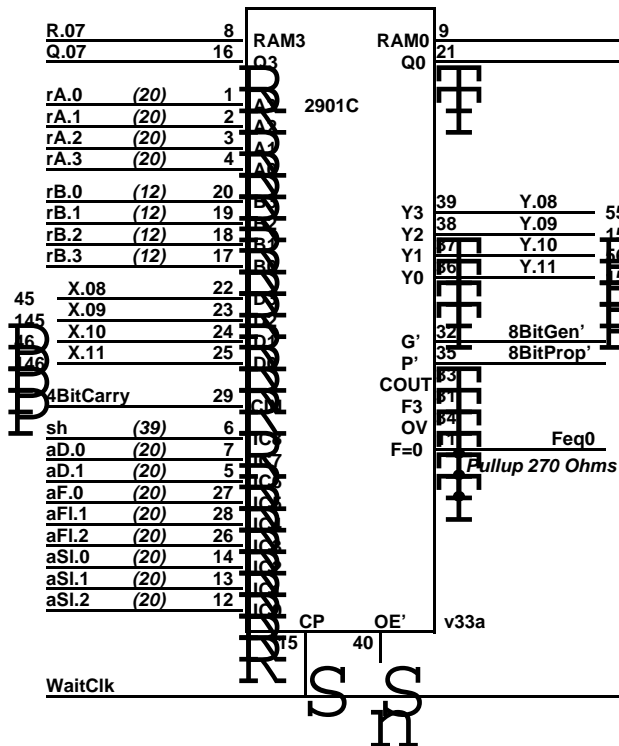
[00-03]



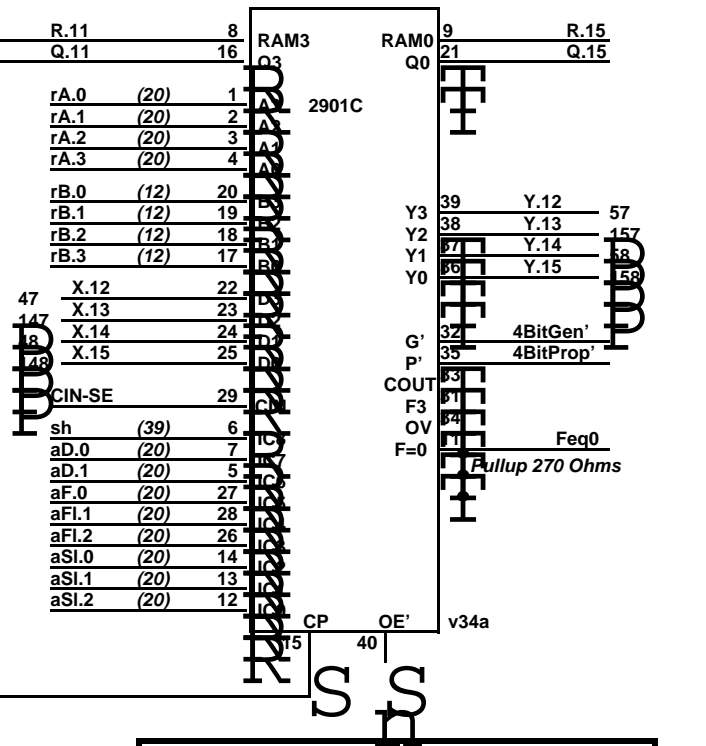
[04-07]



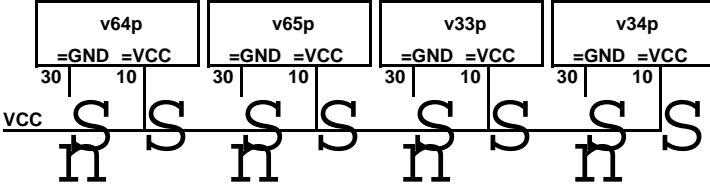
[08-11]



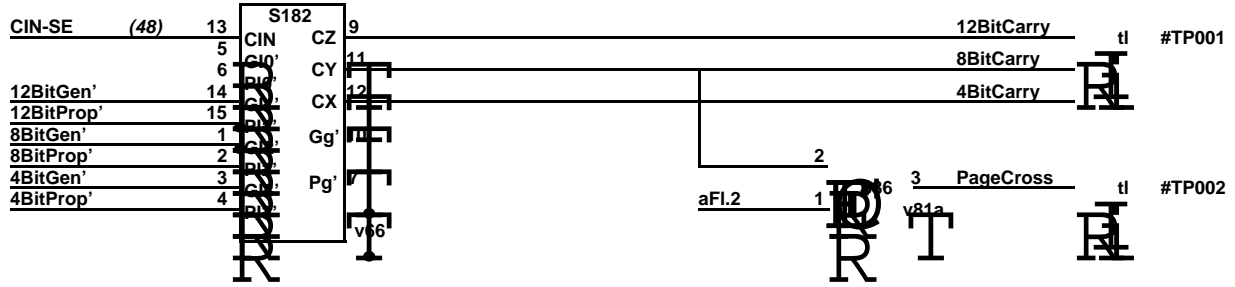
[12-15]



