

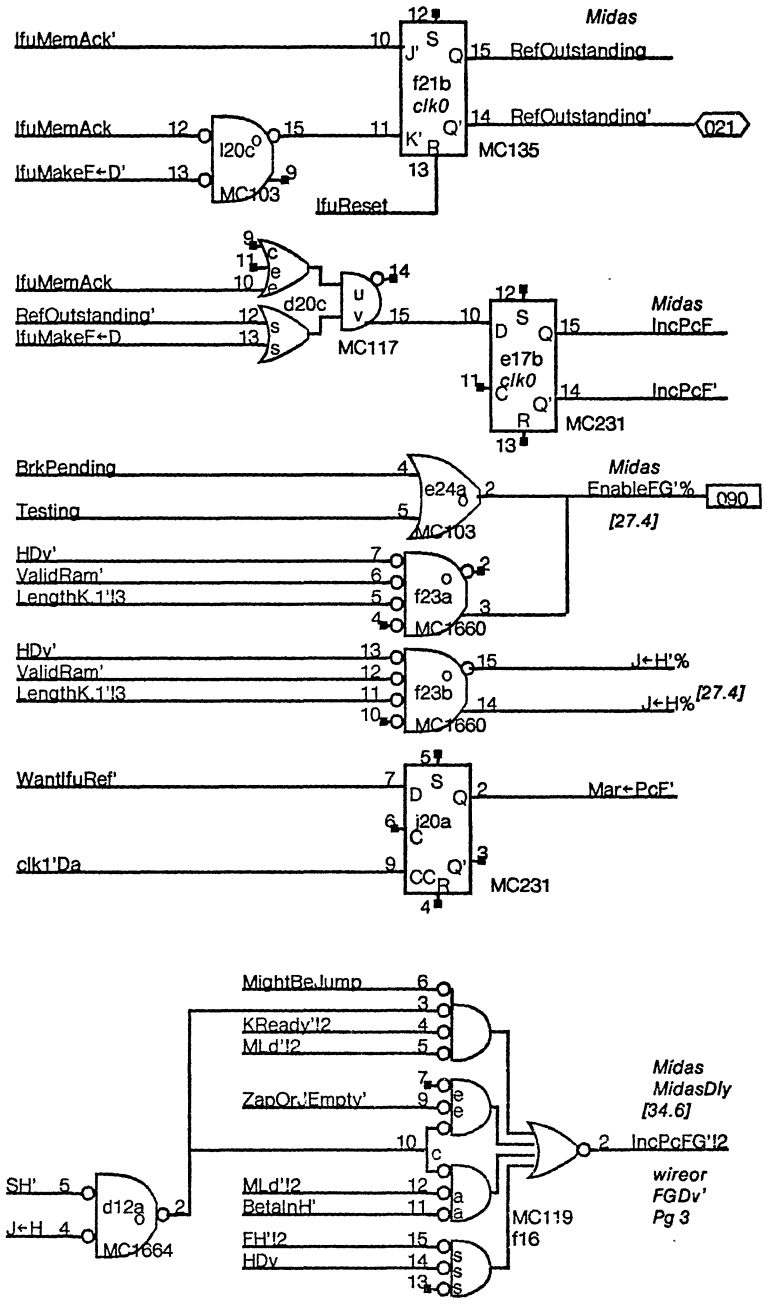
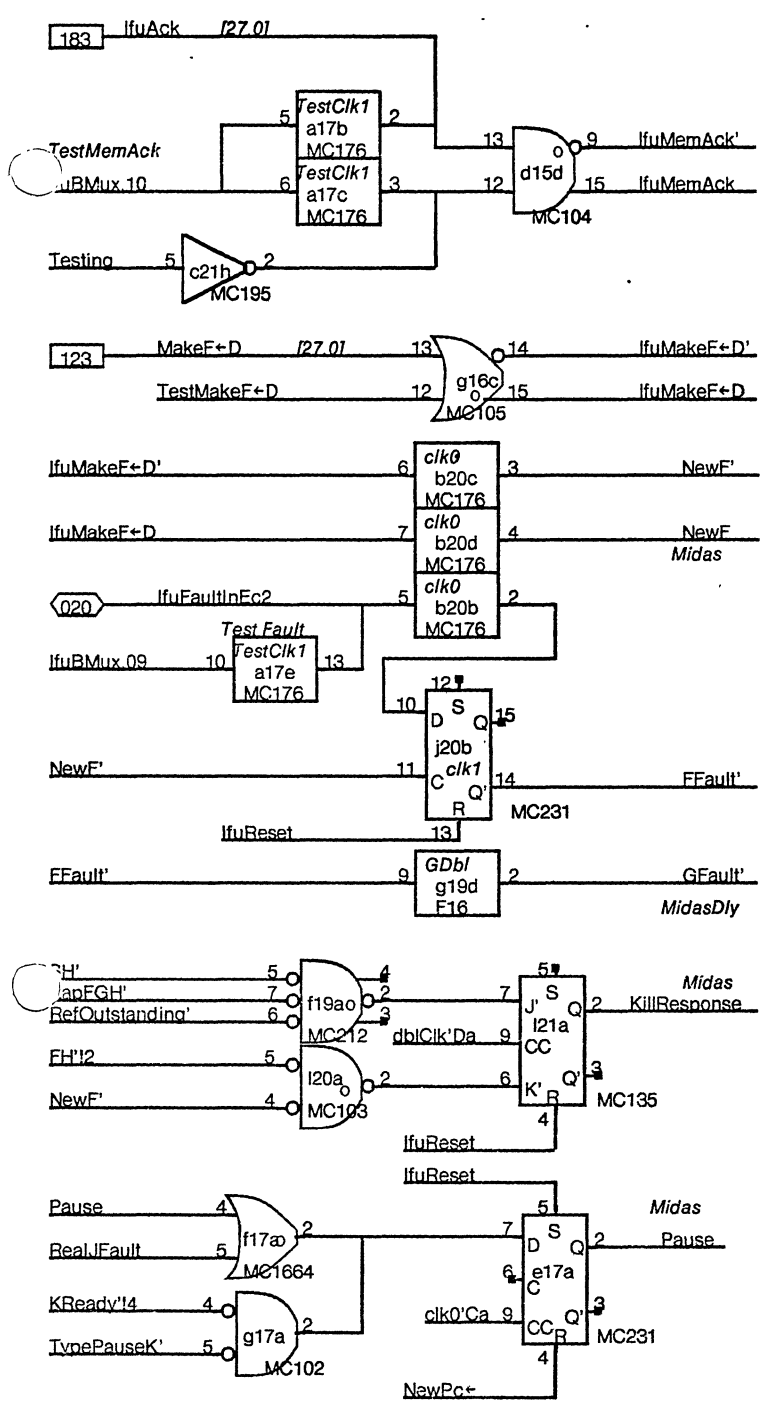
DORADO SCHEMATICS

Instruction Fetch Unit

PROM SC 139 - IN A6

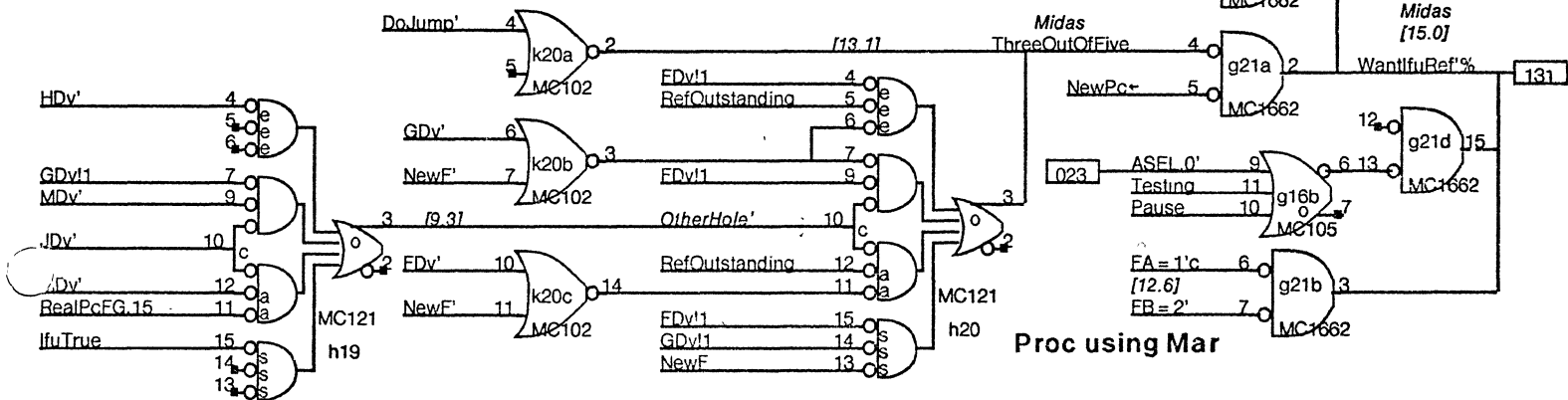
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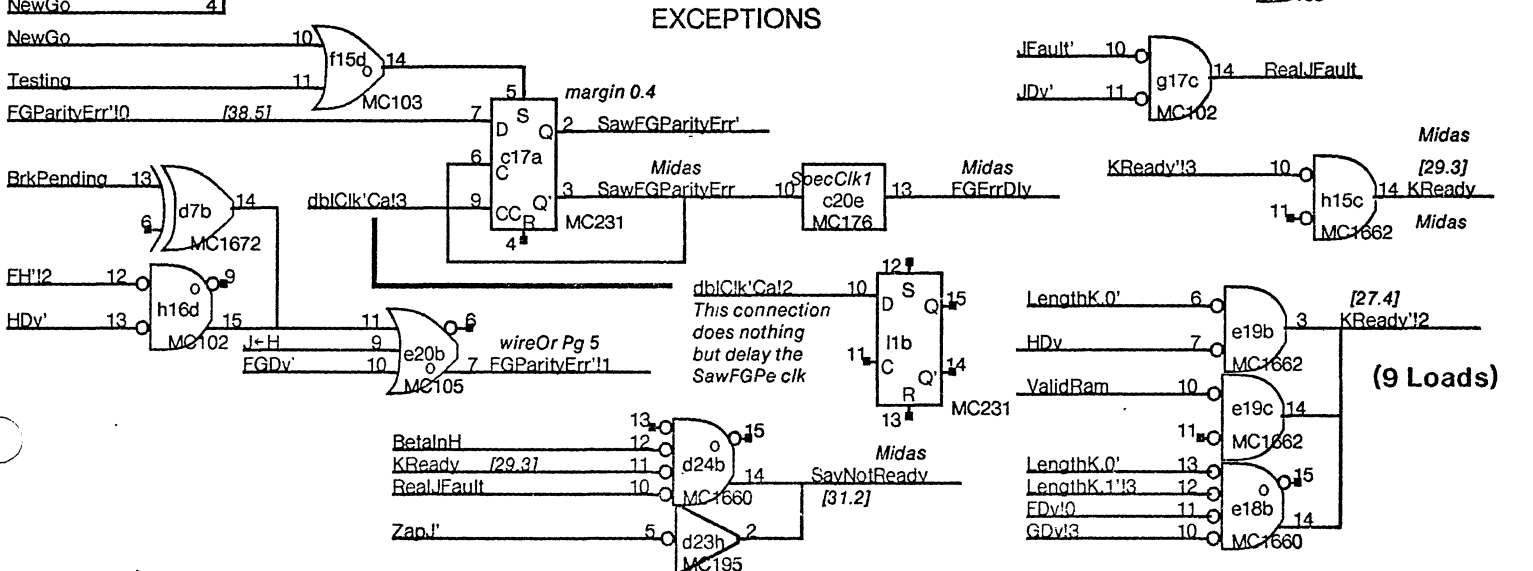
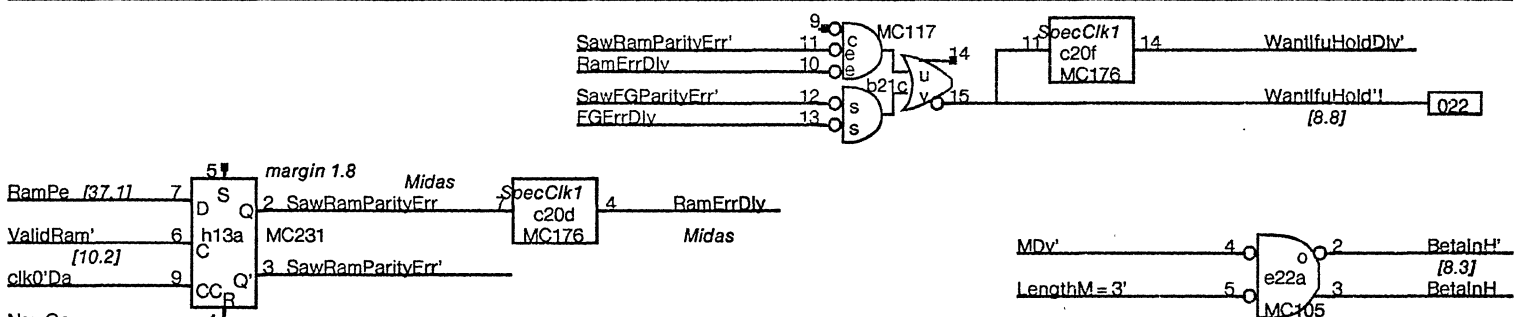
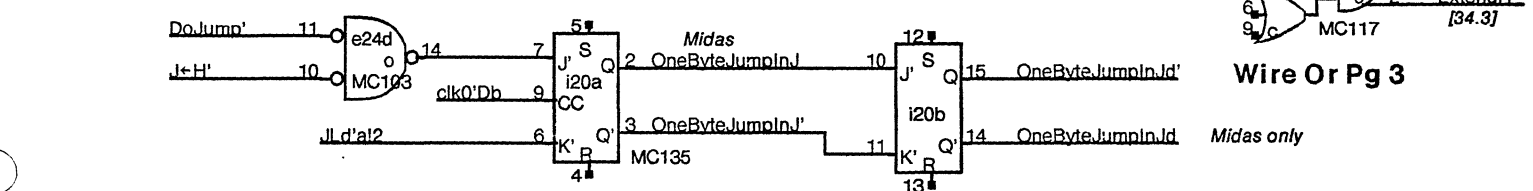
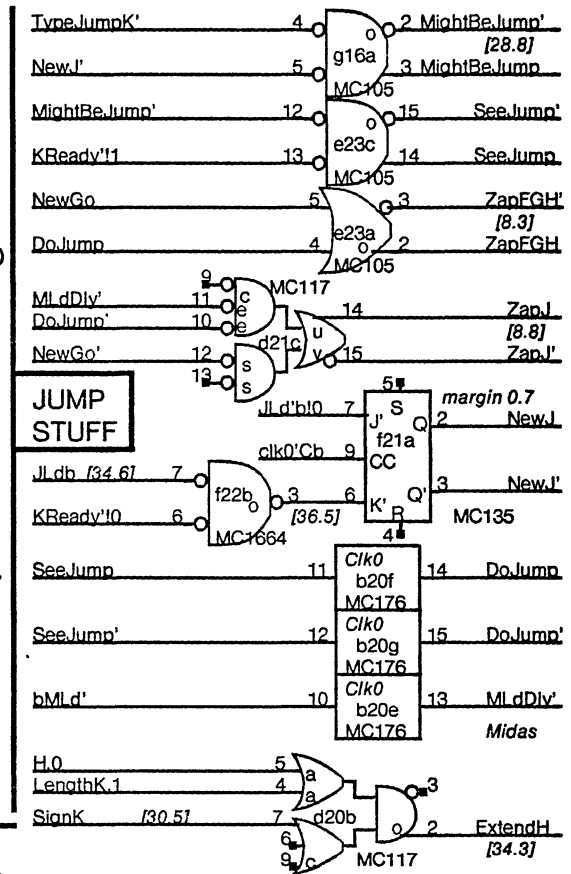
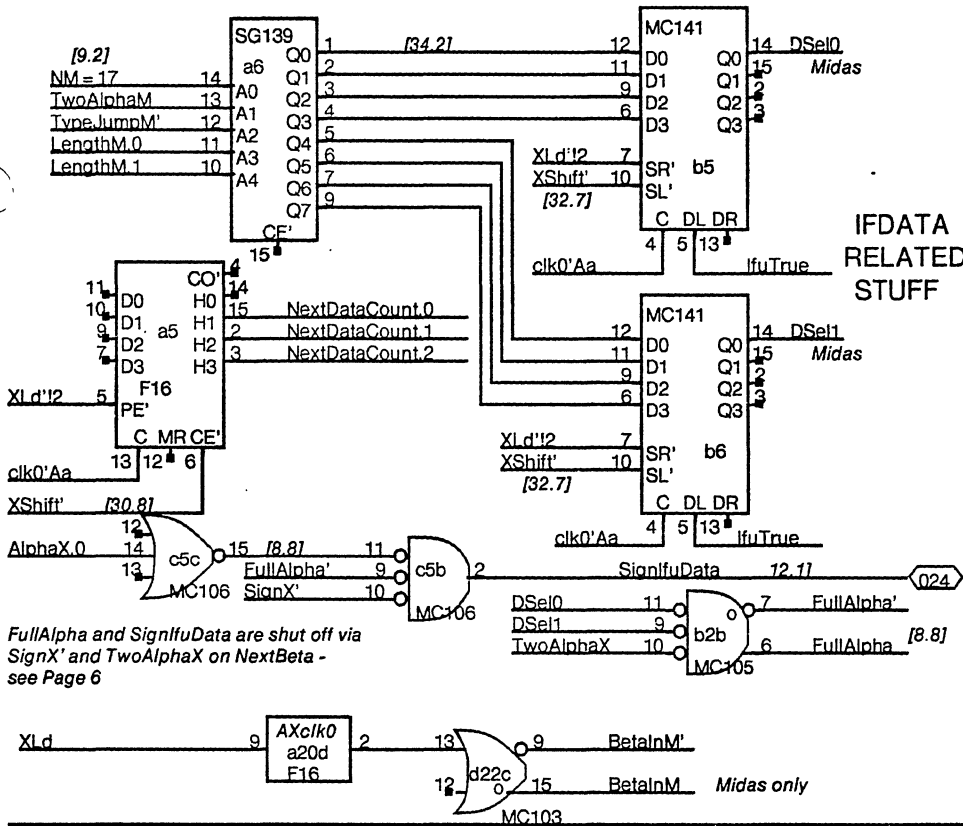
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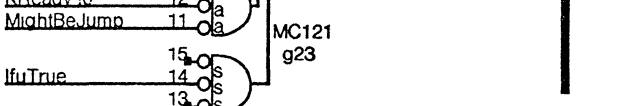
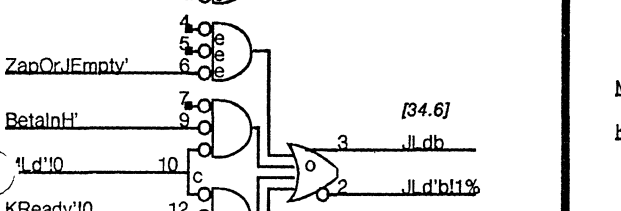
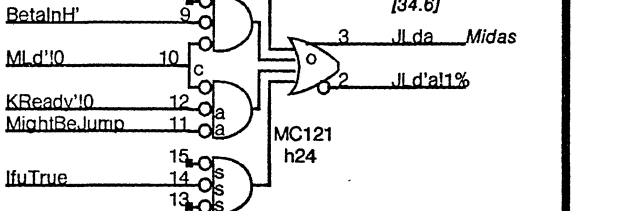
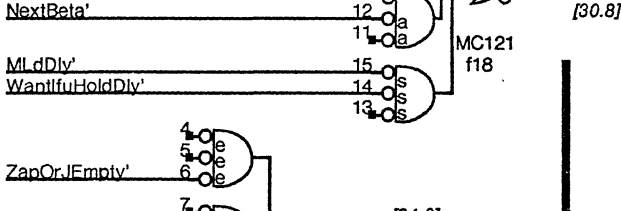
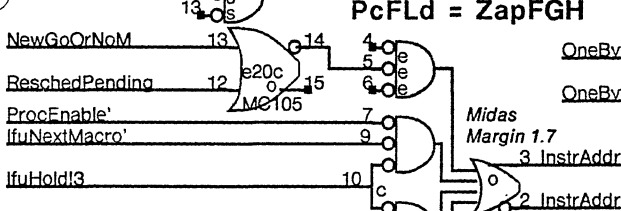
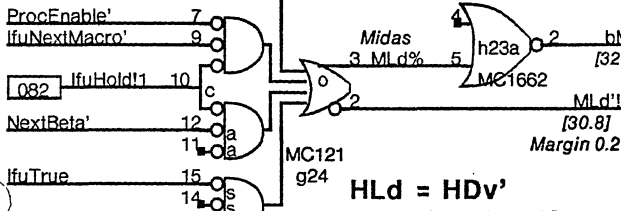
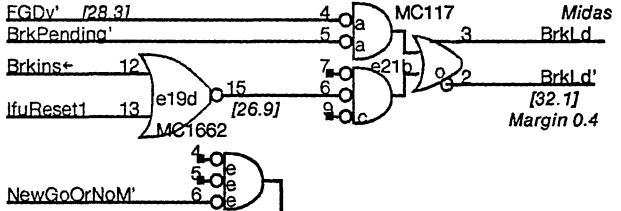
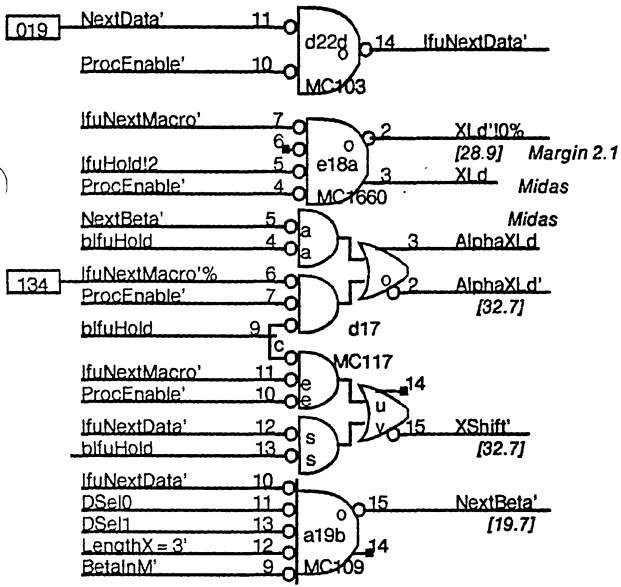


