DICENTRA SCHEMATICS

16K Writeable Control Store
&
Debugger Interface

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These drawings use the following [SIL] User.cm parameters:

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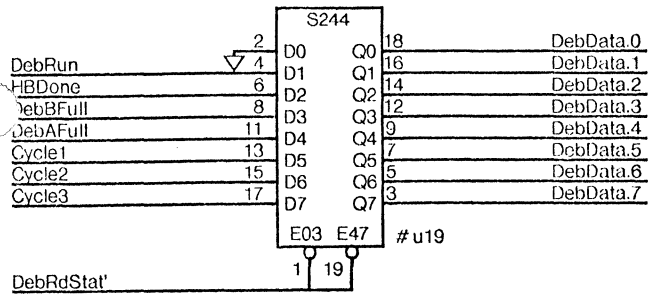

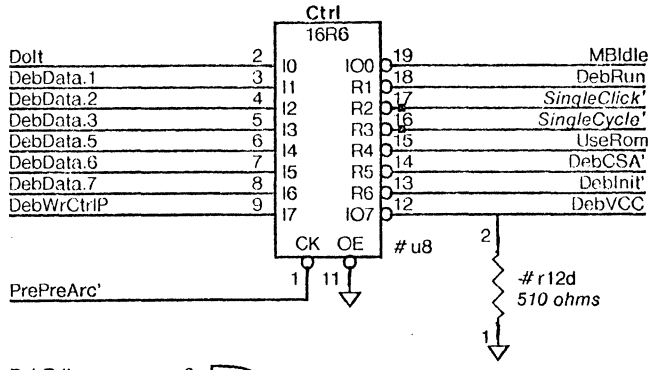

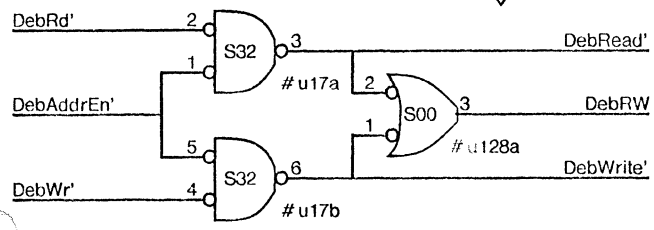

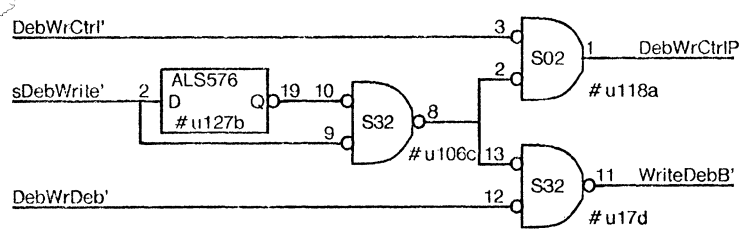

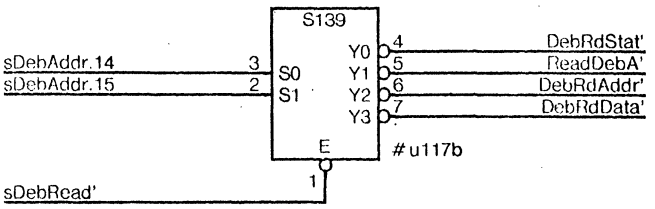

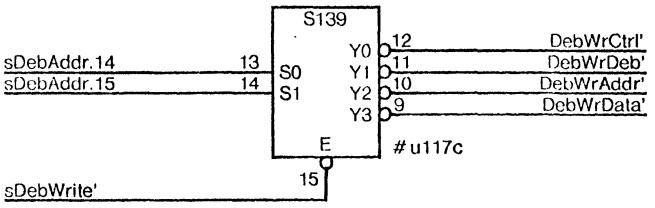

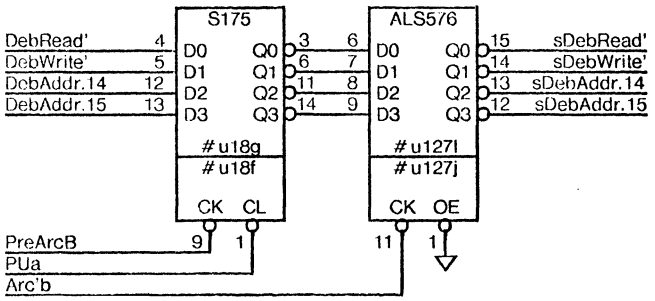

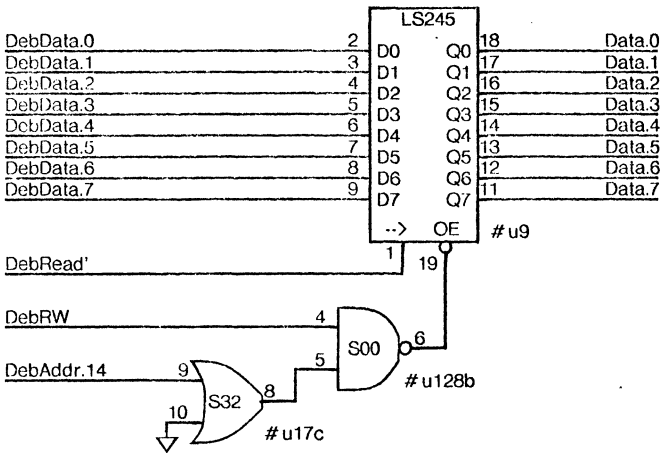

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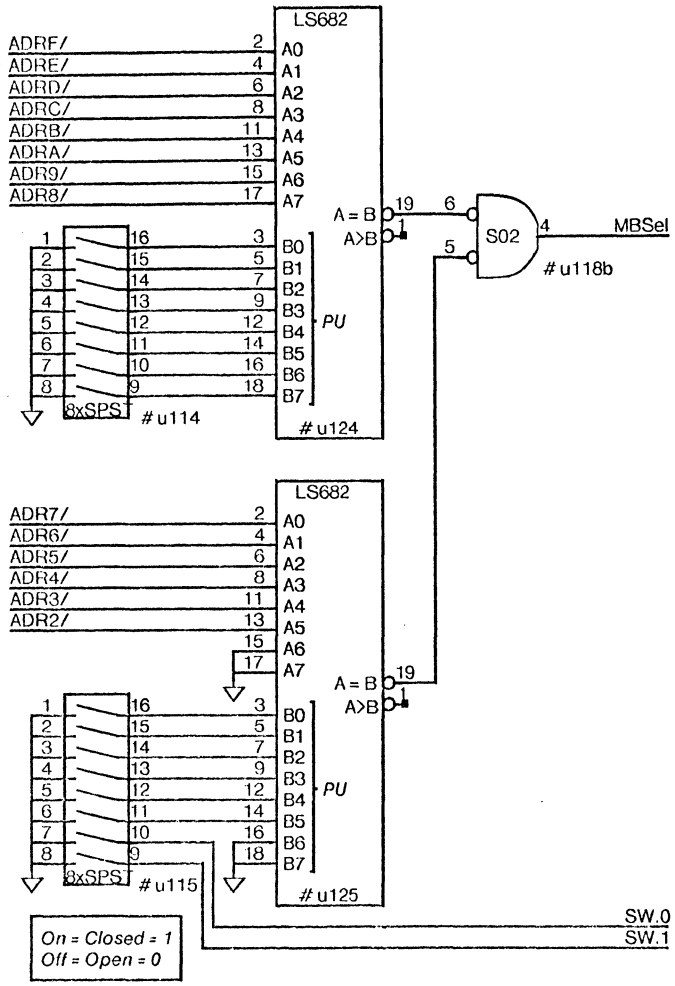

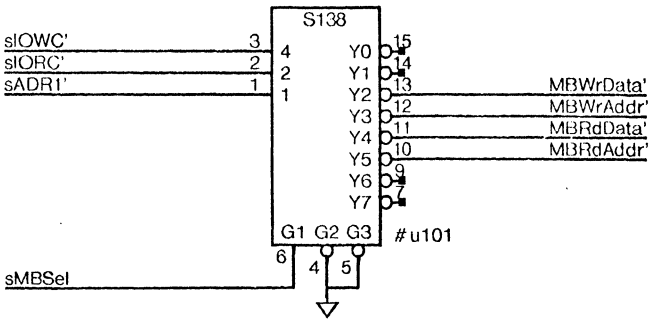

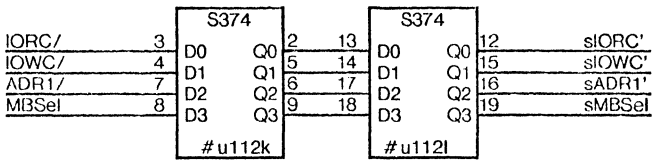

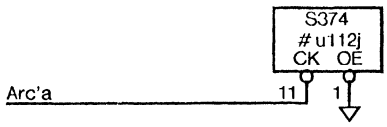

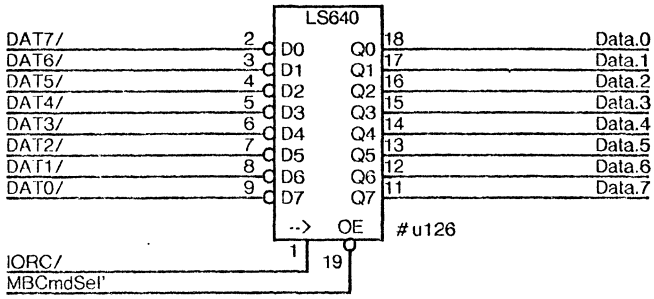

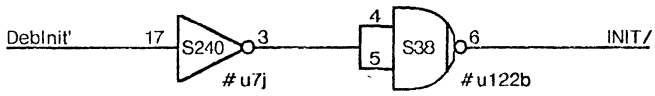

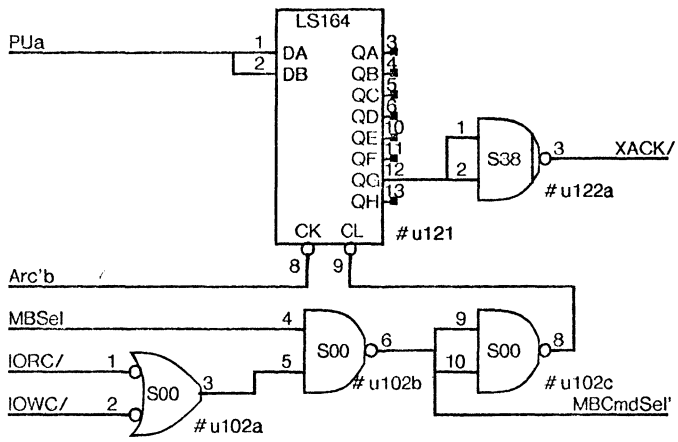

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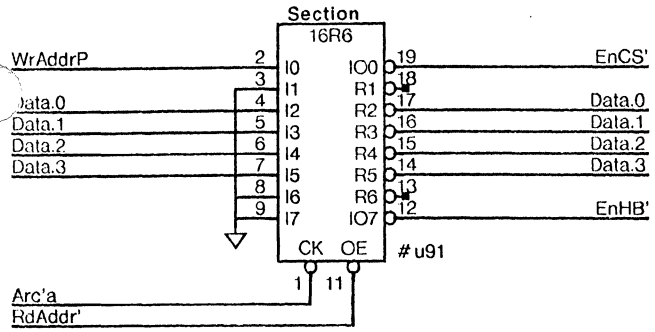

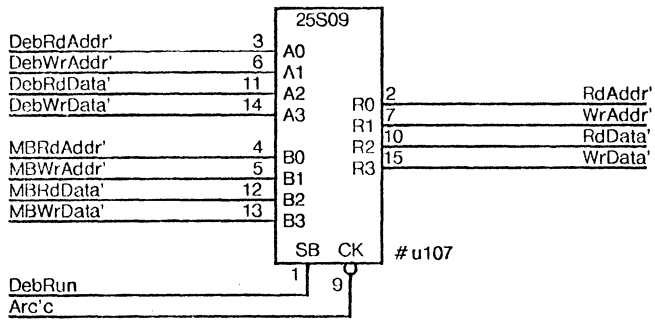

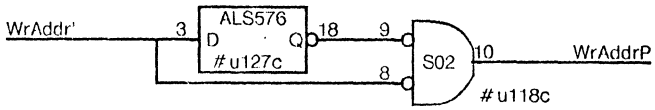

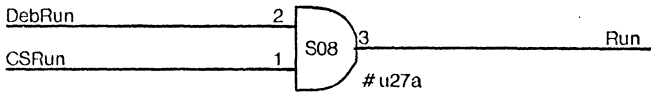

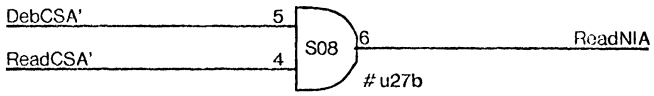

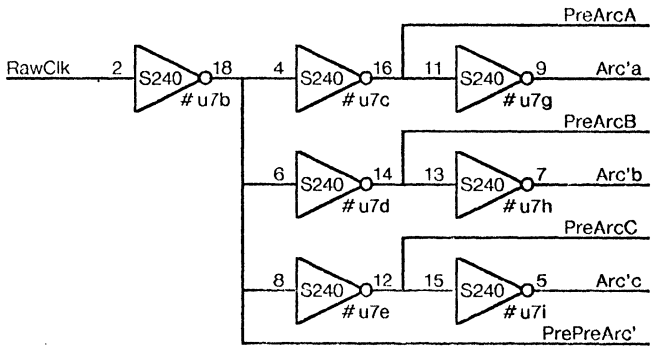

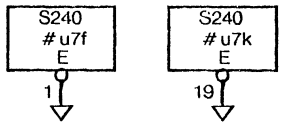

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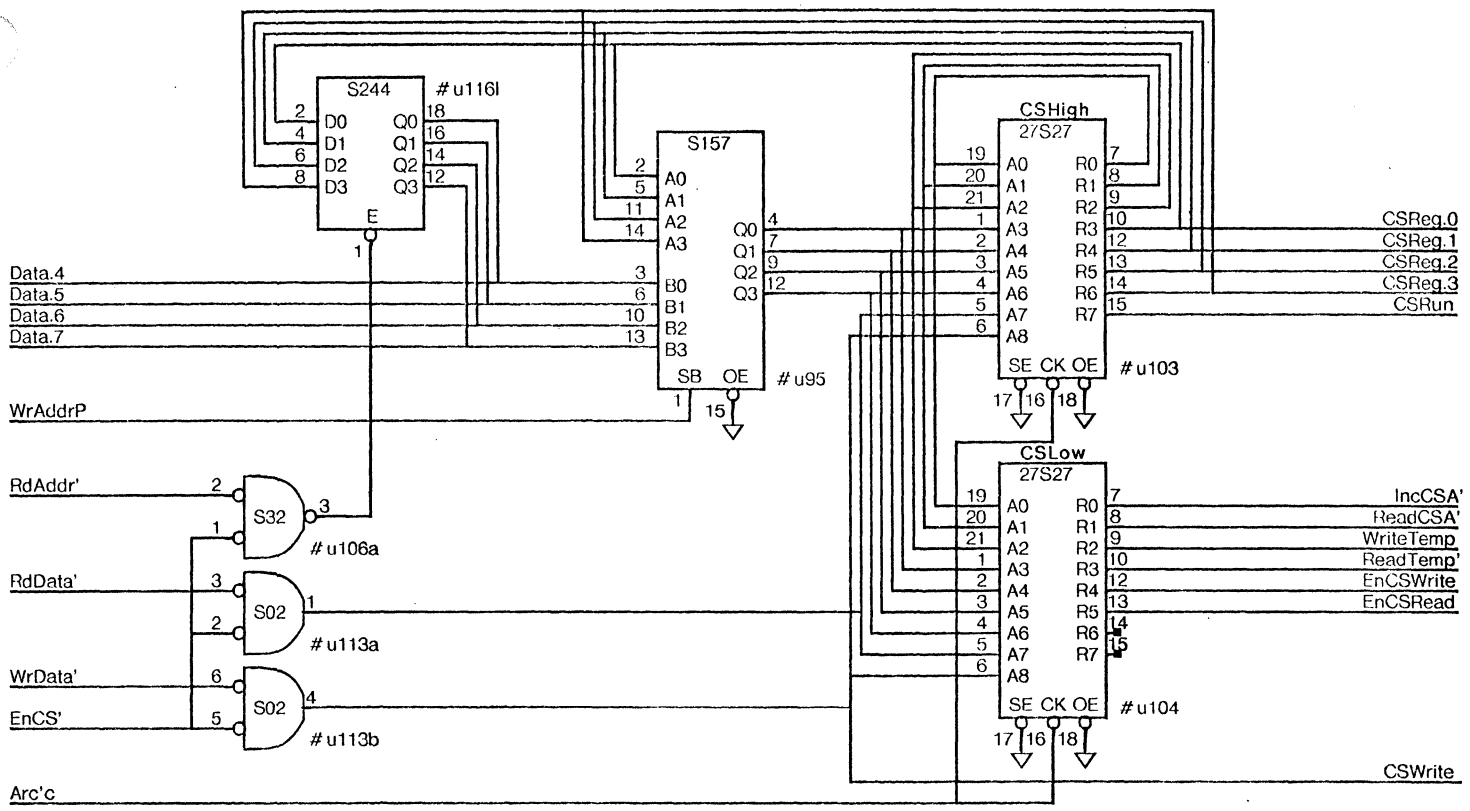

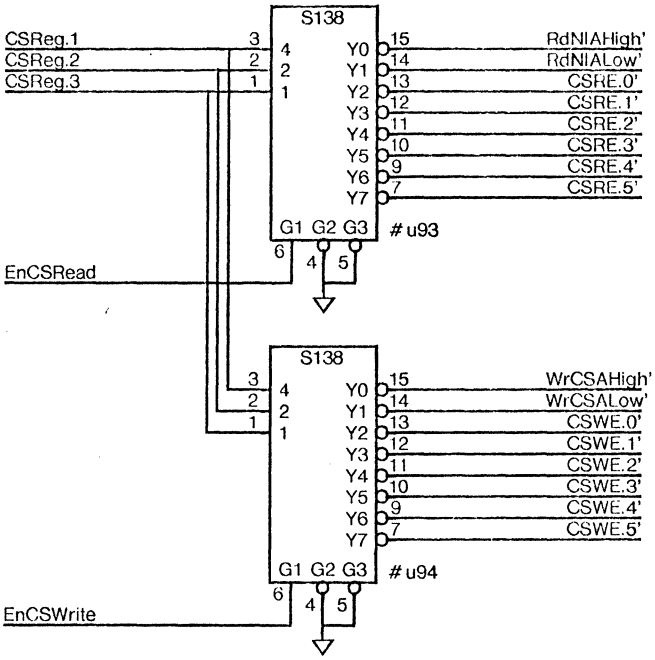

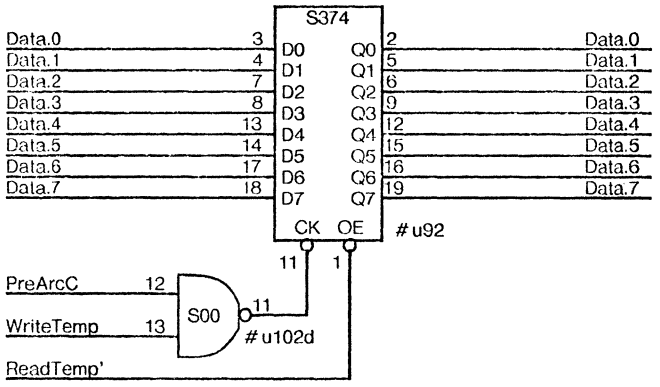

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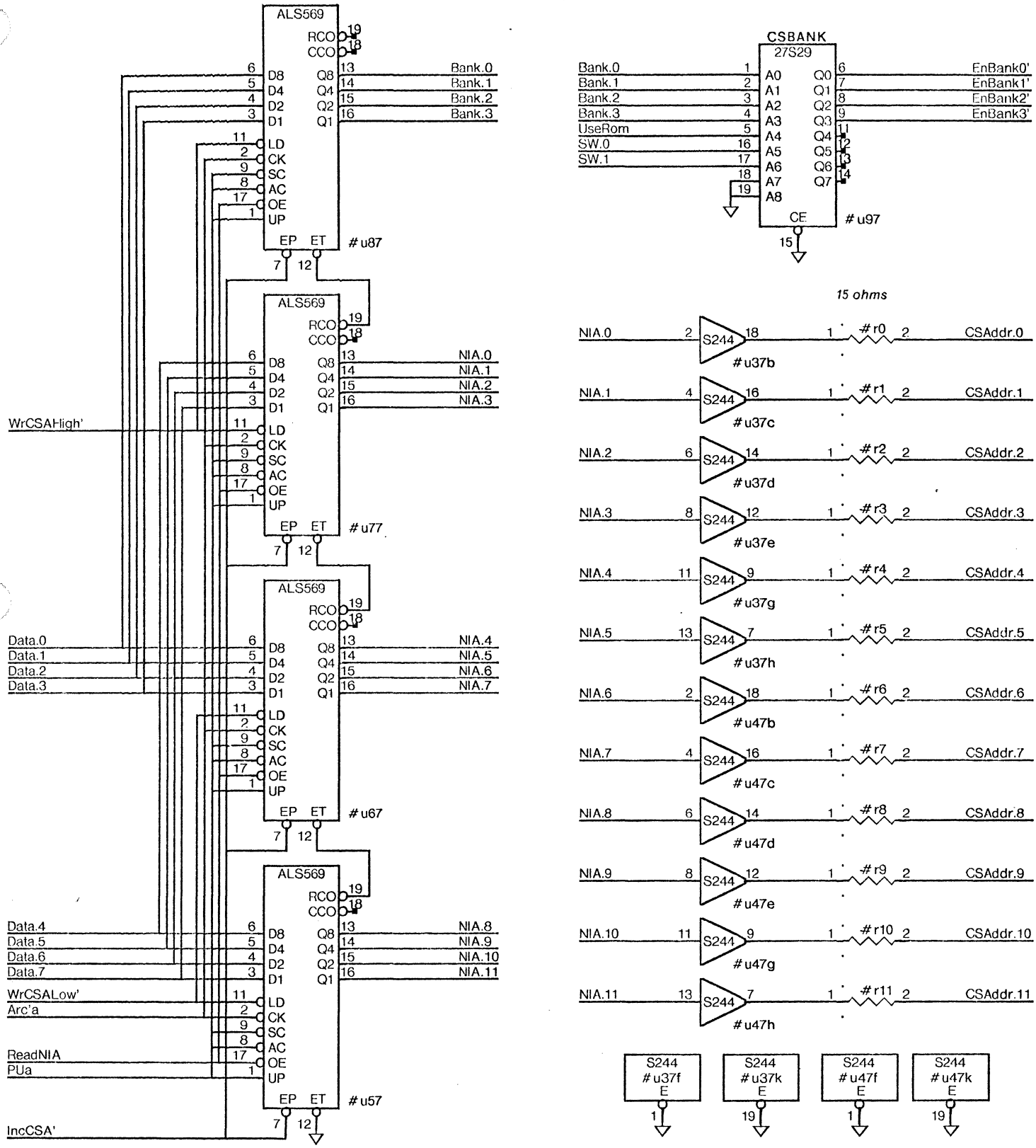