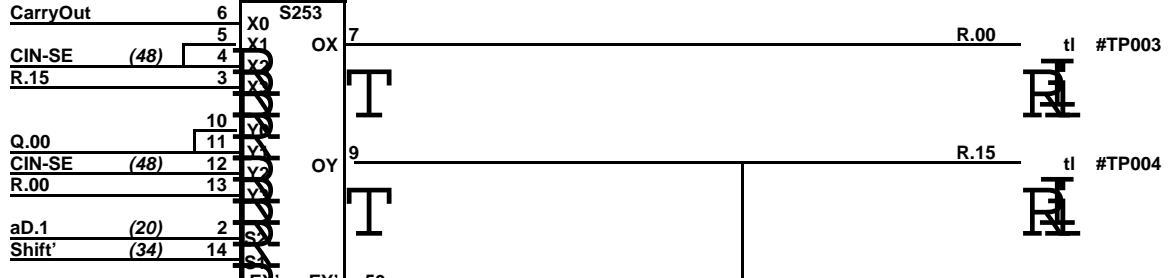
2901C Timing		As of 10/05/82	
Setup	sh,,aD	10	
Setup	aF	30	
Setup	aS	30	
rA	to G,P	37	rA to Y 40
D	to G,P	30	D to Y 30
Cn	to Y	22	Cn to Y 22
rA	to Cout	40	aS to Y 35
D	to Cout	30	aF to Y 35
Cin	to Cout	20	aD to Y 25