Can't detect the holes created by $X \leftarrow M$ or $\text{Alpha}M \leftarrow H$ because the Loads aren't ready until after T1, due to Hold

Combination of F valid and G invalid is impossible in First Half

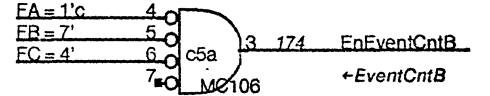
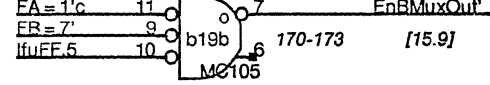
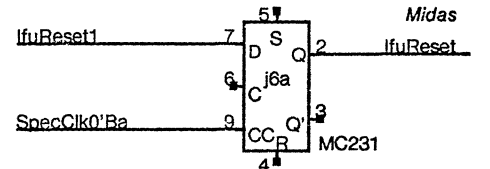
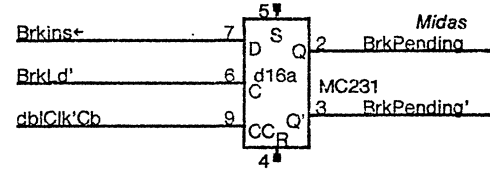
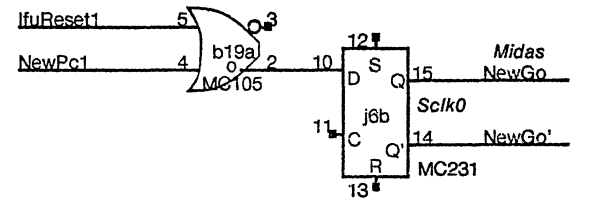
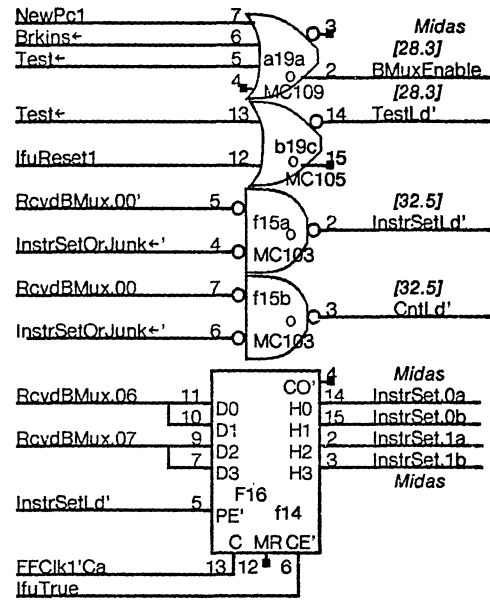
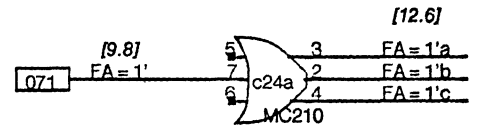
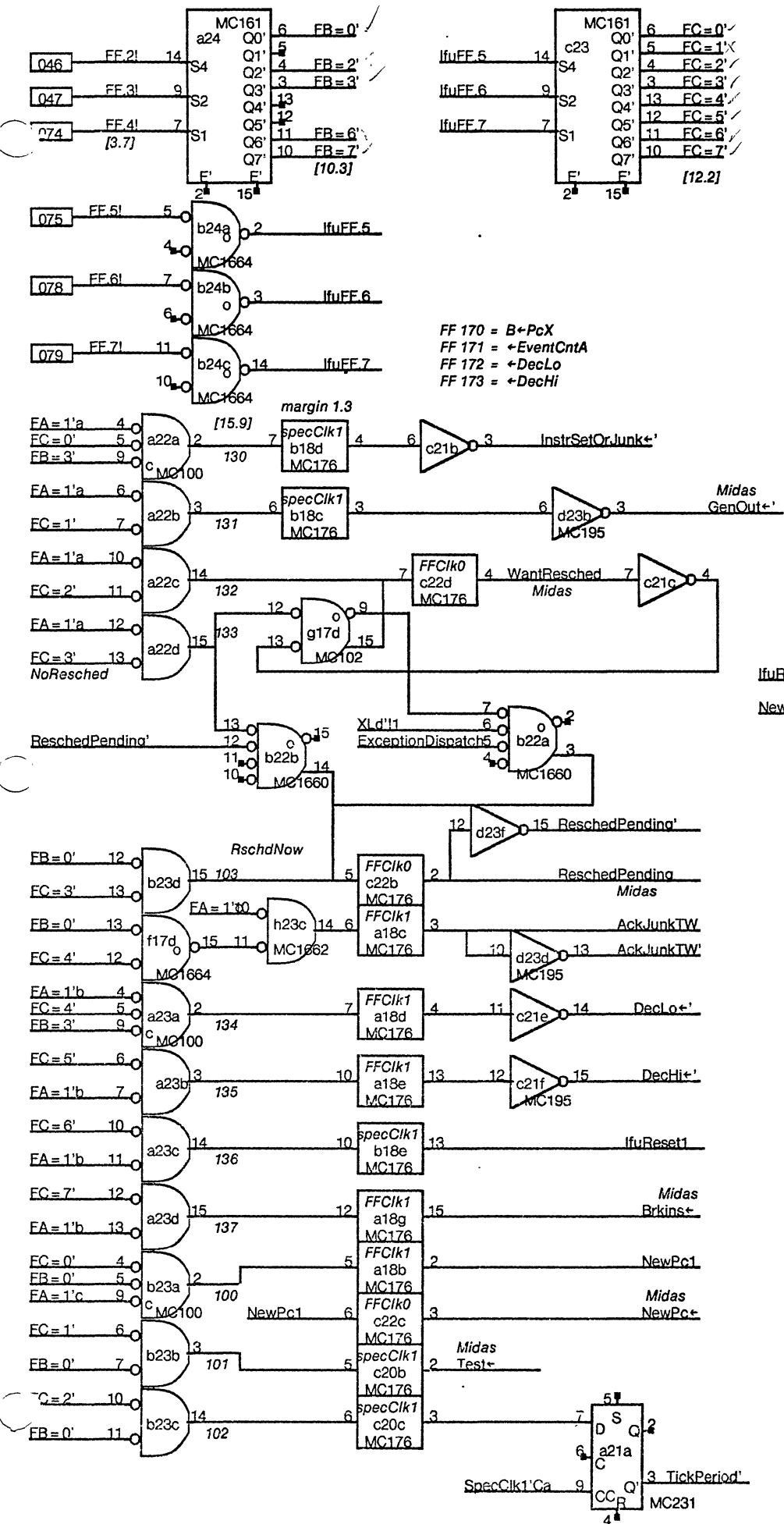




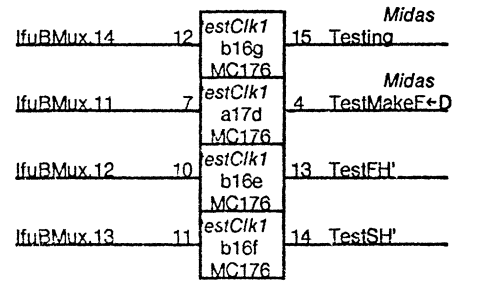


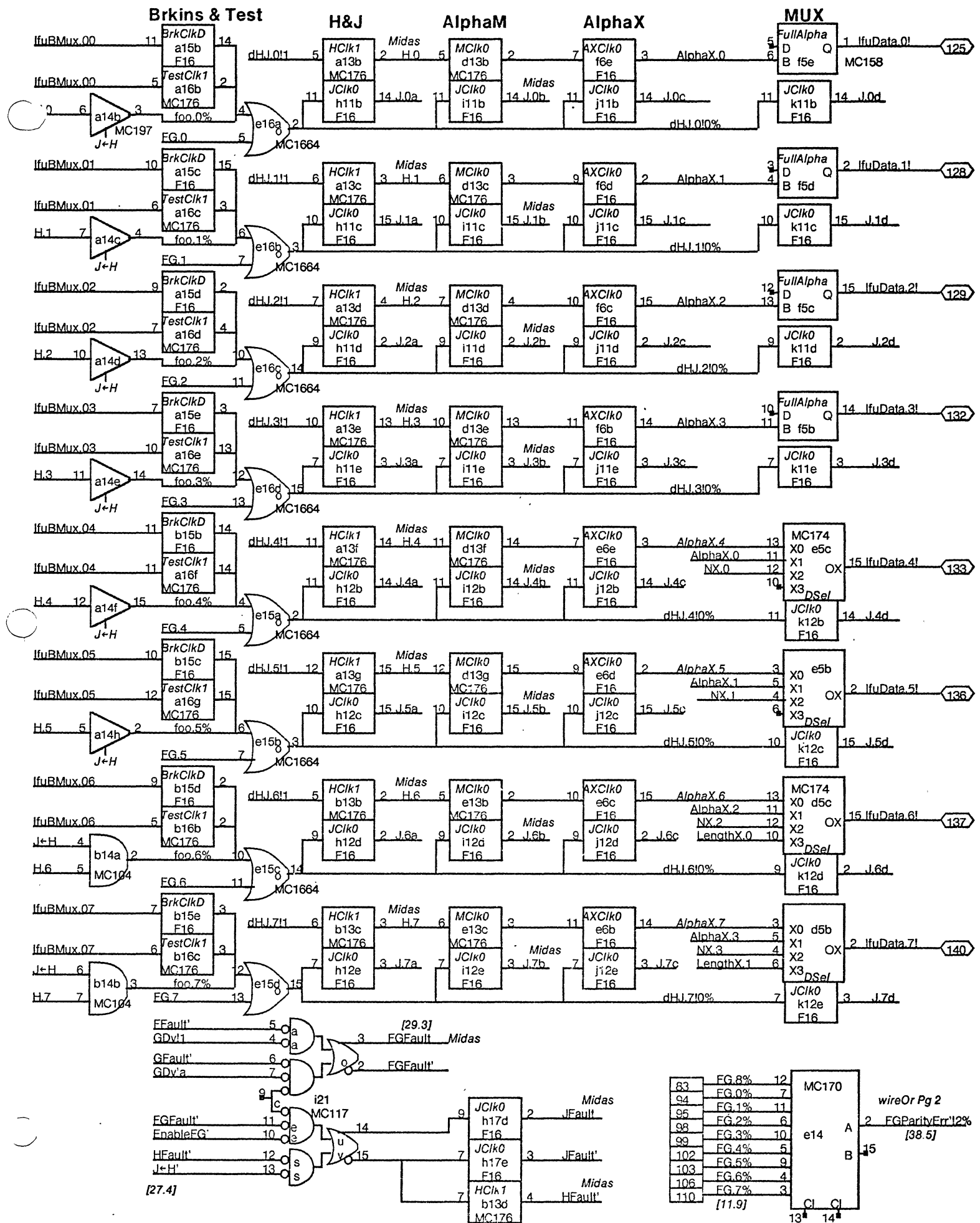
LOADS

DVS



2 More bits of Test Reg on Dwg 1

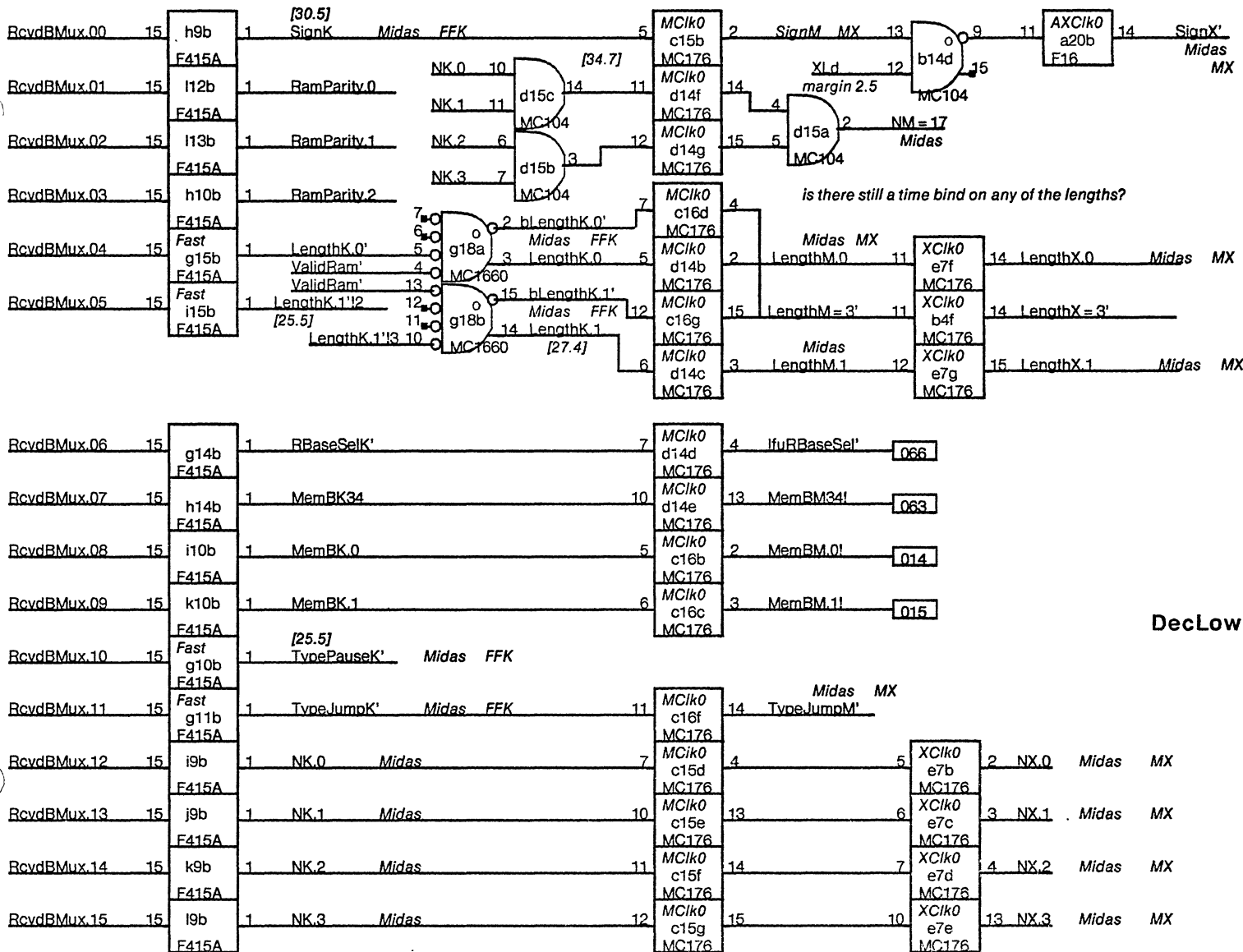




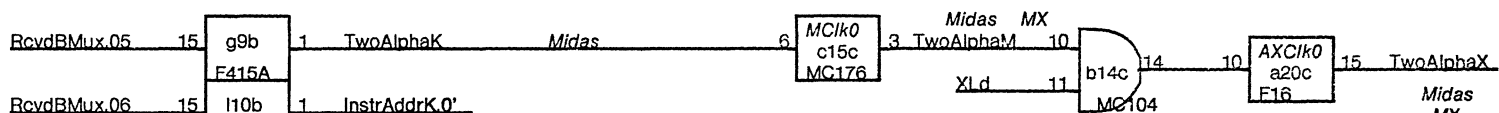
RAM

MREG

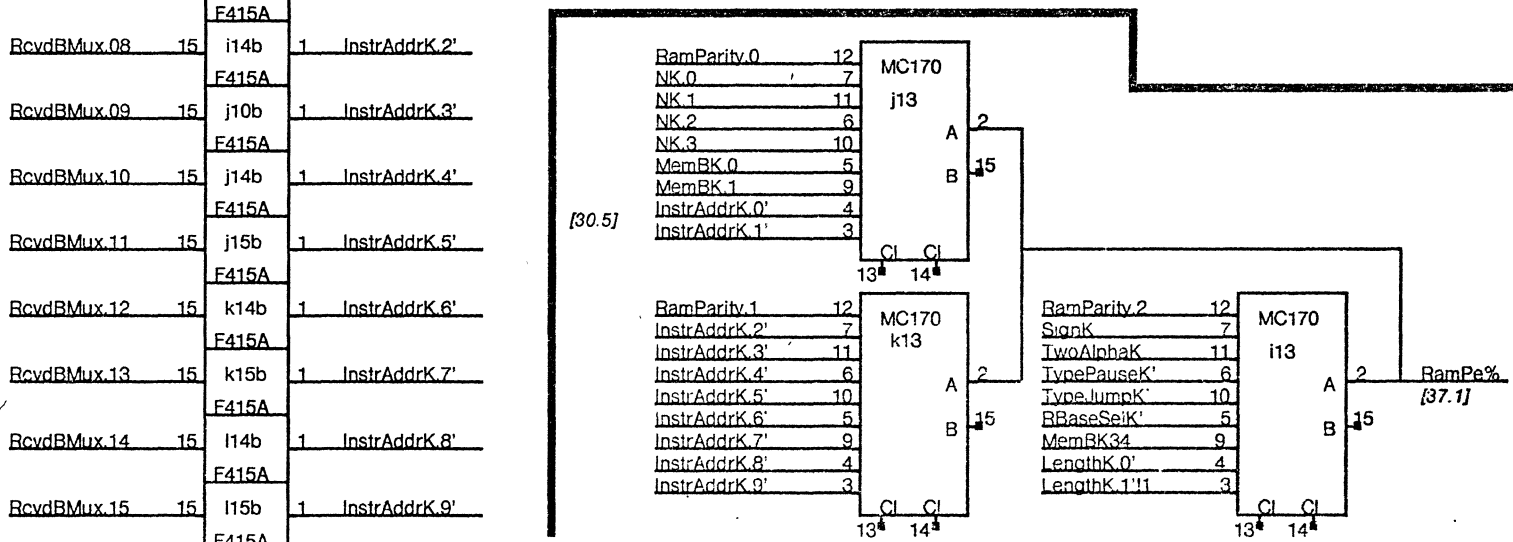
XREG



DecLow

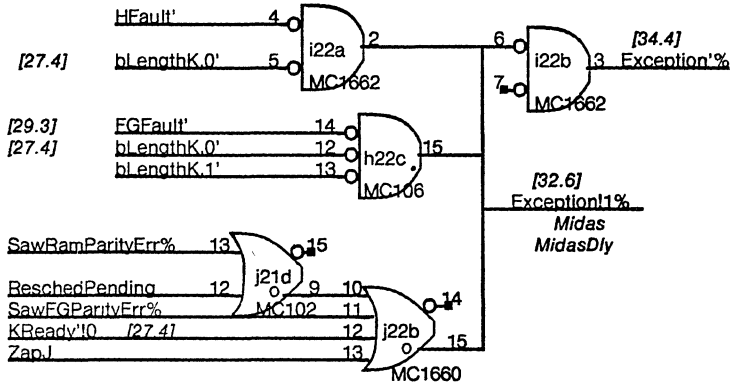


DecHi

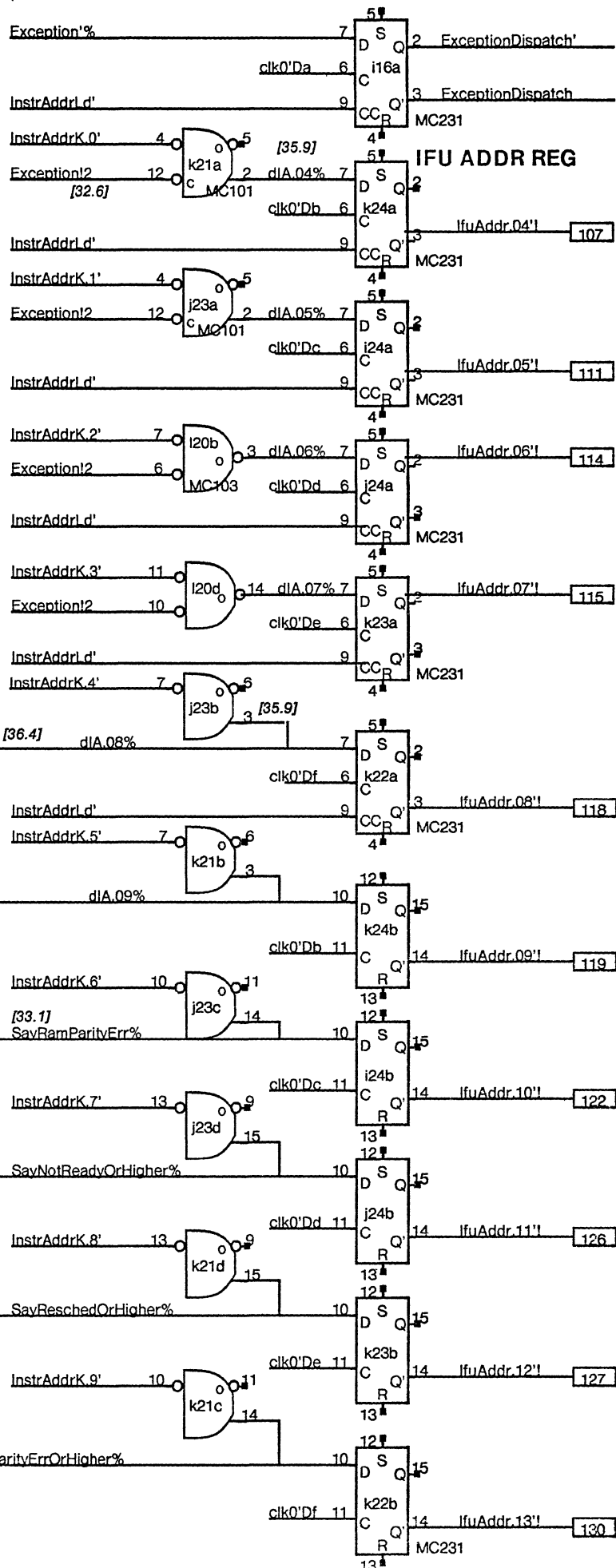
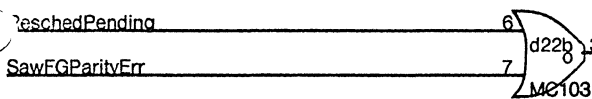
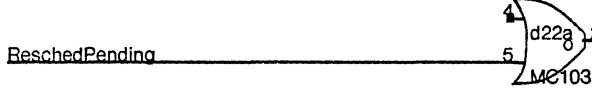
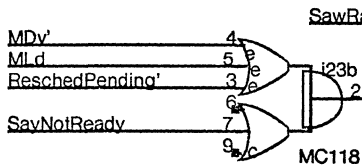
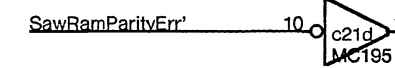
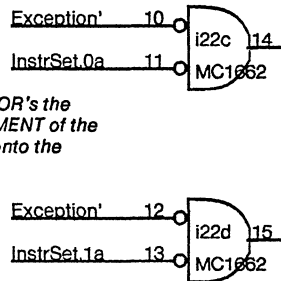