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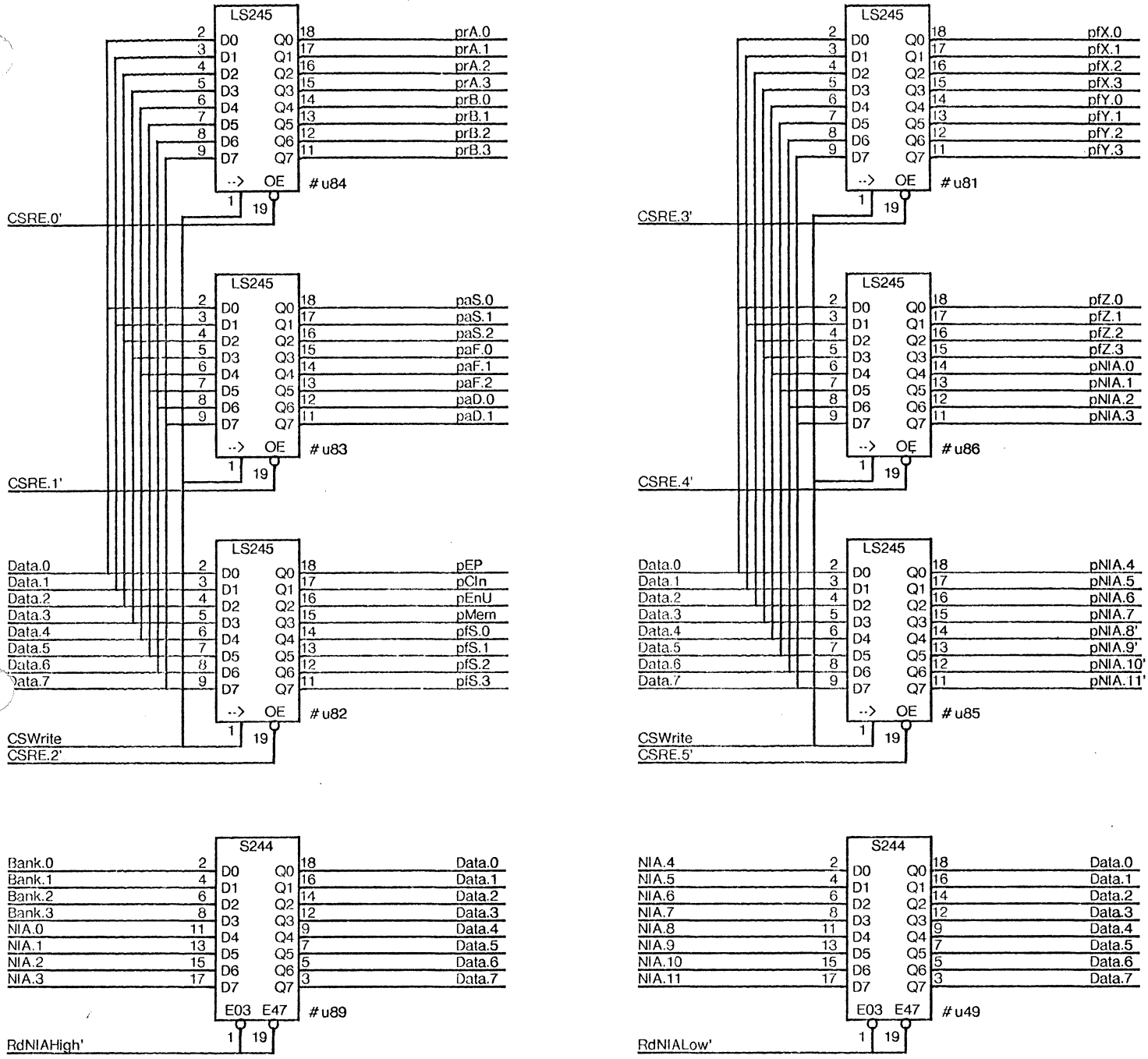

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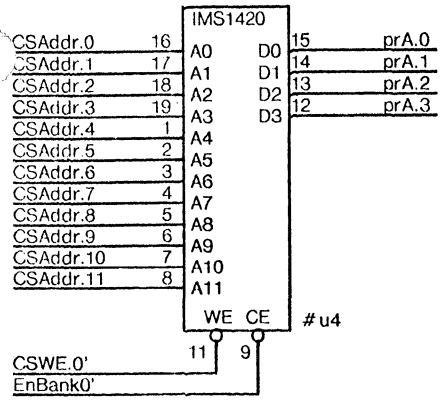

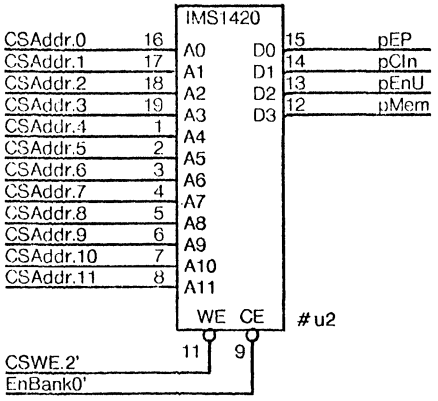

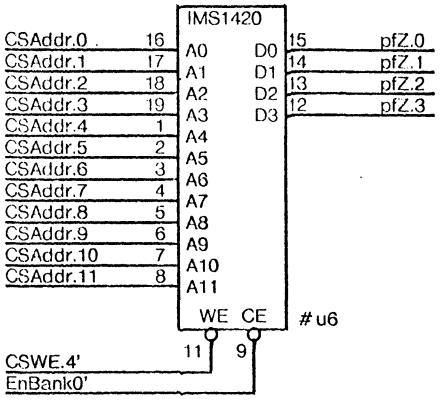

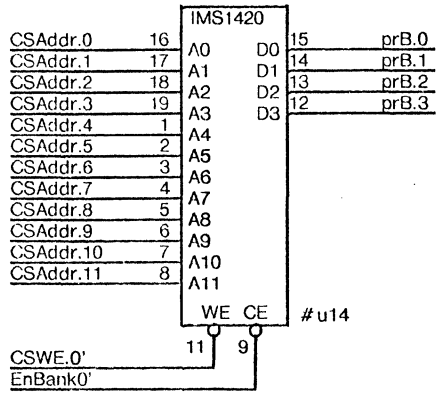

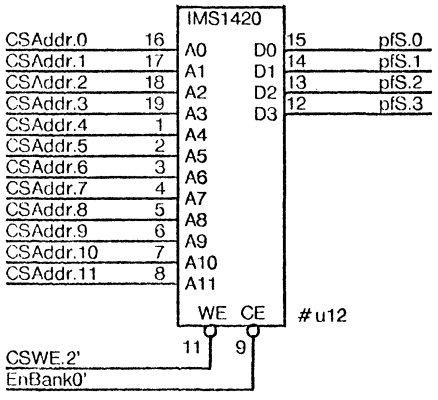

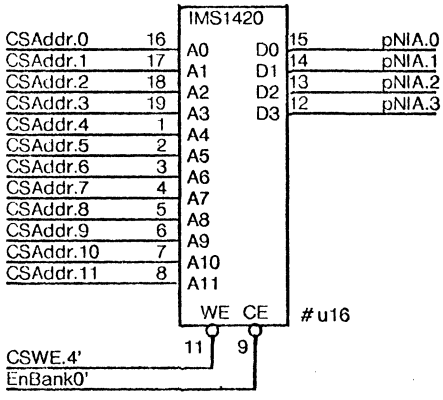

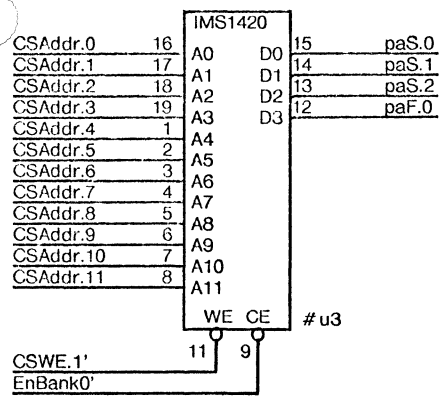

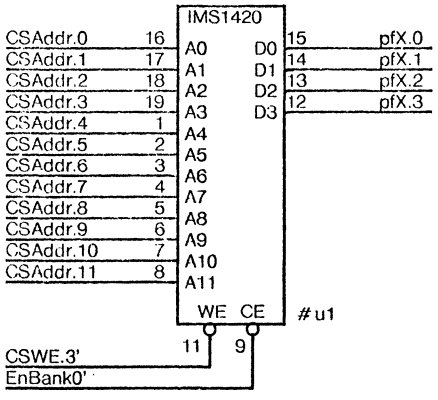

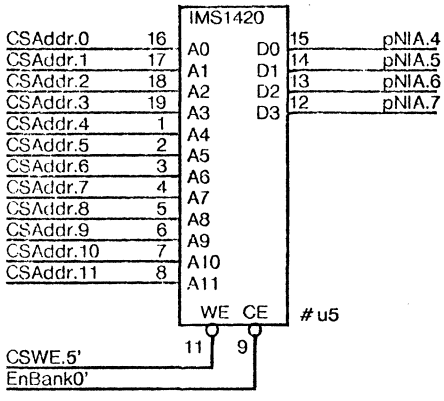

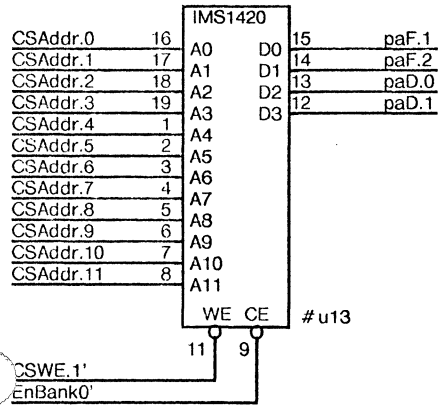

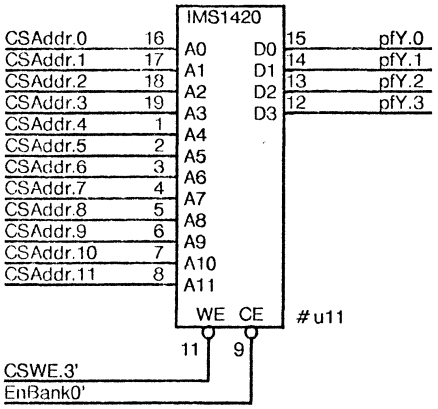

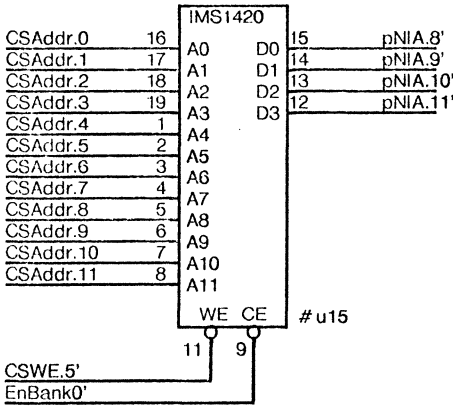

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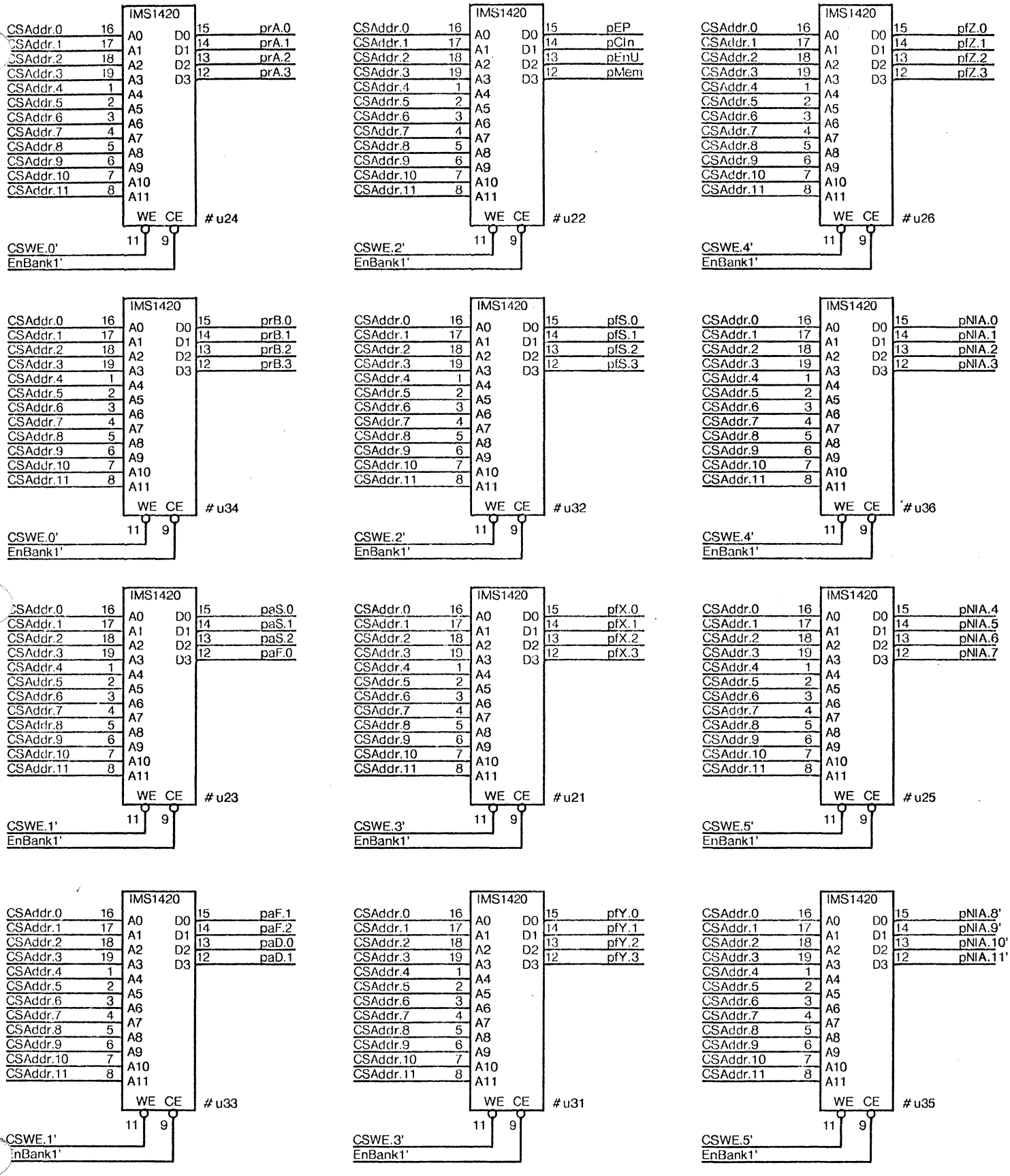

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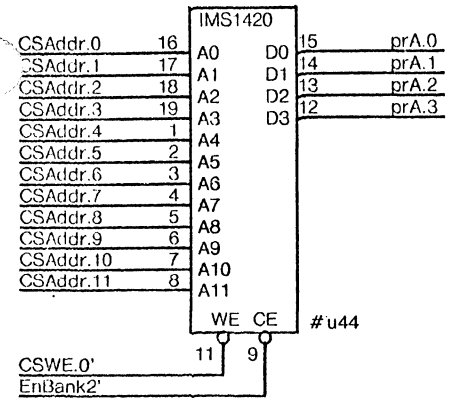

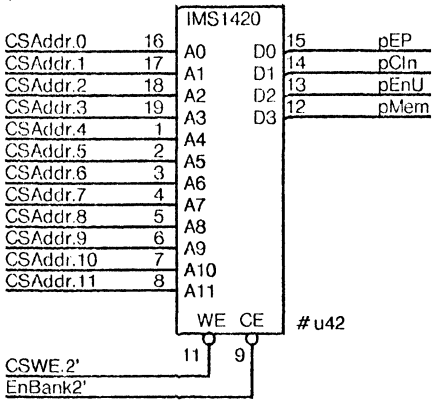

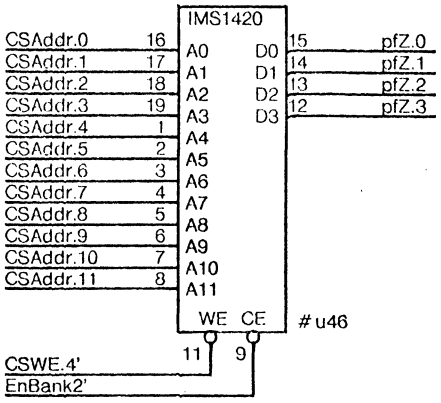

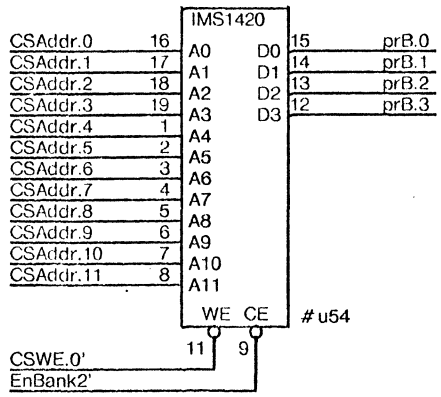

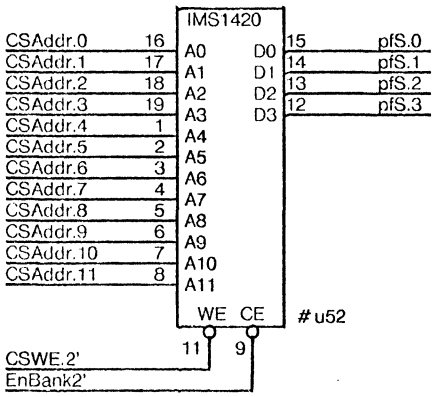

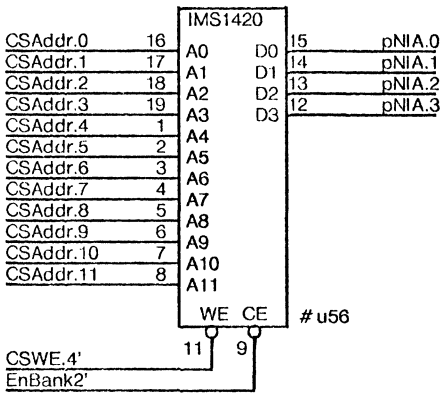

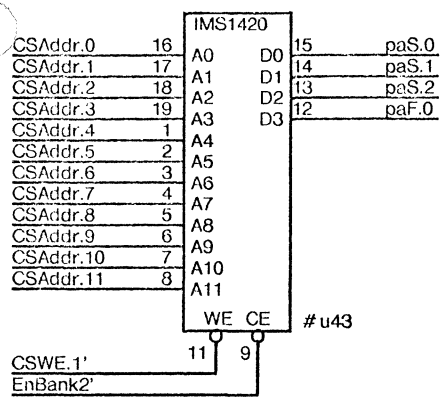

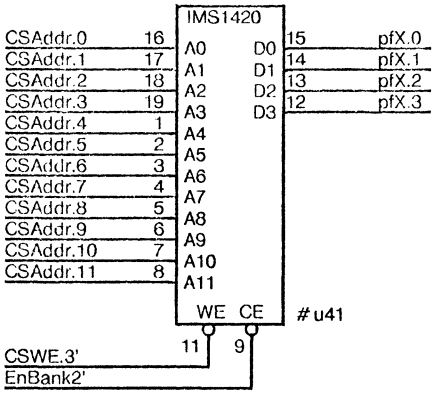

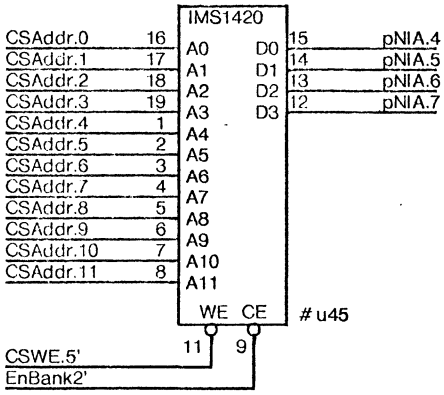

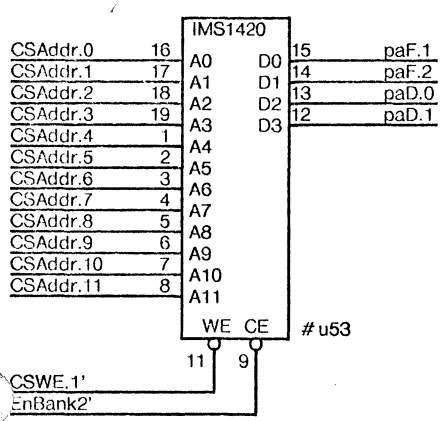

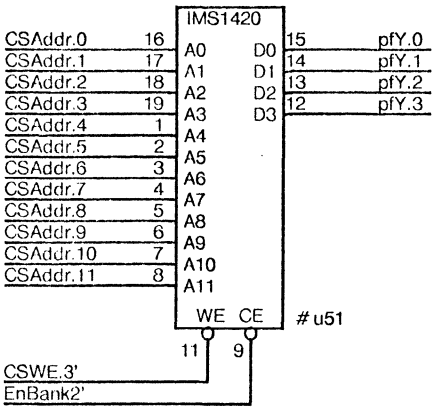

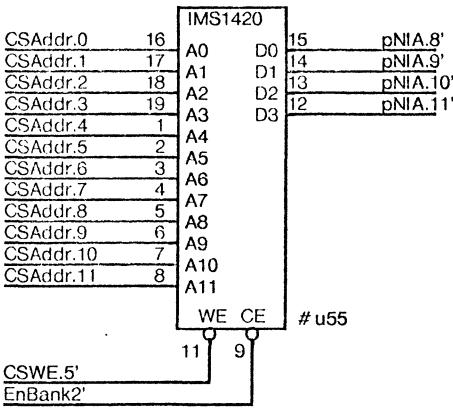

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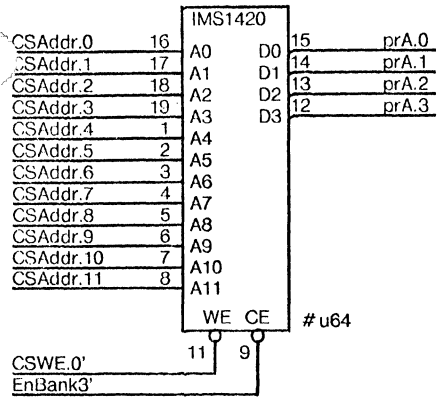
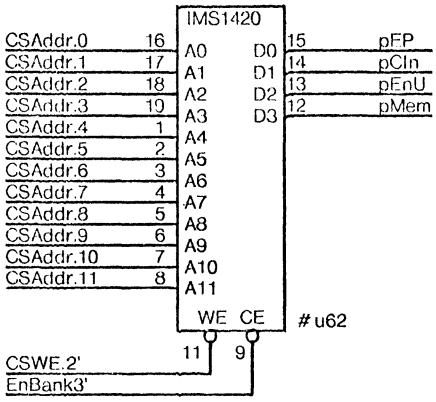
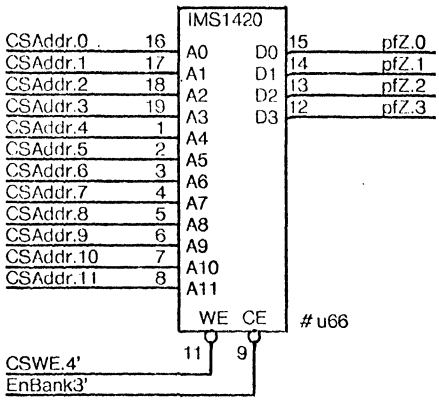
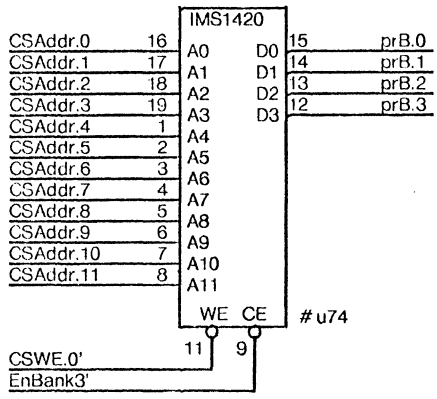
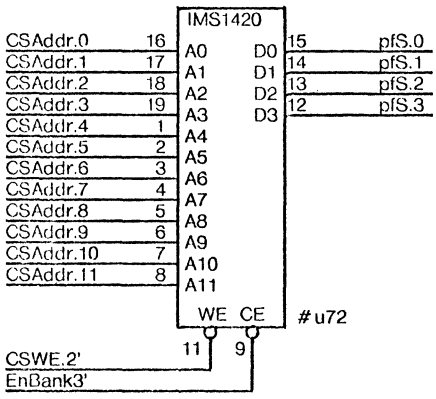
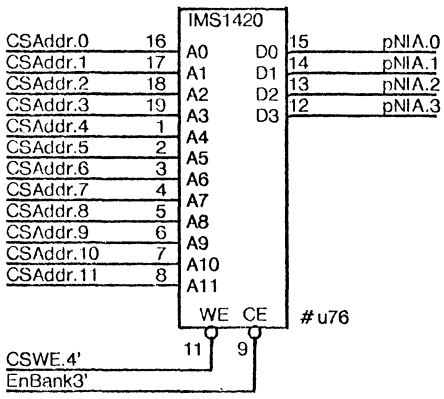