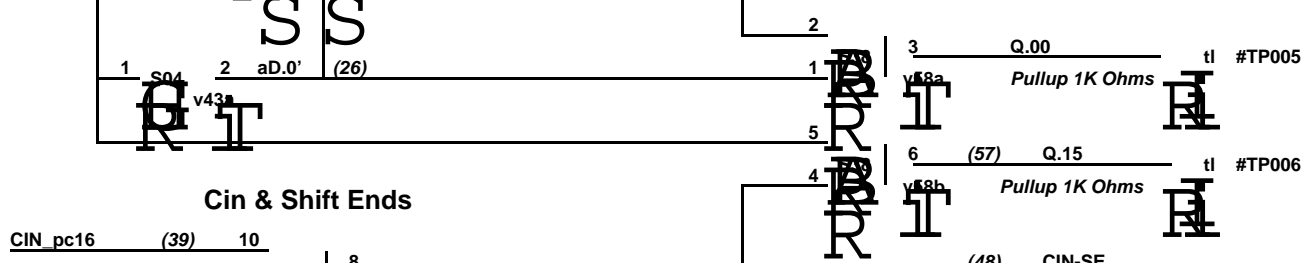
2901 Carry Lookahead



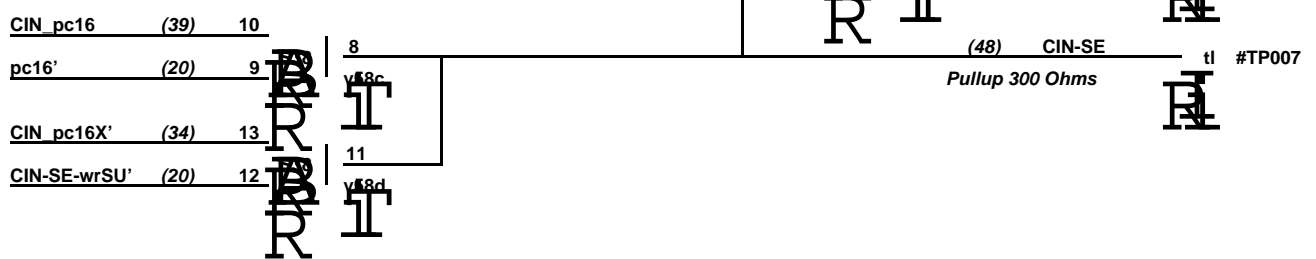
R Shift Ends



Q Shift Ends

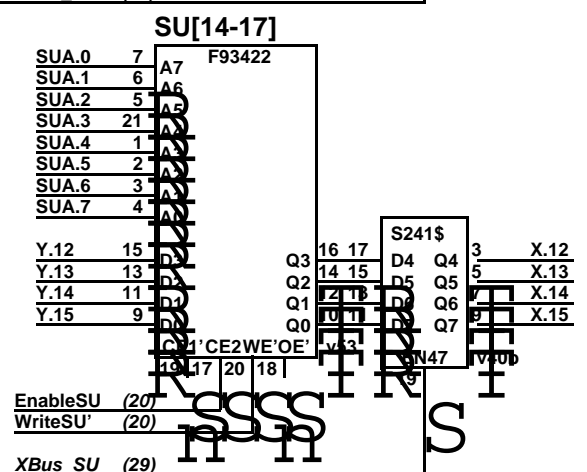
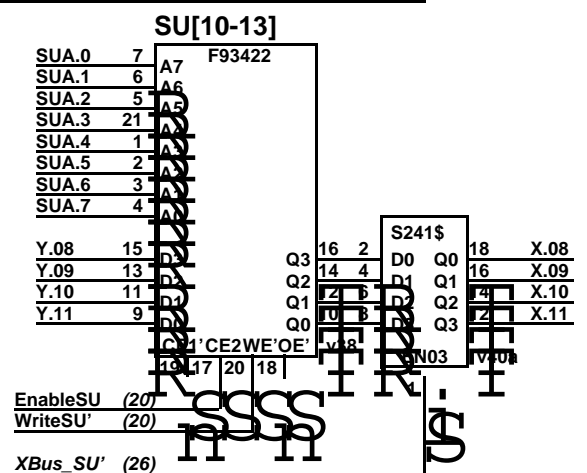
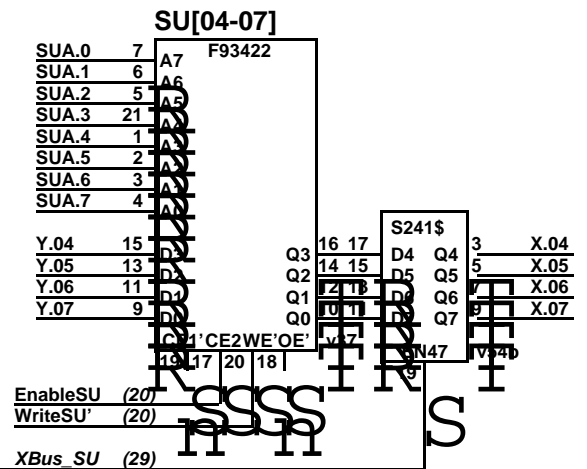
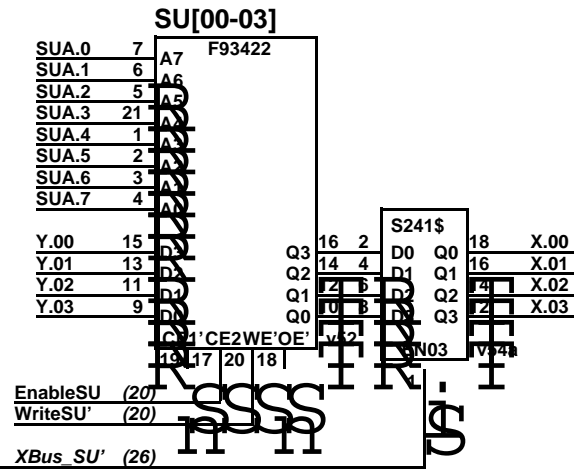
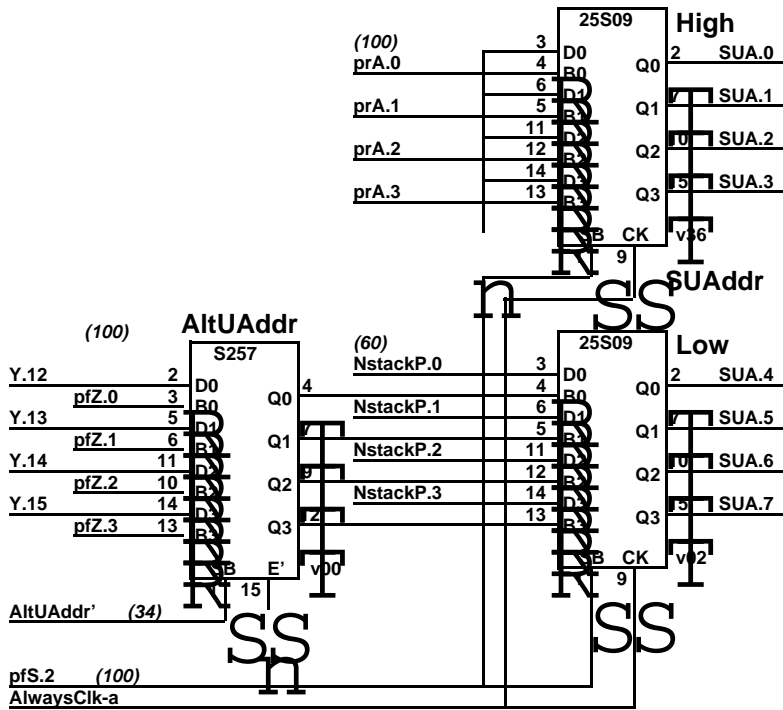


Cin & Shift Ends



aD.1	Shift'	Shift configuration
0	0	
0	1	
1	0	
1	1	

aD.0 = 0 implies right shift



SU X-bus disable

15[3] ^ to CIN-SE-wrSU (tPLH)