- 0 K Fault *low priority*
- 4 FG Parity
- 14 Resched
- 34 Not Ready
- 74 Ram Parity *high priority*

*KFault is JFault OR HFault & Length > 1
OR FG Fault & Length = 3*

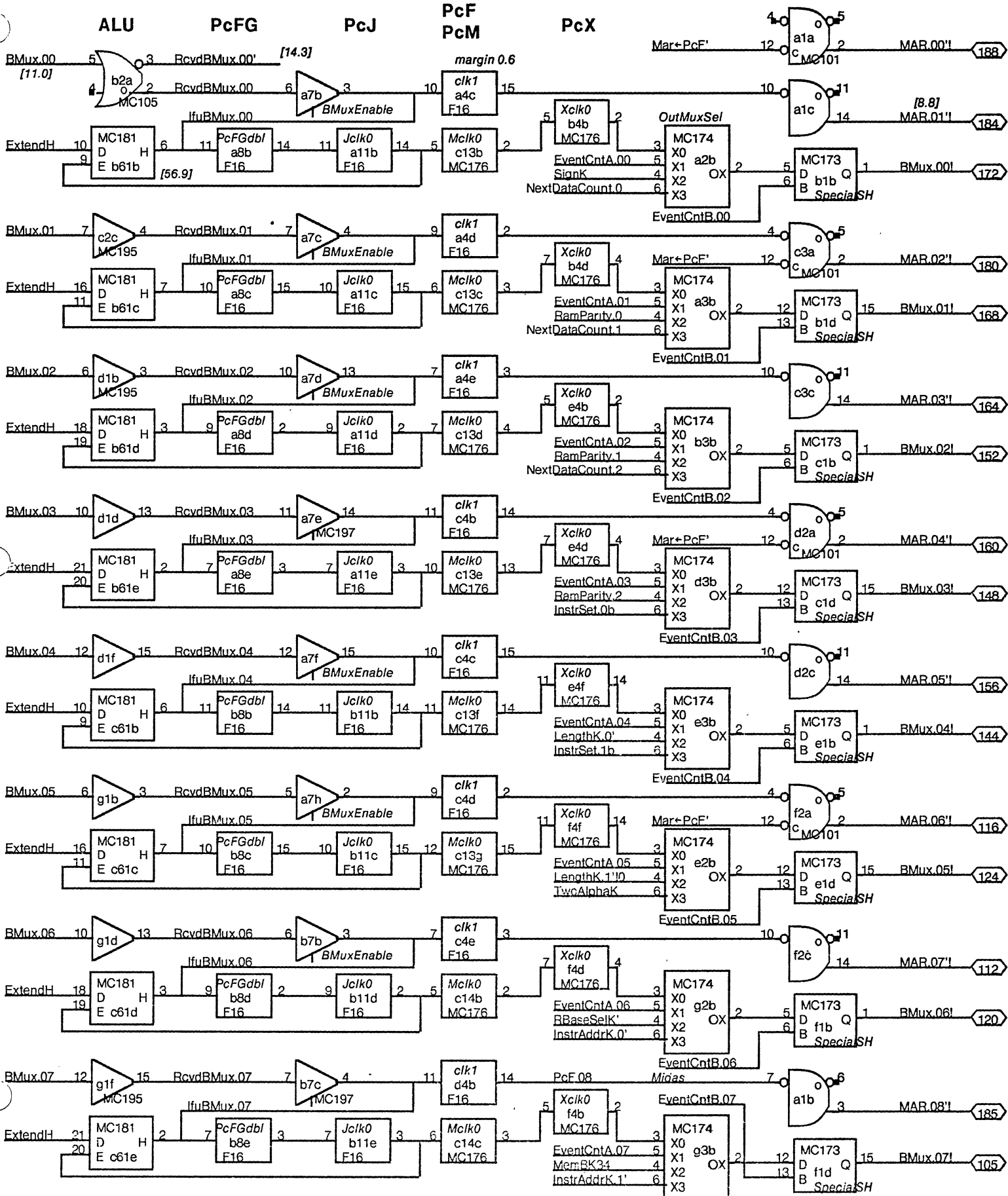


*N.B. This OR's the
COMPLEMENT of the
Instr Set onto the
Ifu Addr.*



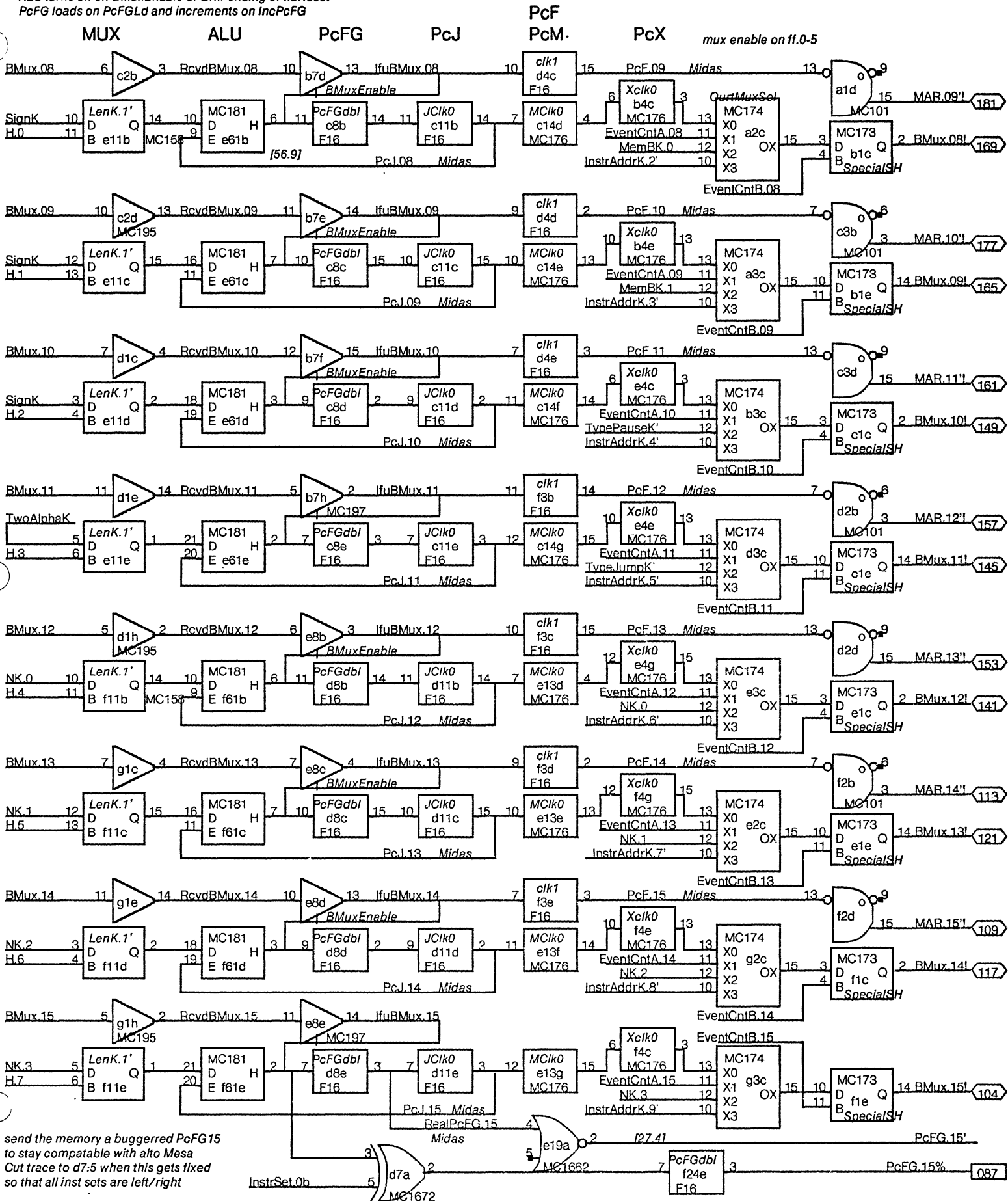
THE HIGH ORDER BYTE OF THE PC PIPE

PcJ loads on JLD And not J+H, increments on JLD
 PcF Loads on ZapFGH and increments on IncPcF
 ALU turns of on BMuxEnable or BrkPending or IfuReset1
 PcFG loads on PcFGLd and increments on IncPcFG



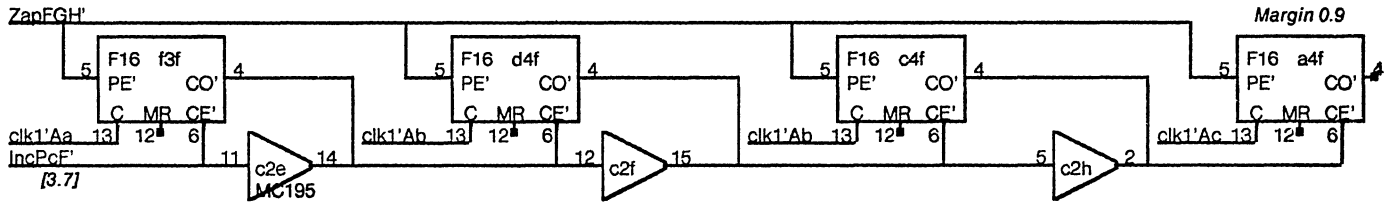
THE LOW ORDER BYTE OF THE PC PIPE

PcJ loads on JLD and not J+H, increments on JLD
 PcF loads on ZapFGH and increments on IncPcF
 ALU turns off on BMuxEnable or BrkPending or IfuReset
 PcFG loads on PcFGLd and increments on IncPcFG



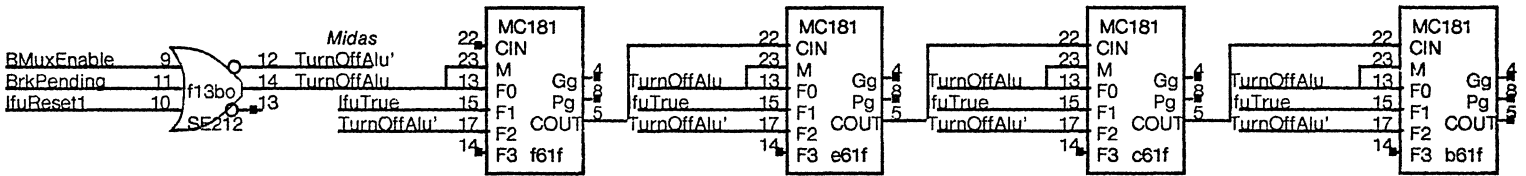
send the memory a bugged PcFG15
 to stay compatible with alto Mesa
 Cut trace to d7:5 when this gets fixed
 so that all inst sets are left/right

PcF Control



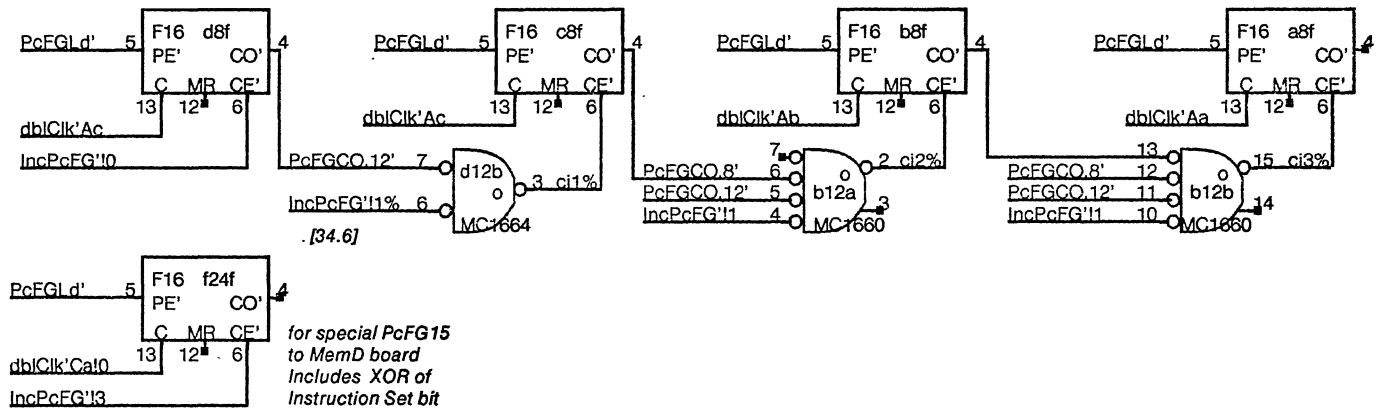
ALU Control

Low data in to high data out = 26.4



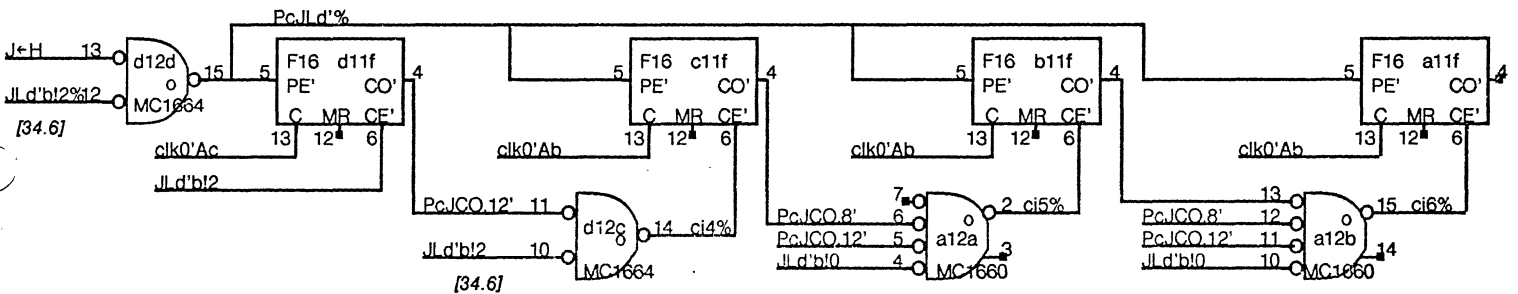
PcFG Control

[Margin 0.7 via Inc]



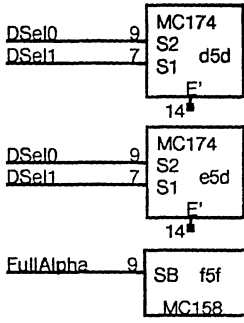
PcJ Control

[Margin 0.7 via load and Inc]

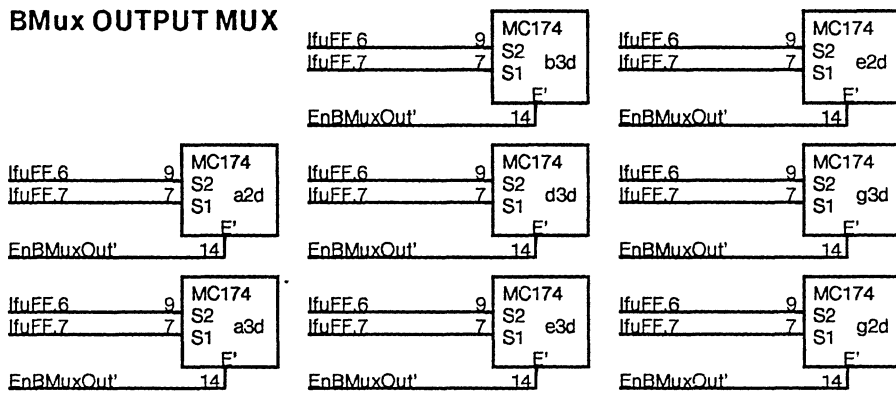


| XEROX | Project | File | Designer | Rev | Date | Page |
|-------|------------|-----------|-------------|-----|---------|------|
| PARC | Dorado | ifu10.sil | S. Ornstein | Cg | 8/23/79 | 10 |
| | Pc Control | | | | | |

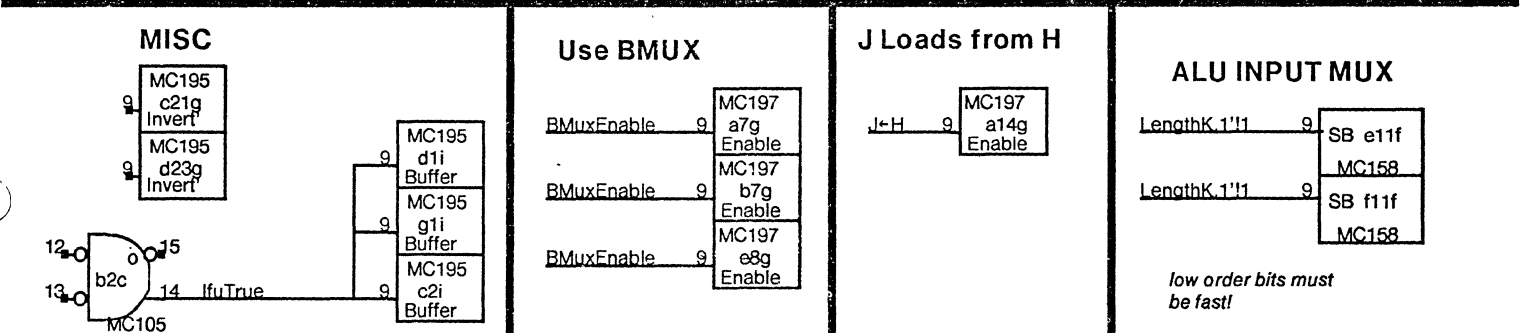
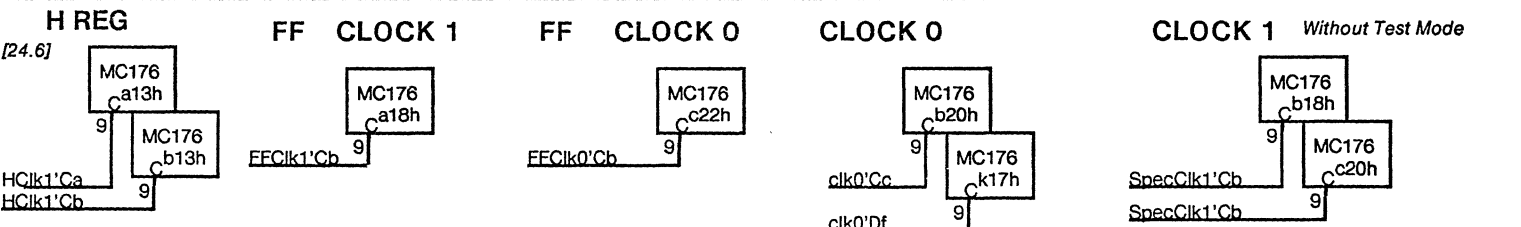
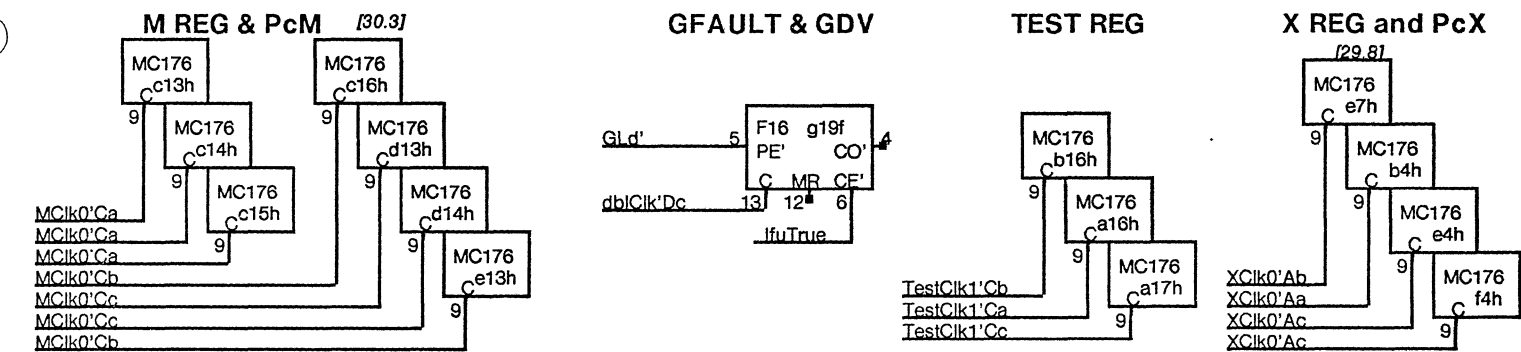
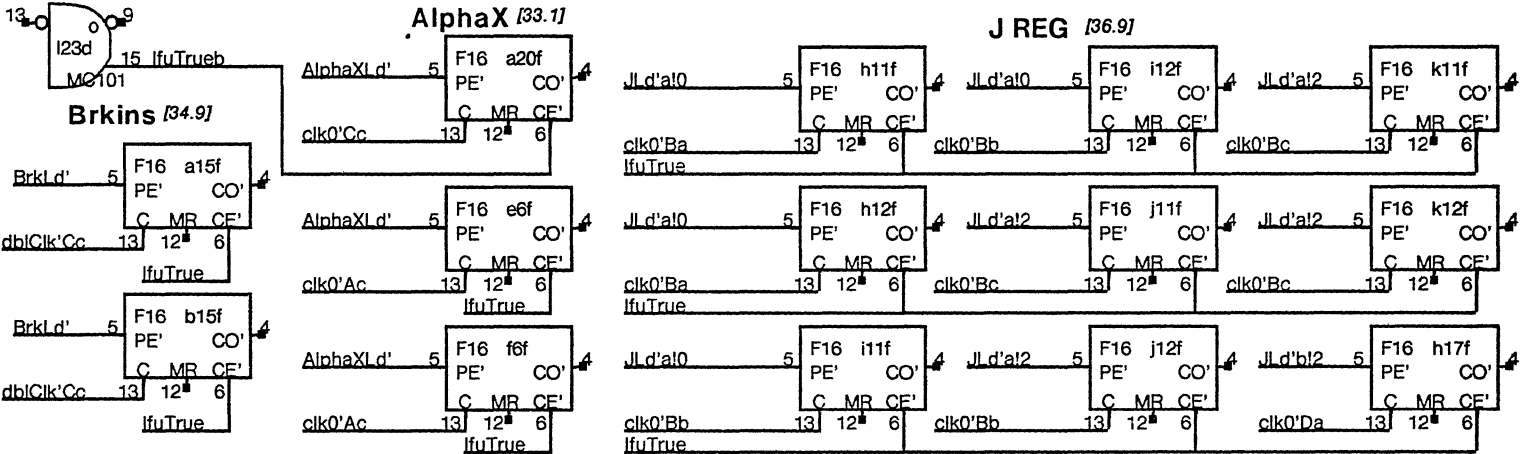
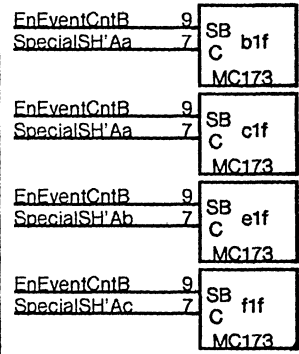
IfuData OUTPUT MUX