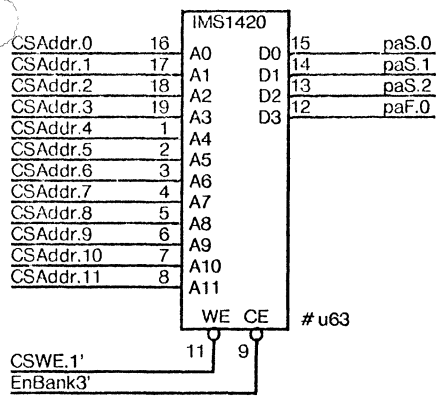


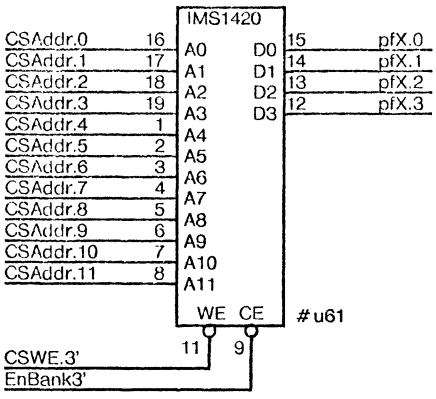


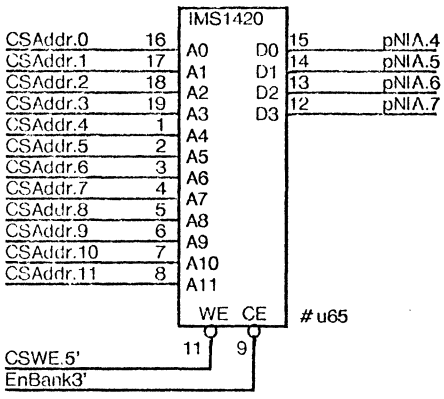


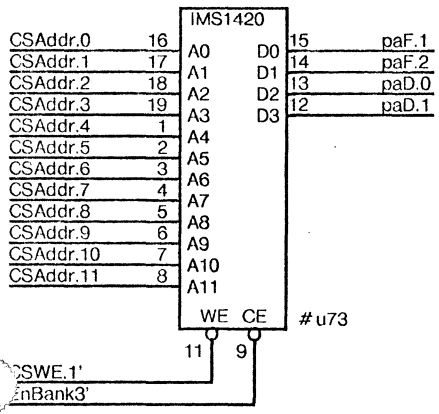


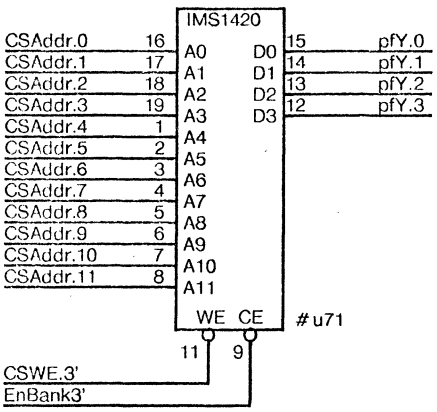


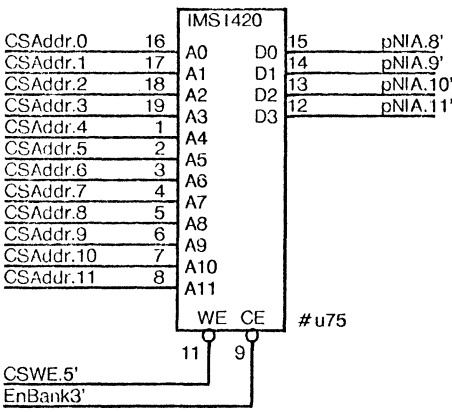




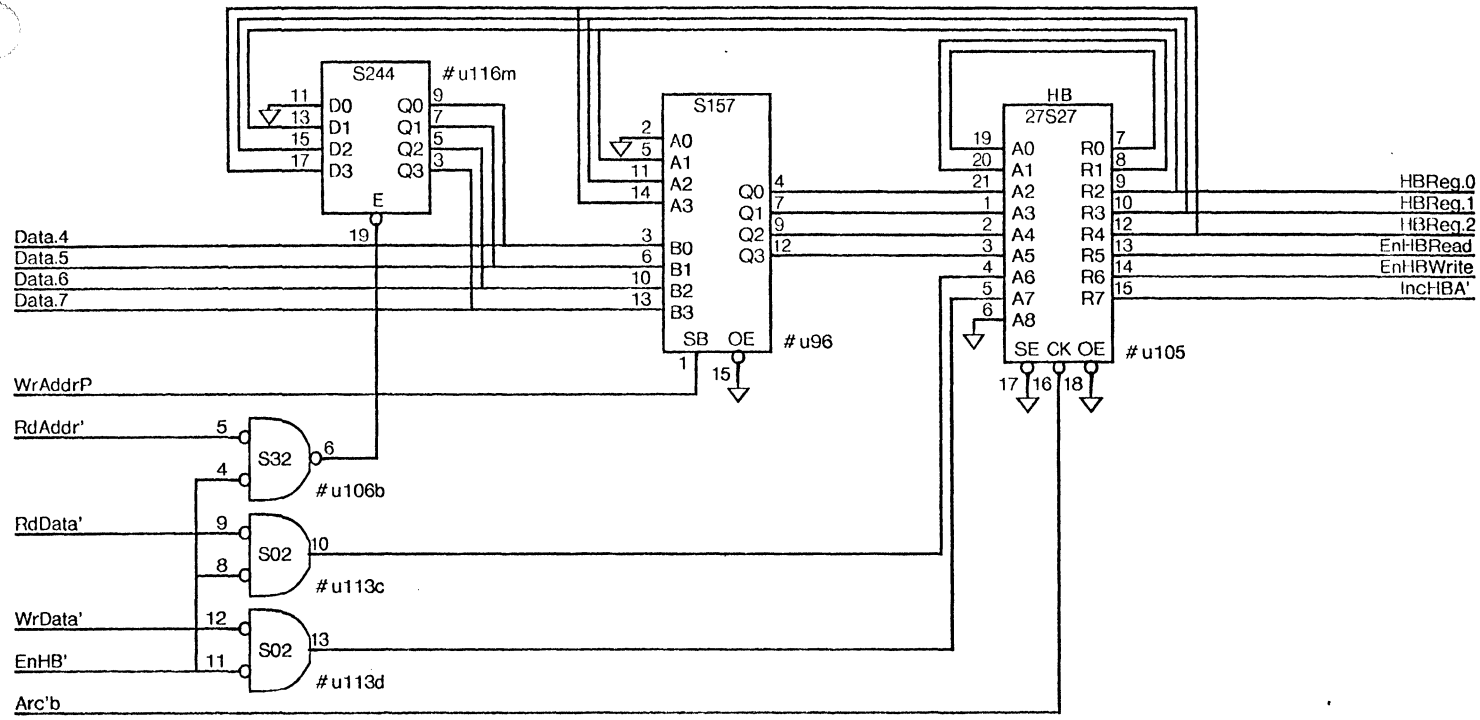


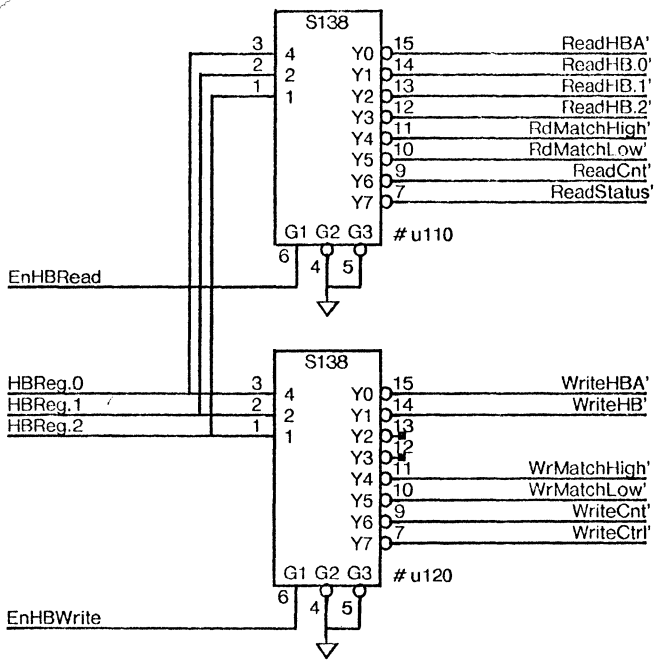


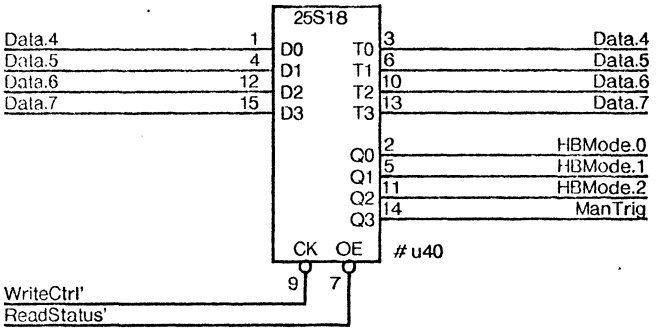




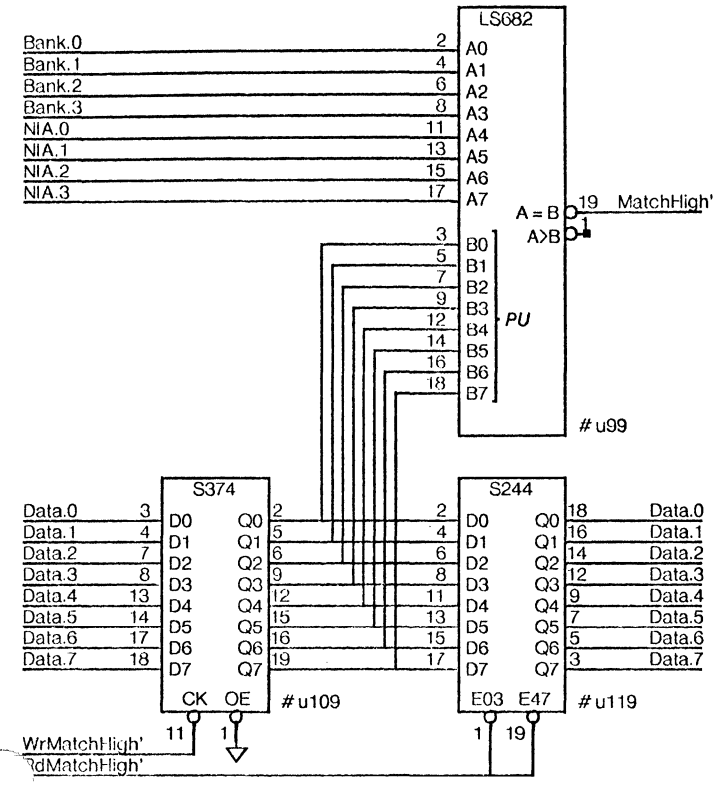
XEROX PARC	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	Control Store Bank 3	DCSD10.sil	David Boggs	L	6/14/83	10

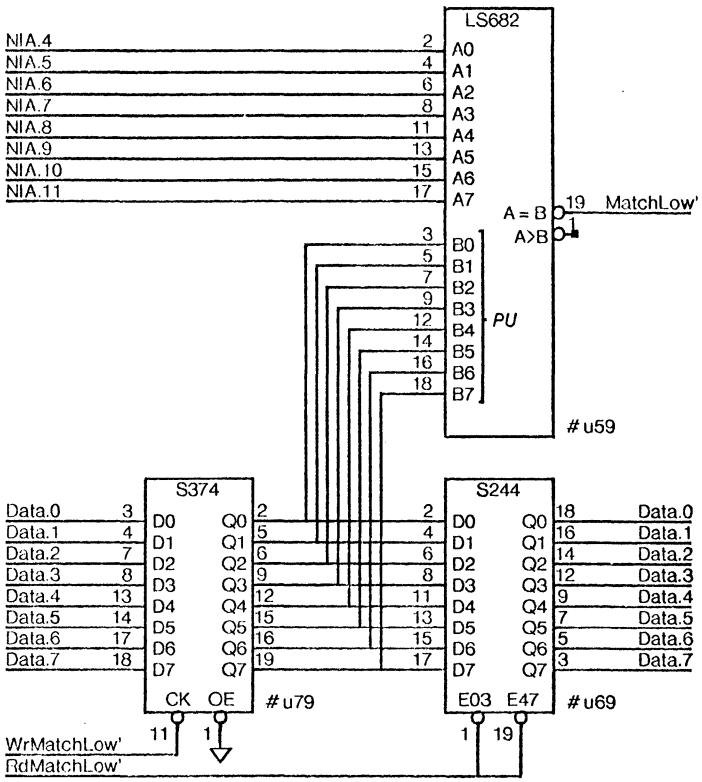


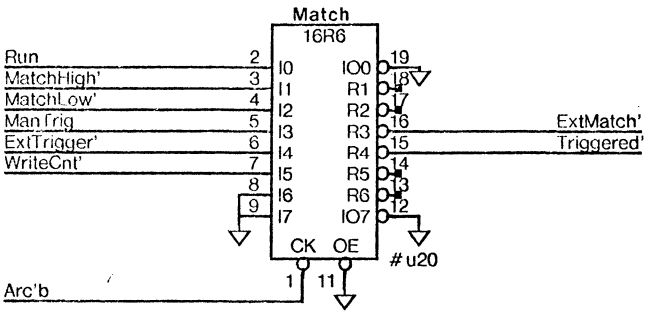


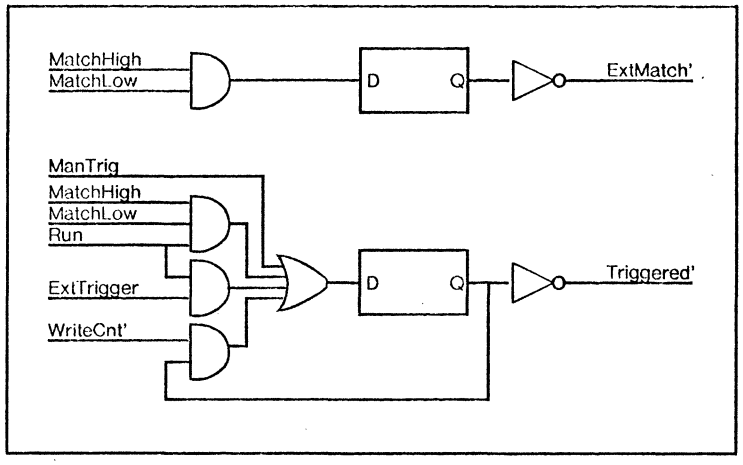


XEROX PARC	Project: Dicentra	Title: History Buffer Control	File: DCSD11.sil	Designer: David Boggs	Rev: L	Date: 6/14/83	Page: 11

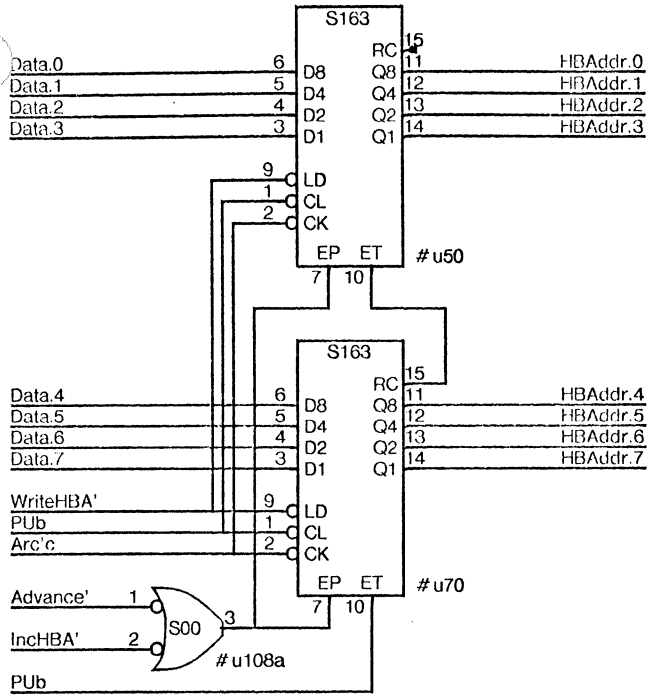


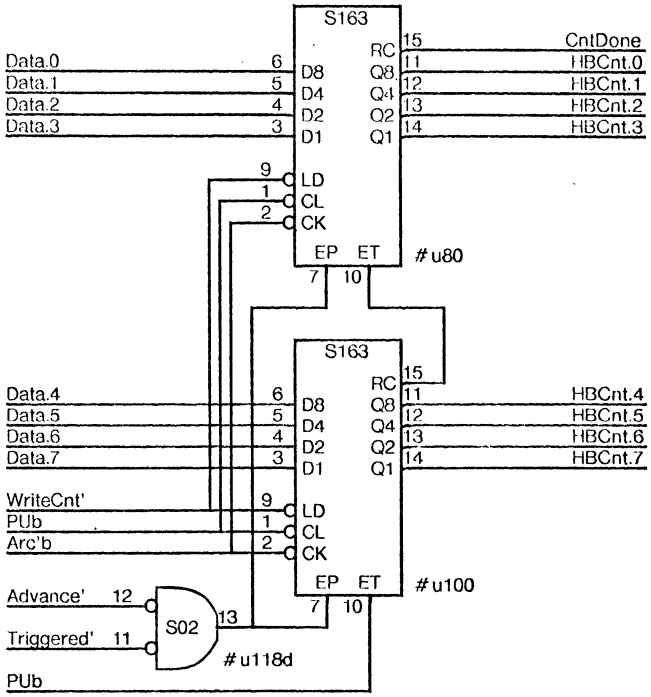


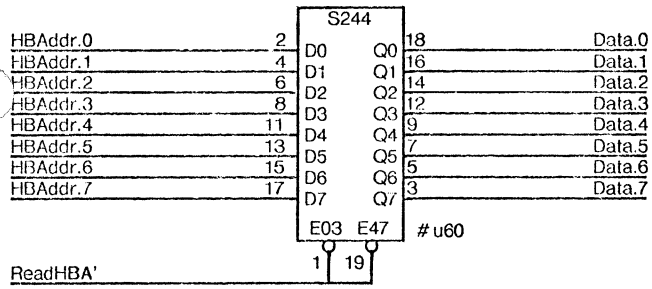


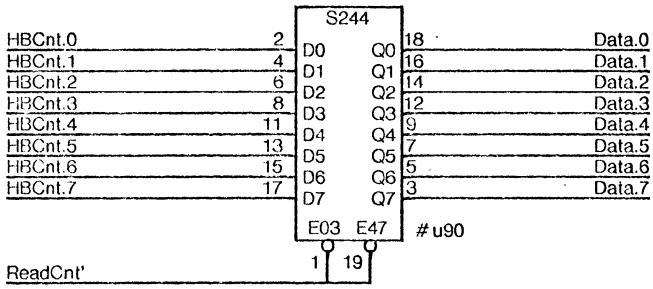


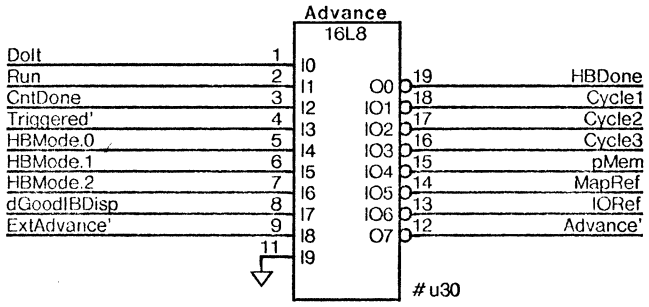
XEROX	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	History Buffer Match	DCSD12.sil	David Boggs	L	2/20/84	12

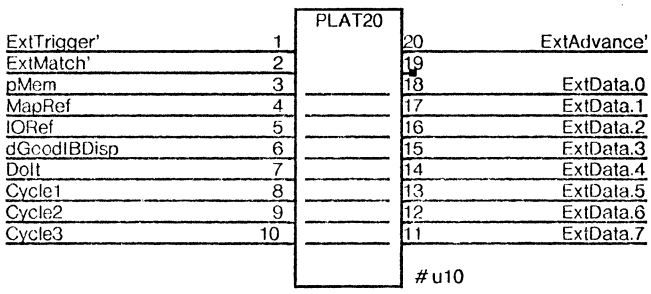








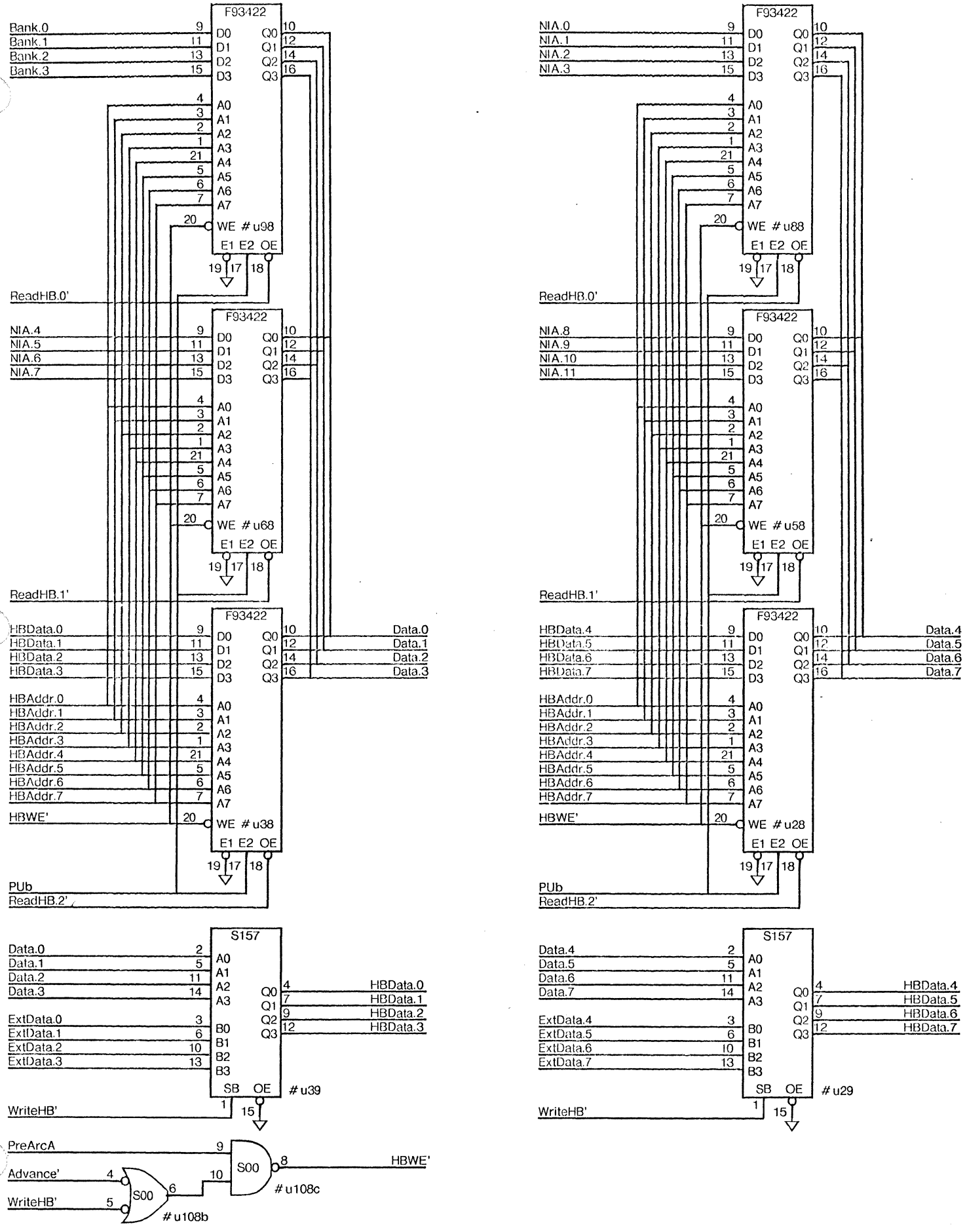




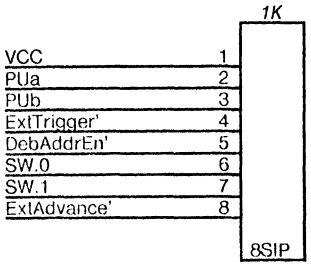
Default jumpers

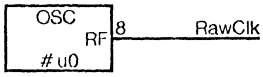
HBMode	Advance
0	Arc
1	Arc & DoIt
2	Arc & DoIt & dGoodIBDisp
3	Arc & DoIt & Cycle3

XEROX PARC	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	History Buffer Counters	DCSD13.sil	David Boggs	L	3/16/85	13

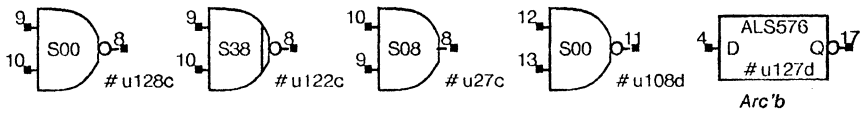


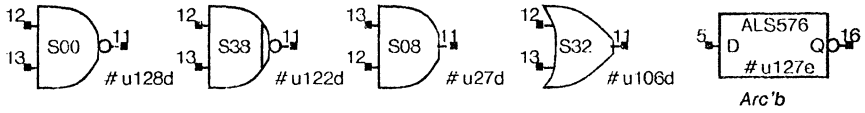
XEROX PARC	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	History Buffer Data	DCSD14.sil	David Boggs	L	6/14/83	14

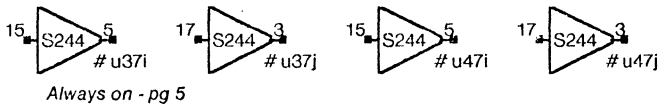


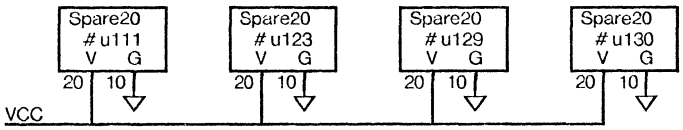


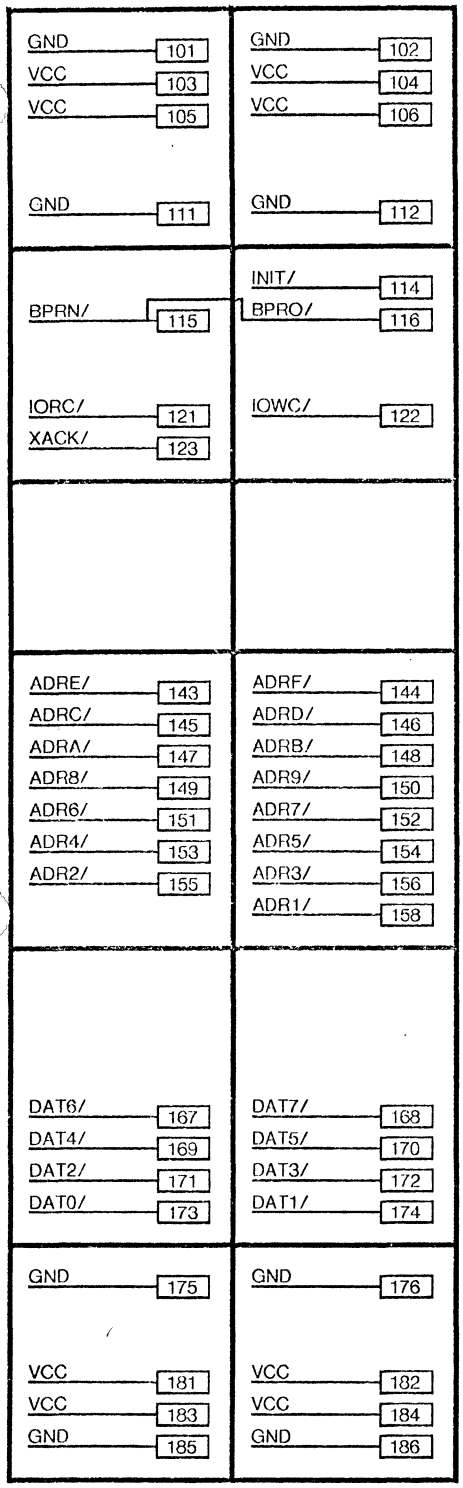
This socket is normally empty.