30 Output Disable

10 X-bus

55[3] = 58 nS

XBus _ SU = max(75,60) nS

17[3] ^ to SUAddr

45 tAA

10 X-bus

72[3] = 75 nS

17[3] ^ to CIN-SE-wrSU/EnableSU

30 F93422 OE'/CE2 to X-bus

10 X-bus

57[3]=60 nS

SU write setup

5[1] Data setup

39 WE

44[1] = 45 nS

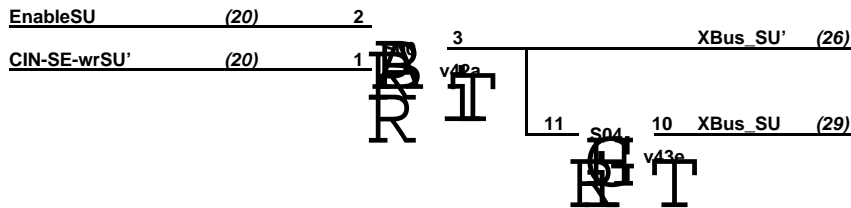
F93422 data t-hold = 5 nS

AltUAddr setup

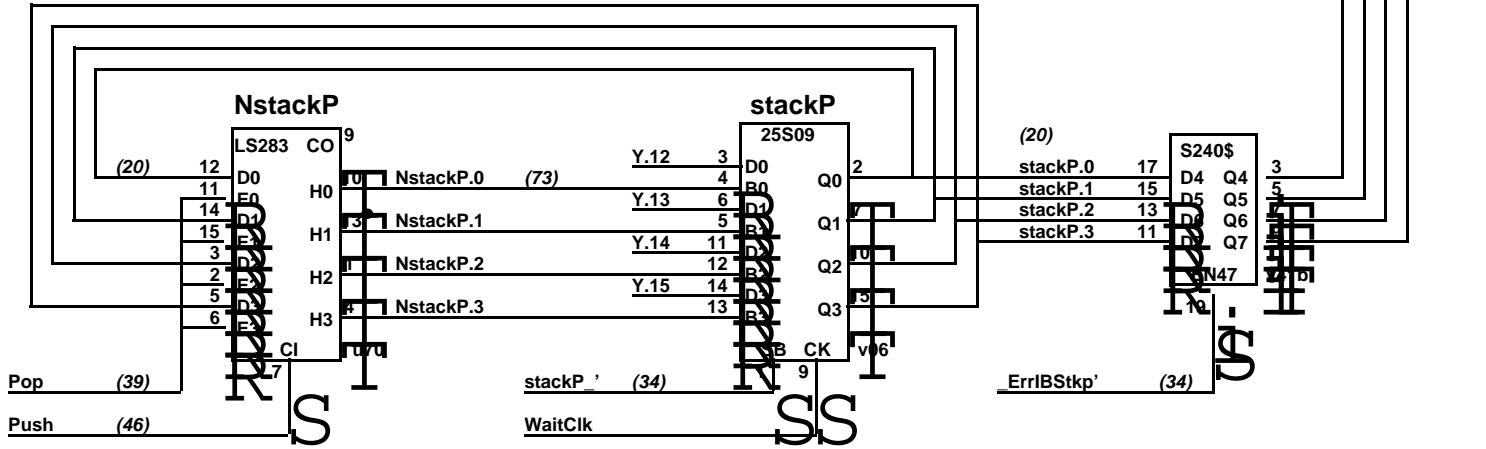
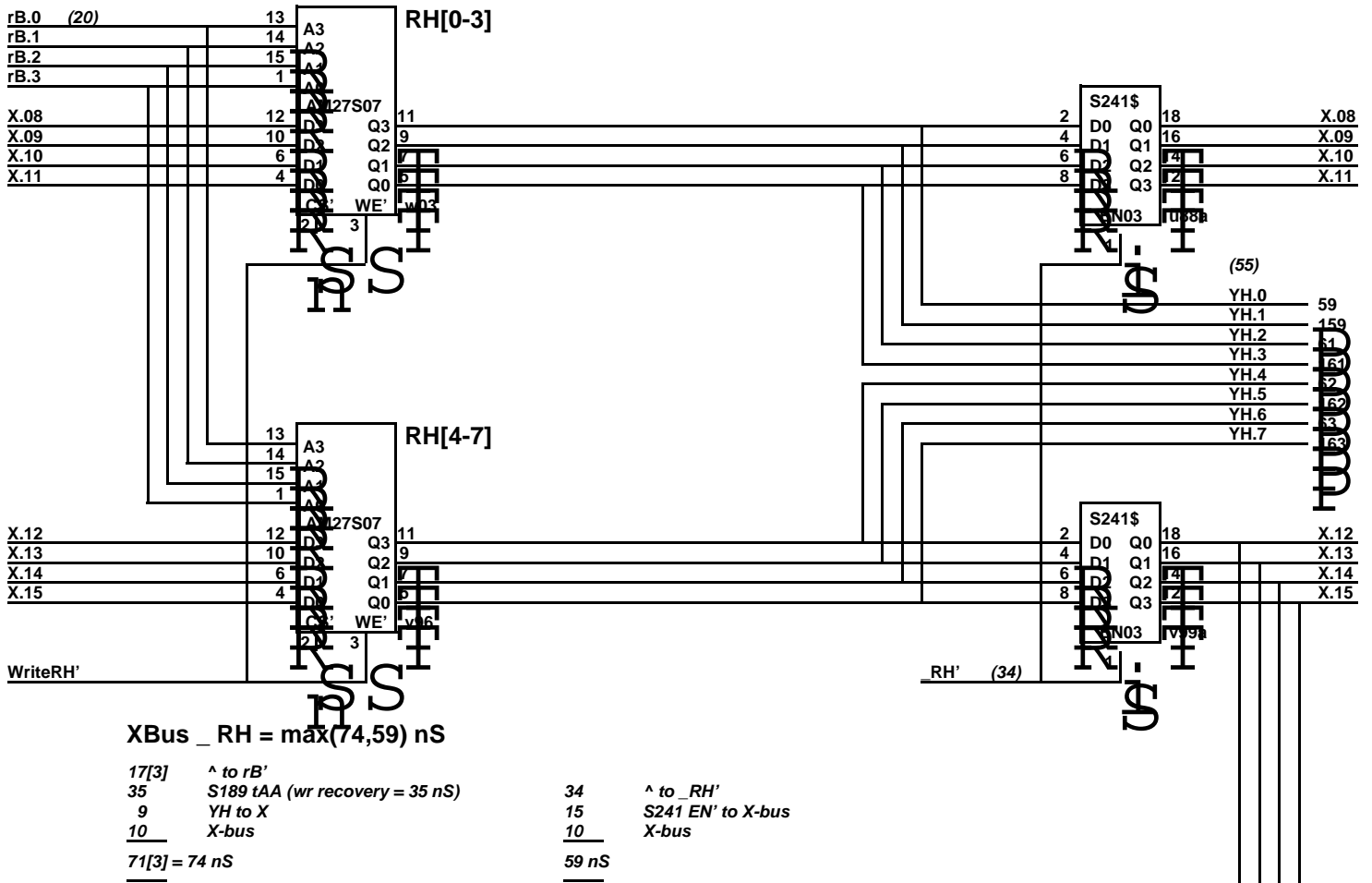
5[1] 25S09 setup