BMux OUTPUT MUX



BMux Output Latches



| | |
|-------------|----------|
| TwoAlpha | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0a | 4 A1 |
| J.1a | 5 A2 |
| J.2a | 6 A3 g9c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| InstrAddr0 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i10c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 1 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i11c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 2 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 i14c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 3 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 j10c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 4 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 j14c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 5 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 j15c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 6 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 k14c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 7 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 k15c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| 8 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i14c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|-----------|
| InstrAddr0 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i15c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecHi- | 14# 13 |

| | |
|-------------|----------|
| Sign | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 h9c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| RamPE0 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i12c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| RamPE1 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i13c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| RamPE2 | |
| InstrSet.0a | 2 F415A |
| InstrSet.1a | 3 A0 |
| J.0a | 4 A1 |
| J.1a | 5 A2 |
| J.2a | 6 A3 h10c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| MemB0 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 i10c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| MemB1 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 k10c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|----------|
| N0 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 i9c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|----------|
| N1 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 j9c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|----------|
| N2 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0c | 4 A1 |
| J.1c | 5 A2 |
| J.2c | 6 A3 k9c |
| J.3c | 7 A4 |
| J.4c | 8 A5 |
| J.5c | 9 A6 |
| J.6c | 10 A7 |
| J.7c | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|----------|
| N3 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0d | 4 A1 |
| J.1d | 5 A2 |
| J.2d | 6 A3 i9c |
| J.3d | 7 A4 |
| J.4d | 8 A5 |
| J.5d | 9 A6 |
| J.6d | 10 A7 |
| J.7d | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| TypePause | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0a | 4 A1 fast |
| J.1a | 5 A2 |
| J.2a | 6 A3 g10c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

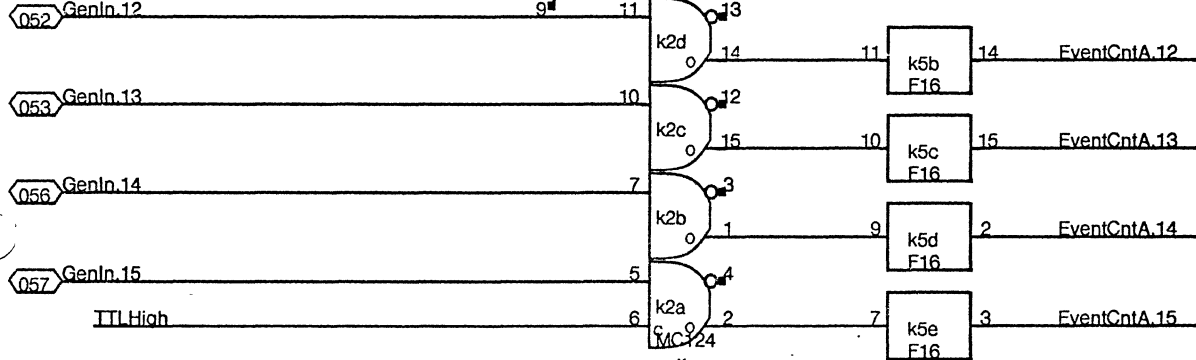
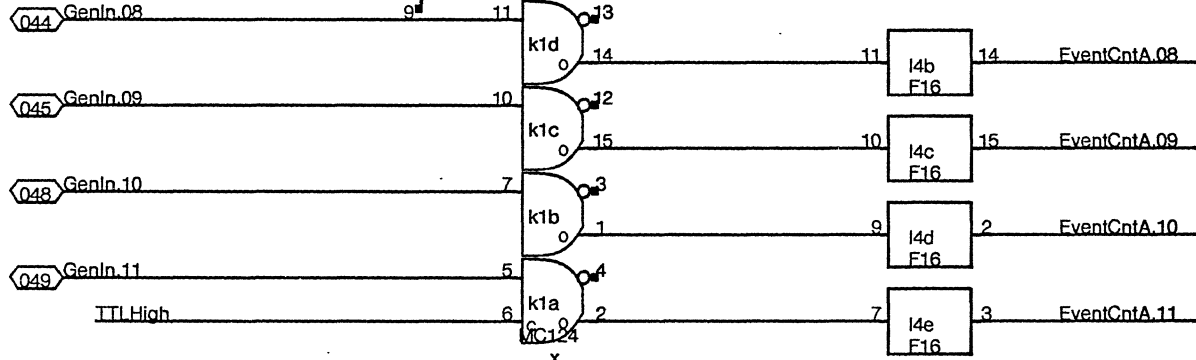
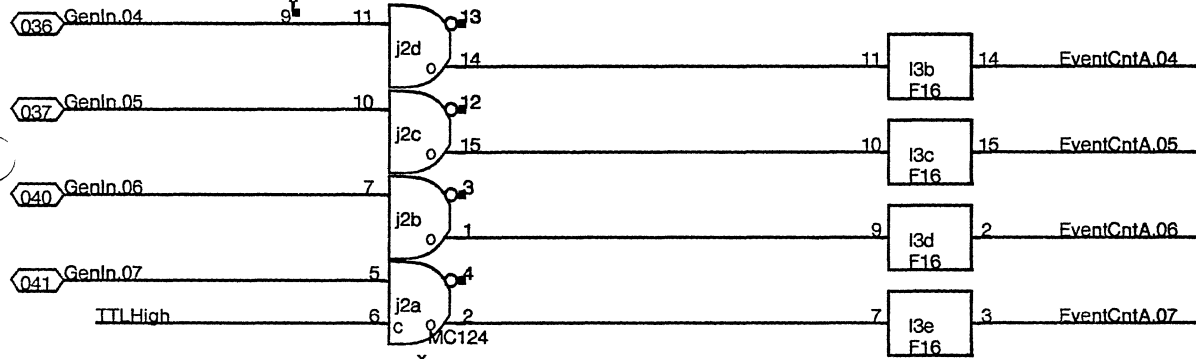
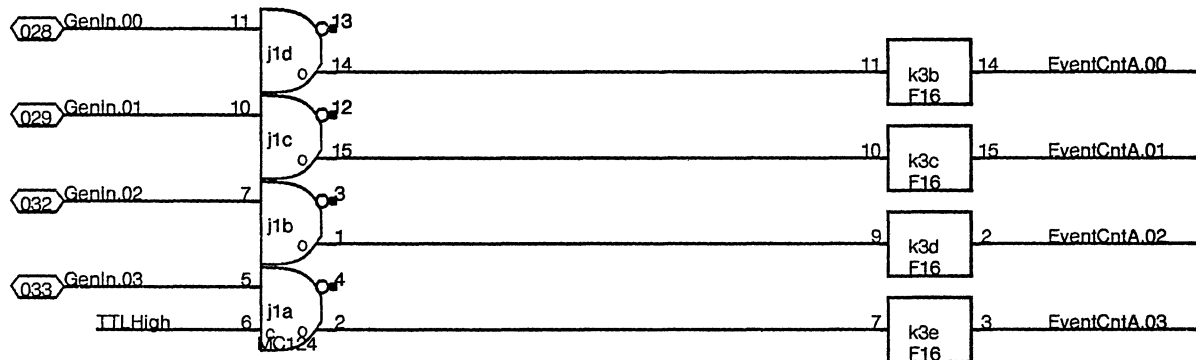
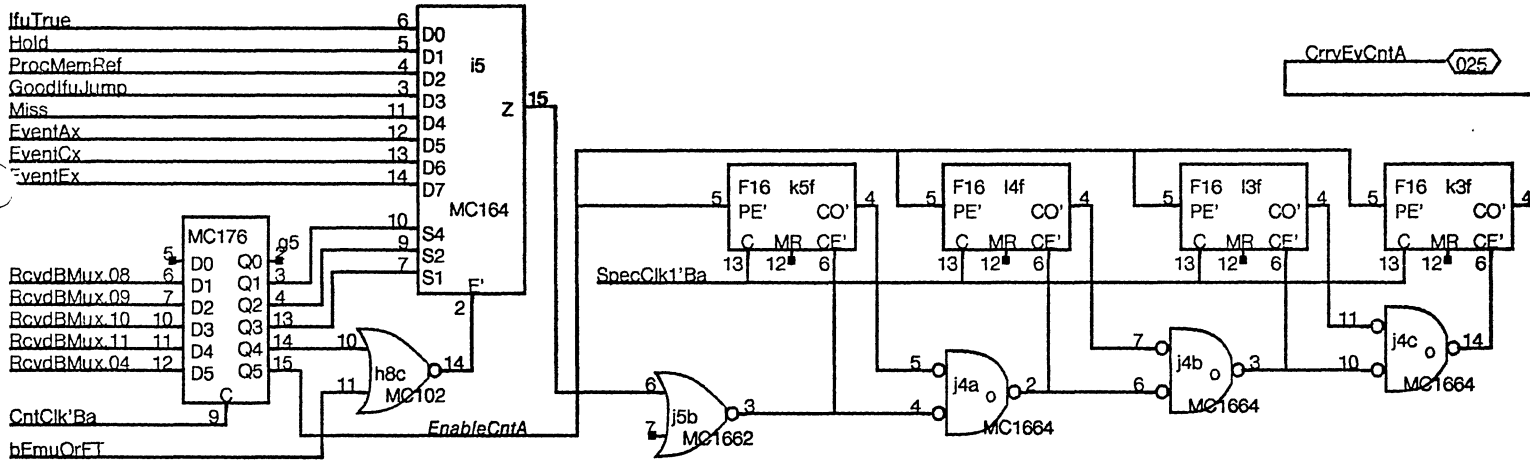
| | |
|-------------|-----------|
| TypeJump | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0a | 4 A1 |
| J.1a | 5 A2 fast |
| J.2a | 6 A3 g11c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| RBaseSel | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0a | 4 A1 |
| J.1a | 5 A2 |
| J.2a | 6 A3 g14c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

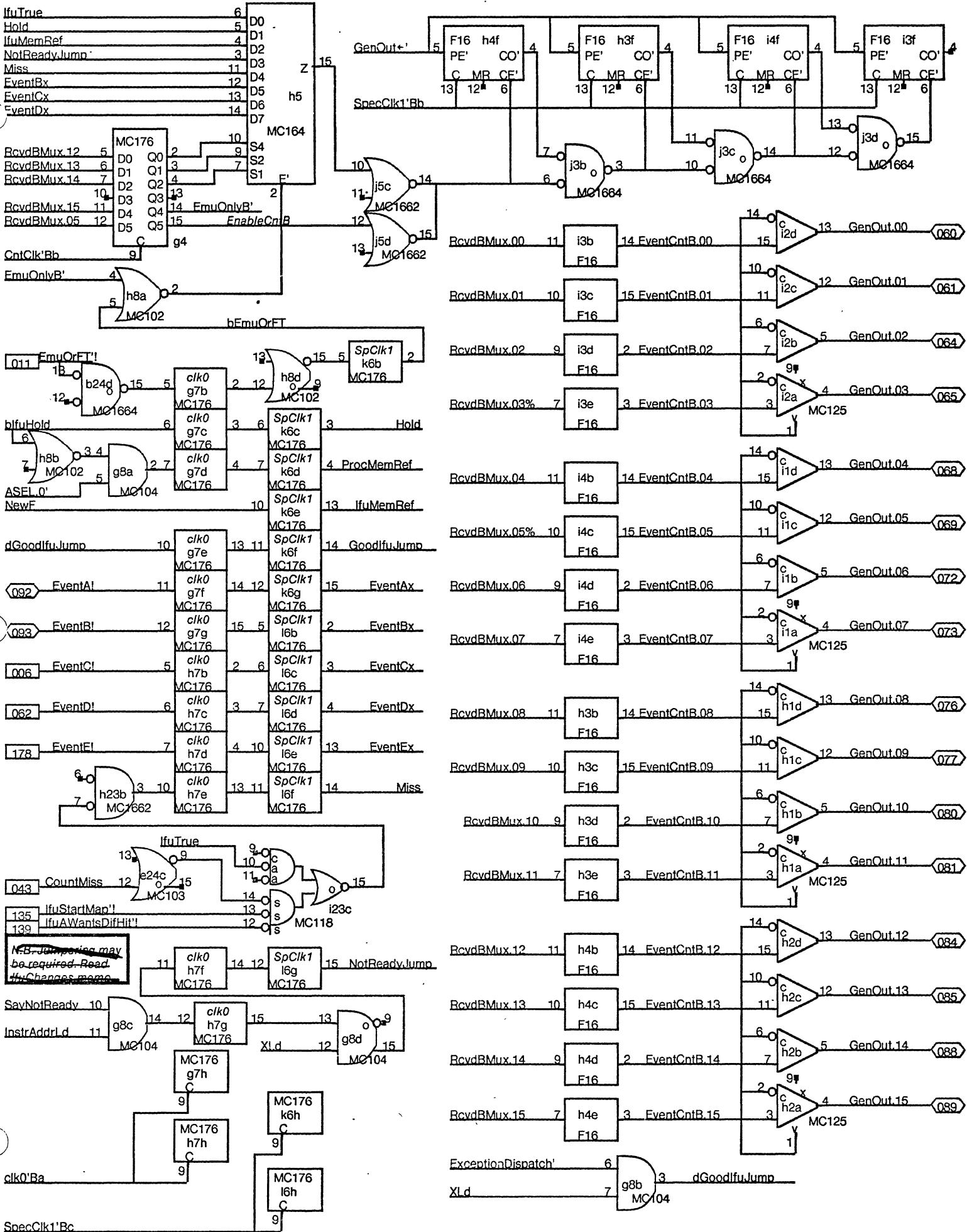
| | |
|-------------|-----------|
| MemB1 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 |
| J.0a | 4 A1 |
| J.1a | 5 A2 |
| J.2a | 6 A3 h14c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

| | |
|-------------|-----------|
| LengthK.0 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 fast |
| J.0a | 4 A1 |
| J.1a | 5 A2 |
| J.2a | 6 A3 g15c |
| J.3a | 7 A4 |
| J.4a | 8 A5 |
| J.5a | 9 A6 |
| J.6a | 10 A7 |
| J.7a | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |

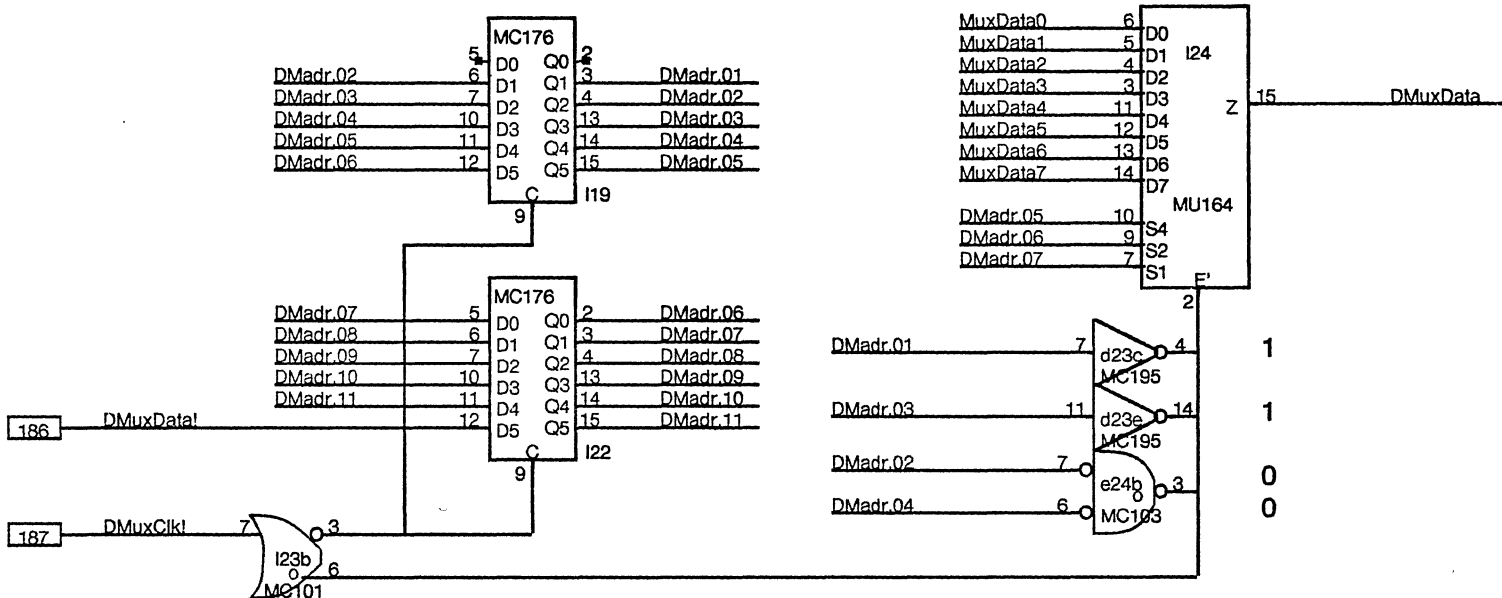
| | |
|-------------|-----------|
| LengthK.1 | |
| InstrSet.0b | 2 F415A |
| InstrSet.1b | 3 A0 fast |
| J.0b | 4 A1 |
| J.1b | 5 A2 |
| J.2b | 6 A3 i15c |
| J.3b | 7 A4 |
| J.4b | 8 A5 |
| J.5b | 9 A6 |
| J.6b | 10 A7 |
| J.7b | 11 A8 |
| | 12 A9 |
| | CF' WF' |
| DecLo+ | 14# 13 |



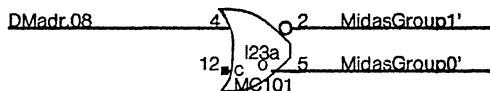
330 ohm SIP
 VCC — 1 — i46b — SIP
 ITLHigh — 3 — i46d — SIP