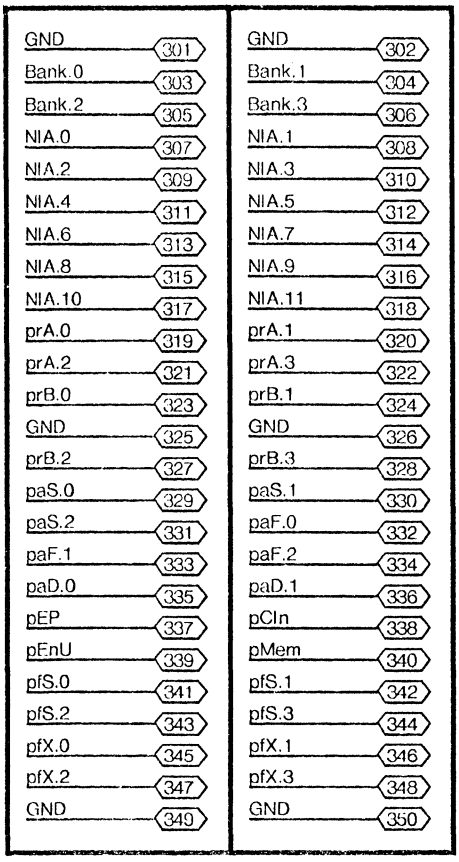




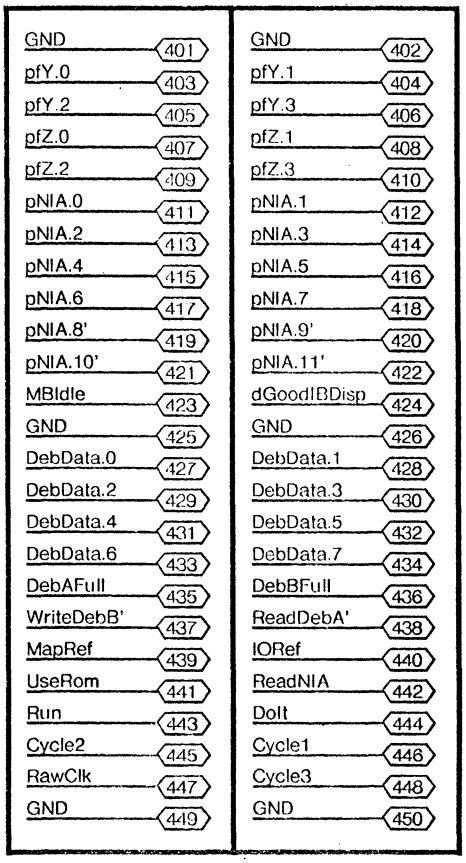




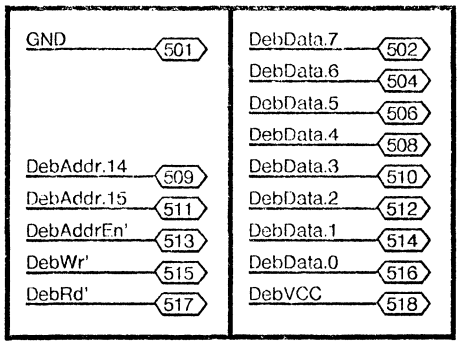
Component side P1 *Solder side*



Component side J1 *Solder side*



Component side J2 *Solder side*

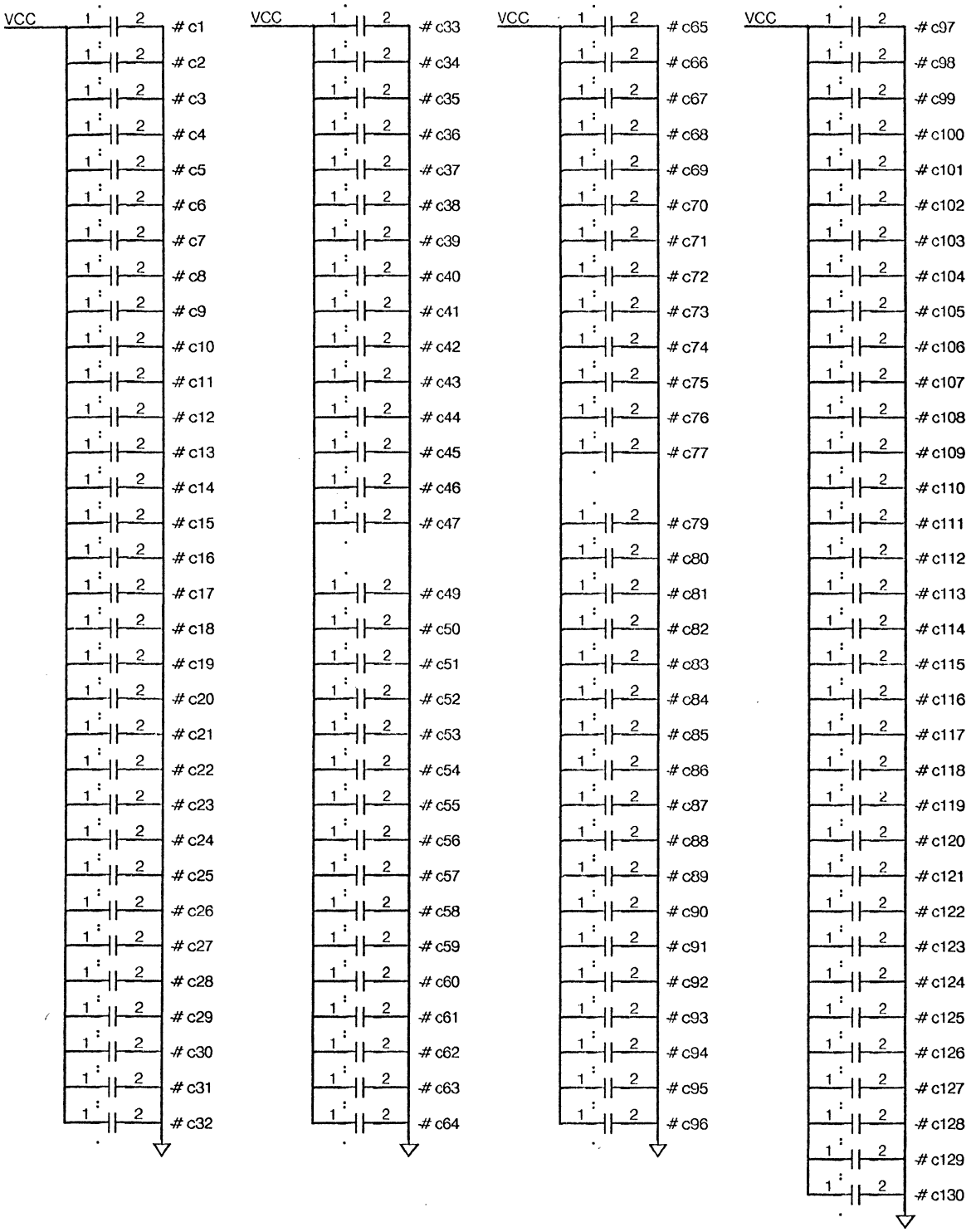


BURDOCK CABLE

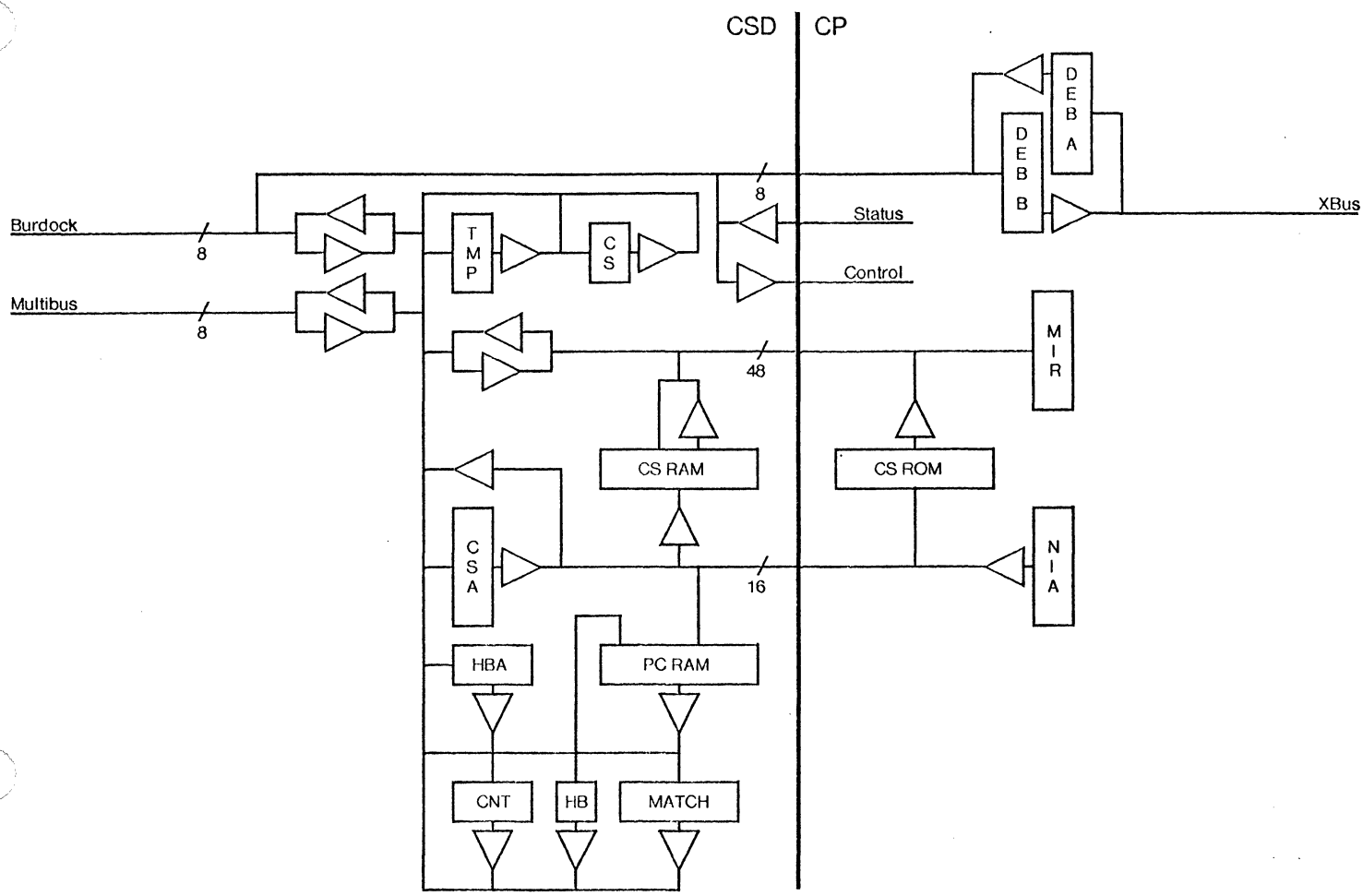
Component side J3 *Solder side*

NB: The pin numbers on J1, J2, and J3 correspond to the Multibus specs.
The numbers on the 3M connectors are top/bottom reversed.
The numbers on the StitchWeld boards are top/bottom reversed.

XEROX	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	Connectors	DCSD16.sil	Hal Murray	1		16



XEROX	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	Bypass Capacitors	DCSD17.sil	David Boggs	L	2/20/84	17



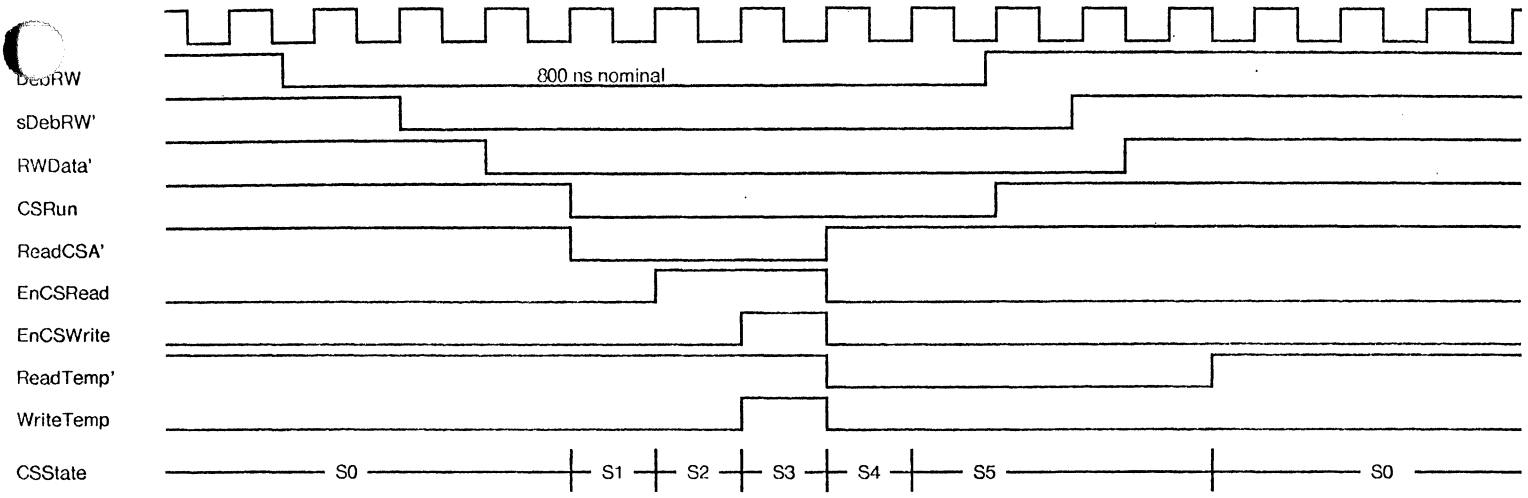
R/W	0	RUN	HBDN	B FULL	A FULL	C1	C2	C3	
		STOP	CLICK	CYCLE		RAM	CSA	INIT	0
	DEBUGGER								1
	SECTION				REGISTER				2
	DATA								3

CS	SECTION 0
0	CSAddr high
1	CSAddr low
2	CSData msb
3	CSData
4	CSData
5	CSData
6	CSData
7	CSData lsb
8	NIA high*
9	NIA low*
10	
11	
12	Temp
13	
14	
15	

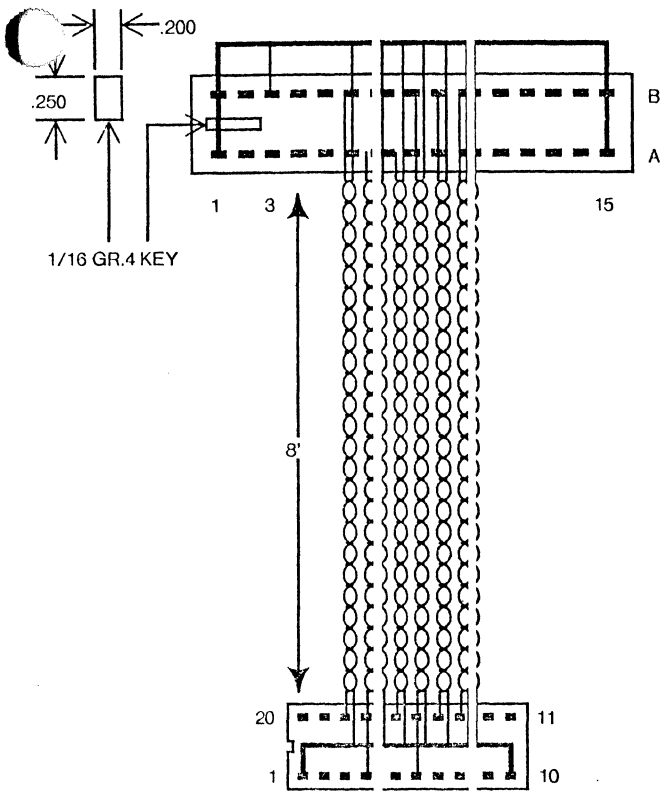
* Don't use UseCSA

HB	SECTION 1
0	HBAddr
1	PC high (w)
2	PC low
3	PC extra
4	Match high
5	Match low
6	Count
7	Status/Ctrl

XEROX PARC	Project	Reference	File	Designer	Rev	Date	Page
	Dicentra	Block Diagram	DCSD18.sil	Hal Murray	L	10/14/84	18


DebRW
800 ns nominal
sDebRW'
RWData'
CSRun
ReadCSA'
EnCSRead
EnCSWrite
ReadTemp'
WriteTemp
CSState
S0
S1
S2
S3
S4
S5
S0

VIKING 3VH 15/1JN12



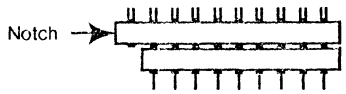
Nothing must project beyond this edge of the connector.

NOTE: the wiring shown above only illustrates how to dress the wires; the connections shown are ficticious; use the chart!

Signal Name	DIP Connector	Edge Connector
DebRd'	2	B11
DebWr'	3	B10
DebAddrEn'	4	B9
DebAddr.15	5	B8
DebAddr.14	6	B7
DebData.0	18	A10
DebData.1	17	A9
DebData.2	16	A8
DebData.3	15	A7
DebData.4	14	A6
DebData.5	13	A5
DebData.6	12	A4
DebData.7	11	A3
DebVCC	19	A11
GND	1 & 10	B3

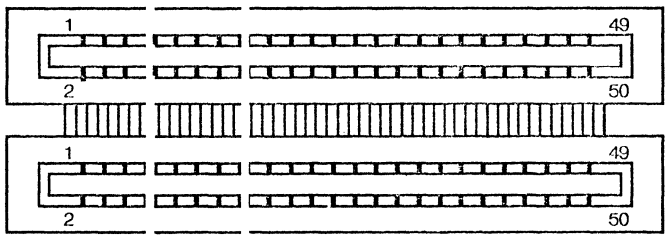
Use A1, B1, B15 & A15 For support

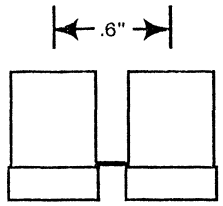
NOTES
All wire is 26 gauge stranded twisted pair.
One wire of each twisted pair connects to the bare 22 guage ground wires at either end.
Tie wrap at ~ 8" intervals.
Cut off pins 1 & 20 on the DIP connector.
Install an 18-pin DIP socket on pins 2-10 & 11-19.



DLion - DCSD (Burdock) Cable

DCSD - DCP Cable

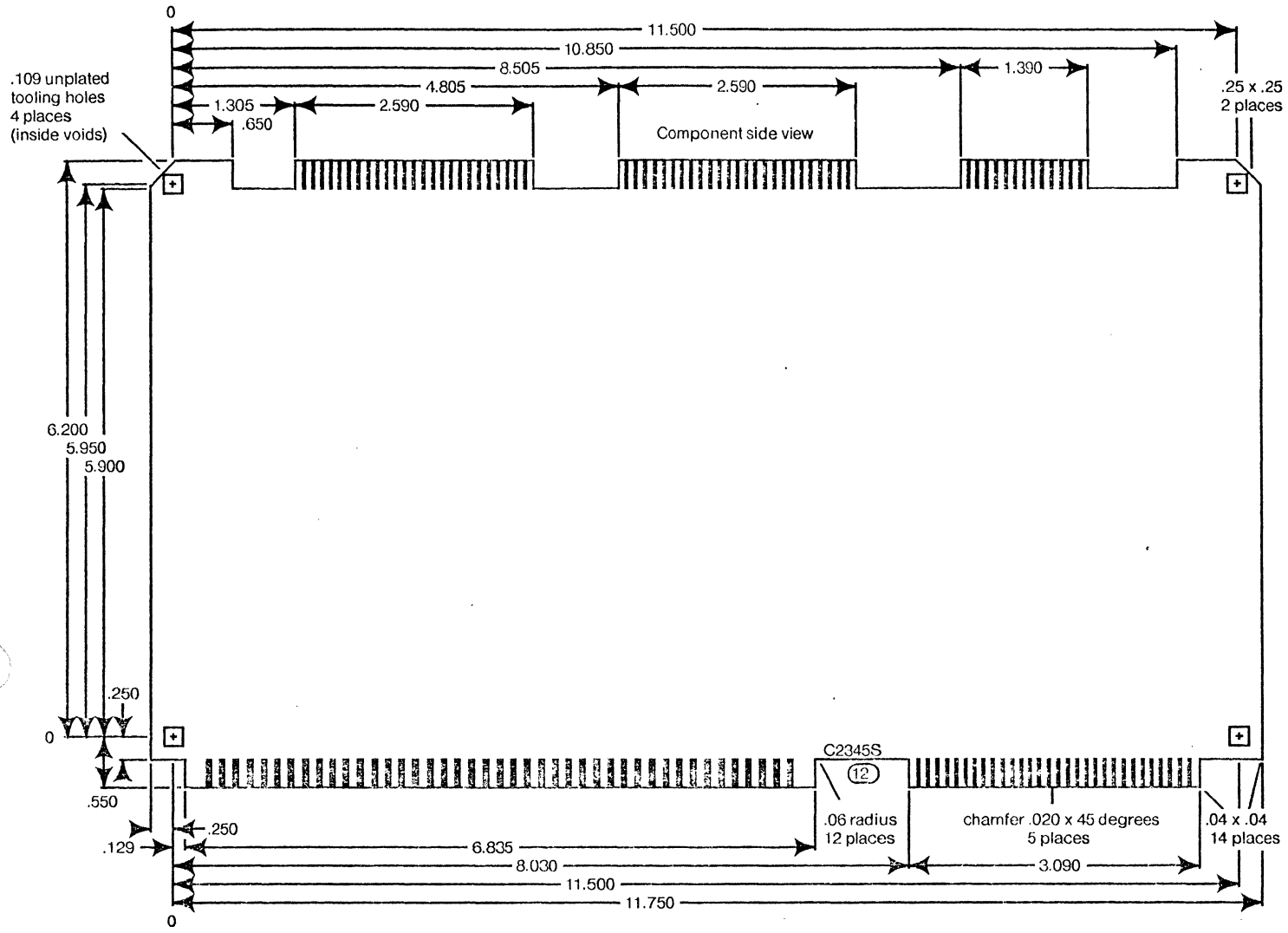




Two of these jumpers are required for each system

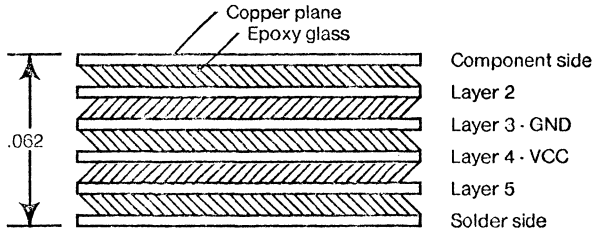
Qty	Manufacturer	Part Number	Description	Location
12	InMos	1420	RAM 4K*4; Taa<70	UX1-UX6 for X = 0 to 7
1	MMI	16L8	IC	U30 Beware: Our PROM blower doesn't work with AMD PALs.
3	MMI	16R6	IC	U8, U20, U91 Beware: Our PROM blower doesn't work with AMD PALs.
1	AMD	25S09	IC	U107
1	AMD	25S18	IC	U40
3	AMD	27S27	IC	U103-105
1	AMD	27S29	IC	U97
3	TI	74S00	IC	U102, U108, U128
2	TI	74S02	IC	U113, U118
1	TI	74S08	IC	U27
2	TI	74S32	IC	U17, U106
1	TI	74S38	IC	U122
5	TI	74S138	IC	U93, U94, U101, U110, U120
1	TI	74S139	IC	U117
4	TI	74S157	IC	U29, U39, U95, U96
4	TI	74S163	IC	U50, U70, U80, U100
1	TI	74LS164	IC	U121
1	TI	74S175	IC	U18
1	TI	74S240	IC	U7
10	TI	74S244	IC	U19, U37, U47, U49, U60, U69, U89, U90, U119
7	TI	74LS245	IC	U9, U81-U86
4	TI	74S374	IC	U79, U92, U109, U112
4	TI	74ALS569	IC	U57, U67, U77, U87
1	TI	74ALS576	IC	U127
1	TI	74LS640	IC	U126
4	TI	74LS682	IC	U59, U99, U124, U125
6	Fairchild	93422	RAM 256*4; Tw<31	U28, U38, U58, U68, U88, U98
1	EMC	10314-01-445	14-pin DIP socket	U0 Socket must take round pins
1	EMC	10320-01-445	20-pin DIP socket	U10 Socket must take round pins
53			20-pin DIP socket	1420s & U8, U20, U30, U91, U97
				May need more 20 pin sockets if can't get TI parts.
3			22-pin DIP socket	U103-U105
8			.300 Jumpers	
12	AB	BB1505	15ohm 1/8W 5%	R0-R11 IC; Tw < 31 ns.
1	AB	BB5115	510ohm 1/8W 5%	R12
1	AB	108A102	7x1Kohm res SIP	SIP
128	AVX	MD015E104ZAA	.1uf DIP capacitor	C1-C130
2	AMP	435640-5	8-pos DIP switch	U114, U115
2	Scanbe	S-203	Ejector & roll pin	
1	Xerox	DCSD-Rev-L	PC board	