8[1] Y -> pU

13[2] = 15 nS (26 if LS257)



Warning: This drawing contains font 4 macros!



Push Timing

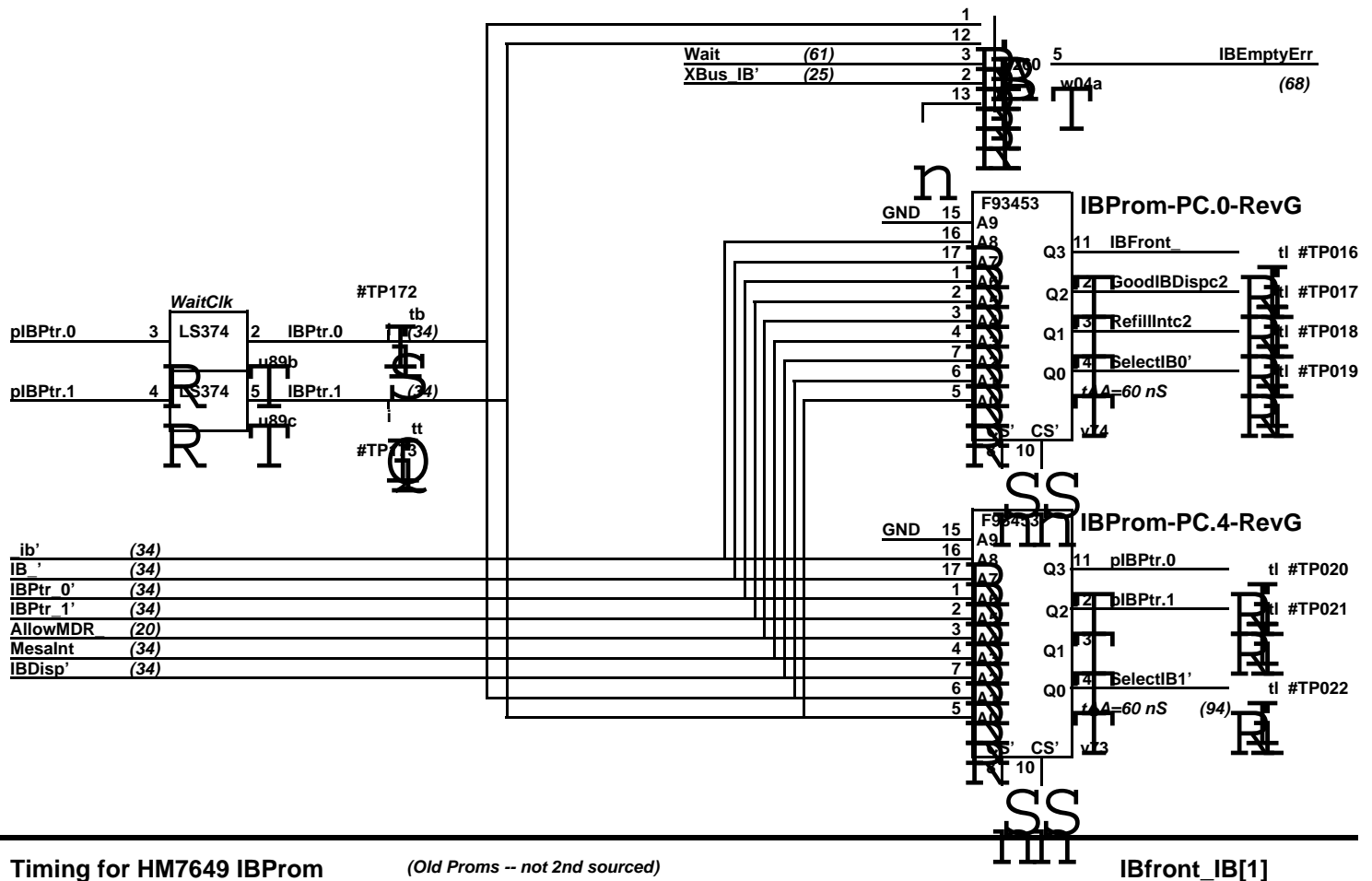
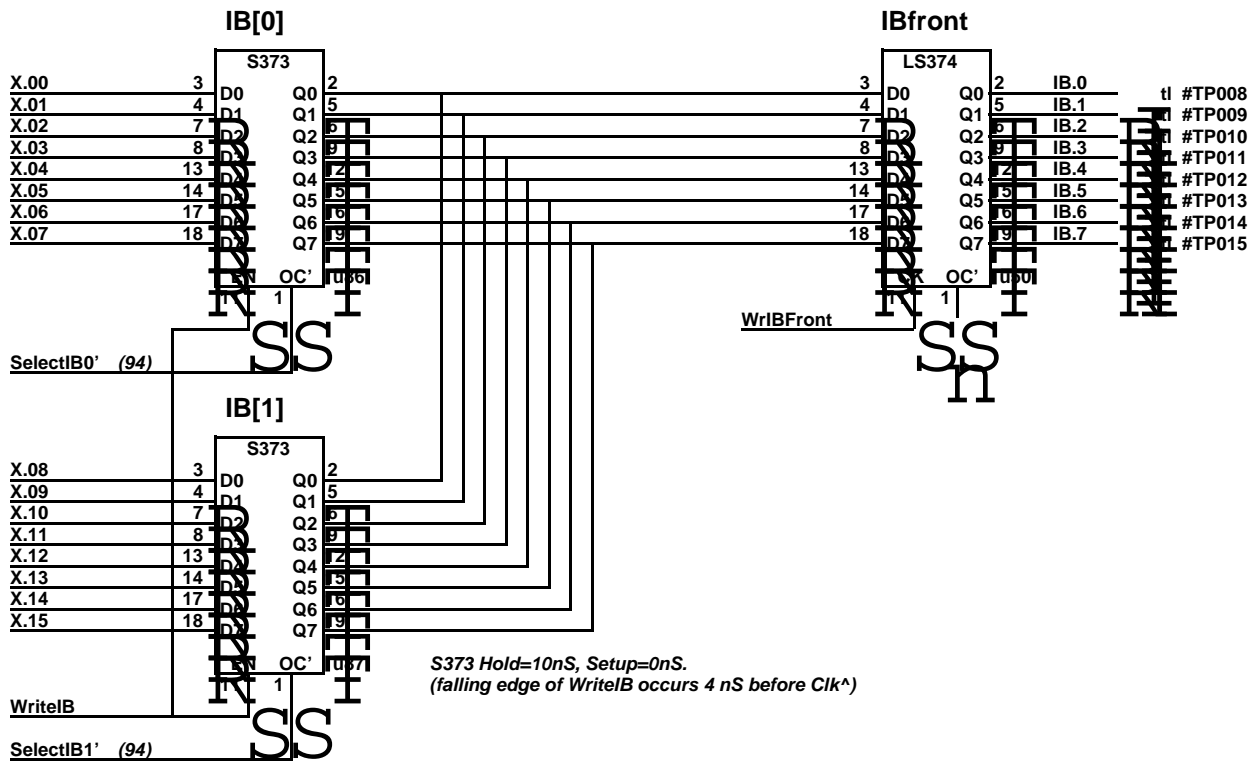
46 ^ to Push
 24[3] Push to NstackP
 5[1] 25S09 setup
 75[4] = 79 nS