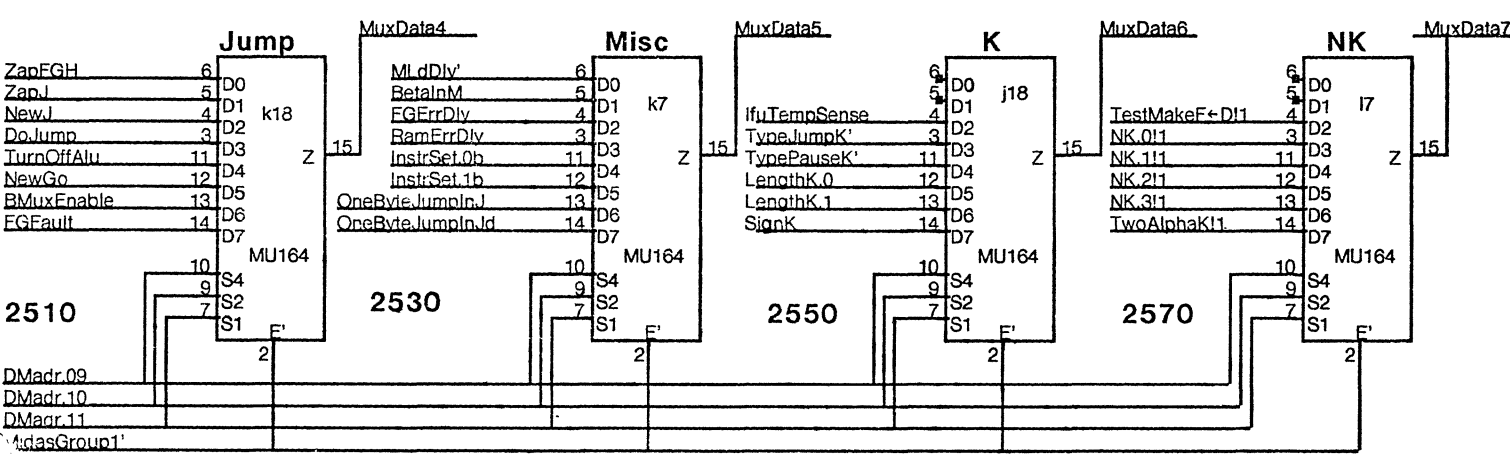
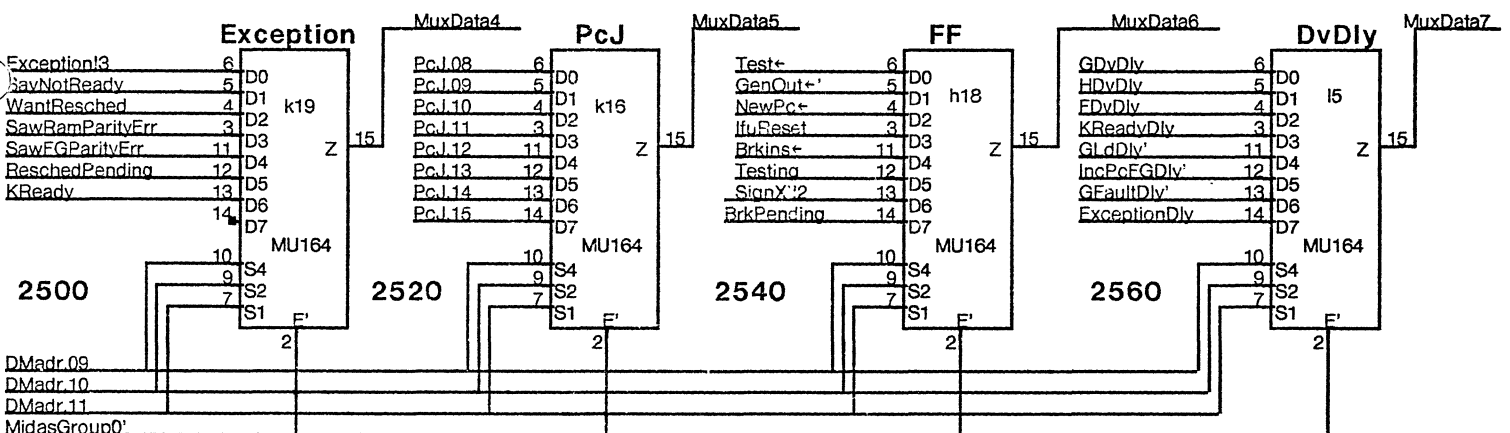
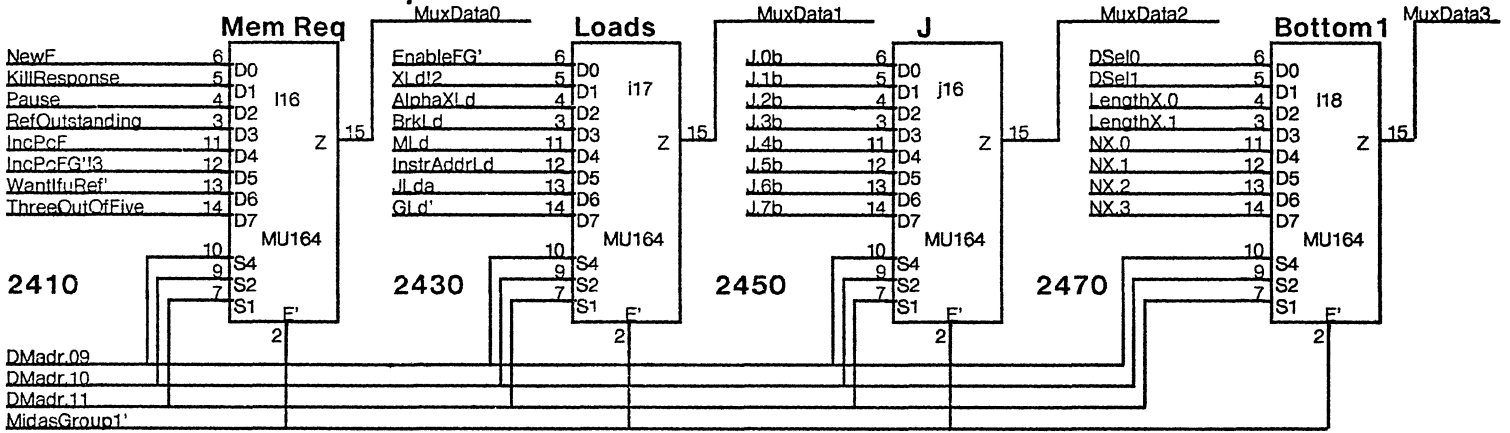
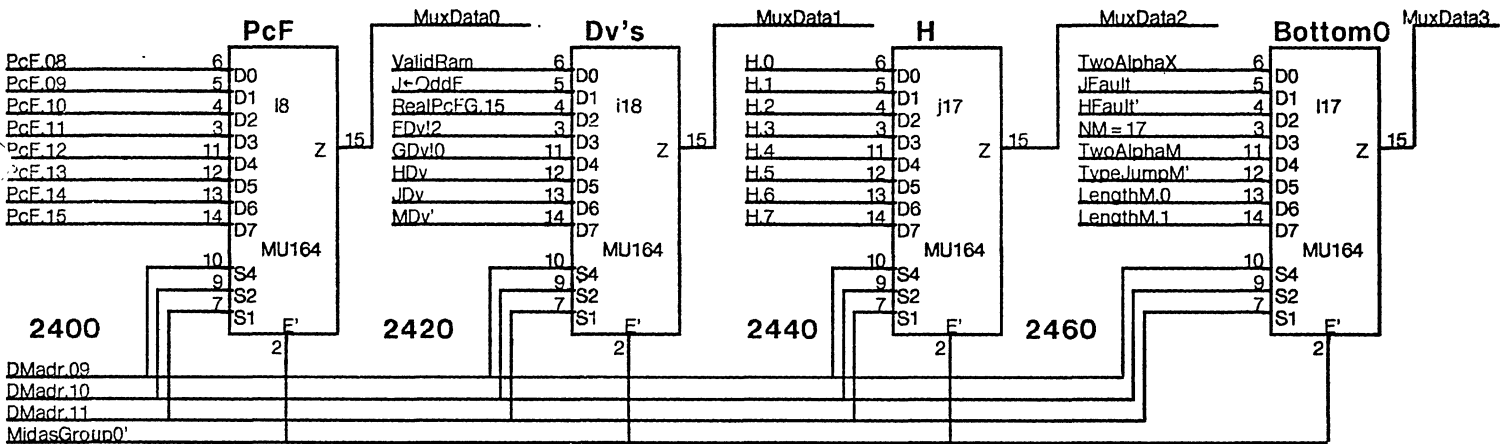
Muffler Control



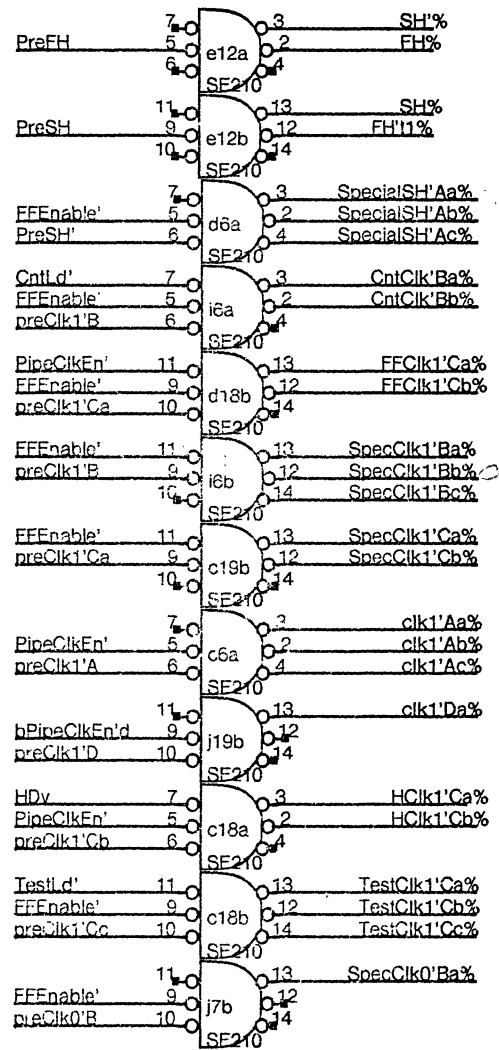
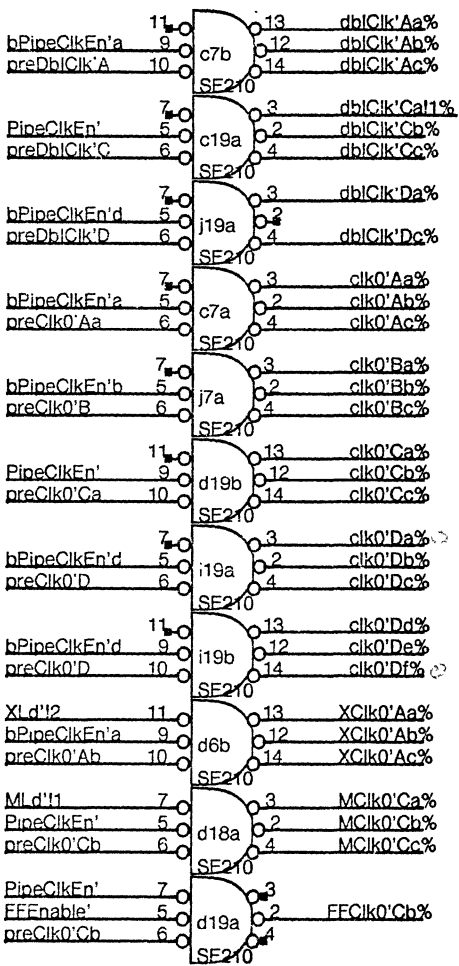
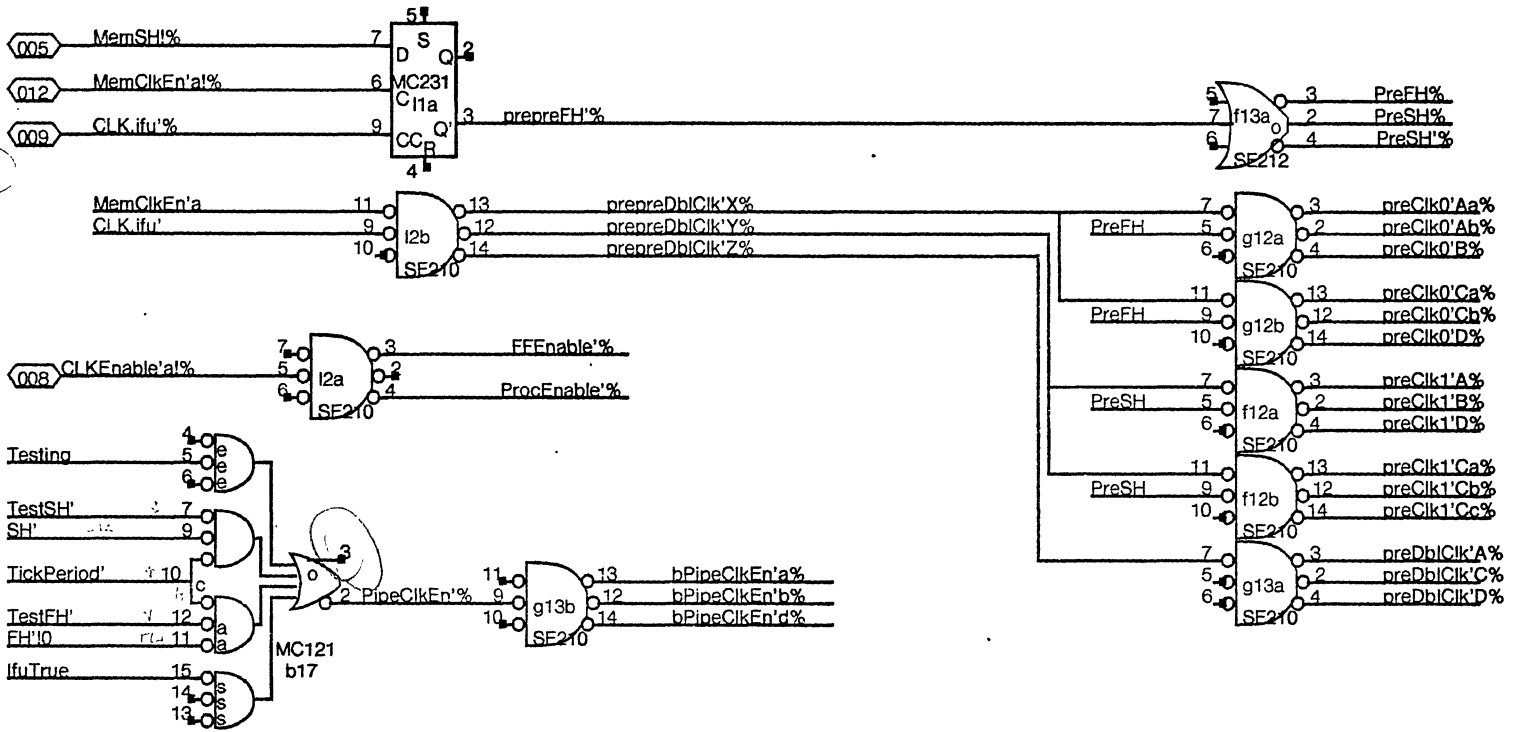
We respond to 2400 thru 2577
Tho we are allocated to 2777.





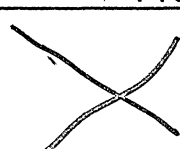
| | | | | |
|-------------|----|----------------|----|--------------|
| GDv!4 | 11 | FFC!k0 c22f | 14 | GDvD!v |
| | | MC176 | | |
| HDv | 5 | Clk0 k17b | 2 | HDvD!v |
| | | MC176 | | |
| FDv!2 | 6 | Clk0 k17c | 3 | FDvD!v |
| | | MC176 | | |
| KReady | 10 | FFC!k0 c22e | 13 | KReadyD!v |
| | | MC176 | | |
| GLd' | 7 | Clk0 k17d | 4 | GLdD!v' |
| | | MC176 | | |
| IncPcFG!13 | 12 | FFC!k0 c22g | 15 | IncPcFGD!v' |
| | | MC176 | | |
| GFault' | 10 | Clk0 k17e | 13 | GFaultD!v' |
| | | MC176 | | |
| Exception!3 | 11 | Clk0 k17f | 14 | ExceptionD!v |
| | | MC176 | | |



Word0: MemRQ Word4: JmpExc
 Word1: Loads Word5: PcJ
 Word2: HJ Word6: FFK
 Word3: MX Word7: DvNK



01
02
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11
12

| | | | | | |
|--|--|---|--|--|---|
| A MAR 00 b MAR 08 c MAR 01 d MAR 09 101 | b BMux 00 SS c BMux 08 d BMux 01 e BMux 09 173 | b BMux 02 SS c BMux 10 d BMux 03 e BMux 11 173 | b RcvdBmux 02 c RcvdBmux 10 d RcvdBmux 03 e RcvdBmux 11 f RcvdBmux 04 h RcvdBmux 12 195 | b BMux 04 SS c BMux 12 d BMux 05 e BMux 13 173 | b BMux 06 SS c BMux 14 d BMux 07 e BMux 15 173 |
| b dBMux 00 c dBMux 08 174 | a RcvdBmux 00 B FullAlpha c IfuTrue 105 | b RcvdBmux 08 c RcvdBmux 01 d RcvdBmux 09 e PcFCarry f PcFCarry h PcFCarry 195 | A MAR 04 b MAR 12 c MAR 05 d MAR 13 101 | b dBMux 05 c dBMux 13 174 | A MAR 06 b MAR 14 c MAR 07 d MAR 15 101 |
| b dBMux 01 c dBMux 09 174 | b dBMux 02 c dBMux 10 174 | A MAR 02 b MAR 10 c MAR 03 d MAR 11 101 | b dBMux 03 c dBMux 11 174 | b dBMux 04 c dBMux 12 174 | b PcF 12 C1 c PcF 13 d PcF 14 e PcF 15 F16 |
| b PcF 01 C1 d PcF 02 e PcF 03 F16 | b PcX 00 X0 c PcX 08 X0 d PcX 01 e PcX 09 f LengthX=3' g 176 | b PcF 04 C1 c PcF 05 C1 d PcF 06 e PcF 07 F16 | b PcF 08 C1 c PcF 09 C1 d PcF 10 e PcF 11 F16 | b PcX 02 X0 c PcX 10 X0 d PcX 03 e PcX 11 f PcX 04 g PcX 12 176 | b PcX 07 X0 c PcX 15 d PcX 06 e PcX 14 f PcX 05 g PcX 13 176 |
| b NextData 0 C0 c NextData 1 d NextData 2 F16 | DSEL0 C0 | A EnEventCntB b SignIfuData c Alpha' 106 | b IfuData 7 c IfuData 6 174 | b IfuData 5 c IfuData 4 174 | b IfuData 3 c IfuData 2 d IfuData 1 e IfuData 0 158 |
| DSELProm 139 | DSEL1 C0 | a clk1' A b 210 | a SpecSH A b XCik0 A 210 | b AlphaX 07 C0 c AlphaX 06 C0 d AlphaX 05 e AlphaX 04 F16 | b AlphaX 03 C0 c AlphaX 02 C0 d AlphaX 01 e AlphaX 00 F16 |
| b IfuBMux 00 c IfuBMux 01 d IfuBMux 02 e IfuBMux 03 f IfuBMux 04 h IfuBMux 05 197 | b IfuBMux 06 c IfuBMux 07 d IfuBMux 08 e IfuBMux 09 f IfuBMux 10 h IfuBMux 11 197 | a clk0' A b dbclk A 210 | a PcFG.15 b dSaw FGPE c 1672 | b NX.0 X0 c NX.1 d NX.2 e NX.3 f LengthX.0 g LengthX.1 176 |  |
| b PcFG 00 C2 c PcFG 01 d PcFG 02 e PcFG 03 F16 | b PcFG 04 C2 c PcFG 05 C2 d PcFG 06 e PcFG 07 F16 | b PcFG 08 C2 c PcFG 09 C2 d PcFG 10 e PcFG 11 F16 | b PcFG 12 C2 c PcFG 13 C2 d PcFG 14 e PcFG 15 F16 | b IfuBMux 12 c IfuBMux 13 d IfuBMux 14 e IfuBMux 15 f h 197 |  |
| | b ALU 00 c ALU 01 d ALU 02 e ALU 03 181 | b ALU 04 c ALU 05 d ALU 06 e ALU 07 181 | | b ALU 08 c ALU 09 d ALU 10 e ALU 11 181 | b ALU 12 c ALU 13 d ALU 14 e ALU 15 181 |
| | | | | | |
| b PcJ 00 C0 c PcJ 01 d PcJ 02 e PcJ 03 F16 | b PcJ 04 C0 c PcJ 05 C0 d PcJ 06 e PcJ 07 F16 | b PcJ 08 C0 c PcJ 09 C0 d PcJ 10 e PcJ 11 F16 | b PcJ 12 C0 c PcJ 13 C0 d PcJ 14 e PcJ 15 F16 | b dALU 08 c dALU 09 d dALU 10 e dALU 11 158 | b dALU 12 c dALU 13 d dALU 14 e dALU 15 158 |
| a PcJCarry b PcJCarry 1660 | a PcFGCarry b PcFGCarry 1660 |  | a dIncPcFG b PcFGCarry c PcJCarry d PcJLd 1664 | a FH b SH 210 | a preCik1 b preCik1 210 |