Qty	Manufacturer	Part Number	Description	Location
				For DCSD-DLion (Burdock) Cable
1			20-pin DIP platform	
1			18-pin DIP socket	
1	VIKING	3VH15/1JN12	26-pin edge conn	Needs a key too.
14*8'			26 guage twisted pair	
				For DCSD-DCP Cables
4	3M	3415-0001	50-pin edge conn	
2"	3M	3365/50	Ribbon cable	

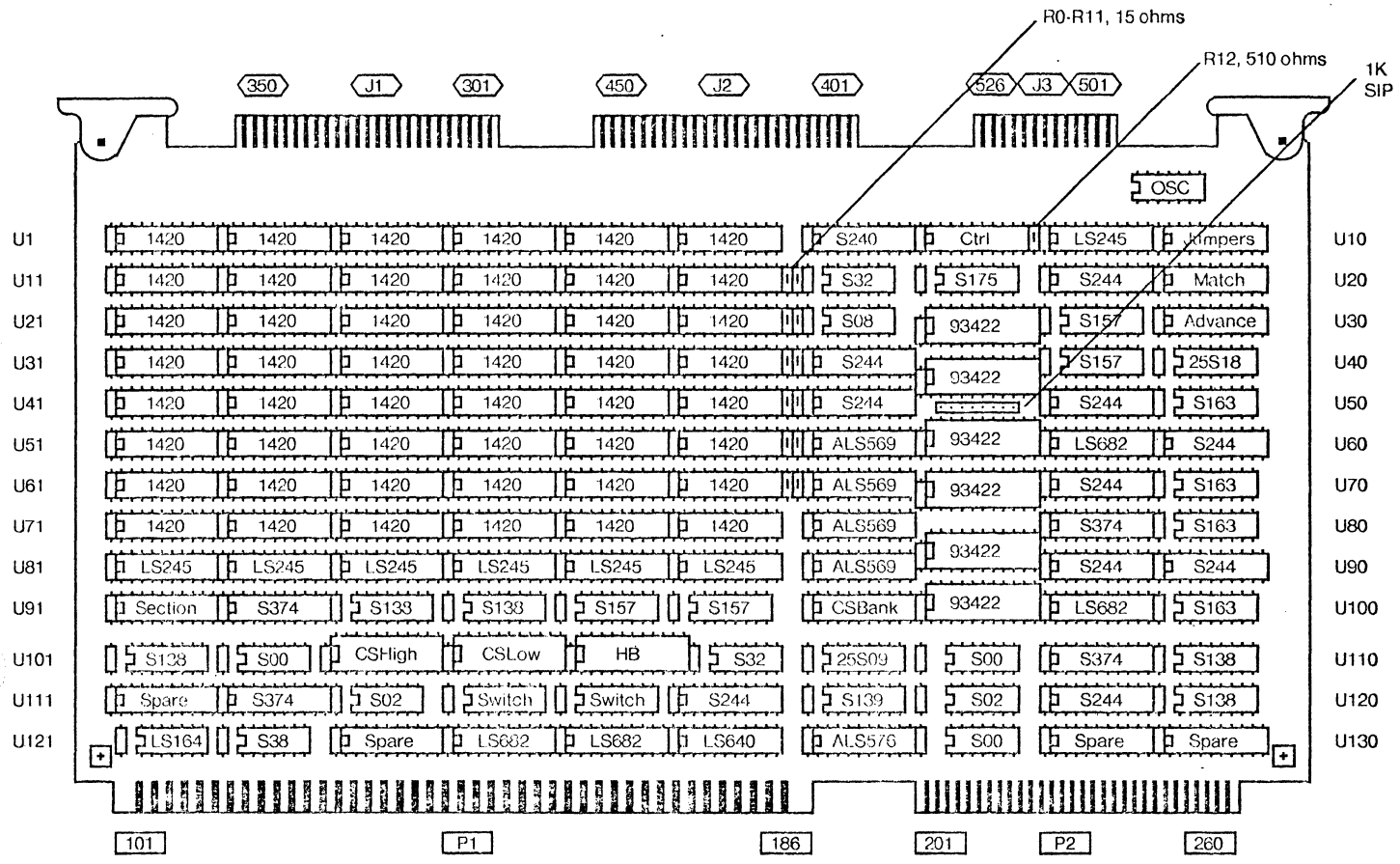


NOTES

1. All dimensions are in inches; drawing is not to scale.
   X.XXX is +- .005; X.XX is +- .01.
2. Except as noted, this printed board shall be made in accordance with IPC-ML-910 Class II.
3. Acceptability of the finished board will be judged in accordance with IPC-A-600.
4. Base material: 1 oz Cu on FR4 in accordance with IPC-L-130.
5. Bonding agent: prepreg B-stage in accordance with IPC-L-110.
6. Solder mask: green epoxy in accordance with IPC-SM-840.
7. Silk screen: none
8. Plating: .000050 Au over .000200 Ni on contact fingers.
   .0003 Sn-Pb over .0010 Cu in holes and on traces.
9. Holes: 4 unplated holes, finished diameter .109.
   many plated holes, finished diameter .031.
10. Pads: .050 components, connectors, and feedthrus.
11. Conductors: .010 wide, .010 spacing.
12. As viewed from the component side, layer sequence numbers must read "C2345S".



XEROX	Project	Reference	File	Drawn by	Rev	Date	Page
PARC	Dicentra	Fabrication Drawing	DCSD23.sil	Hal Murray	L	10/14/84	23

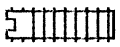


Proms & PALs		
Position	Type	Name
U8	16R6	Ctrl
U20	16R6	Match
U30	16L8	Advance
U91	16R6	Section
U97	27S29	CSBank
U103	27S27	CSHigh
U104	27S27	CSLow
U105	27S27	HB

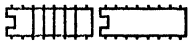
All 1420s, proms, pals, and the oscillator are socketed.
The oscillator socket is normally empty.
It is used only for debugging before connecting to a CP.
Even numbered edge pins are on the solder side.
Odd numbered edge pins are on the component side.
NB: The pin numbers on J1, J2, and J3 correspond to the multibus specs.
The numbers on the 3M connectors are top/bottom reversed.
The numbers on the StitchWeld boards are top/bottom reversed.

Rework: None.

Normal jumpers in U10:



Normal Switches:
Bar is closed, on, 1.



XEROX	Project	Reference	File	Designer	Rev	Date	Page
	Dicentra	Assembly Drawing	DCSD Rev L.asm	Hal Murray	L	11/27/84	24

```
// DCSD-Proms.bcpl -- Dicentra Control Store/Debugger Proms
// Last modified October 29, 1983  6:33 PM by Boggs

external [ Ws; OpenFile; Puts; Closes; Allocate; Free; sysZone ]

static [ memory; mbFile ]

structure String [ length byte; char↑1,1 byte ]

manifest [ high = 1; low = 0 ]

//-------------------------------------------------------------------------------------------
let DCSDProms() be
//-------------------------------------------------------------------------------------------
[
mbFile = OpenFile("DCSD-Proms.mb")

DoMemory("CS", 512, 16, CS)
DoMemory("HB", 512, 8, HB)
DoMemory("CSBank", 512, 8, CSBank)

Puts(mbFile, 0)  //0 = end of file
Closes(mbFile)
]

//-------------------------------------------------------------------------------------------
and DoMemory(name, nAddr, nData, Proc) be
//-------------------------------------------------------------------------------------------
// nAddr is number of addresses; nData is number of output bits
[
Ws("*N"); Ws(name)

Puts(mbFile, 4)  //4 = define memory
memory = memory +1
Puts(mbFile, memory)
Puts(mbFile, nData)
if name>>String.length gr 1 then
   for i = 1 to name>>String.length-1 by 2 do
      Puts(mbFile, name>>String.char↑i lshift 8 + name>>String.char↑(i+1))
Puts(mbFile, (name>>String.length & 1) eq 0? 0,
 name>>String.char↑(name>>String.length) lshift 8)

Puts(mbFile, 2)  //2 = set current memory
Puts(mbFile, memory)
Puts(mbFile, 0)  //location counter (not used)

let data = Allocate(sysZone, (nData+15)/16)
for addr = 0 to nAddr-1 do
   [
   Puts(mbFile, 1)  //1 = memory contents
   Puts(mbFile, 0)  //source line number (not used)
   Proc(addr, data)
   for i = 0 to (nData+15)/16 -1 do Puts(mbFile, data!i)
   ]
Free(sysZone, data)
]
```

```
//-------------------------------------------------------------------------------------
and CS(addr, data) be
//-------------------------------------------------------------------------------------
[
structure Addr:
   [
   blank bit 7
   curState bit 3
   CSIn bit 4
   read bit
   write bit
   ]

structure Data:
   [
   nextState bit 3
   CSOut bit 4
   CSRun bit
   incCSA bit           //low true
   readCSA bit          //low true
   writeTemp bit
   readTemp bit         //low true
   enCSWrite bit
   enCSRead bit
   blank bit 2
   ]

let curState = addr<<Addr.curState
let CSIn = addr<<Addr.CSIn
let read = addr<<Addr.read eq high
let write = addr<<Addr.write eq high

let nextState = curState
let CSOut = CSIn
let CSRun = true
let incCSA, readCSA = false, false
let writeTemp, readTemp = false, false
let enCSWrite, enCSRead = false, false
```

```
// CS (cont'd)

switchon curState into
   [
   case 0:
      [
      if read % write then
         [
         if CSIn le 7 then [ CSRun = false; readCSA = true ]
         nextState = 1
         ]
      endcase
      ]
   case 1:
      [
      // In the worst case data is valid on the internal data bus 4.5 Arcs
      //  after the falling edge of a command.
      if (write & CSIn ge 2 & CSIn le 7) % (read & CSIn le 9) then enCSRead = true
      if CSIn le 7 then [ CSRun = false; readCSA = true ]
      if read & CSIn ge 10 then readTemp = true
      nextState = 2
      endcase
      ]
   case 2:
      [
      if (write & CSIn ge 2 & CSIn le 7) % (read & CSIn le 9) then enCSRead = true
      if CSIn le 7 then [ CSRun = false; readCSA = true; enCSWrite = write ]
      test read & CSIn ge 10 ifso readTemp = true ifnot writeTemp = true
      nextState = 3
      endcase
      ]
   case 3: case 4:
      [
      if CSIn le 7 then CSRun = false
      if read then readTemp = true
      nextState = curState +1
      endcase
      ]
   case 5:
      [
      test read % write
         ifso if read then readTemp = true
         ifnot
            [
            if CSIn ls 10 then CSOut = CSIn +1
            if CSIn eq 7 then [ CSOut = 0; incCSA = true ]
            nextState = 0
            ]
      endcase
      ]
   default: nextState = 0
   ]

data>>Data.nextState = nextState
data>>Data.CSOut = CSOut
data>>Data.CSRun = CSRun? high, low
data>>Data.incCSA = incCSA? low, high
data>>Data.readCSA = readCSA? low, high
data>>Data.writeTemp = writeTemp? high, low
data>>Data.readTemp = readTemp? low, high
data>>Data.enCSWrite = enCSWrite? high, low
data>>Data.enCSRead = enCSRead? high, low
]
```

```
//-------------------------------------------------------------------------------------
and HB(addr, data) be
//-------------------------------------------------------------------------------------
[
structure Addr:
   [
   blank bit 7
   curState bit 2
   blank bit
   HBIn bit 3
   read bit
   write bit
   blank bit
   ]

structure Data:
   [
   nextState bit 2
   HBOut bit 3
   enHBRead bit
   enHBWrite bit
   incHBA bit            //low true
   blank bit 8
   ]

let curState = addr<<Addr.curState
let HBIn = addr<<Addr.HBIn
let read = addr<<Addr.read eq high
let write = addr<<Addr.write eq high

let nextState = curState
let HBOut = HBIn
let enHBRead, enHBWrite = false, false
let incHBA = false
```

```
switchon curState into
   [
   case 0:
      [
      if read % write then
         [
         enHBWrite = write
         enHBRead = read
         nextState = 1
         ]
      endcase
      ]
   case 1:
      [
      test read % write
         ifso enHBRead = read
         ifnot
            [
            if HBIn ls 7 then HBOut = HBIn +1
            if HBIn eq 3 then [ HBOut = 1; incHBA = true ]
            nextState = 0
            ]
      endcase
      ]
   default: nextState = 0
   ]

data>>Data.nextState = nextState
data>>Data.HBOut = HBOut
data>>Data.enHBRead = enHBRead? high, low
data>>Data.enHBWrite = enHBWrite? high, low
data>>Data.incHBA = incHBA? low, high
]
```

```
//-------------------------------------------------------------------------------------------
and CSBank(addr, data) be
//-------------------------------------------------------------------------------------------
[
structure Addr:
   [
   blank bit 7
   bank bit 4
   useRom bit
   switches bit 2       //hidden feature
   blank bit 2
   ]

structure Data:
   [
   enBank0 bit          //low true
   enBank1 bit          //low true
   enBank2 bit          //low true
   enBank3 bit          //low true
   blank bit 12
   ]

let bank = addr<<Addr.bank
let useRom = addr<<Addr.useRom ne 0
let switches = addr<<Addr.switches
let enBank0, enBank1, enBank2, enBank3 = false, false, false, false

test useRom
   ifso
      [
      if bank eq 4 then enBank0 = true
      if bank eq 5 then enBank1 = true
      if bank eq 6 then enBank2 = true
      if bank eq 7 then enBank3 = true
      ]
   ifnot
      [
      if bank eq 0 then enBank0 = true
      if bank eq 1 then enBank1 = true
      if bank eq 2 then enBank2 = true
      if bank eq 3 then enBank3 = true
      ]

data>>Data.enBank0 = enBank0? low, high
data>>Data.enBank1 = enBank1? low, high
data>>Data.enBank2 = enBank2? low, high
data>>Data.enBank3 = enBank3? low, high
]
```

```
DCSD-Advance.pal
Last modified April 18, 1983  6:22 PM by Boggs

PALType 16L8

PinDefs

DoIt Run CntEq0 /Triggered HBMode0 HBMode1 HBMode2 dGoodIBDisp /ExtAdvance GND
Low /Advance IORef MapRef pMem Cycle3 Cycle2 Cycle1 HBDone VCC

BEGIN

IF /Low THEN Advance ← /HBMode0 /HBMode1 Run /CntEq0 +
                       /HBMode0  HBMode1 Run /CntEq0 DoIt +
                        HBMode0 /HBMode1 Run /CntEq0 DoIt dGoodIBDisp +
                        HBMode0  HBMode1 Run /CntEq0 DoIt Cycle3;

IF /Low THEN /HBDone ← /Triggered + /CntEq0;

END
```

```
DCSD-Ctrl.pal
Last modified October 22, 1983  12:45 PM by Boggs

PALType 16R6

PinDefs

CK DoIt DebData1 DebData2 DebData3 DebData5 DebData6 DebData7 DebWrCtrlP GND
OE DebVCC /DebInit /DebCSA UseRom /SingleCycle /SingleClick DebRun MBIdle VCC

BEGIN

/DebRun := DebWrCtrlP DebData1 +
          /DebWrCtrlP DebVCC /DebRun +
           SingleCycle DoIt +
           SingleClick MBIdle;

SingleClick := DebWrCtrlP DebData2 +
              /DebWrCtrlP DebVCC SingleClick;

SingleCycle := DebWrCtrlP DebData3 +
              /DebWrCtrlP DebVCC SingleCycle;

/UseRom := DebWrCtrlP DebData5 +
          /DebWrCtrlP DebVCC /UseRom;

DebCSA := DebWrCtrlP DebData6 +
         /DebWrCtrlP DebVCC DebCSA;

DebInit := DebWrCtrlP DebData7 +
          /DebWrCtrlP DebVCC DebInit;

END
```

```
DCSD-Match.pal
Last modified April 18, 1983  6:20 PM by Boggs

PALType 16R6

PinDefs

CK
Run /MatchHigh /MatchLow ManTrig /ExtTrigger /WriteCnt I6 I7
GND OE
IO7 R6 R5 /Triggered /ExtMatch R2 R1 IO0
VCC

BEGIN

ExtMatch = MatchHigh MatchLow;

Triggered = ManTrig + MatchHigh MatchLow Run + ExtTrigger Run + /WriteCnt Triggered;

END
```

```
DCSD-Section.pal
Last modified March 6, 1983  11:01 PM by Boggs

PALType 16R6

PinDefs

CK
WrAddrP I1 IData0 IData1 IData2 IData3 I6 Low
GND OE
/EnHB R6 OData3 OData2 OData1 OData0 R1 /EnCS
PWR

BEGIN

IF /Low THEN EnCS ← /OData0 /OData1 /OData2 /OData3;
IF /Low THEN EnHB ← /OData0 /OData1 /OData2 OData3;

/OData0 ↑ /IData0 WrAddrP + /OData0 /WrAddrP;
/OData1 ↑ /IData1 WrAddrP + /OData1 /WrAddrP;
/OData2 ↑ /IData2 WrAddrP + /OData2 /WrAddrP;
/OData3 ↑ /IData3 WrAddrP + /OData3 /WrAddrP;

END
```

Page Numbers: Yes First Page: 1
Columns: 2 Edge Margin: .8" Between Columns: .0"
Heading:
DCSD-Rev-L.ps
COMPONENTS:

-:	1	5	17			
16L8:	13					
16R6:	1	3	12			
25S09:	3					
25S18:	11					
27S27:	4	11				
27S29:	5					
8SIP:	15					
8xSPST:	2					
ALS569:	5					
ALS576:	1	3	15			
F93422:	14					
IMS1420:	7	8	9	10		
LS164:	2					
LS245:	1	6				
LS640:	2					
LS682:	2	12				
OSC:	15					
PLAT20:	13					
S00:	1	2	4	13	14	15
S02:	1	2	3	4	11	13
S08:	3	15				
S138:	2	4	11			
S139:	1					
S157:	4	11	14			
S163:	13					
S175:	1					
S240:	2	3				
S244:	1	4	5	6	11	12
	13	15				
S32:	1	4	11	15		
S374:	2	4	12			
S38:	2	15				
Spare20:	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)	
ADR1/:	2(1)	16(1)				
ADR2/:	2(1)	16(1)				
ADR3/:	2(1)	16(1)				
ADR4/:	2(1)	16(1)				
ADR5/:	2(1)	16(1)				
ADR6/:	2(1)	16(1)				
ADR7/:	2(1)	16(1)				
ADR8/:	2(1)	16(1)				
ADR9/:	2(1)	16(1)				
ADRA/:	2(1)	16(1)				
ADRB/:	2(1)	16(1)				
ADRC/:	2(1)	16(1)				
ADRD/:	2(1)	16(1)				
ADRE/:	2(1)	16(1)				
ADRF/:	2(1)	16(1)				
Advance':	13(3)	14(1)				
Arc'a:	2(1)	3(2)	5(1)			
Arc'b:	1(1)	2(1)	3(1)	11(1)	12(1)	13(1)
Arc'c:	3(2)	4(1)	13(1)			
Bank.0:	5(2)	6(1)	12(1)	14(1)	16(1)	
Bank.1:	5(2)	6(1)	12(1)	14(1)	16(1)	
Bank.2:	5(2)	6(1)	12(1)	14(1)	16(1)	
Bank.3:	5(2)	6(1)	12(1)	14(1)	16(1)	
BPRN/:	16(1)					
CntDone:	13(2)					
CSAddr.0:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.1:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.10:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.11:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.2:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.3:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.4:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.5:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.6:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.7:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.8:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSAddr.9:	5(1)	7(12)	8(12)	9(12)	10(12)	
CSRE.0':	4(1)	6(1)				
CSRE.1':	4(1)	6(1)				
CSRE.2':	4(1)	6(1)				
CSRE.3':	4(1)	6(1)				
CSRE.4':	4(1)	6(1)				
CSRE.5':	4(1)	6(1)				
CSReg.0:	4(1)					
CSReg.1:	4(2)					
CSReg.2:	4(2)					
CSReg.3:	4(2)					
CSRun:	3(1)	4(1)				
CSWE.0':	4(1)	7(2)	8(2)	9(2)	10(2)	
CSWE.1':	4(1)	7(2)	8(2)	9(2)	10(2)	
CSWE.2':	4(1)	7(2)	8(2)	9(2)	10(2)	
CSWE.3':	4(1)	7(2)	8(2)	9(2)	10(2)	
CSWE.4':	4(1)	7(2)	8(2)	9(2)	10(2)	
CSWE.5':	4(1)	7(2)	8(2)	9(2)	10(2)	

```
CSWrite:          4(1)    6(2)
Cycle1:           1(1)   13(2)   16(1)
Cycle2:           1(1)   13(2)   16(1)
Cycle3:           1(1)   13(2)   16(1)
DAT0/:            2(1)   16(1)
DAT1/:            2(1)   16(1)
DAT2/:            2(1)   16(1)
DAT3/:            2(1)   16(1)
DAT4/:            2(1)   16(1)
DAT5/:            2(1)   16(1)
DAT6/:            2(1)   16(1)
DAT7/:            2(1)   16(1)
Data.0:           1(1)    2(1)    3(2)    4(2)    5(1)    6(4)
                 12(4)   13(4)   14(2)
Data.1:           1(1)    2(1)    3(2)    4(2)    5(1)    6(4)
                 12(4)   13(4)   14(2)
Data.2:           1(1)    2(1)    3(2)    4(2)    5(1)    6(4)
                 12(4)   13(4)   14(2)
Data.3:           1(1)    2(1)    3(2)    4(2)    5(1)    6(4)
                 12(4)   13(4)   14(2)
Data.4:           1(1)    2(1)    4(3)    5(1)    6(4)   11(3)
                 12(4)   13(4)   14(2)
Data.5:           1(1)    2(1)    4(3)    5(1)    6(4)   11(3)
                 12(4)   13(4)   14(2)
Data.6:           1(1)    2(1)    4(3)    5(1)    6(4)   11(3)
                 12(4)   13(4)   14(2)
Data.7:           1(1)    2(1)    4(3)    5(1)    6(4)   11(3)
                 12(4)   13(4)   14(2)
DebAddr.14:       1(2)   16(1)
DebAddr.15:       1(1)   16(1)
DebAddrEn':       1(1)   15(1)   16(1)
DebAFull:         1(1)   16(1)
DebBFull:         1(1)   16(1)
DebCSA':          1(1)    3(1)
DebData.0:        1(2)   16(2)
DebData.1:        1(3)   16(2)
DebData.2:        1(3)   16(2)
DebData.3:        1(3)   16(2)
DebData.4:        1(2)   16(2)
DebData.5:        1(3)   16(2)
DebData.6:        1(3)   16(2)
DebData.7:        1(3)   16(2)
DebInit':         1(1)    2(1)
DebRd':           1(1)   16(1)
DebRdAddr':       1(1)    3(1)
DebRdData':       1(1)    3(1)
DebRdStat':       1(2)
DebRead':         1(3)
DebRun:           1(2)    3(2)
DebRW:            1(2)
DebVCC:           1(1)   16(1)
DebWr':           1(1)   16(1)
DebWrAddr':       1(1)    3(1)
DebWrCtrl':       1(2)
DebWrCtrlP:       1(2)
DebWrData':       1(1)    3(1)
DebWrDeb':        1(2)
DebWrite':        1(2)
dGoodIBDisp:     13(2)   16(1)
DoIt:             1(1)   13(2)   16(1)
EnBank0':         5(1)    7(12)
EnBank1':         5(1)    8(12)
EnBank2':         5(1)    9(12)
EnBank3':         5(1)   10(12)
EnCS':            3(1)    4(1)
EnCSRead:         4(2)
EnCSWrite:        4(2)
EnHB':            3(1)   11(1)
EnHBRead:        11(2)
EnHBWrite:       11(2)
ExtAdvance':     13(2)   15(1)
ExtData.0:       13(1)   14(1)
ExtData.1:       13(1)   14(1)
ExtData.2:       13(1)   14(1)
ExtData.3:       13(1)   14(1)
ExtData.4:       13(1)   14(1)
ExtData.5:       13(1)   14(1)
ExtData.6:       13(1)   14(1)
ExtData.7:       13(1)   14(1)
ExtMatch':       12(1)   13(1)
ExtTrigger':     12(1)   13(1)   15(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)
GND:             16(21)
HBAddr.0:        13(2)   14(2)
HBAddr.1:        13(2)   14(2)
HBAddr.2:        13(2)   14(2)
HBAddr.3:        13(2)   14(2)
HBAddr.4:        13(2)   14(2)
HBAddr.5:        13(2)   14(2)
HBAddr.6:        13(2)   14(2)
HBAddr.7:        13(2)   14(2)
HBCnt.0:         13(2)
HBCnt.1:         13(2)
HBCnt.2:         13(2)
HBCnt.3:         13(2)
HBCnt.4:         13(2)
HBCnt.5:         13(2)
HBCnt.6:         13(2)
HBCnt.7:         13(2)
```