XBus _ stackP = max(59, 38) nS

17[3] ^ to stackP
 7 S240 data to X-bus
 10 X-bus
 34[3] = 38 nS

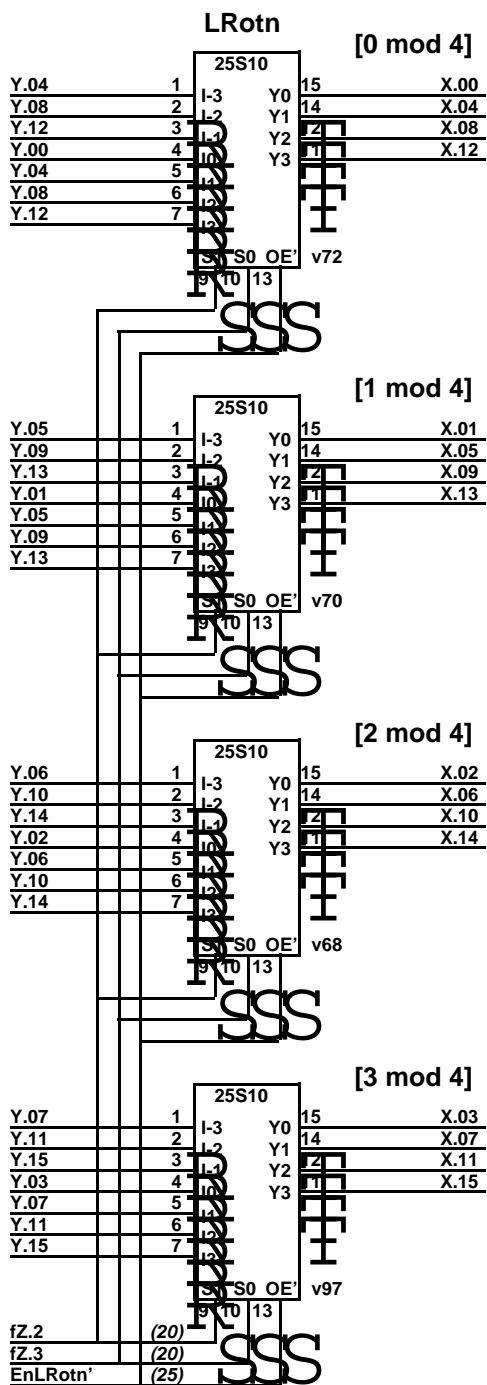
34 ^ to _ErrIntstackP'
 15 S240 EN' to X-bus
 10 X-bus
 59 nS

Warning: This drawing contains font 4 macros!