A

B

C

D

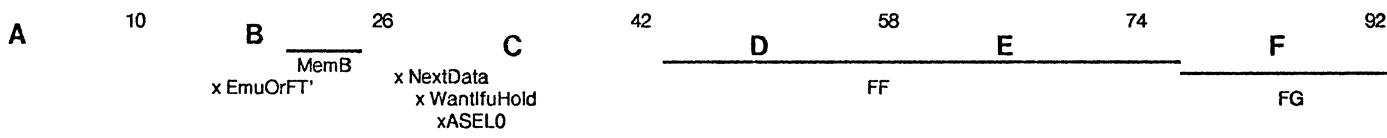
E

F

| | | | | | | |
|----|--|---|--|---|--|---|
| | 102 | 84 | 68 | 52 | 36 | 20 |
| 01 | b RcvdBmux 05 c RcvdBmux 13 d RcvdBmux 06 e RcvdBmux 14 f RcvdBmux 07 h RcvdBmux 15 195 | A GenOut.11 b GenOut.10 c GenOut.09 d GenOut.08 125 | A GenOut.07 b GenOut.06 c GenOut.05 d GenOut.04 125 | A Genin.03 b Genin.02 c Genin.01 d Genin.00 124 | A Genin.11 b Genin.10 c Genin.09 d Genin.08 124 | A prepreFH'a b See Pg. 2 231 |
| 02 | b dBmux 06 c dBmux 14 174 | A GenOut.15 b GenOut.14 c GenOut.13 d GenOut.12 125 | A GenOut.03 b GenOut.02 c GenOut.01 d GenOut.00 125 | A Genin.07 b Genin.06 c Genin.05 d Genin.04 124 | A Genin.150 b Genin.14 c Genin.13 d Genin.12 124 | a ClkEnable b prepreDbIClk 210 |
| 03 | b dBmux 07 c dBmux 15 174 | <i>Spec 1</i> EventCntB F16 | <i>Spec 1</i> EventCntB F16 | a BCntCarry b BCntCarry c BCntCarry d BCntCarry 1664 | <i>Spec 1</i> EventCntA F16 | <i>Spec 1</i> EventCntA F16 |
| 04 | <i>CntClk</i> BCntMuxCntrl 176 | <i>Spec 1</i> EventCntB F16 | <i>Spec 1</i> EventCntB F16 | a ACntCarry b ACntCarry c ACntCarry d 1664 | a b dTWRReq01 212 | <i>Spec 1</i> EventCntA F16 |
| 05 | <i>CntClk</i> ACntMuxCntrl 176 | BCntMux 164 | ACntMux 164 | a dCntA b dCntB c dCntB d dCntB 1662 | <i>Spec 1</i> EventCntA F16 | DvDIy MU164 |
| 06 | Temp Sensor | | a CntClk B b SpecClk1 B 210 | A IfuReset b NewGo <i>SpecClk0</i> 231 | b bEmuOrFT <i>Spec 1</i> c Hold d ProcMemRef e IfuMemRef f GoodIfuJmp g EventAx 176 | b EventBx c EventCx <i>Spec 1</i> d EventDx e EventEx f Miss g NotRdyJmp 176 |
| 07 | <i>c0</i> Events 176 | <i>c0</i> Events 176 | | a clk0 B b SpecClk0 B 210 | Misc MU164 | NK MU164 |
| 08 | a EventCntB b EventCntB c EventCntB D EventCntB 104 | a BCntMuxEnb b bIfuHold' c ACntMuxEnb D bEmuOrFT 102 | | <i>SpecClk0</i> A SyncedTTW b TWRReq01 231 | A TimeToWake b del TTW <i>Pendulum</i> 231 | PcF MU164 |
| 09 | TwoAlphaK 415 | SignK 415 | NK.0 415 | NK.1 415 | NK.2 415 | NK.3 415 |
| 10 | TypePauseK 415 | Parity2 415 | MEMBK.0 415 | IfuAddr 3 415 | MemBK.1 415 | IfuAddr 0 415 |
| 11 | TypeJumpK 415 | b J0a c J1a <i>c0</i> d J2a e J3a F16 | b J0b c J1b <i>c0</i> d J2b e J3b F16 | b J0c c J1c <i>c0</i> d J2c e J3c F16 | b J0d c J1d <i>c0</i> d J2d e J3d F16 | IfuAddr 1 415 |
| 12 | a preClk0 b preClk0 210 | b J4a c J5a <i>c0</i> d J6a e J7a F16 | b J4b c J5b <i>c0</i> d J6b e J7b F16 | b J4c c J5c <i>c0</i> d J6c e J7c F16 | b J4d c J5d <i>c0</i> d J6d e J7d F16 | Parity0 415 |

G H I J K L

| | | | | | | |
|----|---|--|---|--|--|---|
| 13 | b H 0 c H 1 d H 2 e H 3 f H 4 g H 5 176 | HC1 b H.6 c H.7 d HFault e f g 176 | MC0 b PcM 00 c PcM 01 d PcM 02 e PcM 03 f PcM 04 g PcM 05 176 | MC0 b AlphaM 0 c AlphaM 1 d AlphaM 2 e AlphaM 3 f AlphaM 4 g AlphaM 5 176 | MC0 b AlphaM 6 c AlphaM 7 d PcM 12 e PcM 13 f PcM 14 g PcM 15 176 | a preFH b TurnOffAlu 212 |
| 14 | b EnableH 0 c EnableH 1 d EnableH 2 e EnableH 3 f EnableH 4 h EnableH 5 197 | a EnableH 6 b EnableH 7 c dSignX D dTwoAlphaX 104 | b PcM 06 c PcM 07 d PcM 08 e PcM 09 f PcM 10 g PcM 11 176 | b LengthM.0 c LengthM.1 d SpareM.0 e SpareM.1 f dNM = 17a g dNM = 17b 176 | FGParityErr 170 | b InstrSet 0a c InstrSet 0b d InstrSet 1a e InstrSet 1b FFc1 F16 |
| 15 | b Brkins 0 c Brkins 1 d Brkins 2 e Brkins 3 F16 | b Brkins 4 c Brkins 5 d Brkins 6 e Brkins 7 F16 | b SignM c TwoAlphaM d NM 0 e NM 1 f NM 2 g NM 3 176 | a NM = 17 b NK2&NK3 c NK0&NK1 D ifuMemAck 104 | a dHJ4 b dHJ5 c dHJ6 d dHJ7 1664 | a InstrSetLd b CntLd C d TestOrReset 103 |
| 16 | b TestReg 0 c TestReg 1 d TestReg 2 e TestReg 3 f TestReg 4 g TestReg 5 176 | b TestReg 6 c TestReg 7 d e TestFH f TestSH g Testing 176 | b MemBM 0 c MemBM 1 d LengthM=3 e MDv f TypeJumpM g LengthM=3 176 | A BrkPending b c2 231 | a dHJ0 b dHJ1 c dHJ2 d dHJ3 1664 | IncPcFG 119 |
| 17 | b TestfuAck c TestMemAck d TestMakeF+D e TestFault f g 176 | PipeClkEn 121 | A SawFGPe b (delayed clock) 231 | b AlphaXld c XShift 117 | A Pause b IncPcF c0 231 | a dPause b PcFGLd c bifuHold d dAckJunkTW 1664 |
| 18 | b NewPc1 c AckJnkTW d DecLo+ e DecHi+ f g Brkins+ 176 | b c GenOut+ d InstrSetOrJunk+ e ifuReset1 f g Spec1 176 | a HClk1' b TestClk1' C C 210 | a MCik0' b FFCik1' C C 210 | a Xld b KReady 1660 | InstrAddrLd 121 |
| 19 | a BMuxEnable B NextBeta 109 | a dNewGo B EnBMuuxOut c TestLd 105 | a dbclk1' b SpecClk1' C C 210 | a FFCik0' b Clk0' C C 210 | a PcFG15 b KReady c Kready d dBrkLd 1662 | a JKillResponse b FGdv 212 |
| 20 | b SignX c TwoAlphaX d BetalnM e F16 | b blfuFault c NewF d NewF' e MLdDly f DoJump g DoJump' 176 | b Test+ c dTickPeriod d RamErrDly e FGErrDly f WantifuHoldDly g Spec1 176 | b ExtendH c slncPcF 117 | a B dSawFGPe c InstrAddrLd 105 | A HDv b FDv c2 135 |
| 21 | A TickPeriod b ShutUp (junk) Spec1 231 | b c WantifuHold 117 | b InstrSetOrJunk+ c ReschedPending d SayRamParityErr e DecLo+ f DecHi+ h TestMemAck' inv 195 | b dJDv c ZapJ 117 | b BrkLd c SayNotReady 117 | A NewJ b RefOutstanding c0 135 |
| 22 | A FF130 b FF131 c FF132 d FF133 100 | a dReschedPending b dReschedPending 1660 | b ReschedPending c NewPc+ d WantResched e KReadyDly f GDvDly g IncPcFGDly #0 176 | a SayResched b SayFGParityErr C BetalnM' d ifuNextData 103 | a BetalnH B JFDv c NewGoOrNoM 105 | a dSayNotReady b K NewJ c dGDv d K FDv 1664 |
| 23 | A FF134 b FF135 c FF136 d FF137 100 | A FF100 b FF101 c FF102 d dReschedPending 100 | FC 161 | b GenOut+ c DMuxEnable d AckJnkTW' e DMuxEnable f ReschedPending' h SayNotRcadv inv 195 | a ZapFGH B JHDv c SeeJump 105 | a EnableFG' b J+H 1660 |
| 24 | FB 161 | a FF5 b FF6 c FF7 d EmuOrFT' 1664 | a FA = 1 b SayStuff 210 | a J+OddF b SayNotReady1 1660 | a EnableFG' b DMuxEnable C dMiss d 1ByteJumpInJ 103 | b c d e specialPcFG15 c2 F16 |



13

| | | | | | | |
|----|--|---|--|---|--|---|
| 13 | a preDbClk b PipeClkEn 210 21-1 | A SawRamParityErr b c0 231 | RamParityErr 2 170 | RamParityErr 0 170 | RamParityErr 1 170 | Parity1 415 |
| 14 | RBaseSel 415 | MemB 34 415 | lfuAddr 2 415 | lfuAddr 4 415 | lfuAddr 6 415 | lfuAddr 8 415 |
| 15 | LengthK.0' 415 | a HDv b HDv c KReady d dGLd 1662 | LengthK.1' 415 | lfuAddr 5 415 | lfuAddr 7 415 | lfuAddr 9 415 |
| 16 | a MightBeJump B WantlfuRef c lfuMakeF+D 105 | a d HDv b ZapOrJEmpty c dJDv D dSawFGPE 102 | A ExceptionDispatch b 231 | J MU164 | PcJ MU164 | Top MU164 |
| 17 | a dPause b c RealJFault D dWantResched 102 | b JDv' c JDv d JFault e JFault' c0 F16 | Loads MU164 | H MU164 | b HDvDly c0 c FDvDly d GLdDly' e GFaultDly' f ExceptionDly' g 176 | Bottom MU164 |
| 18 | a LengthK.0 b LengthK.1 1660 | FF's MU164 | Dv's MU164 | K MU164 | Jumps MU164 | Bottom MU164 |
| 19 | b GDv'a c GDv' d GFault e GDv F16 | c2 OtherHole 121 | a clk0' D b clk0' D 210 | a dbclk' D b clk1' D 210 | Exception MU164 | DMadr1-5 176 |
| 20 | dGDv 121 | WantlfuRef2 121 | A 1ByteJumpInJ b 1ByteJumpInJd c0 135 | A Mar+PcF b FFault c7 231 | a WantlfuRef1 b WantlfuRef1 c WantlfuRef1 D 102 | a K KillResponse b lfuAddr 6 C K RefOutstanding d lfuAddr 7 103 |
| 21 | a WantlfuRef1 b WantlfuRef2 c WantlfuRef3 d WantlfuRef' 1662 | dGDv 119 | b FGFault c FGFault 117 | a K HDv b K HDv c K HDv D Exception 102 | A lfuAddr 4 b lfuAddr 9 c lfuAddr 53 d lfuAddr 12 101 | A KillResponse b c2 135 |
| 22 | GLd 119 | A dGLd1 b dGLd2 c Exception 106 | a RealHFault b Exception' c lfuAddr 8 d lfuAddr 9 1662 | a ValidRam B Exception 1660 | A lfuAddr 4 c0 b lfuAddr 9 c0 231 | DMadr6-11 176 |
| 23 | JLdb 121 | a bMLd b dMiss c dAckJunkTW d 1662 | b SayNotReady c dMiss 118 | A lfuAddr 5 b lfuAddr 8 c lfuAddr 10 d lfuAddr 11 101 | A lfuAddr 3 c0 b lfuAddr 8 c0 231 | A MidasGroup b DMuxClk c d lfuTrueb 101 |
| 24 | MLd 121 | JLda 121 | A lfuAddr 1 c0 b lfuAddr 6 c0 231 | A lfuAddr 2 c0 b lfuAddr 7 c0 231 | A lfuAddr 0 c0 b lfuAddr 5 c0 231 | DMuxData MU164 |

92 G 110 H 126 I 142 J 158 K 174 L
 FG0-6 lfuAddr0-9 x lfuNextMacro
 x WantlfuRef MakeF+D lfuAck DMuxData DMuxClock

IF Data Selector PROM SG 139 (see Dwg. 02)

| N | Two Alpha | JMP | Length | Address | Contents | Numeric Sequence | Effective Sequence | | | |
|-----------|-----------|-----------|---------------|---|---------------------------|----------------------------|-------------------------|--|---------------|--|
| N | Two Alpha | JMP | 0 | 00 | 11111111 | 3, 3, 3, 3, 3 | IL, IL, IL, IL, IL..... | | | |
| | | | 1 | 01 | 11111111 | | | | | |
| | | | 2 | 02 | 11111111 | | | | | |
| | | | 3 | 03 | 11111111 | | | | | |
| | | | 0 | 04 | 11111111 | | | | | |
| | | | 1 | 05 | 11110111 | | | | | |
| | | | 2 | 06 | 10110011 | | | | | |
| | 3 | 07 | 10010001 | 2, 0, 3, 3, 3 | N, Alpha, IL, IL, IL..... | | | | | |
| | no N | Two Alpha | JMP | 0 | 10 | 11111111 | 3, 3, 3, 3, 3 | IL, IL, IL, IL, IL..... | | |
| | | | | 1 | 11 | 11111111 | | | | |
| | | | | 2 | 12 | 11111111 | | | | |
| | | | | 3 | 13 | 11111111 | | | | |
| | | | | 0 | 14 | 11111111 | | | | |
| | | Two Alpha | JMP | 1 | 15 | 11111111 | 2, 1, 0, 3, 3 | N, Alpha[0:3], Alpha[4:7], IL, IL..... | | |
| | | | | 2 | 16 | 10010101 | | | | |
| | | | | 3 | 17 | 10000100 | | | 2, 1, 0, 0, 3 | N, Alpha[0:3], Alpha[4:7], Beta, IL..... |
| | | | | 0 | 20 | 11111111 | | | 3, 3, 3, 3, 3 | IL, IL, IL, IL, IL..... |
| 1 | | | | 21 | 11111111 | | | | | |
| 2 | 22 | 11111111 | | | | | | | | |
| 3 | 23 | 11111111 | | | | | | | | |
| 0 | 24 | 11111111 | | | | | | | | |
| Two Alpha | JMP | 1 | 25 | 11111111 | 0, 3, 3, 3, 3 | Alpha, IL, IL, IL, IL..... | | | | |
| | | 2 | 26 | 01110111 | | | | | | |
| | | 3 | 27 | 00110011 | | | 0, 0, 3, 3, 3 | Alpha, Beta, IL, IL, IL..... | | |
| | | 0 | 30 | 11111111 | | | 3, 3, 3, 3, 3 | IL, IL, IL, IL, IL..... | | |
| | | 1 | 31 | 11111111 | | | | | | |
| | | 2 | 32 | 11111111 | | | | | | |
| | | 3 | 33 | 11111111 | | | | | | |
| 0 | 34 | 11111111 | | | | | | | | |
| 1 | 35 | 11111111 | | | | | | | | |
| 2 | 36 | 00111011 | 1, 0, 3, 3, 3 | Alpha[0:3], Alpha[4:7], IL, IL, IL..... | | | | | | |
| 3 | 37 | 00011001 | 1, 0, 0, 3, 3 | Alpha[0:3], Alpha[4:7], Beta, IL, IL..... | | | | | | |

No zero length instructions
 No 3 - Byte Jumps
 Jumps never export anything other than the length (no "N" on 2 - byte Jumps).
 A one - byte instruction specifying Two Alpha is meaningless

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 Columns: 2 Edge Margin: .8" Between Columns: .0"
 Heading:
 IFU-mwRev-Cg.ps
 COMPONENTS:

| | | | | | | |
|---------|----|----|----|----|----|----|
| F16: | 1 | 2 | 3 | 4 | 5 | 6 |
| | 8 | 9 | 10 | 11 | 13 | 14 |
| F415A: | 6 | 12 | | | | |
| MC100: | 4 | | | | | |
| MC101: | 7 | 8 | 9 | 11 | 16 | |
| MC102: | 1 | 2 | 3 | 4 | 7 | 13 |
| | 14 | | | | | |
| MC103: | 1 | 2 | 3 | 4 | 7 | 14 |
| | 16 | | | | | |
| MC104: | 1 | 5 | 6 | 14 | | |
| MC105: | 1 | 2 | 3 | 4 | 8 | 11 |
| MC106: | 2 | 3 | 4 | 7 | | |
| MC109: | 3 | 4 | | | | |
| MC117: | 1 | 2 | 3 | 5 | | |
| MC118: | 7 | 14 | | | | |
| MC119: | 1 | 3 | | | | |
| MC121: | 1 | 3 | 18 | | | |
| MC124: | 13 | | | | | |
| MC125: | 14 | | | | | |
| MC135: | 1 | 2 | 3 | | | |
| MC141: | 2 | | | | | |
| MC158: | 5 | 9 | 11 | | | |
| MC161: | 4 | | | | | |
| MC164: | 13 | 14 | | | | |
| MC1660: | 1 | 2 | 3 | 4 | 6 | 7 |
| | 10 | | | | | |
| MC1662: | 1 | 2 | 3 | 4 | 7 | 9 |
| | 13 | 14 | | | | |
| MC1664: | 1 | 2 | 3 | 4 | 5 | 10 |
| | 13 | 14 | | | | |
| MC1672: | 2 | 9 | | | | |
| MC170: | 5 | 6 | | | | |
| MC173: | 8 | 9 | 11 | | | |
| MC174: | 5 | 8 | 9 | 11 | | |
| MC176: | 1 | 2 | 3 | 4 | 5 | 6 |
| | 8 | 9 | 11 | 13 | 14 | 16 |
| MC181: | 8 | 9 | 10 | | | |
| MC195: | 1 | 2 | 4 | 7 | 8 | 9 |
| | 10 | 11 | 16 | | | |
| MC197: | 5 | 8 | 9 | 11 | | |
| MC210: | 4 | 7 | | | | |
| MC212: | 1 | 3 | 15 | | | |
| MC231: | 1 | 2 | 4 | 7 | 15 | 18 |
| MU164: | 16 | 17 | | | | |
| SE210: | 18 | | | | | |
| SE212: | 10 | 18 | | | | |
| SG139: | 2 | | | | | |
| SIP: | 13 | | | | | |
| SPARE: | 15 | | | | | |
| TEMP: | 15 | | | | | |

SIGNAL NAMES:

| | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|
| +: | 1(1) | 2(1) | 3(1) | 4(1) | 5(1) | 6(1) |
| | 7(1) | 8(1) | 9(1) | 10(1) | 11(1) | 12(1) |
| | 13(1) | 14(1) | 15(1) | 16(1) | 17(1) | 18(1) |
| AckJunkTW: | 4(1) | 15(1) | | | | |
| AckJunkTW': | 4(1) | 15(1) | | | | |
| AlphaX.0: | 2(1) | 5(2) | | | | |
| AlphaX.1: | 5(2) | | | | | |
| AlphaX.2: | 5(2) | | | | | |
| AlphaX.3: | 5(2) | | | | | |
| AlphaXLd: | 3(1) | 17(1) | | | | |
| AlphaXLd': | 3(1) | 11(3) | | | | |
| ASEL.0': | 1(1) | 14(1) | | | | |
| bEmuOrFT: | 13(1) | 14(1) | | | | |
| BetaInH: | 2(2) | 3(2) | | | | |
| BetaInH': | 1(1) | 2(1) | 3(3) | | | |
| BetaInM: | 2(1) | 17(1) | | | | |

| | | | | | |
|----------------|-------|-------|-------|-------|-------|
| BetaInM': | 2(1) | 3(1) | | | |
| bIfuHold: | 3(4) | 14(1) | | | |
| bLengthK.0': | 6(1) | 7(2) | | | |
| bLengthK.1': | 3(1) | 6(1) | 7(1) | | |
| bMLd': | 2(1) | 3(1) | | | |
| bMLd'%: | 3(1) | | | | |
| BMux.00: | 8(1) | | | | |
| BMux.00!: | 8(1) | | | | |
| BMux.01: | 8(1) | | | | |
| BMux.01!: | 8(1) | | | | |
| BMux.02: | 8(1) | | | | |
| BMux.02!: | 8(1) | | | | |
| BMux.03: | 8(1) | | | | |
| BMux.03!: | 8(1) | | | | |
| BMux.04: | 8(1) | | | | |
| BMux.04!: | 8(1) | | | | |
| BMux.05: | 8(1) | | | | |
| BMux.05!: | 8(1) | | | | |
| BMux.06: | 8(1) | | | | |
| BMux.06!: | 8(1) | | | | |
| BMux.07: | 8(1) | | | | |
| BMux.07!: | 8(1) | | | | |
| BMux.08: | 9(1) | | | | |
| BMux.08!: | 9(1) | | | | |
| BMux.09: | 9(1) | | | | |
| BMux.09!: | 9(1) | | | | |
| BMux.10: | 9(1) | | | | |
| BMux.10!: | 9(1) | | | | |
| BMux.11: | 9(1) | | | | |
| BMux.11!: | 9(1) | | | | |
| BMux.12: | 9(1) | | | | |
| BMux.12!: | 9(1) | | | | |
| BMux.13: | 9(1) | | | | |
| BMux.13!: | 9(1) | | | | |
| BMux.14: | 9(1) | | | | |
| BMux.14!: | 9(1) | | | | |
| BMux.15: | 9(1) | | | | |
| BMux.15!: | 9(1) | | | | |
| BMuxEnable: | 4(1) | 10(1) | 11(3) | 17(1) | |
| bPipeClkEn'a: | 18(3) | | | | |
| bPipeClkEn'a%: | 18(1) | | | | |
| bPipeClkEn'b: | 18(1) | | | | |
| bPipeClkEn'b%: | 18(1) | | | | |
| bPipeClkEn'd: | 18(4) | | | | |
| bPipeClkEn'd%: | 18(1) | | | | |
| Brkins←: | 3(1) | 4(3) | 17(1) | | |
| BrkLd: | 3(1) | 17(1) | | | |
| BrkLd': | 3(1) | 4(1) | 11(2) | | |
| BrkPending: | 1(1) | 2(1) | 4(1) | 10(1) | 17(1) |
| BrkPending': | 3(1) | 4(1) | | | |
| ci1%: | 10(1) | | | | |
| ci2%: | 10(1) | | | | |
| ci3%: | 10(1) | | | | |
| ci4%: | 10(1) | | | | |
| ci5%: | 10(1) | | | | |
| ci6%: | 10(1) | | | | |
| CLK.ifu': | 18(1) | | | | |
| CLK.ifu'%: | 18(1) | | | | |
| clk0'Aa: | 2(3) | | | | |
| clk0'Aa%: | 18(1) | | | | |
| clk0'Ab: | 10(3) | | | | |
| clk0'Ab%: | 18(1) | | | | |
| clk0'Ac: | 10(1) | 11(2) | | | |
| clk0'Ac%: | 18(1) | | | | |
| clk0'Ba: | 11(2) | 14(1) | | | |
| clk0'Ba%: | 18(1) | | | | |
| clk0'Bb: | 11(3) | | | | |
| clk0'Bb%: | 18(1) | | | | |
| clk0'Bc: | 11(3) | | | | |
| clk0'Bc%: | 18(1) | | | | |
| clk0'Ca: | 1(1) | | | | |
| clk0'Ca%: | 18(1) | | | | |
| clk0'Cb: | 2(1) | | | | |
| clk0'Cb%: | 18(1) | | | | |
| clk0'Cc: | 11(2) | | | | |
| clk0'Cc%: | 18(1) | | | | |