HBData.0:	14(2)					
HBData.1:	14(2)					
HBData.2:	14(2)					
HBData.3:	14(2)					
HBData.4:	14(2)					
HBData.5:	14(2)					
HBData.6:	14(2)					
HBData.7:	14(2)					
HBDone:	1(1)	13(1)				
HBMode.0:	11(1)	13(1)				
HBMode.1:	11(1)	13(1)				
HBMode.2:	11(1)	13(1)				
HBReg.0:	11(2)					
HBReg.1:	11(2)					
HBReg.2:	11(2)					
HBWE':	14(3)					
IncCSA':	4(1)	5(1)				
IncHBA':	11(1)	13(1)				
INIT/:	2(1)	16(1)				
IORC/:	2(3)	16(1)				
IORef:	13(2)	16(1)				
IOWC/:	2(2)	16(1)				
ManTrig:	11(1)	12(1)				
MapRef:	13(2)	16(1)				
MatchHigh':	12(2)					
MatchLow':	12(2)					
MBCmdSel':	2(2)					
MBIdle:	1(1)	16(1)				
MBRdAddr':	2(1)	3(1)				
MBRdData':	2(1)	3(1)				
MBSel:	2(3)					
MBWrAddr':	2(1)	3(1)				
MBWrData':	2(1)	3(1)				
NIA.0:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.1:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.10:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.11:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.2:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.3:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.4:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.5:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.6:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.7:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.8:	5(2)	6(1)	12(1)	14(1)	16(1)	
NIA.9:	5(2)	6(1)	12(1)	14(1)	16(1)	
paD.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paD.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paF.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paF.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paF.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paS.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paS.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
paS.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pCIn:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pEnU:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pEP:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfS.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfS.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfS.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfS.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfX.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfX.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfX.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfX.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfY.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfY.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfY.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfY.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfZ.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfZ.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfZ.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pfZ.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pMem:	6(1)	7(1)	8(1)	9(1)	10(1)	13(2)
	16(1)					
pNIA.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.10':	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.11':	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.4:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.5:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.6:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.7:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.8':	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
pNIA.9':	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prA.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prA.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prA.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prA.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prB.0:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prB.1:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prB.2:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
prB.3:	6(1)	7(1)	8(1)	9(1)	10(1)	16(1)
PreArcA:	3(1)	14(1)				
PreArcB:	1(1)	3(1)				
PreArcC:	3(1)	4(1)				
PrePreArc':	1(1)	3(1)				
PUa:	1(1)	2(1)	5(1)	15(1)		
PUb:	13(4)	14(2)	15(1)			
RawClk:	3(1)	15(1)	16(1)			

RdAddr':	3(2)	4(1)	11(1)
RdData':	3(1)	4(1)	11(1)
RdMatchHigh':	11(1)	12(1)	
RdMatchLow':	11(1)	12(1)	
RdNIAHigh':	4(1)	6(1)	
RdNIALow':	4(1)	6(1)	
ReadCnt':	11(1)	13(1)	
ReadCSA':	3(1)	4(1)	
ReadDebA':	1(1)	16(1)	
ReadHB.0':	11(1)	14(2)	
ReadHB.1':	11(1)	14(2)	
ReadHB.2':	11(1)	14(2)	
ReadHBA':	11(1)	13(1)	
ReadNIA:	3(1)	5(1)	16(1)
ReadStatus':	11(2)		
ReadTemp':	4(2)		
Run:	3(1)	12(1)	13(1) 16(1)
sADR1':	2(2)		
sDebAddr.14:	1(3)		
sDebAddr.15:	1(3)		
sDebRead':	1(2)		
sDebWrite':	1(3)		
sIORC':	2(2)		
sIOWC':	2(2)		
sMBSel:	2(2)		
SW.0:	2(1)	5(1)	15(1)
SW.1:	2(1)	5(1)	15(1)
Triggered':	12(1)	13(2)	
UseRom:	1(1)	5(1)	16(1)
VCC:	15(2)	16(8)	17(4)
WrAddr':	3(2)		
WrAddrP:	3(2)	4(1)	11(1)
WrCSAHigh':	4(1)	5(1)	
WrCSALow':	4(1)	5(1)	
WrData':	3(1)	4(1)	11(1)
WriteCnt':	11(1)	12(1)	13(1)
WriteCtrl':	11(2)		
WriteDebB':	1(1)	16(1)	
WriteHB':	11(1)	14(3)	
WriteHBA':	11(1)	13(1)	
WriteTemp:	4(2)		
WrMatchHigh':	11(1)	12(1)	
WrMatchLow':	11(1)	12(1)	
XACK/:	2(1)	16(1)	

-/2/J:

#c1	#c10	#c100	#c101	#c102	#c103	#c104	#c105
#c106	#c107	#c108	#c109	#c11	#c110	#c111	#c112
#c113	#c114	#c115	#c116	#c117	#c118	#c119	#c12
#c120	#c121	#c122	#c123	#c124	#c125	#c126	#c127
#c128	#c129	#c13	#c130	#c14	#c15	#c16	#c17
#c18	#c19	#c2	#c20	#c21	#c22	#c23	#c24
#c25	#c26	#c27	#c28	#c29	#c3	#c30	#c31
#c32	#c33	#c34	#c35	#c36	#c37	#c38	#c39
#c4	#c40	#c41	#c42	#c43	#c44	#c45	#c46
#c47	#c49	#c5	#c50	#c51	#c52	#c53	#c54
#c55	#c56	#c57	#c58	#c59	#c6	#c60	#c61
#c62	#c63	#c64	#c65	#c66	#c67	#c68	#c69
#c7	#c70	#c71	#c72	#c73	#c74	#c75	#c76
#c77	#c79	#c8	#c80	#c81	#c82	#c83	#c84
#c85	#c86	#c87	#c88	#c89	#c9	#c90	#c91
#c92	#c93	#c94	#c95	#c96	#c97	#c98	#c99
#r0	#r1	#r10	#r11	#r12	#r2	#r3	#r4
#r5	#r6	#r7	#r8	#r9			

1420/20/N:

#u1	#u11	#u12	#u13	#u14	#u15	#u16	#u2
#u21	#u22	#u23	#u24	#u25	#u26	#u3	#u31
#u32	#u33	#u34	#u35	#u36	#u4	#u41	#u42
#u43	#u44	#u45	#u46	#u5	#u51	#u52	#u53
#u54	#u55	#u56	#u6	#u61	#u62	#u63	#u64
#u65	#u66	#u71	#u72	#u73	#u74	#u75	#u76

16L8/20/N:

#u30

16R6/20/N:

#u20 #u8 #u91

74ALS569/20/N:

#u57 #u67 #u77 #u87

74ALS576/20/N:

#u127

74LS164/14/N:

#u121

74LS245/20/N:

#u81 #u82 #u83 #u84 #u85 #u86 #u9

74LS640/20/N:

#u126

74LS682/20/N:

#u124 #u125 #u59 #u99

74S00/14/N:

#u102 #u108 #u128

74S02/14/N:

#u113 #u118

74S08/14/N:

#u27

74S138/16/N:

#u101 #u110 #u120 #u93 #u94

74S139/16/N:

#u117

74S157/16/N:

#u29 #u39 #u95 #u96

74S163/16/N:

#u100 #u50 #u70 #u80

74S175/16/N:

#u18

74S240/20/N:

#u7

74S244/20/N:

#u116 #u119 #u19 #u37 #u47 #u49 #u60 #u69

```
    #u89        #u90
74S32/14/N:
    #u106       #u17
74S374/20/N:
    #u109       #u112       #u79        #u92
74S38/14/N:
    #u122
8SIP/8/J1W:
    ?
8xSPST/16/J:
    #u114       #u115
93422/22/F4W:
    #u28        #u38        #u58        #u68        #u88        #u98
AMD25S09/16/N:
    #u107
AMD25S18/16/N:
    #u40
AMD27S27/22/N4W:
    #u103       #u104       #u105
AMD27S29/20/N:
    #u97
OSCILLATOR/14/N:
    #u0
PLAT20/20/J:
    #u10
Spare20/20/J:
    #u111       #u123       #u129       #u130
```

```
Universal
;File=DCSD-Rev-L.sil Rev=L Date=2/20/84 Page=00 Reference  -MARKED BUILT-
;File=DCSD01.sil Rev=L Date=2/20/84 Page=01  -MARKED BUILT-
;File=DCSD02.sil Rev=L Date=2/20/84 Page=02  -MARKED BUILT-
;File=DCSD03.sil Rev=L Date=2/20/84 Page=03  -MARKED BUILT-
;File=DCSD04.sil Rev=L Date=6/15/83 Page=04  -MARKED BUILT-
;File=DCSD05.sil Rev=L Date=2/20/84 Page=05  MARKED BUILT
;File=DCSD06.sil Rev=L Date=6/19/83 Page=06  -MARKED BUILT-
;File=DCSD07.sil Rev=L Date=6/14/83 Page=07  -MARKED BUILT-
;File=DCSD08.sil Rev=L Date=6/14/83 Page=08  -MARKED BUILT-
;File=DCSD09.sil Rev=L Date=6/14/83 Page=09  -MARKED BUILT-
;File=DCSD10.sil Rev=L Date=6/14/83 Page=10  -MARKED BUILT-
;File=DCSD11.sil Rev=L Date=6/14/83 Page=11  -MARKED BUILT-
;File=DCSD12.sil Rev=L Date=2/20/84 Page=12  -MARKED BUILT-
;File=DCSD13.sil Rev=L Date=6/14/83 Page=13  -MARKED BUILT-
;File=DCSD14.sil Rev=L Date=6/14/83 Page=14  -MARKED BUILT-
;File=DCSD15.sil Rev=L Date=2/20/84 Page=15  -MARKED BUILT-
;File=DCSD16.sil Rev=L Date=6/14/83 Page=16  -MARKED BUILT-
;File=DCSD17.sil Rev=L Date=2/20/84 Page=17  -MARKED BUILT-
;File=DCSD18.sil Rev=L Date=6/15/83 Page=18 Reference  -MARKED BUILT-
;File=DCSD19.sil Rev=L Date=5/07/83 Page=19 Reference  -MARKED BUILT-
;File=DCSD20.sil Rev=L Date=2/20/84 Page=20 Reference  -MARKED BUILT-
;File=DCSD21.sil Rev=L Date=2/20/84 Page=21 Reference  -MARKED BUILT-
;File=DCSD22.sil Rev=L Date=2/20/84 Page=22 Reference  -MARKED BUILT-
; Implicitly generated wiring ...

#c1: (-/2/J) ;
#c10: (-/2/J) ;
#c100: (-/2/J) ;
#c101: (-/2/J) ;
#c102: (-/2/J) ;
#c103: (-/2/J) ;
#c104: (-/2/J) ;
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#c110: (-/2/J) ;
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#c47: (-/2/J) ;
#c49: (-/2/J) ;
#c5: (-/2/J) ;
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#c98: (-/2/J) ;
#c99: (-/2/J) ;
#r0: (-/2/J) ;
#r1: (-/2/J) ;
#r10: (-/2/J) ;
#r11: (-/2/J) ;
#r12: (-/2/J) ;
#r2: (-/2/J) ;
#r3: (-/2/J) ;
#r4: (-/2/J) ;
#r5: (-/2/J) ;
#r6: (-/2/J) ;
#r7: (-/2/J) ;
#r8: (-/2/J) ;
#r9: (-/2/J) ;
#u0: (OSCILLATOR/14/N) ; 1,2,3,4,5,6,9,10,11,12,13
#u1: (1420/20/N) ;
#u10: (PLAT20/20/J) ; 19
#u100: (74S163/16/N) ;
#u101: (74S138/16/N) ; 7,9,14,15
#u102: (74S00/14/N) ;
#u103: (AMD27S27/22/N4W) ;
#u104: (AMD27S27/22/N4W) ; 14,15
#u105: (AMD27S27/22/N4W) ;
#u106: (74S32/14/N) ; 11,12,13
#u107: (AMD25S09/16/N) ;
#u108: (74S00/14/N) ; 11,12,13
#u109: (74S374/20/N) ;
#u11: (1420/20/N) ;
#u110: (74S138/16/N) ;
#u111: (Spare20/20/J) ; 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19
#u112: (74S374/20/N) ;
#u113: (74S02/14/N) ;
#u114: (8xSPST/16/J) ;
#u115: (8xSPST/16/J) ;
#u116: (74S244/20/N) ;
#u117: (74S139/16/N) ;
#u118: (74S02/14/N) ;
#u119: (74S244/20/N) ;
#u12: (1420/20/N) ;
#u120: (74S138/16/N) ; 12,13
#u121: (74LS164/14/N) ; 3,4,5,6,10,11,13
#u122: (74S38/14/N) ; 8,9,10,11,12,13
#u123: (Spare20/20/J) ; 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19
#u124: (74LS682/20/N) ; 1
#u125: (74LS682/20/N) ; 1
#u126: (74LS640/20/N) ;
#u127: (74ALS576/20/N) ; 4,5,16,17
#u128: (74S00/14/N) ; 8,9,10,11,12,13
#u129: (Spare20/20/J) ; 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19
```

```
#u13: (1420/20/N) ;
#u130: (Spare20/20/J) ; 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19
#u14: (1420/20/N) ;
#u15: (1420/20/N) ;
#u16: (1420/20/N) ;
#u17: (74S32/14/N) ;
#u18: (74S175/16/N) ; 2,7,10,15
#u19: (74S244/20/N) ;
#u2: (1420/20/N) ;
#u20: (16R6/20/N) ; 13,14,17,18
#u21: (1420/20/N) ;
#u22: (1420/20/N) ;
#u23: (1420/20/N) ;
#u24: (1420/20/N) ;
#u25: (1420/20/N) ;
#u26: (1420/20/N) ;
#u27: (74S08/14/N) ; 8,9,10,11,12,13
#u28: (93422/22/F4W) ;
#u29: (74S157/16/N) ;
#u3: (1420/20/N) ;
#u30: (16L8/20/N) ;
#u31: (1420/20/N) ;
#u32: (1420/20/N) ;
#u33: (1420/20/N) ;
#u34: (1420/20/N) ;
#u35: (1420/20/N) ;
#u36: (1420/20/N) ;
#u37: (74S244/20/N) ; 3,5,15,17
#u38: (93422/22/F4W) ;
#u39: (74S157/16/N) ;
#u4: (1420/20/N) ;
#u40: (AMD25S18/16/N) ;
#u41: (1420/20/N) ;
#u42: (1420/20/N) ;
#u43: (1420/20/N) ;
#u44: (1420/20/N) ;
#u45: (1420/20/N) ;
#u46: (1420/20/N) ;
#u47: (74S244/20/N) ; 3,5,15,17
#u49: (74S244/20/N) ;
#u5: (1420/20/N) ;
#u50: (74S163/16/N) ; 15
#u51: (1420/20/N) ;
#u52: (1420/20/N) ;
#u53: (1420/20/N) ;
#u54: (1420/20/N) ;
#u55: (1420/20/N) ;
#u56: (1420/20/N) ;
#u57: (74ALS569/20/N) ; 18
#u58: (93422/22/F4W) ;
#u59: (74LS682/20/N) ; 1
#u6: (1420/20/N) ;
#u60: (74S244/20/N) ;
#u61: (1420/20/N) ;
#u62: (1420/20/N) ;
#u63: (1420/20/N) ;
#u64: (1420/20/N) ;
#u65: (1420/20/N) ;
#u66: (1420/20/N) ;
#u67: (74ALS569/20/N) ; 18
#u68: (93422/22/F4W) ;
#u69: (74S244/20/N) ;
#u7: (74S240/20/N) ;
#u70: (74S163/16/N) ;
#u71: (1420/20/N) ;
#u72: (1420/20/N) ;
#u73: (1420/20/N) ;
#u74: (1420/20/N) ;
#u75: (1420/20/N) ;
#u76: (1420/20/N) ;
#u77: (74ALS569/20/N) ; 18
#u79: (74S374/20/N) ;
#u8: (16R6/20/N) ; 16,17
#u80: (74S163/16/N) ;
#u81: (74LS245/20/N) ;
#u82: (74LS245/20/N) ;
#u83: (74LS245/20/N) ;
#u84: (74LS245/20/N) ;
#u85: (74LS245/20/N) ;
#u86: (74LS245/20/N) ;
#u87: (74ALS569/20/N) ; 18,19
#u88: (93422/22/F4W) ;
#u89: (74S244/20/N) ;
#u9: (74LS245/20/N) ;
#u90: (74S244/20/N) ;
#u91: (16R6/20/N) ; 13,18
#u92: (74S374/20/N) ;
#u93: (74S138/16/N) ;
#u94: (74S138/16/N) ;
#u95: (74S157/16/N) ;
#u96: (74S157/16/N) ;
#u97: (AMD27S29/20/N) ; 11,12,13,14
#u98: (93422/22/F4W) ;
#u99: (74LS682/20/N) ; 1
?: (8SIP/8/J1W) ;
@

CALIBRATE: <1>   ; INSTALL welder nose, board wiring side up ...
    #TopRight {0,0}       #TopLeft {0,0}        #? {0,0}              #? {0,0}

ADR1/: <339> (236)
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    E158 {120,4}          #u112.7i {272,88}

ADR2/: <312> (184)
    E155 {108,4}          #u125.13i {204,92}

ADR3/: <314> (188)
    E156 {112,4}          #u125.11i {204,100}

ADR4/: <309> (180)
    E153 {100,4}          #u125.8i {192,92}

ADR5/: <303> (168)
    E154 {104,4}          #u125.6i {192,84}

ADR6/: <304> (172)
    E151 {92,4}           #u125.4i {192,76}

ADR7/: <299> (160)
    E152 {96,4}           #u125.2i {192,68}

ADR8/: <307> (176)
    E149 {84,4}           #u124.17i {188,76}

ADR9/: <310> (180)
    E150 {88,4}           #u124.15i {188,84}

ADRA/: <328> (200)
    E147 {76,4}           #u124.13i {188,92}

ADRB/: <334> (204)
    E148 {80,4}           #u124.11i {188,100}

ADRC/: <325> (196)
    E145 {68,4}           #u124.8i {176,92}

ADRD/: <313> (184)
    E146 {72,4}           #u124.6i {176,84}

ADRE/: <315> (188)
    E143 {60,4}           #u124.4i {176,76}

ADRF/: <308> (176)
    E144 {64,4}           #u124.2i {176,68}

Advance': <28> (340)
    #u118.12i {44,72}     #u30.12o {156,184}    #u108.4i {240,164}    #u108.1i {240,152}

Arc'a: <50> (340)
    #u112.11i {284,100}   #u7.9o {336,96}       #u91.1i {368,64}      #u87.2i {536,68}
    #u77.2i {552,68}      #u67.2i {568,68}      #u57.2i {584,68}

Arc'b: <83> (1004)
    #u20.1i {64,152}      #u127.11i {140,100}   #u80.2i {208,156}     #u100.2i {224,156}
    #u121.8i {316,88}     #u7.7o {336,88}       #u105.16i {848,132}

Arc'c: <51> (368)
    #u104.16i {452,88}    #u103.16i {416,88}    #u107.9i {364,92}     #u7.5o {336,80}
    #u50.2i {192,156}     #u70.2i {176,156}

Bank.0: <194> (1012)
    #u99.2i {0,156}       #u89.2i {16,112}      C303 {188,40}         #u98.9i {296,184}
    #u87.13o {548,92}     #u97.1i {632,64}

Bank.1: <197> (1032)
    #u99.4i {0,164}       #u89.4i {16,120}      C304 {192,40}         #u98.11i {296,192}
    #u87.14o {548,88}     #u97.2i {632,68}

Bank.2: <196> (1028)
    #u99.6i {0,172}       #u89.6i {16,128}      C305 {196,40}         #u98.13i {312,188}
    #u87.15o {548,84}     #u97.3i {632,72}

Bank.3: <195> (1016)
    #u99.8i {0,180}       #u89.8i {16,136}      C306 {200,40}         #u98.15i {312,180}
    #u87.16o {548,80}     #u97.4i {632,76}

BPRN/: <3> (4)
    E115 {460,0}          E116 {464,0}

CntDone: <228> (80)
    #u30.3i {144,160}     #u80.15o {220,156}

CSAddr.0: <77> (872)
    #u73.16i {828,124}    #u71.16i {812,124}    #u75.16i {796,124}    #u65.16i {780,124}
    #u61.16i {764,124}    #u63.16i {748,124}    #u74.16i {732,124}    #u72.16i {716,124}
    #u76.16i {700,124}    #u66.16i {684,124}    #u62.16i {668,124}    #r0.2o {660,64}
    #u64.16i {652,124}    #u53.16i {636,124}    #u51.16i {620,124}    #u55.16i {604,124}
    #u45.16i {588,124}    #u41.16i {572,124}    #u43.16i {556,124}    #u54.16i {540,124}
    #u52.16i {524,124}    #u56.16i {508,124}    #u46.16i {492,124}    #u42.16i {476,124}
    #u44.16i {460,124}    #u33.16i {444,124}    #u31.16i {428,124}    #u35.16i {412,124}
    #u25.16i {396,124}    #u21.16i {380,124}    #u23.16i {364,124}    #u34.16i {348,124}
    #u32.16i {332,124}    #u36.16i {316,124}    #u26.16i {300,124}    #u22.16i {284,124}
    #u24.16i {268,124}    #u5.16i {252,124}     #u13.16i {236,124}    #u11.16i {220,124}
    #u15.16i {204,124}    #u1.16i {188,124}     #u3.16i {172,124}     #u14.16i {156,124}
    #u12.16i {140,124}    #u16.16i {124,124}    #u6.16i {108,124}     #u2.16i {92,124}
    #u4.16i {76,124}

CSAddr.1: <73> (864)
    #u73.17i {828,120}    #u71.17i {812,120}    #u75.17i {796,120}    #u65.17i {780,120}
    #u61.17i {764,120}    #u63.17i {748,120}    #u74.17i {732,120}    #u72.17i {716,120}
    #u76.17i {700,120}    #u66.17i {684,120}    #r1.2o {676,64}       #u62.17i {668,120}
    #u64.17i {652,120}    #u53.17i {636,120}    #u51.17i {620,120}    #u55.17i {604,120}
```

```
    #u45.17i {588,120}    #u41.17i {572,120}    #u43.17i {556,120}    #u54.17i {540,120}
    #u52.17i {524,120}    #u56.17i {508,120}    #u46.17i {492,120}    #u42.17i {476,120}
    #u44.17i {460,120}    #u33.17i {444,120}    #u31.17i {428,120}    #u35.17i {412,120}
    #u25.17i {396,120}    #u21.17i {380,120}    #u23.17i {364,120}    #u34.17i {348,120}
    #u32.17i {332,120}    #u36.17i {316,120}    #u26.17i {300,120}    #u22.17i {284,120}
    #u24.17i {268,120}    #u5.17i {252,120}     #u13.17i {236,120}    #u11.17i {220,120}
    #u15.17i {204,120}    #u1.17i {188,120}     #u3.17i {172,120}     #u14.17i {156,120}
    #u12.17i {140,120}    #u16.17i {124,120}    #u6.17i {108,120}     #u2.17i {92,120}
    #u4.17i {76,120}

CSAddr.10: <66> (824)
    #u4.7i {64,132}       #u2.7i {80,132}       #u6.7i {96,132}       #u16.7i {112,132}
    #u12.7i {128,132}     #u14.7i {144,132}     #u3.7i {160,132}      #u1.7i {176,132}
    #u15.7i {192,132}     #u11.7i {208,132}     #u13.7i {224,132}     #u5.7i {240,132}
    #u24.7i {256,132}     #u22.7i {272,132}     #u26.7i {288,132}     #u36.7i {304,132}
    #u32.7i {320,132}     #u34.7i {336,132}     #u23.7i {352,132}     #u21.7i {368,132}
    #u25.7i {384,132}     #u35.7i {400,132}     #u31.7i {416,132}     #u33.7i {432,132}
    #u44.7i {448,132}     #u42.7i {464,132}     #u46.7i {480,132}     #u56.7i {496,132}
    #u52.7i {512,132}     #u54.7i {528,132}     #u43.7i {544,132}     #u41.7i {560,132}
    #u45.7i {576,132}     #u55.7i {592,132}     #u51.7i {608,132}     #u53.7i {624,132}
    #u64.7i {640,132}     #u62.7i {656,132}     #u66.7i {672,132}     #u76.7i {688,132}
    #u72.7i {704,132}     #u74.7i {720,132}     #u63.7i {736,132}     #u61.7i {752,132}
    #u65.7i {768,132}     #u75.7i {784,132}     #u71.7i {800,132}     #u73.7i {816,132}
    #r10.2o {820,64}

CSAddr.11: <68> (844)
    #u4.8i {64,136}       #u2.8i {80,136}       #u6.8i {96,136}       #u16.8i {112,136}
    #u12.8i {128,136}     #u14.8i {144,136}     #u3.8i {160,136}      #u1.8i {176,136}
    #u15.8i {192,136}     #u11.8i {208,136}     #u13.8i {224,136}     #u5.8i {240,136}
    #u24.8i {256,136}     #u22.8i {272,136}     #u26.8i {288,136}     #u36.8i {304,136}
    #u32.8i {320,136}     #u34.8i {336,136}     #u23.8i {352,136}     #u21.8i {368,136}
    #u25.8i {384,136}     #u35.8i {400,136}     #u31.8i {416,136}     #u33.8i {432,136}
    #u44.8i {448,136}     #u42.8i {464,136}     #u46.8i {480,136}     #u56.8i {496,136}
    #u52.8i {512,136}     #u54.8i {528,136}     #u43.8i {544,136}     #u41.8i {560,136}
    #u45.8i {576,136}     #u55.8i {592,136}     #u51.8i {608,136}     #u53.8i {624,136}
    #u64.8i {640,136}     #u62.8i {656,136}     #u66.8i {672,136}     #u76.8i {688,136}
    #u72.8i {704,136}     #u74.8i {720,136}     #u63.8i {736,136}     #u61.8i {752,136}
    #u65.8i {768,136}     #u75.8i {784,136}     #u71.8i {800,136}     #u73.8i {816,136}
    #r11.2o {836,64}

CSAddr.2: <76> (872)
    #u73.18i {828,116}    #u71.18i {812,116}    #u75.18i {796,116}    #u65.18i {780,116}
    #u61.18i {764,116}    #u63.18i {748,116}    #u74.18i {732,116}    #u72.18i {716,116}
    #u76.18i {700,116}    #u66.18i {684,116}    #r2.2o {692,64}       #u62.18i {668,116}
    #u64.18i {652,116}    #u53.18i {636,116}    #u51.18i {620,116}    #u55.18i {604,116}
    #u45.18i {588,116}    #u41.18i {572,116}    #u43.18i {556,116}    #u54.18i {540,116}
    #u52.18i {524,116}    #u56.18i {508,116}    #u46.18i {492,116}    #u42.18i {476,116}
    #u44.18i {460,116}    #u33.18i {444,116}    #u31.18i {428,116}    #u35.18i {412,116}
    #u25.18i {396,116}    #u21.18i {380,116}    #u23.18i {364,116}    #u34.18i {348,116}
    #u32.18i {332,116}    #u36.18i {316,116}    #u26.18i {300,116}    #u22.18i {284,116}
    #u24.18i {268,116}    #u5.18i {252,116}     #u13.18i {236,116}    #u11.18i {220,116}
    #u15.18i {204,116}    #u1.18i {188,116}     #u3.18i {172,116}     #u14.18i {156,116}
    #u12.18i {140,116}    #u16.18i {124,116}    #u6.18i {108,116}     #u2.18i {92,116}
    #u4.18i {76,116}

CSAddr.3: <72> (864)
    #u73.19i {828,112}    #u71.19i {812,112}    #u75.19i {796,112}    #u65.19i {780,112}
    #u61.19i {764,112}    #u63.19i {748,112}    #u74.19i {732,112}    #u72.19i {716,112}
    #u76.19i {700,112}    #r3.2o {708,64}       #u66.19i {684,112}    #u62.19i {668,112}
    #u64.19i {652,112}    #u53.19i {636,112}    #u51.19i {620,112}    #u55.19i {604,112}
    #u45.19i {588,112}    #u41.19i {572,112}    #u43.19i {556,112}    #u54.19i {540,112}
    #u52.19i {524,112}    #u56.19i {508,112}    #u46.19i {492,112}    #u42.19i {476,112}
    #u44.19i {460,112}    #u33.19i {444,112}    #u31.19i {428,112}    #u35.19i {412,112}
    #u25.19i {396,112}    #u21.19i {380,112}    #u23.19i {364,112}    #u34.19i {348,112}
    #u32.19i {332,112}    #u36.19i {316,112}    #u26.19i {300,112}    #u22.19i {284,112}
    #u24.19i {268,112}    #u5.19i {252,112}     #u13.19i {236,112}    #u11.19i {220,112}
    #u15.19i {204,112}    #u1.19i {188,112}     #u3.19i {172,112}     #u14.19i {156,112}
    #u12.19i {140,112}    #u16.19i {124,112}    #u6.19i {108,112}     #u2.19i {92,112}
    #u4.19i {76,112}

CSAddr.4: <69> (848)
    #u73.1i {816,108}     #u71.1i {800,108}     #u75.1i {784,108}     #u65.1i {768,108}
    #u61.1i {752,108}     #u63.1i {736,108}     #u74.1i {720,108}     #r4.2o {724,64}
    #u72.1i {704,108}     #u76.1i {688,108}     #u66.1i {672,108}     #u62.1i {656,108}
    #u64.1i {640,108}     #u53.1i {624,108}     #u51.1i {608,108}     #u55.1i {592,108}
    #u45.1i {576,108}     #u41.1i {560,108}     #u43.1i {544,108}     #u54.1i {528,108}
    #u52.1i {512,108}     #u56.1i {496,108}     #u46.1i {480,108}     #u42.1i {464,108}
    #u44.1i {448,108}     #u33.1i {432,108}     #u31.1i {416,108}     #u35.1i {400,108}
    #u25.1i {384,108}     #u21.1i {368,108}     #u23.1i {352,108}     #u34.1i {336,108}
    #u32.1i {320,108}     #u36.1i {304,108}     #u26.1i {288,108}     #u22.1i {272,108}
    #u24.1i {256,108}     #u5.1i {240,108}      #u13.1i {224,108}     #u11.1i {208,108}
    #u15.1i {192,108}     #u1.1i {176,108}      #u3.1i {160,108}      #u14.1i {144,108}
    #u12.1i {128,108}     #u16.1i {112,108}     #u6.1i {96,108}       #u2.1i {80,108}
    #u4.1i {64,108}

CSAddr.5: <70> (856)
    #u73.2i {816,112}     #u71.2i {800,112}     #u75.2i {784,112}     #u65.2i {768,112}
    #u61.2i {752,112}     #u63.2i {736,112}     #r5.2o {740,64}       #u74.2i {720,112}
    #u72.2i {704,112}     #u76.2i {688,112}     #u66.2i {672,112}     #u62.2i {656,112}
    #u64.2i {640,112}     #u53.2i {624,112}     #u51.2i {608,112}     #u55.2i {592,112}
    #u45.2i {576,112}     #u41.2i {560,112}     #u43.2i {544,112}     #u54.2i {528,112}
    #u52.2i {512,112}     #u56.2i {496,112}     #u46.2i {480,112}     #u42.2i {464,112}
    #u44.2i {448,112}     #u33.2i {432,112}     #u31.2i {416,112}     #u35.2i {400,112}
    #u25.2i {384,112}     #u21.2i {368,112}     #u23.2i {352,112}     #u34.2i {336,112}
    #u32.2i {320,112}     #u36.2i {304,112}     #u26.2i {288,112}     #u22.2i {272,112}
    #u24.2i {256,112}     #u5.2i {240,112}      #u13.2i {224,112}     #u11.2i {208,112}
    #u15.2i {192,112}     #u1.2i {176,112}      #u3.2i {160,112}      #u14.2i {144,112}
    #u12.2i {128,112}     #u16.2i {112,112}     #u6.2i {96,112}       #u2.2i {80,112}
    #u4.2i {64,112}

CSAddr.6: <71> (864)
```

```
    #u73.3i {816,116}    #u71.3i {800,116}    #u75.3i {784,116}    #u65.3i {768,116}
    #u61.3i {752,116}    #r6.2o {756,64}      #u63.3i {736,116}    #u74.3i {720,116}
    #u72.3i {704,116}    #u76.3i {688,116}    #u66.3i {672,116}    #u62.3i {656,116}
    #u64.3i {640,116}    #u53.3i {624,116}    #u51.3i {608,116}    #u55.3i {592,116}
    #u45.3i {576,116}    #u41.3i {560,116}    #u43.3i {544,116}    #u54.3i {528,116}
    #u52.3i {512,116}    #u56.3i {496,116}    #u46.3i {480,116}    #u42.3i {464,116}
    #u44.3i {448,116}    #u33.3i {432,116}    #u31.3i {416,116}    #u35.3i {400,116}
    #u25.3i {384,116}    #u21.3i {368,116}    #u23.3i {352,116}    #u34.3i {336,116}
    #u32.3i {320,116}    #u36.3i {304,116}    #u26.3i {288,116}    #u22.3i {272,116}
    #u24.3i {256,116}    #u5.3i {240,116}     #u13.3i {224,116}    #u11.3i {208,116}
    #u15.3i {192,116}    #u1.3i {176,116}     #u3.3i {160,116}     #u14.3i {144,116}
    #u12.3i {128,116}    #u16.3i {112,116}    #u6.3i {96,116}      #u2.3i {80,116}
    #u4.3i {64,116}

CSAddr.7: <75> (872)
    #u73.4i {816,120}    #u71.4i {800,120}    #u75.4i {784,120}    #u65.4i {768,120}
    #r7.2o {772,64}      #u61.4i {752,120}    #u63.4i {736,120}    #u74.4i {720,120}
    #u72.4i {704,120}    #u76.4i {688,120}    #u66.4i {672,120}    #u62.4i {656,120}
    #u64.4i {640,120}    #u53.4i {624,120}    #u51.4i {608,120}    #u55.4i {592,120}
    #u45.4i {576,120}    #u41.4i {560,120}    #u43.4i {544,120}    #u54.4i {528,120}
    #u52.4i {512,120}    #u56.4i {496,120}    #u46.4i {480,120}    #u42.4i {464,120}
    #u44.4i {448,120}    #u33.4i {432,120}    #u31.4i {416,120}    #u35.4i {400,120}
    #u25.4i {384,120}    #u21.4i {368,120}    #u23.4i {352,120}    #u34.4i {336,120}
    #u32.4i {320,120}    #u36.4i {304,120}    #u26.4i {288,120}    #u22.4i {272,120}
    #u24.4i {256,120}    #u5.4i {240,120}     #u13.4i {224,120}    #u11.4i {208,120}
    #u15.4i {192,120}    #u1.4i {176,120}     #u3.4i {160,120}     #u14.4i {144,120}
    #u12.4i {128,120}    #u16.4i {112,120}    #u6.4i {96,120}      #u2.4i {80,120}
    #u4.4i {64,120}

CSAddr.8: <78> (880)
    #u73.5i {816,124}    #u71.5i {800,124}    #u75.5i {784,124}    #r8.2o {788,64}
    #u65.5i {768,124}    #u61.5i {752,124}    #u63.5i {736,124}    #u74.5i {720,124}
    #u72.5i {704,124}    #u76.5i {688,124}    #u66.5i {672,124}    #u62.5i {656,124}
    #u64.5i {640,124}    #u53.5i {624,124}    #u51.5i {608,124}    #u55.5i {592,124}
    #u45.5i {576,124}    #u41.5i {560,124}    #u43.5i {544,124}    #u54.5i {528,124}
    #u52.5i {512,124}    #u56.5i {496,124}    #u46.5i {480,124}    #u42.5i {464,124}
    #u44.5i {448,124}    #u33.5i {432,124}    #u31.5i {416,124}    #u35.5i {400,124}
    #u25.5i {384,124}    #u21.5i {368,124}    #u23.5i {352,124}    #u34.5i {336,124}
    #u32.5i {320,124}    #u36.5i {304,124}    #u26.5i {288,124}    #u22.5i {272,124}
    #u24.5i {256,124}    #u5.5i {240,124}     #u13.5i {224,124}    #u11.5i {208,124}
    #u15.5i {192,124}    #u1.5i {176,124}     #u3.5i {160,124}     #u14.5i {144,124}
    #u12.5i {128,124}    #u16.5i {112,124}    #u6.5i {96,124}      #u2.5i {80,124}
    #u4.5i {64,124}

CSAddr.9: <79> (888)
    #u73.6i {816,128}    #u71.6i {800,128}    #r9.2o {804,64}      #u75.6i {784,128}
    #u65.6i {768,128}    #u61.6i {752,128}    #u63.6i {736,128}    #u74.6i {720,128}
    #u72.6i {704,128}    #u76.6i {688,128}    #u66.6i {672,128}    #u62.6i {656,128}
    #u64.6i {640,128}    #u53.6i {624,128}    #u51.6i {608,128}    #u55.6i {592,128}
    #u45.6i {576,128}    #u41.6i {560,128}    #u43.6i {544,128}    #u54.6i {528,128}
    #u52.6i {512,128}    #u56.6i {496,128}    #u46.6i {480,128}    #u42.6i {464,128}
    #u44.6i {448,128}    #u33.6i {432,128}    #u31.6i {416,128}    #u35.6i {400,128}
    #u25.6i {384,128}    #u21.6i {368,128}    #u23.6i {352,128}    #u34.6i {336,128}
    #u32.6i {320,128}    #u36.6i {304,128}    #u26.6i {288,128}    #u22.6i {272,128}
    #u24.6i {256,128}    #u5.6i {240,128}     #u13.6i {224,128}    #u11.6i {208,128}
    #u15.6i {192,128}    #u1.6i {176,128}     #u3.6i {160,128}     #u14.6i {144,128}
    #u12.6i {128,128}    #u16.6i {112,128}    #u6.6i {96,128}      #u2.6i {80,128}
    #u4.6i {64,128}

CSRE.0': <370> (540)
    #u84.19i {12,112}    #u93.13o {516,76}

CSRE.1': <365> (396)
    #u83.19i {900,68}    #u93.12o {516,80}

CSRE.2': <363> (384)
    #u82.19i {884,68}    #u93.11o {516,84}

CSRE.3': <360> (356)
    #u81.19i {852,68}    #u93.10o {516,88}

CSRE.4': <361> (376)
    #u86.19i {868,68}    #u93.9o {516,92}

CSRE.5': <369> (468)
    #u85.19i {60,112}    #u93.7o {504,88}

CSReg.0: <144> (88)
    #u116.2i {456,68}    #u95.2i {420,68}     #u103.10o {400,100}

CSReg.1: <41> (120)
    #u103.12o {416,104}  #u95.5i {420,80}     #u116.4i {456,76}    #u94.3i {488,72}
    #u93.3i {504,72}

CSReg.2: <40> (120)
    #u103.13o {416,100}  #u95.11i {432,84}    #u116.6i {456,84}    #u94.2i {488,68}
    #u93.2i {504,68}

CSReg.3: <44> (160)
    #u95.14i {432,72}    #u103.14o {416,96}   #u116.8i {456,92}    #u94.1i {488,64}
    #u93.1i {504,64}

CSRun: <190> (60)
    #u103.15o {416,92}   #u27.1i {384,64}

CSWE.0': <233> (872)
    #u4.11i {76,144}     #u14.11i {156,144}   #u24.11i {268,144}   #u34.11i {348,144}
    #u44.11i {460,144}   #u54.11i {540,144}   #u94.13o {500,76}    #u64.11i {652,144}
    #u74.11i {732,144}

CSWE.1': <202> (896)
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    #u3.11i {172,144}     #u13.11i {236,144}    #u23.11i {364,144}    #u33.11i {444,144}
    #u43.11i {556,144}    #u94.12o {500,80}     #u53.11i {636,144}    #u63.11i {748,144}
    #u73.11i {828,144}

CSWE.2': <173> (792)