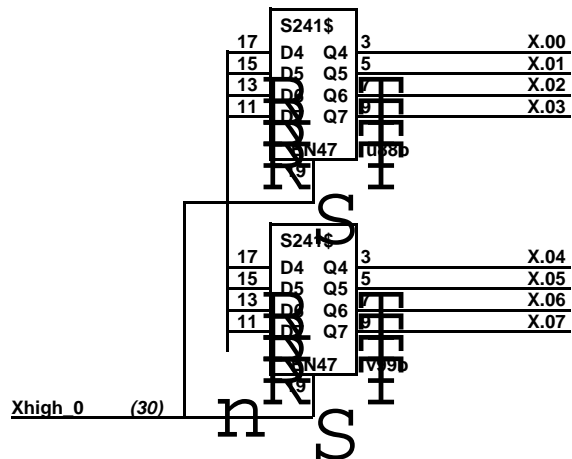


Timing for HM7649 IBProm (Old Proms -- not 2nd sourced)
IBFront _ Xbus = (x+37, x+36) nS

x	Xbus to IB	x	Xbus to IB	94	WritelB rises	34	^ to IBPtr_1'
43	WritelB rises 43 nS before end of cycle	13[1]	S373 Data to NB	18[2]	S373 EN to NB	60	tAA
-6	Difference between S373 "EN to Q" and "Data to Q" =	20[2]	LS374 setup	20[2]	LS374 setup	18[2]	SelectIB1' to NB
x+37 nS	18[2] - 13[1] = 6 nS. Data can arrive 6 nS after WritelB goes high.	x+36 nS		132[4]=136 nS		20[2]	LS374 setup
						132[4]=136 nS	



fZ.2	fZ.3	Rotate
0	0	Left 0
0	1	Left 12
1	0	Left 8
1	1	Left 4



Zero disable X-bus

30 ^ to Xhigh_0
 15 S241 EN to X-bus
 10 X-bus
 55 nS

Xbus[0-7] _ 0

30 ^ to Xhigh_0
 15 S241 OE
 10 X-bus
 55 nS

Xbus _ Y LRotn = max(y+22, 56, 50) nS

y ^ to Y bus
 12 25S10 data in to out
 10 X-bus
 y + 22 nS

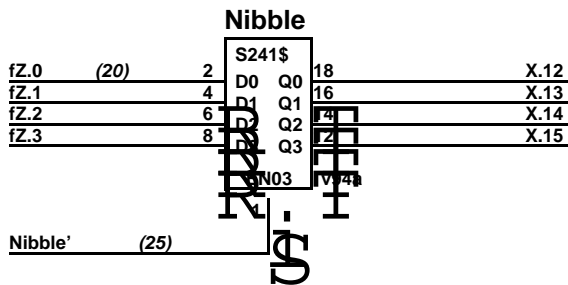
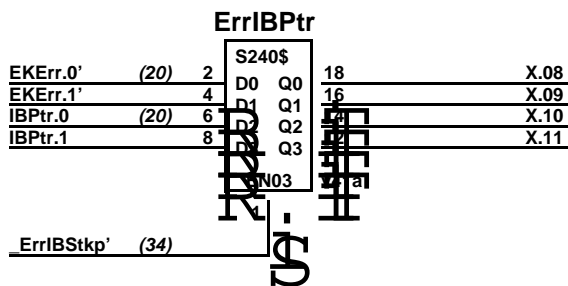
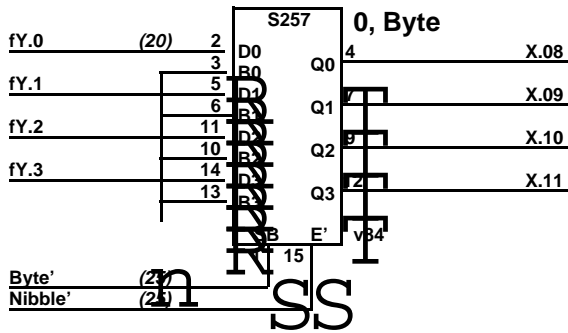
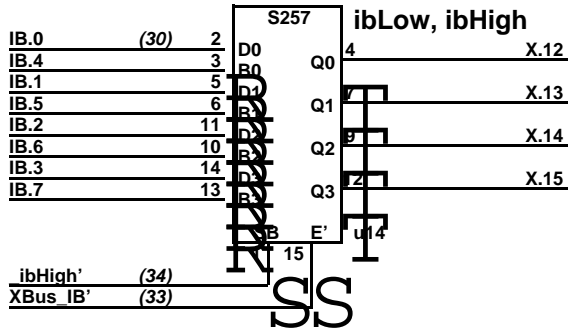
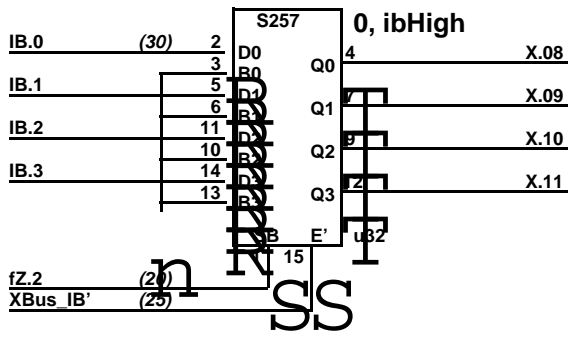
25 ^ to EnLRotn'
 21 25S10 OE
 10 X-bus
 56 nS

20 ^ to fZ.2
 20 25S10 Select to X-bus
 10 X-bus
 50 nS

LRotn disable X-bus

25 ^ to EnLRotn'
 15 25S10 OE' to X-bus
 10 X-bus
 50 nS

Warning: This drawing contains font 4 macros!