| | | | |
|----------------|-------|-------|-------|
| clk0'Da: | 2(1) | 7(1) | 11(1) |
| clk0'Da%: | 18(1) | | |
| clk0'Db: | 2(1) | 7(2) | |
| clk0'Db%: | 18(1) | | |
| clk0'Dc: | 7(2) | | |
| clk0'Dc%: | 18(1) | | |
| clk0'Dd: | 7(2) | | |
| clk0'Dd%: | 18(1) | | |
| clk0'De: | 7(2) | | |
| clk0'De%: | 18(1) | | |
| clk0'Df: | 7(2) | 11(1) | |
| clk0'Df%: | 18(1) | | |
| clk1'Aa: | 10(1) | | |
| clk1'Aa%: | 18(1) | | |
| clk1'Ab: | 10(2) | | |
| clk1'Ab%: | 18(1) | | |
| clk1'Ac: | 10(1) | | |
| clk1'Ac%: | 18(1) | | |
| clk1'Da: | 1(1) | | |
| clk1'Da%: | 18(1) | | |
| CLKEnable'a!%: | 18(1) | | |
| CntClk'Ba: | 13(1) | | |
| CntClk'Ba%: | 18(1) | | |
| CntClk'Bb: | 14(1) | | |
| CntClk'Bb%: | 18(1) | | |
| CntLd': | 4(1) | 18(1) | |
| CountMiss: | 14(1) | | |
| CrryEvCntA: | 13(1) | | |
| db1Clk'Aa: | 10(1) | | |
| db1Clk'Aa%: | 18(1) | | |
| db1Clk'Ab: | 10(1) | | |
| db1Clk'Ab%: | 18(1) | | |
| db1Clk'Ac: | 10(2) | | |
| db1Clk'Ac%: | 18(1) | | |
| db1Clk'Ca!0: | 10(1) | | |
| db1Clk'Ca!1%: | 18(1) | | |
| db1Clk'Ca!2: | 2(1) | | |
| db1Clk'Ca!3: | 2(1) | | |
| db1Clk'Cb: | 3(1) | 4(1) | |
| db1Clk'Cb%: | 18(1) | | |
| db1Clk'Cc: | 11(2) | | |
| db1Clk'Cc%: | 18(1) | | |
| db1Clk'Da: | 1(1) | | |
| db1Clk'Da%: | 18(1) | | |
| db1Clk'Dc: | 11(1) | | |
| db1Clk'Dc%: | 18(1) | | |
| DecHi←': | 4(1) | 12(3) | |
| DecLo←': | 4(1) | 12(4) | |
| dGoodIfuJump: | 14(2) | | |
| dHJ.0!0%: | 5(1) | | |
| dHJ.0!1: | 5(1) | | |
| dHJ.1!0%: | 5(1) | | |
| dHJ.1!1: | 5(1) | | |
| dHJ.2!0%: | 5(1) | | |
| dHJ.2!1: | 5(1) | | |
| dHJ.3!0%: | 5(1) | | |
| dHJ.3!1: | 5(1) | | |
| dHJ.4!0%: | 5(1) | | |
| dHJ.4!1: | 5(1) | | |
| dHJ.5!0%: | 5(1) | | |
| dHJ.5!1: | 5(1) | | |
| dHJ.6!0%: | 5(1) | | |
| dHJ.6!1: | 5(1) | | |
| dHJ.7!0%: | 5(1) | | |
| dHJ.7!1: | 5(1) | | |
| dIA.04%: | 7(1) | | |
| dIA.05%: | 7(1) | | |
| dIA.06%: | 7(1) | | |
| dIA.07%: | 7(1) | | |
| dIA.08%: | 7(1) | | |
| dIA.09%: | 7(1) | | |
| DMadr.01: | 16(2) | | |
| DMadr.02: | 16(3) | | |
| DMadr.03: | 16(3) | | |
| DMadr.04: | 16(3) | | |
| DMadr.05: | 16(3) | | |

| | | | | |
|---------------------|-------|-------|-------|-------|
| DMadr.06: | 16(3) | | | |
| DMadr.07: | 16(3) | | | |
| DMadr.08: | 16(3) | | | |
| DMadr.09: | 16(2) | 17(4) | | |
| DMadr.10: | 16(2) | 17(4) | | |
| DMadr.11: | 16(2) | 17(4) | | |
| DMuxClk!: | 16(1) | | | |
| DMuxData: | 16(1) | | | |
| DMuxData!: | 16(1) | | | |
| DoJump: | 2(2) | 3(2) | 17(1) | |
| DoJump': | 1(1) | 2(3) | 3(1) | |
| DSe10: | 2(2) | 3(1) | 11(2) | 17(1) |
| DSe11: | 2(2) | 3(1) | 11(2) | 17(1) |
| EmuOnlyB': | 14(2) | | | |
| EmuOrFT'!: | 14(1) | | | |
| EnableFG': | 5(1) | 17(1) | | |
| EnableFG'%: | 1(1) | | | |
| EnBMuxOut': | 4(1) | 11(8) | | |
| EnEventCntB: | 4(1) | 11(4) | | |
| EventA!: | 14(1) | | | |
| EventAx: | 13(1) | 14(1) | | |
| EventB!: | 14(1) | | | |
| EventBx: | 14(2) | | | |
| EventC!: | 14(1) | | | |
| EventCntA.00: | 8(1) | 13(1) | | |
| EventCntA.01: | 8(1) | 13(1) | | |
| EventCntA.02: | 8(1) | 13(1) | | |
| EventCntA.03: | 8(1) | 13(1) | | |
| EventCntA.04: | 8(1) | 13(1) | | |
| EventCntA.05: | 8(1) | 13(1) | | |
| EventCntA.06: | 8(1) | 13(1) | | |
| EventCntA.07: | 8(1) | 13(1) | | |
| EventCntA.08: | 9(1) | 13(1) | | |
| EventCntA.09: | 9(1) | 13(1) | | |
| EventCntA.10: | 9(1) | 13(1) | | |
| EventCntA.11: | 9(1) | 13(1) | | |
| EventCntA.12: | 9(1) | 13(1) | | |
| EventCntA.13: | 9(1) | 13(1) | | |
| EventCntA.14: | 9(1) | 13(1) | | |
| EventCntA.15: | 9(1) | 13(1) | | |
| EventCntB.00: | 8(1) | 14(1) | | |
| EventCntB.01: | 8(1) | 14(1) | | |
| EventCntB.02: | 8(1) | 14(1) | | |
| EventCntB.03: | 8(1) | 14(1) | | |
| EventCntB.04: | 8(1) | 14(1) | | |
| EventCntB.05: | 8(1) | 14(1) | | |
| EventCntB.06: | 8(1) | 14(1) | | |
| EventCntB.07: | 8(1) | 14(1) | | |
| EventCntB.08: | 9(1) | 14(1) | | |
| EventCntB.09: | 9(1) | 14(1) | | |
| EventCntB.10: | 9(1) | 14(1) | | |
| EventCntB.11: | 9(1) | 14(1) | | |
| EventCntB.12: | 9(1) | 14(1) | | |
| EventCntB.13: | 9(1) | 14(1) | | |
| EventCntB.14: | 9(1) | 14(1) | | |
| EventCntB.15: | 9(1) | 14(1) | | |
| EventCx: | 13(1) | 14(2) | | |
| EventD!: | 14(1) | | | |
| EventDx: | 14(2) | | | |
| EventE!: | 14(1) | | | |
| EventEx: | 13(1) | 14(1) | | |
| Exception!1%: | 7(1) | | | |
| Exception!2: | 7(4) | | | |
| Exception!3: | 16(1) | 17(1) | | |
| Exception': | 7(2) | | | |
| Exception'%: | 7(2) | | | |
| ExceptionDispatch: | 4(1) | 7(1) | | |
| ExceptionDispatch': | 7(1) | 14(1) | | |
| ExceptionDly: | 16(1) | | | |
| ExtendH: | 2(1) | 8(8) | | |
| FA=1': | 4(1) | | | |
| FA=1'a: | 4(5) | | | |
| FA=1'b: | 4(5) | | | |
| FA=1'c: | 1(2) | 4(5) | | |
| FB=0': | 4(6) | | | |
| FB=2': | 1(1) | 4(1) | | |

| | | | |
|------------------|-------|-------|------|
| FB=3': | 4(3) | | |
| FB=6': | 1(1) | 4(1) | |
| FB=7': | 4(3) | | |
| FC=0': | 4(3) | | |
| FC=1': | 4(3) | | |
| FC=2': | 4(3) | | |
| FC=3': | 4(3) | | |
| FC=4': | 4(4) | | |
| FC=5': | 4(2) | | |
| FC=6': | 4(2) | | |
| FC=7': | 4(2) | | |
| FDv!0: | 2(1) | 3(2) | |
| FDv!1: | 1(3) | 3(1) | |
| FDv!2: | 16(1) | 17(1) | |
| FDv': | 1(1) | 3(1) | |
| FDvDly: | 16(1) | 17(1) | |
| FF.2!: | 4(1) | | |
| FF.3!: | 4(1) | | |
| FF.4!: | 4(1) | | |
| FF.5!: | 4(1) | | |
| FF.6!: | 4(1) | | |
| FF.7!: | 4(1) | | |
| FFault': | 1(2) | 5(1) | |
| FFC1k0'Cb: | 11(1) | | |
| FFC1k0'Cb%: | 18(1) | | |
| FFC1k1'Ca: | 4(1) | | |
| FFC1k1'Ca%: | 18(1) | | |
| FFC1k1'Cb: | 11(1) | | |
| FFC1k1'Cb%: | 18(1) | | |
| FFEnable': | 18(8) | | |
| FFEnable'%: | 18(1) | | |
| FG.0: | 5(1) | | |
| FG.0%: | 5(1) | | |
| FG.1: | 5(1) | | |
| FG.1%: | 5(1) | | |
| FG.2: | 5(1) | | |
| FG.2%: | 5(1) | | |
| FG.3: | 5(1) | | |
| FG.3%: | 5(1) | | |
| FG.4: | 5(1) | | |
| FG.4%: | 5(1) | | |
| FG.5: | 5(1) | | |
| FG.5%: | 5(1) | | |
| FG.6: | 5(1) | | |
| FG.6%: | 5(1) | | |
| FG.7: | 5(1) | | |
| FG.7%: | 5(1) | | |
| FG.8: | 5(1) | | |
| FG.8%: | 5(1) | | |
| FGDv: | 3(2) | | |
| FGDv': | 2(1) | 3(3) | |
| FGErrDly: | 2(2) | 17(1) | |
| FGFault: | 5(1) | 17(1) | |
| FGFault': | 5(2) | 7(1) | |
| FGParityErr'!0: | 2(1) | | |
| FGParityErr'!1: | 2(1) | | |
| FGParityErr'!2%: | | 5(1) | |
| FH: | 3(1) | | |
| FH%: | 18(1) | | |
| FH'!0: | 3(4) | 18(1) | |
| FH'!1%: | 18(1) | | |
| FH'!2: | 1(2) | 2(1) | 3(1) |
| foo.0%: | 5(1) | | |
| foo.1%: | 5(1) | | |
| foo.2%: | 5(1) | | |
| foo.3%: | 5(1) | | |
| foo.4%: | 5(1) | | |
| foo.5%: | 5(1) | | |
| foo.6%: | 5(1) | | |
| foo.7%: | 5(1) | | |
| FullAlpha: | 2(1) | 11(1) | |
| FullAlpha': | 2(2) | | |
| GDv!0: | 17(1) | | |
| GDv!1: | 1(2) | 3(1) | 5(1) |
| GDv!2: | 3(1) | | |
| GDv!3: | 2(1) | 3(2) | |
| GDv!4: | 16(1) | | |

| | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|
| GDv' : | 1(1) | | | | | |
| GDv' %: | 3(1) | | | | | |
| GDv' a: | 3(2) | 5(1) | | | | |
| GDvDly: | 16(1) | 17(1) | | | | |
| GenIn.00: | 13(1) | | | | | |
| GenIn.01: | 13(1) | | | | | |
| GenIn.02: | 13(1) | | | | | |
| GenIn.03: | 13(1) | | | | | |
| GenIn.04: | 13(1) | | | | | |
| GenIn.05: | 13(1) | | | | | |
| GenIn.06: | 13(1) | | | | | |
| GenIn.07: | 13(1) | | | | | |
| GenIn.08: | 13(1) | | | | | |
| GenIn.09: | 13(1) | | | | | |
| GenIn.10: | 13(1) | | | | | |
| GenIn.11: | 13(1) | | | | | |
| GenIn.12: | 13(1) | | | | | |
| GenIn.13: | 13(1) | | | | | |
| GenIn.14: | 13(1) | | | | | |
| GenIn.15: | 13(1) | | | | | |
| GenOut.00: | 14(1) | | | | | |
| GenOut.01: | 14(1) | | | | | |
| GenOut.02: | 14(1) | | | | | |
| GenOut.03: | 14(1) | | | | | |
| GenOut.04: | 14(1) | | | | | |
| GenOut.05: | 14(1) | | | | | |
| GenOut.06: | 14(1) | | | | | |
| GenOut.07: | 14(1) | | | | | |
| GenOut.08: | 14(1) | | | | | |
| GenOut.09: | 14(1) | | | | | |
| GenOut.10: | 14(1) | | | | | |
| GenOut.11: | 14(1) | | | | | |
| GenOut.12: | 14(1) | | | | | |
| GenOut.13: | 14(1) | | | | | |
| GenOut.14: | 14(1) | | | | | |
| GenOut.15: | 14(1) | | | | | |
| GenOut+': | 4(1) | 14(1) | 17(1) | | | |
| GFault': | 1(1) | 5(1) | 16(1) | | | |
| GFaultDly': | 16(1) | 17(1) | | | | |
| GLd': | 3(1) | 11(1) | 16(1) | 17(1) | | |
| GLd' %: | 3(1) | | | | | |
| GLdDly': | 16(1) | 17(1) | | | | |
| Gnd: | 1(1) | 2(1) | 3(1) | 4(1) | 5(1) | 6(1) |
| | 7(1) | 8(1) | 9(1) | 10(1) | 11(1) | 12(1) |
| | 13(1) | 14(1) | 15(1) | 16(1) | 17(1) | 18(1) |
| GND: | 15(1) | | | | | |
| GoodIfuJump: | 13(1) | 14(1) | | | | |
| H.0: | 2(1) | 5(2) | 9(1) | 17(1) | | |
| H.1: | 5(2) | 9(1) | 17(1) | | | |
| H.2: | 5(2) | 9(1) | 17(1) | | | |
| H.3: | 5(2) | 9(1) | 17(1) | | | |
| H.4: | 5(2) | 9(1) | 17(1) | | | |
| H.5: | 5(2) | 9(1) | 17(1) | | | |
| H.6: | 5(2) | 9(1) | 17(1) | | | |
| H.7: | 5(2) | 9(1) | 17(1) | | | |
| HClk1'Ca: | 11(1) | | | | | |
| HClk1'Ca%: | 18(1) | | | | | |
| HClk1'Cb: | 11(1) | | | | | |
| HClk1'Cb%: | 18(1) | | | | | |
| HDv: | 1(1) | 2(1) | 3(3) | 16(1) | 17(1) | 18(1) |
| HDv': | 1(3) | 2(1) | | | | |
| HDv' %: | 3(1) | | | | | |
| HDvDly: | 16(1) | 17(1) | | | | |
| HFault': | 5(2) | 7(1) | 17(1) | | | |
| Hold: | 13(1) | 14(2) | | | | |
| IfuAck: | 1(1) | | | | | |
| IfuAddr.04'!: | 7(1) | | | | | |
| IfuAddr.05'!: | 7(1) | | | | | |
| IfuAddr.06'!: | 7(1) | | | | | |
| IfuAddr.07'!: | 7(1) | | | | | |
| IfuAddr.08'!: | 7(1) | | | | | |
| IfuAddr.09'!: | 7(1) | | | | | |
| IfuAddr.10'!: | 7(1) | | | | | |
| IfuAddr.11'!: | 7(1) | | | | | |
| IfuAddr.12'!: | 7(1) | | | | | |
| IfuAddr.13'!: | 7(1) | | | | | |

| | | | | | |
|--------------------|-------|-------|--------|--------|-------|
| IfuAWantsDifHit'!: | 14(1) | | | | |
| IfuBMux.00: | 5(2) | 8(1) | | | |
| IfuBMux.01: | 5(2) | 8(1) | | | |
| IfuBMux.02: | 5(2) | 8(1) | | | |
| IfuBMux.03: | 5(2) | 8(1) | | | |
| IfuBMux.04: | 5(2) | 8(1) | | | |
| IfuBMux.05: | 5(2) | 8(1) | | | |
| IfuBMux.06: | 5(2) | 8(1) | | | |
| IfuBMux.07: | 5(2) | 8(1) | | | |
| IfuBMux.08: | 9(1) | | | | |
| IfuBMux.09: | 1(1) | 9(1) | | | |
| IfuBMux.10: | 1(1) | 9(1) | | | |
| IfuBMux.11: | 4(1) | 9(1) | | | |
| IfuBMux.12: | 4(1) | 9(1) | | | |
| IfuBMux.13: | 4(1) | 9(1) | | | |
| IfuBMux.14: | 4(1) | 9(1) | | | |
| IfuBMux.15: | 9(1) | | | | |
| IfuData.0!: | 5(1) | | | | |
| IfuData.1!: | 5(1) | | | | |
| IfuData.2!: | 5(1) | | | | |
| IfuData.3!: | 5(1) | | | | |
| IfuData.4!: | 5(1) | | | | |
| IfuData.5!: | 5(1) | | | | |
| IfuData.6!: | 5(1) | | | | |
| IfuData.7!: | 5(1) | | | | |
| IfuFaultInEc2: | 1(1) | | | | |
| IfuFF.5: | 4(3) | | | | |
| IfuFF.6: | 4(2) | 11(8) | | | |
| IfuFF.7: | 4(2) | 11(8) | | | |
| IfuHold!1: | 3(1) | | | | |
| IfuHold!2: | 3(1) | | | | |
| IfuHold!3: | 3(1) | | | | |
| IfuHold!4%: | 3(1) | | | | |
| IfuMakeF+D: | 1(3) | | | | |
| IfuMakeF+D': | 1(3) | | | | |
| IfuMemAck: | 1(3) | | | | |
| IfuMemAck': | 1(2) | | | | |
| IfuMemRef: | 14(2) | | | | |
| IfuNextData': | 3(3) | | | | |
| IfuNextMacro': | 3(4) | | | | |
| IfuNextMacro'%: | 3(1) | | | | |
| IfuRBaseSel': | 6(1) | | | | |
| IfuReset: | 1(4) | 3(1) | 4(1) | 17(1) | |
| IfuReset1: | 3(1) | 4(4) | 10(1) | | |
| IfuStartMap'!: | 14(1) | | | | |
| IfuTempSense: | 17(1) | | | | |
| IfuTempSense!: | 15(1) | | | | |
| IfuTrue: | 1(1) | 2(2) | 3(3) | 4(1) | 10(4) |
| | 13(1) | 14(2) | 18(1) | | 11(9) |
| IfuTrueb: | 11(1) | | | | |
| IncPcF: | 1(1) | 17(1) | | | |
| IncPcF': | 1(1) | 10(1) | | | |
| IncPcFG'!0: | 10(1) | | | | |
| IncPcFG'!1: | 10(2) | | | | |
| IncPcFG'!1%: | 10(1) | | | | |
| IncPcFG'!2: | 1(1) | 3(1) | | | |
| IncPcFG'!3: | 10(1) | 16(1) | 17(1) | | |
| IncPcFGDly': | 16(1) | 17(1) | | | |
| InstrAddrK.0': | 6(2) | 7(1) | 8(1) | | |
| InstrAddrK.1': | 6(2) | 7(1) | 8(1) | | |
| InstrAddrK.2': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.3': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.4': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.5': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.6': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.7': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.8': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrK.9': | 6(2) | 7(1) | 9(1) | | |
| InstrAddrLd: | 3(1) | 14(1) | 17(1) | | |
| InstrAddrLd': | 7(6) | | | | |
| InstrAddrLd'%: | 3(1) | | | | |
| InstrSet.0a: | 4(1) | 7(1) | 12(15) | | |
| InstrSet.0b: | 4(1) | 8(1) | 9(1) | 12(12) | 17(1) |
| InstrSet.1a: | 4(1) | 7(1) | 12(15) | | |
| InstrSet.1b: | 4(1) | 8(1) | 12(12) | 17(1) | |
| InstrSetLd': | 4(2) | | | | |