IB disable X-bus

25 ^ to XBus_IB'
 14 S257 E' to X-bus
 10 X-bus
 49 nS

Byte disable X-bus

25 ^ to Nibble'
 14 S257 E' to X-bus
 10 X-bus
 49 nS

Nibble disable X-bus

25 ^ to Nibble'
 15 S241 EN' to X-bus
 10 X-bus
 50 nS

Xbus_IB=max(56,56,59) nS

34[4] ^ to IB
 8 S257 data to Xbus
 10 X-bus
 52[4] = 56 nS

25 ^ to Xbus_IB'
 21 S257 E' to Xbus
 10 X-bus
 56 nS

34 ^ to_ibHigh'
 15 S257 SB to Xbus
 10 X-bus
 59 nS

Xbus _ Nibble = max(39, 50) nS

20 ^ to fZ
 9 S241 data to X-bus
 10 X-bus
 39 nS

25 ^ to Nibble'
 15 S241 EN' to X-bus
 10 X-bus
 50 nS

Xbus _ Byte = max(38, 56,50) nS

20 ^ to fY
 8 S257 data to X-bus
 10 X-bus
 38 nS

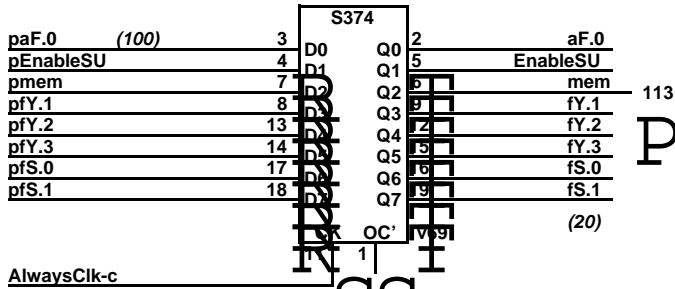
25 ^ to Nibble'
 21 S257 E' to X-bus
 10 X-bus
 56 nS

25 ^ to Byte'
 15 S257 SB to Xbus
 10 X-bus
 50 nS

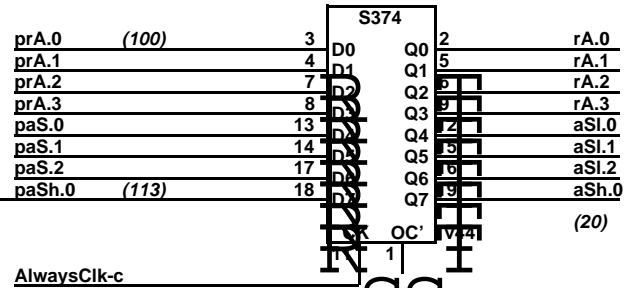
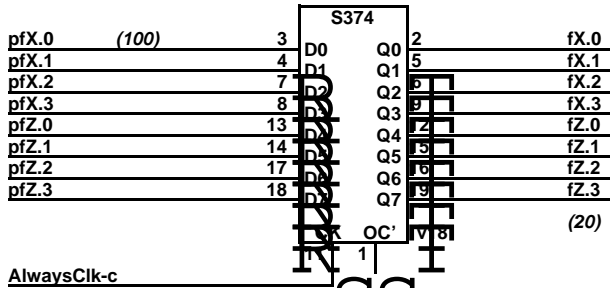
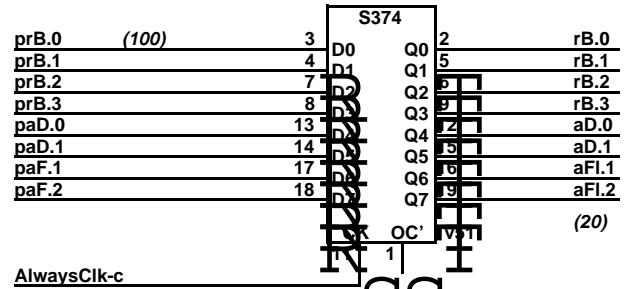
See stackP timings for ErrIBPtr

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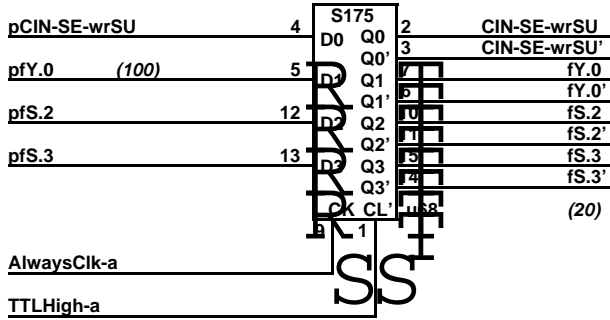
aF.0, EnSU, mem, fY, fS



rB, aD, aFI



Cin, fY.0, fS



aSh, aFh