| | | | | | |
|-------------------|-------|-------|-------|------|-------------|
| InstrSetOrJunk←': | 4(3) | | | | |
| IOReset!: | 15(1) | | | | |
| J.0a: | 5(1) | 12(7) | | | |
| J.0b: | 5(1) | 12(6) | 17(1) | | |
| J.0c: | 5(1) | 12(7) | | | |
| J.0d: | 5(1) | 12(7) | | | |
| J.1a: | 5(1) | 12(7) | | | |
| J.1b: | 5(1) | 12(6) | 17(1) | | |
| J.1c: | 5(1) | 12(7) | | | |
| J.1d: | 5(1) | 12(7) | | | |
| J.2a: | 5(1) | 12(7) | | | |
| J.2b: | 5(1) | 12(6) | 17(1) | | |
| J.2c: | 5(1) | 12(7) | | | |
| J.2d: | 5(1) | 12(7) | | | |
| J.3a: | 5(1) | 12(7) | | | |
| J.3b: | 5(1) | 12(6) | 17(1) | | |
| J.3c: | 5(1) | 12(7) | | | |
| J.3d: | 5(1) | 12(7) | | | |
| J.4a: | 5(1) | 12(7) | | | |
| J.4b: | 5(1) | 12(6) | 17(1) | | |
| J.4c: | 5(1) | 12(7) | | | |
| J.4d: | 5(1) | 12(7) | | | |
| J.5a: | 5(1) | 12(7) | | | |
| J.5b: | 5(1) | 12(6) | 17(1) | | |
| J.5c: | 5(1) | 12(7) | | | |
| J.5d: | 5(1) | 12(7) | | | |
| J.6a: | 5(1) | 12(7) | | | |
| J.6b: | 5(1) | 12(6) | 17(1) | | |
| J.6c: | 5(1) | 12(7) | | | |
| J.6d: | 5(1) | 12(7) | | | |
| J.7a: | 5(1) | 12(7) | | | |
| J.7b: | 5(1) | 12(6) | 17(1) | | |
| J.7c: | 5(1) | 12(7) | | | |
| J.7d: | 5(1) | 12(7) | | | |
| JDv: | 3(3) | 17(1) | | | |
| JDv': | 1(1) | 2(1) | 3(3) | | |
| JFault: | 3(1) | 5(1) | 17(1) | | |
| JFault': | 2(1) | 5(1) | | | |
| JLd'a!0: | 11(4) | | | | |
| JLd'a!1%: | 3(1) | | | | |
| JLd'a!2: | 2(1) | 11(4) | | | |
| JLd'b!0: | 2(1) | 10(2) | | | |
| JLd'b!1%: | 3(1) | | | | |
| JLd'b!2: | 10(2) | 11(1) | | | |
| JLd'b!2%: | 10(1) | | | | |
| JLda: | 3(2) | 17(1) | | | |
| JLdb: | 2(1) | 3(1) | | | |
| JunkTW!: | 15(1) | | | | |
| J←H: | 1(1) | 2(1) | 3(2) | 5(2) | 10(1) 11(1) |
| J←H%: | 1(1) | | | | |
| J←H': | 2(1) | 5(1) | | | |
| J←H' %: | 1(1) | | | | |
| J←OddF: | 3(1) | 17(1) | | | |
| J←OddF': | 3(4) | | | | |
| KillResponse: | 1(1) | 3(1) | 17(1) | | |
| KReady: | 2(2) | 16(1) | 17(1) | | |
| KReady'!0: | 2(1) | 3(3) | 7(1) | | |
| KReady'!1: | 2(1) | | | | |
| KReady'!2: | 1(1) | 2(1) | | | |
| KReady'!3: | 2(1) | | | | |
| KReady'!4: | 1(1) | | | | |
| KReadyDly: | 16(1) | 17(1) | | | |
| LengthK.0: | 6(1) | 17(1) | | | |
| LengthK.0': | 2(2) | 6(2) | 8(1) | | |
| LengthK.1: | 2(1) | 6(1) | 17(1) | | |
| LengthK.1'!0: | 8(1) | | | | |
| LengthK.1'!1: | 6(1) | 11(2) | | | |
| LengthK.1'!2: | 6(1) | | | | |
| LengthK.1'!3: | 1(2) | 2(1) | 6(1) | | |
| LengthM.0: | 2(1) | 6(1) | 17(1) | | |
| LengthM.1: | 2(1) | 6(1) | 17(1) | | |
| LengthM=3': | 2(1) | 6(1) | | | |
| LengthX.0: | 5(1) | 6(1) | 17(1) | | |
| LengthX.1: | 5(1) | 6(1) | 17(1) | | |
| LengthX=3': | 3(1) | 6(1) | | | |
| MakeF←D: | 1(1) | | | | |

| | | | | | |
|------------------|-------|-------|-------|-------|-------|
| MAR.00'!: | 8(1) | | | | |
| MAR.01'!: | 8(1) | | | | |
| MAR.02'!: | 8(1) | | | | |
| MAR.03'!: | 8(1) | | | | |
| MAR.04'!: | 8(1) | | | | |
| MAR.05'!: | 8(1) | | | | |
| MAR.06'!: | 8(1) | | | | |
| MAR.07'!: | 8(1) | | | | |
| MAR.08'!: | 8(1) | | | | |
| MAR.09'!: | 9(1) | | | | |
| MAR.10'!: | 9(1) | | | | |
| MAR.11'!: | 9(1) | | | | |
| MAR.12'!: | 9(1) | | | | |
| MAR.13'!: | 9(1) | | | | |
| MAR.14'!: | 9(1) | | | | |
| MAR.15'!: | 9(1) | | | | |
| Mar←PcF': | 1(1) | 8(4) | | | |
| MC1k0'Ca: | 11(3) | | | | |
| MC1k0'Ca%: | 18(1) | | | | |
| MC1k0'Cb: | 11(2) | | | | |
| MC1k0'Cb%: | 18(1) | | | | |
| MC1k0'Cc: | 11(2) | | | | |
| MC1k0'Cc%: | 18(1) | | | | |
| MDv': | 1(2) | 2(1) | 3(2) | 7(1) | 17(1) |
| MemBK.0: | 6(2) | 9(1) | | | |
| MemBK.1: | 6(2) | 9(1) | | | |
| MemBK34: | 6(2) | 8(1) | | | |
| MemBM.0!: | 6(1) | | | | |
| MemBM.1!: | 6(1) | | | | |
| MemBM34!: | 6(1) | | | | |
| MemC1kEn'a: | 18(1) | | | | |
| MemC1kEn'a!%: | 18(1) | | | | |
| MemSH!%: | 18(1) | | | | |
| MidasGroup0': | 16(1) | 17(2) | | | |
| MidasGroup1': | 16(1) | 17(2) | | | |
| MightBeJump: | 1(1) | 2(1) | 3(3) | | |
| MightBeJump': | 2(2) | | | | |
| Miss: | 13(1) | 14(2) | | | |
| MLd: | 7(1) | 17(1) | | | |
| MLd%: | 3(1) | | | | |
| MLd'!0: | 3(3) | | | | |
| MLd'!1: | 18(1) | | | | |
| MLd'!1%: | 3(1) | | | | |
| MLd'!2: | 1(2) | | | | |
| MLdDly': | 2(2) | 3(1) | 17(1) | | |
| MuxData0: | 16(1) | 17(2) | | | |
| MuxData1: | 16(1) | 17(2) | | | |
| MuxData2: | 16(1) | 17(2) | | | |
| MuxData3: | 16(1) | 17(2) | | | |
| MuxData4: | 16(1) | 17(2) | | | |
| MuxData5: | 16(1) | 17(2) | | | |
| MuxData6: | 16(1) | 17(2) | | | |
| MuxData7: | 16(1) | 17(2) | | | |
| NewF: | 1(2) | 14(1) | 17(1) | | |
| NewF': | 1(5) | 3(1) | | | |
| NewGo: | 2(3) | 3(2) | 4(1) | 17(1) | |
| NewGo': | 2(1) | 3(1) | 4(1) | | |
| NewGoOrNoM: | 3(2) | | | | |
| NewGoOrNoM': | 3(2) | | | | |
| NewJ: | 2(1) | 17(1) | | | |
| NewJ': | 2(2) | 3(1) | | | |
| NewPc1: | 4(4) | | | | |
| NewPc←: | 1(2) | 3(1) | 4(1) | 17(1) | |
| NextBeta': | 3(4) | | | | |
| NextData': | 3(1) | | | | |
| NextDataCount.0: | | 2(1) | 8(1) | | |
| NextDataCount.1: | | 2(1) | 8(1) | | |
| NextDataCount.2: | | 2(1) | 8(1) | | |
| NK.0: | 6(3) | 9(2) | | | |
| NK.0!1: | 17(1) | | | | |
| NK.1: | 6(3) | 9(2) | | | |
| NK.1!1: | 17(1) | | | | |
| NK.2: | 6(3) | 9(2) | | | |
| NK.2!1: | 17(1) | | | | |
| NK.3: | 6(3) | 9(2) | | | |
| NK.3!1: | 17(1) | | | | |

| | | | |
|-------------------|-------|-------|-------|
| NM=17: | 2(1) | 6(1) | 17(1) |
| NotReadyJump: | 14(2) | | |
| NX.0: | 5(1) | 6(1) | 17(1) |
| NX.1: | 5(1) | 6(1) | 17(1) |
| NX.2: | 5(1) | 6(1) | 17(1) |
| NX.3: | 5(1) | 6(1) | 17(1) |
| OneByteJumpInJ: | 2(1) | 3(2) | 17(1) |
| OneByteJumpInJ': | | 2(1) | 3(1) |
| OneByteJumpInJd: | | 2(1) | 17(1) |
| OneByteJumpInJd': | | 2(1) | 3(1) |
| Pause: | 1(3) | | 17(1) |
| PcF.08: | 8(1) | | 17(1) |
| PcF.09: | 9(1) | | 17(1) |
| PcF.10: | 9(1) | | 17(1) |
| PcF.11: | 9(1) | | 17(1) |
| PcF.12: | 9(1) | | 17(1) |
| PcF.13: | 9(1) | | 17(1) |
| PcF.14: | 9(1) | | 17(1) |
| PcF.15: | 9(1) | | 17(1) |
| PcFG.15%: | 9(1) | | |
| PcFG.15': | 3(4) | 9(1) | |
| PcFGCO.12': | 10(3) | | |
| PcFGCO.8': | 10(2) | | |
| PcFGLd': | 3(1) | 10(5) | |
| PcJ.08: | 9(1) | | 17(1) |
| PcJ.09: | 9(1) | | 17(1) |
| PcJ.10: | 9(1) | | 17(1) |
| PcJ.11: | 9(1) | | 17(1) |
| PcJ.12: | 9(1) | | 17(1) |
| PcJ.13: | 9(1) | | 17(1) |
| PcJ.14: | 9(1) | | 17(1) |
| PcJ.15: | 9(1) | | 17(1) |
| PcJCO.12': | 10(3) | | |
| PcJCO.8': | 10(2) | | |
| PcJLd': | 10(1) | | |
| Pendulum!: | 15(1) | | |
| PipeClkEn': | 18(7) | | |
| PipeClkEn'%: | 18(1) | | |
| preClk0'Aa: | 18(1) | | |
| preClk0'Aa%: | 18(1) | | |
| preClk0'Ab: | 18(1) | | |
| preClk0'Ab%: | 18(1) | | |
| preClk0'B: | 18(2) | | |
| preClk0'B%: | 18(1) | | |
| preClk0'Ca: | 18(1) | | |
| preClk0'Ca%: | 18(1) | | |
| preClk0'Cb: | 18(2) | | |
| preClk0'Cb%: | 18(1) | | |
| preClk0'D: | 18(2) | | |
| preClk0'D%: | 18(1) | | |
| preClk1'A: | 18(1) | | |
| preClk1'A%: | 18(1) | | |
| preClk1'B: | 18(2) | | |
| preClk1'B%: | 18(1) | | |
| preClk1'Ca: | 18(2) | | |
| preClk1'Ca%: | 18(1) | | |
| preClk1'Cb: | 18(1) | | |
| preClk1'Cb%: | 18(1) | | |
| preClk1'Cc: | 18(1) | | |
| preClk1'Cc%: | 18(1) | | |
| preClk1'D: | 18(1) | | |
| preClk1'D%: | 18(1) | | |
| preDb1Clk'A: | 18(1) | | |
| preDb1Clk'A%: | 18(1) | | |
| preDb1Clk'C: | 18(1) | | |
| preDb1Clk'C%: | 18(1) | | |
| preDb1Clk'D: | 18(1) | | |
| preDb1Clk'D%: | 18(1) | | |
| PreFH: | 18(3) | | |
| PreFH%: | 18(1) | | |
| prepreDb1Clk'X%: | | 18(1) | |
| prepreDb1Clk'Y%: | | 18(1) | |
| prepreDb1Clk'Z%: | | 18(1) | |
| prepreFH'%: | 18(1) | | |
| PreSH: | 18(3) | | |
| PreSH%: | 18(1) | | |

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| PreSH': | 18(1) | | | | |
| PreSH'%: | 18(1) | | | | |
| ProcEnable': | 3(6) | | | | |
| ProcEnable'%: | 18(1) | | | | |
| ProcMemRef: | 13(1) | 14(1) | | | |
| RamErrDly: | 2(2) | 17(1) | | | |
| RamParity.0: | 6(2) | 8(1) | | | |
| RamParity.1: | 6(2) | 8(1) | | | |
| RamParity.2: | 6(2) | 8(1) | | | |
| RamPe: | 2(1) | | | | |
| RamPe%: | 6(1) | | | | |
| RBaseSelK': | 6(2) | 8(1) | | | |
| RcvdBmux.00: | 4(1) | 6(1) | 8(1) | 14(1) | |
| RcvdBmux.00': | 4(1) | 8(1) | | | |
| RcvdBmux.01: | 6(1) | 8(1) | 14(1) | | |
| RcvdBmux.02: | 6(1) | 8(1) | 14(1) | | |
| RcvdBmux.03: | 6(1) | 8(1) | | | |
| RcvdBmux.03%: | 14(1) | | | | |
| RcvdBmux.04: | 6(1) | 8(1) | 13(1) | 14(1) | |
| RcvdBmux.05: | 6(2) | 8(1) | 14(1) | | |
| RcvdBmux.05%: | 14(1) | | | | |
| RcvdBmux.06: | 4(1) | 6(2) | 8(1) | 14(1) | |
| RcvdBmux.07: | 4(1) | 6(2) | 8(1) | 14(1) | |
| RcvdBmux.08: | 6(2) | 9(1) | 13(1) | 14(1) | |
| RcvdBmux.09: | 6(2) | 9(1) | 13(1) | 14(1) | |
| RcvdBmux.10: | 6(2) | 9(1) | 13(1) | 14(1) | |
| RcvdBmux.11: | 6(2) | 9(1) | 13(1) | 14(1) | |
| RcvdBmux.12: | 6(2) | 9(1) | 14(2) | | |
| RcvdBmux.13: | 6(2) | 9(1) | 14(2) | | |
| RcvdBmux.14: | 6(2) | 9(1) | 14(2) | | |
| RcvdBmux.15: | 6(2) | 9(1) | 14(2) | 15(1) | |
| RealJFault: | 1(1) | 2(2) | | | |
| RealPcFG.15: | 1(1) | 9(1) | 17(1) | | |
| RefOutstanding: | 1(3) | 17(1) | | | |
| RefOutstanding': | | 1(3) | | | |
| ReschedPending: | 3(1) | 4(1) | 7(3) | 17(1) | |
| ReschedPending': | | 4(2) | 7(1) | | |
| SawFGParityErr: | 2(1) | 7(1) | 17(1) | | |
| SawFGParityErr%: | | 7(1) | | | |
| SawFGParityErr': | | 2(2) | | | |
| SawRamParityErr: | | 2(1) | 7(1) | 17(1) | |
| SawRamParityErr%: | | 7(1) | | | |
| SawRamParityErr': | | 2(2) | 7(1) | | |
| SayFGParityErrOrHigher%: | | | 7(1) | | |
| SayNotReady: | 2(1) | 3(1) | 7(1) | 14(1) | 17(1) |
| SayNotReadyOrHigher%: | | 7(1) | | | |
| SayRamParityErr%: | | 7(1) | | | |
| SayReschedOrHigher%: | | 7(1) | | | |
| SeeJump: | 2(2) | | | | |
| SeeJump': | 2(2) | | | | |
| SH: | 3(1) | | | | |
| SH%: | 18(1) | | | | |
| SH': | 1(2) | 3(3) | 18(1) | | |
| SH'%: | 18(1) | | | | |
| ShutUp: | 15(1) | | | | |
| SignIfuData: | 2(1) | | | | |
| SignK: | 2(1) | 6(2) | 8(1) | 9(3) | 17(1) |
| SignX': | 2(1) | 6(1) | | | |
| SignX'!2: | 17(1) | | | | |
| SpecClk0'Ba: | 4(1) | 15(1) | | | |
| SpecClk0'Ba%: | 18(1) | | | | |
| SpecClk1'Ba: | 13(1) | | | | |
| SpecClk1'Ba%: | 18(1) | | | | |
| SpecClk1'Bb: | 14(1) | | | | |
| SpecClk1'Bb%: | 18(1) | | | | |
| SpecClk1'Bc: | 14(1) | | | | |
| SpecClk1'Bc%: | 18(1) | | | | |
| SpecClk1'Ca: | 4(1) | | | | |
| SpecClk1'Ca%: | 18(1) | | | | |
| SpecClk1'Cb: | 11(2) | | | | |
| SpecClk1'Cb%: | 18(1) | | | | |
| SpecialSH'Aa: | 11(2) | | | | |
| SpecialSH'Aa%: | 18(1) | | | | |
| SpecialSH'Ab: | 11(1) | | | | |
| SpecialSH'Ab%: | 18(1) | | | | |
| SpecialSH'Ac: | 11(1) | | | | |

| | | | | | |
|------------------|-------|-------|-------|-------|-------|
| SpecialSH'Ac%: | 18(1) | | | | |
| TempRef!: | 15(1) | | | | |
| TestClk1'Ca: | 11(1) | | | | |
| TestClk1'Ca%: | 18(1) | | | | |
| TestClk1'Cb: | 11(1) | | | | |
| TestClk1'Cb%: | 18(1) | | | | |
| TestClk1'Cc: | 11(1) | | | | |
| TestClk1'Cc%: | 18(1) | | | | |
| TestFH': | 4(1) | 18(1) | | | |
| Testing: | 1(3) | 2(1) | 4(1) | 17(1) | 18(1) |
| TestLd': | 4(1) | 18(1) | | | |
| TestMakeF+D: | 1(1) | 4(1) | | | |
| TestMakeF+D!1: | 17(1) | | | | |
| TestSH': | 4(1) | 18(1) | | | |
| Test+: | 4(3) | 17(1) | | | |
| ThreeOutOfFive: | 1(1) | 17(1) | | | |
| TickPeriod': | 4(1) | 18(1) | | | |
| TimeToWake: | 15(1) | | | | |
| TTLHigh: | 13(5) | | | | |
| TurnOffAlu: | 10(4) | 17(1) | | | |
| TurnOffAlu': | 10(5) | | | | |
| TwoAlphaK: | 6(2) | 8(1) | 9(1) | | |
| TwoAlphaK!1: | 17(1) | | | | |
| TwoAlphaM: | 2(1) | 6(1) | 17(1) | | |
| TwoAlphaX: | 2(1) | 6(1) | 17(1) | | |
| TypeJumpK': | 2(1) | 3(1) | 6(2) | 9(1) | 17(1) |
| TypeJumpM': | 2(1) | 6(1) | 17(1) | | |
| TypePauseK': | 1(1) | 6(2) | 9(1) | 17(1) | |
| ValidRam: | 2(1) | 3(1) | 17(1) | | |
| ValidRam': | 1(2) | 2(1) | 6(2) | | |
| ValidRam'%: | 3(1) | | | | |
| VCC: | 13(1) | 15(1) | | | |
| VEE: | 15(1) | | | | |
| WantIfuHold!': | 2(1) | | | | |
| WantIfuHoldDly': | | 2(1) | 3(1) | | |
| WantIfuRef': | 1(1) | 17(1) | | | |
| WantIfuRef'%: | 1(1) | | | | |
| WantResched: | 4(1) | 17(1) | | | |
| Whatever: | 15(2) | | | | |
| XClk0'Aa: | 11(1) | | | | |
| XClk0'Aa%: | 18(1) | | | | |
| XClk0'Ab: | 11(1) | | | | |
| XClk0'Ab%: | 18(1) | | | | |
| XClk0'Ac: | 11(2) | | | | |
| XClk0'Ac%: | 18(1) | | | | |
| XLd: | 2(1) | 3(1) | 6(2) | 14(2) | |
| XLd!2: | 17(1) | | | | |
| XLd'!0%: | 3(1) | | | | |
| XLd'!1: | 4(1) | | | | |
| XLd'!2: | 2(3) | 18(1) | | | |
| XShift': | 2(3) | 3(1) | | | |
| ZapFGH: | 2(1) | 3(3) | 17(1) | | |
| ZapFGH': | 1(1) | 2(1) | 3(1) | 10(1) | |
| ZapJ: | 2(1) | 3(1) | 7(1) | 17(1) | |
| ZapJ': | 2(2) | | | | |
| ZapOrJEmpty': | 1(1) | 3(3) | | | |