    #u2.11i {92,144}      #u12.11i {140,144}    #u22.11i {284,144}    #u32.11i {332,144}
    #u42.11i {476,144}    #u52.11i {524,144}    #u94.11o {500,84}     #u62.11i {668,144}
    #u72.11i {716,144}

CSWE.3': <133> (736)
    #u1.11i {188,144}     #u11.11i {220,144}    #u21.11i {380,144}    #u31.11i {428,144}
    #u94.10o {500,88}     #u41.11i {572,144}    #u51.11i {620,144}    #u61.11i {764,144}
    #u71.11i {812,144}

CSWE.4': <63> (712)
    #u6.11i {108,144}     #u16.11i {124,144}    #u26.11i {300,144}    #u36.11i {316,144}
    #u46.11i {492,144}    #u56.11i {508,144}    #u94.9o {500,92}      #u66.11i {684,144}
    #u76.11i {700,144}

CSWE.5': <62> (704)
    #u15.11i {204,144}    #u5.11i {252,144}     #u25.11i {396,144}    #u35.11i {412,144}
    #u94.7o {488,88}      #u45.11i {588,144}    #u55.11i {604,144}    #u65.11i {780,144}
    #u75.11i {796,144}

CSWrite: <82> (932)
    #u84.1i {0,108}       #u85.1i {48,108}      #u103.6i {400,84}     #u104.6i {436,84}
    #u113.4o {472,76}     #u81.1i {840,64}      #u86.1i {856,64}      #u82.1i {872,64}
    #u83.1i {888,64}

Cycle1: <170> (460)
    #u19.13i {12,92}      #u10.8i {128,180}     #u30.18o {156,160}    C446 {248,44}

Cycle2: <171> (472)
    #u19.15i {12,84}      #u10.9i {128,184}     #u30.17o {156,164}    C445 {244,44}

Cycle3: <172> (500)
    #u19.17i {12,76}      #u10.10i {128,188}    #u30.16o {156,168}    C448 {256,44}

DAT0/: <329> (200)
    E173 {180,4}          #u126.9i {288,96}

DAT1/: <316> (192)
    E174 {184,4}          #u126.8i {288,92}

DAT2/: <330> (200)
    E171 {172,4}          #u126.7i {288,88}

DAT3/: <317> (192)
    E172 {176,4}          #u126.6i {288,84}

DAT4/: <331> (200)
    E169 {164,4}          #u126.5i {288,80}

DAT5/: <318> (192)
    E170 {168,4}          #u126.4i {288,76}

DAT6/: <332> (200)
    E167 {156,4}          #u126.3i {288,72}

DAT7/: <319> (192)
    E168 {160,4}          #u126.2i {288,68}

Data.0: <15> (1696)
    #u39.2i {392,156}     #u84.2i {0,112}       #u89.18o {28,116}     #u9.18o {28,72}
    #u49.18o {44,116}     #u85.2i {48,112}      #u119.18o {28,160}    #u69.18o {44,160}
    #u109.3i {80,160}     #u79.3i {96,160}      #u60.18o {124,160}    #u90.18o {172,160}
    #u50.6i {192,172}     #u80.6i {208,172}     #u68.10o {256,188}    #u38.10o {276,188}
    #u98.10o {296,188}    #u126.18o {300,72}    #u91.4i {368,76}      #u91.17o {380,76}
    #u92.3i {520,72}      #u92.2o {520,68}      #u87.6i {536,84}      #u67.6i {568,84}
    #u81.2i {840,68}      #u86.2i {856,68}      #u82.2i {872,68}      #u83.2i {888,68}

Data.1: <9> (1444)
    #u84.3i {0,116}       #u89.16o {28,124}     #u9.17o {28,76}       #u49.16o {44,124}
    #u85.3i {48,116}      #u119.16o {28,168}    #u69.16o {44,168}     #u109.4i {80,164}
    #u79.4i {96,164}      #u60.16o {124,168}    #u90.16o {172,168}    #u50.5i {192,168}
    #u80.5i {208,168}     #u68.12o {272,192}    #u38.12o {292,192}    #u98.12o {312,192}
    #u39.5i {392,168}     #u91.16o {380,80}     #u91.5i {368,80}      #u126.17o {300,76}
    #u92.5o {520,80}      #u92.4i {520,76}      #u87.5i {536,80}      #u67.5i {568,80}
    #u81.3i {840,72}      #u86.3i {856,72}      #u82.3i {872,72}      #u83.3i {888,72}

Data.2: <10> (1476)
    #u84.4i {0,120}       #u89.14o {28,132}     #u9.16o {28,80}       #u49.14o {44,132}
    #u85.4i {48,120}      #u119.14o {28,176}    #u69.14o {44,176}     #u109.7i {80,176}
    #u79.7i {96,176}      #u60.14o {124,176}    #u90.14o {172,176}    #u50.4i {192,164}
    #u80.4i {208,164}     #u68.14o {272,184}    #u38.14o {292,184}    #u98.14o {312,184}
    #u39.11i {404,172}    #u91.15o {380,84}     #u91.6i {368,84}      #u126.16o {300,80}
    #u92.6o {520,84}      #u92.7i {520,88}      #u87.4i {536,76}      #u67.4i {568,76}
    #u81.4i {840,76}      #u86.4i {856,76}      #u82.4i {872,76}      #u83.4i {888,76}

Data.3: <16> (1796)
    #u39.14i {404,160}    #u68.16o {272,176}    #u80.3i {208,160}     #u50.3i {192,160}
    #u90.12o {172,184}    #u60.12o {124,184}    #u79.8i {96,180}      #u109.8i {80,180}
    #u69.12o {44,184}     #u119.12o {28,184}    #u89.12o {28,140}     #u9.15o {28,84}
    #u49.12o {44,140}     #u85.5i {48,124}      #u84.5i {0,124}       #u98.16o {312,176}
    #u38.16o {292,176}    #u126.15o {300,84}    #u91.7i {368,88}      #u91.14o {380,88}
    #u92.8i {520,92}      #u92.9o {520,96}      #u87.3i {536,72}      #u67.3i {568,72}
    #u81.5i {840,80}      #u86.5i {856,80}      #u82.5i {872,80}      #u83.5i {888,80}

Data.4: <14> (1552)
    #u96.3i {852,116}     #u40.3o {900,116}     #u40.1i {900,108}     #u83.6i {888,84}
    #u82.6i {872,84}      #u86.6i {856,84}      #u81.6i {840,84}      #u57.6i {584,84}
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    #u77.6i {552,84}      #u92.13i {532,92}     #u92.12o {532,96}     #u116.9o {456,96}
    #u116.18o {468,72}    #u95.3i {420,72}      #u126.14o {300,88}    #u29.2i {376,156}
    #u58.10o {356,188}    #u28.10o {336,188}    #u88.10o {316,188}    #u100.6i {224,172}
    #u70.6i {176,172}     #u90.9o {160,184}     #u60.9o {112,184}     #u79.13i {108,180}
    #u109.13i {92,180}    #u69.9o {32,184}      #u119.9o {16,184}     #u89.9o {16,140}
    #u49.9o {32,140}      #u9.14o {28,88}       #u85.6i {48,128}      #u84.6i {0,128}

Data.5: <13> (1512)
    #u96.6i {852,128}     #u40.6o {900,128}     #u40.4i {900,120}     #u83.7i {888,88}
    #u82.7i {872,88}      #u86.7i {856,88}      #u81.7i {840,88}      #u57.5i {584,80}
    #u77.5i {552,80}      #u92.15o {532,84}     #u92.14i {532,88}     #u116.16o {468,80}
    #u116.7o {456,88}     #u95.6i {420,84}      #u126.13o {300,92}    #u29.5i {376,168}
    #u58.12o {372,192}    #u28.12o {352,192}    #u88.12o {332,192}    #u100.5i {224,168}
    #u70.5i {176,168}     #u90.7o {160,176}     #u60.7o {112,176}     #u79.14i {108,176}
    #u109.14i {92,176}    #u69.7o {32,176}      #u119.7o {16,176}     #u89.7o {16,132}
    #u49.7o {32,132}      #u9.13o {28,92}       #u85.7i {48,132}      #u84.7i {0,132}

Data.6: <12> (1492)
    #u84.8i {0,136}       #u85.8i {48,136}      #u9.12o {28,96}       #u49.5o {32,124}
    #u89.5o {16,124}      #u119.5o {16,168}     #u69.5o {32,168}      #u109.17i {92,164}
    #u79.17i {108,164}    #u60.5o {112,168}     #u90.5o {160,168}     #u70.4i {176,164}
    #u100.4i {224,164}    #u126.12o {300,96}    #u88.14o {332,184}    #u28.14o {352,184}
    #u58.14o {372,184}    #u29.11i {388,172}    #u95.10i {432,88}     #u116.5o {456,80}
    #u116.14o {468,88}    #u92.16o {532,80}     #u92.17i {532,76}     #u77.4i {552,76}
    #u57.4i {584,76}      #u81.8i {840,92}      #u86.8i {856,92}      #u82.8i {872,92}
    #u83.8i {888,92}      #u40.12i {912,124}    #u40.10o {912,132}    #u96.10i {864,132}

Data.7: <11> (1488)
    #u96.13i {864,120}    #u40.13o {912,120}    #u40.15i {912,112}    #u83.9i {888,96}
    #u82.9i {872,96}      #u86.9i {856,96}      #u81.9i {840,96}      #u57.3i {584,72}
    #u77.3i {552,72}      #u92.18i {532,72}     #u92.19o {532,68}     #u116.3o {456,72}
    #u116.12o {468,96}    #u95.13i {432,76}     #u29.14i {388,160}    #u58.16o {372,176}
    #u28.16o {352,176}    #u88.16o {332,176}    #u126.11o {300,100}   #u100.3i {224,160}
    #u70.3i {176,160}     #u90.3o {160,160}     #u60.3o {112,160}     #u79.18i {108,160}
    #u109.18i {92,160}    #u69.3o {32,160}      #u85.9i {48,140}      #u119.3o {16,160}
    #u84.9i {0,140}       #u89.3o {16,116}      #u49.3o {32,116}      #u9.11o {28,100}

DCSD01.sil+1: <146> (96)
    #u118.2i {32,68}      #u17.13i {92,68}      #u106.8o {76,88}

DCSD01.sil+2: <238> (84)
    #u128.6o {96,84}      #u9.19i {28,68}

DCSD01.sil+3: <23> (12)
    #u17.8o {92,88}       #u128.5i {96,80}

DCSD01.sil+4: <215> (76)
    #u106.10i {76,80}     #u127.19o {140,68}

DCSD01.sil+5: <123> (28)
    #u127.6i {128,84}     #u18.3o {144,72}

DCSD01.sil+6: <84> (20)
    #u127.7i {128,88}     #u18.6o {144,84}

DCSD01.sil+7: <135> (36)
    #u127.8i {128,92}     #u18.11o {156,84}

DCSD01.sil+8: <177> (52)
    #u127.9i {128,96}     #u18.14o {156,72}

DCSD02.sil+1: <311> (184)
    #u125.19o {204,68}    #u118.5i {32,80}

DCSD02.sil+10: <199> (64)
    #u124.12i {188,96}    #u114.12o {236,80}

DCSD02.sil+11: <180> (52)
    #u124.14i {188,88}    #u114.11o {236,84}

DCSD02.sil+12: <184> (56)
    #u124.16i {188,80}    #u114.10o {236,88}

DCSD02.sil+13: <205> (68)
    #u124.18i {188,72}    #u114.9o {236,92}

DCSD02.sil+14: <204> (68)
    #u125.3i {192,72}     #u115.16o {252,64}

DCSD02.sil+15: <212> (72)
    #u125.5i {192,80}     #u115.15o {252,68}

DCSD02.sil+16: <216> (76)
    #u125.7i {192,88}     #u115.14o {252,72}

DCSD02.sil+17: <226> (80)
    #u125.9i {192,96}     #u115.13o {252,76}

DCSD02.sil+18: <198> (64)
    #u125.12i {204,96}    #u115.12o {252,80}

DCSD02.sil+19: <179> (52)
    #u125.14i {204,88}    #u115.11o {252,84}

DCSD02.sil+2: <5> (24)
    #u7.3o {336,72}       #u122.4i {320,76}     #u122.5i {320,80}

DCSD02.sil+20: <203> (68)
    #u124.3i {176,72}     #u114.16o {236,64}

DCSD02.sil+21: <137> (36)
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    #u112.13i {284,92}    #u112.2o {272,68}

DCSD02.sil+22: <86> (20)
    #u112.14i {284,88}    #u112.5o {272,80}

DCSD02.sil+23: <85> (20)
    #u112.17i {284,76}    #u112.6o {272,84}

DCSD02.sil+24: <136> (36)
    #u112.18i {284,72}    #u112.9o {272,96}

DCSD02.sil+3: <19> (8)
    #u102.3o {256,72}     #u102.5i {256,80}

DCSD02.sil+4: <178> (52)
    #u102.8o {268,88}     #u121.9i {316,84}

DCSD02.sil+5: <4> (12)
    #u122.1i {320,64}     #u122.2i {320,68}     #u121.12o {316,72}

DCSD02.sil+6: <305> (172)
    #u118.6i {32,84}      #u124.19o {188,68}

DCSD02.sil+7: <213> (72)
    #u124.5i {176,80}     #u114.15o {236,68}

DCSD02.sil+8: <217> (76)
    #u124.7i {176,88}     #u114.14o {236,72}

DCSD02.sil+9: <227> (80)
    #u124.9i {176,96}     #u114.13o {236,76}

DCSD03.sil+1: <257> (108)
    #u118.9i {44,84}      #u127.18o {140,72}

DCSD04.sil+1: <126> (64)
    #u104.19i {452,76}    #u103.19i {416,76}    #u103.7o {400,88}

DCSD04.sil+10: <355> (288)
    #u102.11o {268,76}    #u92.11i {532,100}

DCSD04.sil+2: <142> (72)
    #u104.20i {452,72}    #u103.20i {416,72}    #u103.8o {400,92}

DCSD04.sil+3: <143> (80)
    #u104.21i {452,68}    #u103.21i {416,68}    #u103.9o {400,96}

DCSD04.sil+4: <125> (60)
    #u103.1i {400,64}     #u95.4o {420,76}      #u104.1i {436,64}

DCSD04.sil+5: <141> (72)
    #u95.7o {420,88}      #u104.2i {436,68}     #u103.2i {400,68}

DCSD04.sil+6: <116> (60)
    #u95.9o {432,92}      #u104.3i {436,72}     #u103.3i {400,72}

DCSD04.sil+7: <20> (44)
    #u95.12o {432,80}     #u104.4i {436,76}     #u103.4i {400,76}

DCSD04.sil+8: <366> (400)
    #u106.3o {64,72}      #u116.1i {456,64}

DCSD04.sil+9: <145> (88)
    #u103.5i {400,80}     #u104.5i {436,80}     #u113.1o {472,64}

DCSD05.sil+1: <164> (44)
    #u77.19o {564,68}     #u87.12i {548,96}

DCSD05.sil+10: <273> (124)
    #r6.1i {744,64}       #u47.18o {628,72}

DCSD05.sil+11: <288> (148)
    #r7.1i {760,64}       #u47.16o {628,80}

DCSD05.sil+12: <306> (172)
    #r8.1i {776,64}       #u47.14o {628,88}

DCSD05.sil+13: <327> (196)
    #r9.1i {792,64}       #u47.12o {628,96}

DCSD05.sil+14: <336> (224)
    #r10.1i {808,64}      #u47.9o {616,96}

DCSD05.sil+15: <338> (232)
    #r11.1i {824,64}      #u47.7o {616,88}

DCSD05.sil+2: <163> (44)
    #u67.19o {580,68}     #u77.12i {564,96}

DCSD05.sil+3: <162> (44)
    #u57.19o {596,68}     #u67.12i {580,96}

DCSD05.sil+4: <161> (44)
    #r0.1i {648,64}       #u37.18o {612,72}

DCSD05.sil+5: <208> (68)
    #r1.1i {664,64}       #u37.16o {612,80}

DCSD05.sil+6: <243> (92)
    #r2.1i {680,64}       #u37.14o {612,88}
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DCSD05.sil+7: <269> (116)
    #r3.1i {696,64}       #u37.12o {612,96}

DCSD05.sil+8: <281> (144)
    #r4.1i {712,64}       #u37.9o {600,96}

DCSD05.sil+9: <298> (152)
    #r5.1i {728,64}       #u37.7o {600,88}

DCSD11.sil+1: <124> (28)
    #u105.7o {832,132}    #u105.19i {848,120}

DCSD11.sil+2: <138> (36)
    #u105.8o {832,136}    #u105.20i {848,116}

DCSD11.sil+3: <368> (420)
    #u106.6o {64,84}      #u116.19i {468,68}

DCSD11.sil+4: <367> (404)
    #u113.13o {484,68}    #u105.5i {832,124}

DCSD11.sil+5: <364> (388)
    #u113.10o {484,80}    #u105.4i {832,120}

DCSD11.sil+6: <165> (44)
    #u105.1i {832,108}    #u96.7o {852,132}

DCSD11.sil+7: <186> (56)
    #u105.2i {832,112}    #u96.9o {864,136}

DCSD11.sil+8: <152> (40)
    #u105.3i {832,116}    #u96.12o {864,124}

DCSD11.sil+9: <24> (12)
    #u105.21i {848,112}   #u96.4o {852,120}

DCSD12.sil+1: <102> (92)
    #u99.18i {12,160}     #u119.17i {28,164}    #u109.19o {92,156}

DCSD12.sil+10: <90> (68)
    #u69.4i {32,164}      #u59.5i {48,168}      #u79.5o {96,168}

DCSD12.sil+11: <93> (72)
    #u69.6i {32,172}      #u59.7i {48,176}      #u79.6o {96,172}

DCSD12.sil+12: <89> (68)
    #u69.8i {32,180}      #u59.9i {48,184}      #u79.9o {96,184}

DCSD12.sil+13: <88> (68)
    #u69.11i {44,188}     #u59.12i {60,184}     #u79.12o {108,184}

DCSD12.sil+14: <92> (72)
    #u69.13i {44,180}     #u59.14i {60,176}     #u79.15o {108,172}

DCSD12.sil+15: <87> (68)
    #u69.15i {44,172}     #u59.16i {60,168}     #u79.16o {108,168}

DCSD12.sil+16: <91> (72)
    #u69.17i {44,164}     #u59.18i {60,160}     #u79.19o {108,156}

DCSD12.sil+2: <100> (88)
    #u99.16i {12,168}     #u119.15i {28,172}    #u109.16o {92,168}

DCSD12.sil+3: <101> (92)
    #u99.14i {12,176}     #u119.13i {28,180}    #u109.15o {92,172}

DCSD12.sil+4: <99> (88)
    #u99.12i {12,184}     #u119.11i {28,188}    #u109.12o {92,184}

DCSD12.sil+5: <98> (88)
    #u99.9i {0,184}       #u119.8i {16,180}     #u109.9o {80,184}

DCSD12.sil+6: <96> (84)
    #u99.7i {0,176}       #u119.6i {16,172}     #u109.6o {80,172}

DCSD12.sil+7: <97> (88)
    #u99.5i {0,168}       #u119.4i {16,164}     #u109.5o {80,168}

DCSD12.sil+8: <95> (84)
    #u99.3i {0,160}       #u119.2i {16,156}     #u109.2o {80,156}

DCSD12.sil+9: <94> (72)
    #u69.2i {32,156}      #u59.3i {48,160}      #u79.2o {96,156}

DCSD13.sil+1: <139> (36)
    #u70.15o {188,156}    #u50.10i {204,176}

DCSD13.sil+2: <36> (80)
    #u70.7i {176,176}     #u50.7i {192,176}     #u108.3o {240,160}

DCSD13.sil+3: <48> (288)
    #u100.7i {224,176}    #u80.7i {208,176}     #u118.13o {44,68}

DCSD13.sil+4: <140> (36)
    #u100.15o {236,156}   #u80.10i {220,176}

DCSD14.sil+1: <34> (16)
    #u108.6o {240,172}    #u108.10i {252,168}

DebAddr.14: <211> (448)
    #u17.9i {92,84}       #u18.12i {156,80}     C509 {500,44}
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DebAddr.15: <362> (384)
    C511 {508,44}          #u18.13i {156,76}

DebAddrEn': <56> (524)
    ?.5i {408,168}         #u17.5i {80,80}       #u17.1i {80,64}       C513 {4,48}

DebAFull: <345> (248)
    C435 {204,44}          #u19.11i {12,100}

DebBFull: <348> (256)
    C436 {208,44}          #u19.8i {0,92}

DebCSA': <351> (268)
    #u27.5i {384,80}       #u8.14o {124,88}

DebData.0: <21> (188)
    #u19.18o {12,72}       #u9.2i {16,68}        C516 {16,48}          C427 {172,44}

DebData.1: <27> (236)
    C514 {8,48}            #u19.16o {12,80}      #u9.3i {16,72}        #u8.3i {112,72}
    C428 {176,44}

DebData.2: <47> (264)
    C429 {180,44}          #u8.4i {112,76}       #u9.4i {16,76}        #u19.14o {12,88}
    C512 {0,48}

DebData.3: <114> (544)
    C510 {504,44}          C430 {184,44}         #u8.5i {112,80}       #u9.5i {16,80}
    #u19.12o {12,96}

DebData.4: <128> (548)
    C508 {496,44}          C431 {188,44}         #u9.6i {16,84}        #u19.9o {0,96}

DebData.5: <58> (532)
    C506 {488,44}          C432 {192,44}         #u8.6i {112,84}       #u9.7i {16,88}
    #u19.7o {0,88}

DebData.6: <127> (540)
    C504 {480,44}          C433 {196,44}         #u8.7i {112,88}       #u9.8i {16,92}
    #u19.5o {0,80}

DebData.7: <156> (548)
    C502 {472,44}          C434 {200,44}         #u8.8i {112,92}       #u9.9i {16,96}
    #u19.3o {0,72}

DebInit': <340> (240)
    #u7.17i {348,76}       #u8.13o {124,92}

DebRd': <225> (80)
    C517 {20,48}           #u17.2i {80,68}

DebRdAddr': <357> (316)
    #u107.3i {352,72}      #u117.6o {48,84}

DebRdData': <358> (320)
    #u107.11i {364,84}     #u117.7o {48,88}

DebRdStat': <35> (60)
    #u19.1i {0,64}         #u19.19i {12,68}      #u117.4o {48,76}

DebRead': <104> (148)
    #u18.4i {144,76}       #u128.2i {96,68}      #u17.3o {80,72}       #u9.1i {16,64}

DebRun: <149> (400)
    #u27.2i {384,68}       #u107.1i {352,64}     #u8.18o {124,72}      #u19.4i {0,76}

DebRW: <2> (4)
    #u128.4i {96,76}       #u128.3o {96,72}

DebVCC: <231> (228)
    #r12.2o {172,64}       #u8.12o {124,96}      C518 {24,48}

DebWr': <244> (96)
    C515 {12,48}           #u17.4i {80,76}

DebWrAddr': <356> (296)
    #u107.6i {352,84}      #u117.10o {60,88}

DebWrCtrl': <134> (36)
    #u118.3i {32,72}       #u117.12o {60,80}

DebWrCtrlP: <260> (112)
    #u8.9i {112,96}        #u118.1o {32,64}

DebWrData': <359> (324)
    #u107.14i {364,72}     #u117.9o {60,92}

DebWrDeb': <160> (44)
    #u17.12i {92,72}       #u117.11o {60,84}

DebWrite': <147> (100)
    #u17.6o {80,84}        #u128.1i {96,64}      #u18.5i {144,80}

dGoodIBDisp: <119> (176)
    #u10.6i {128,172}      #u30.8i {144,180}     C424 {160,44}

DoIt: <155> (308)
    #u10.7i {128,176}      #u30.1i {144,152}     #u8.2i {112,68}       C444 {240,44}

EnBank0': <60> (624)
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    #u4.9i {64,140}      #u2.9i {80,140}      #u6.9i {96,140}      #u16.9i {112,140}
    #u12.9i {128,140}    #u14.9i {144,140}    #u3.9i {160,140}     #u1.9i {176,140}
    #u15.9i {192,140}    #u11.9i {208,140}    #u13.9i {224,140}    #u5.9i {240,140}
    #u97.6o {632,84}

EnBank1': <53> (428)
    #u24.9i {256,140}    #u22.9i {272,140}    #u26.9i {288,140}    #u36.9i {304,140}
    #u32.9i {320,140}    #u34.9i {336,140}    #u23.9i {352,140}    #u21.9i {368,140}
    #u25.9i {384,140}    #u35.9i {400,140}    #u31.9i {416,140}    #u33.9i {432,140}
    #u97.7o {632,88}

EnBank2': <46> (232)
    #u44.9i {448,140}    #u42.9i {464,140}    #u46.9i {480,140}    #u56.9i {496,140}
    #u52.9i {512,140}    #u54.9i {528,140}    #u43.9i {544,140}    #u41.9i {560,140}
    #u45.9i {576,140}    #u55.9i {592,140}    #u51.9i {608,140}    #u53.9i {624,140}
    #u97.8o {632,92}

EnBank3': <45> (228)
    #u73.9i {816,140}    #u71.9i {800,140}    #u75.9i {784,140}    #u65.9i {768,140}
    #u61.9i {752,140}    #u63.9i {736,140}    #u74.9i {720,140}    #u72.9i {704,140}
    #u76.9i {688,140}    #u66.9i {672,140}    #u62.9i {656,140}    #u64.9i {640,140}
    #u97.9o {632,96}

EnCS': <30> (424)
    #u106.1i {64,64}     #u91.19o {380,68}    #u113.2i {472,68}    #u113.5i {472,80}

EnCSRead: <207> (68)
    #u104.13o {452,100}  #u93.6i {504,84}

EnCSWrite: <185> (56)
    #u94.6i {488,84}     #u104.12o {452,104}

EnHB': <31> (460)
    #u106.4i {64,76}     #u91.12o {380,96}    #u113.8i {484,88}    #u113.11i {484,76}

EnHBRead: <181> (52)
    #u110.6i {884,128}   #u105.13o {848,144}

EnHBWrite: <130> (32)
    #u105.14o {848,140}  #u120.6i {868,128}

ExtAdvance': <148> (304)
    #u10.20o {140,152}   #u30.9i {144,184}    ?.8i {408,180}

ExtData.0: <347> (252)
    #u39.3i {392,160}    #u10.18o {140,160}

ExtData.1: <350> (260)
    #u39.6i {392,172}    #u10.17o {140,164}

ExtData.2: <354> (272)
    #u39.10i {404,176}   #u10.16o {140,168}

ExtData.3: <353> (272)
    #u39.13i {404,164}   #u10.15o {140,172}

ExtData.4: <346> (252)
    #u29.3i {376,160}    #u10.14o {140,176}

ExtData.5: <344> (244)
    #u29.6i {376,172}    #u10.13o {140,180}

ExtData.6: <349> (256)
    #u29.10i {388,176}   #u10.12o {140,184}

ExtData.7: <352> (272)
    #u29.13i {388,164}   #u10.11o {140,188}

ExtMatch': <200> (64)
    #u10.2i {128,156}    #u20.16o {76,168}

ExtTrigger': <239> (376)
    #u20.6i {64,172}     #u10.1i {128,152}    ?.4i {408,164}

GND: <18> (18768)
    #u0.7i {428,176}     #u39.8i {392,180}    #u29.8i {376,180}    #u58.8i {356,180}
    #u28.8i {336,180}    #u88.8i {316,180}    #u98.8i {296,180}    #u38.8i {276,180}
    #u68.8i {256,180}    #u108.7i {240,176}   #u100.8i {224,180}   #u80.8i {208,180}
    #u50.8i {192,180}    #u70.8i {176,180}    #u90.10i {160,188}   #u30.10i {144,188}
    #u60.10i {112,188}   #u79.10i {96,188}    #u109.10i {80,188}   #u20.10i {64,188}
    #u59.10i {48,188}    #u69.10i {32,188}    #u119.10i {16,188}   #u99.10i {0,188}
    #u40.8i {900,136}    #u110.8i {884,136}   #u120.8i {868,136}   #u96.8i {852,136}
    #u105.11i {832,148}  #u73.10i {816,144}   #u71.10i {800,144}   #u75.10i {784,144}
    #u65.10i {768,144}   #u61.10i {752,144}   #u63.10i {736,144}   #u74.10i {720,144}
    #u72.10i {704,144}   #u76.10i {688,144}   #u66.10i {672,144}   #u62.10i {656,144}
    #u64.10i {640,144}   #u53.10i {624,144}   #u51.10i {608,144}   #u55.10i {592,144}
    #u45.10i {576,144}   #u41.10i {560,144}   #u43.10i {544,144}   #u54.10i {528,144}
    #u52.10i {512,144}   #u56.10i {496,144}   #u46.10i {480,144}   #u42.10i {464,144}
    #u44.10i {448,144}   #u33.10i {432,144}   #u31.10i {416,144}   #u35.10i {400,144}
    #u25.10i {384,144}   #u21.10i {368,144}   #u23.10i {352,144}   #u34.10i {336,144}
    #u32.10i {320,144}   #u36.10i {304,144}   #u26.10i {288,144}   #u22.10i {272,144}
    #u24.10i {256,144}   #u5.10i {240,144}    #u13.10i {224,144}   #u11.10i {208,144}
    #u15.10i {192,144}   #u1.10i {176,144}    #u3.10i {160,144}    #u14.10i {144,144}
    #u12.10i {128,144}   #u16.10i {112,144}   #u6.10i {96,144}     #u2.10i {80,144}
    #u4.10i {64,144}     #u85.10i {48,144}    #u49.10i {32,144}    #u89.10i {16,144}
    #u84.10i {0,144}     #u83.10i {888,100}   #u82.10i {872,100}   #u86.10i {856,100}
    #u81.10i {840,100}   #u97.10i {632,100}   #u47.10i {616,100}   #u37.10i {600,100}
    #u57.10i {584,100}   #u67.10i {568,100}   #u77.10i {552,100}   #u87.10i {536,100}
    #u92.10i {520,100}   #u93.8i {504,92}     #u94.8i {488,92}     #u113.7i {472,88}
    #u116.10i {456,100}  #u104.11i {436,104}  #u95.8i {420,92}     #u103.11i {400,104}
    #u27.7i {384,88}     #u91.10i {368,100}   #u107.8i {352,92}    #u7.10i {336,100}
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    #u122.7i {320,88}     #u121.7i {304,88}     #u126.10i {288,100}   #u112.10i {272,100}
    #u102.7i {256,88}     #u101.8i {208,92}     #u125.10i {192,100}   #u124.10i {176,100}
    #u18.8i {144,92}      #u127.10i {128,100}   #u8.10i {112,100}     #u128.7i {96,88}
    #u17.7i {80,88}       #u106.7i {64,88}      #u117.8i {48,92}      #u118.7i {32,88}
    #u9.10i {16,100}      #u19.10i {0,100}      #c97.2o {684,200}     #c98.2o {668,200}
    #c99.2o {652,200}     #c100.2o {620,200}    #c101.2o {636,200}    #c102.2o {604,200}
    #c103.2o {588,200}    #c104.2o {556,200}    #c105.2o {572,200}    #c106.2o {540,200}
    #c107.2o {524,200}    #c108.2o {492,200}    #c109.2o {508,200}    #c110.2o {476,200}
    #c111.2o {460,200}    #c112.2o {444,200}    #c113.2o {188,200}    #c114.2o {204,200}
    #c115.2o {220,200}    #c116.2o {252,200}    #c117.2o {236,200}    #c118.2o {268,200}
    #c119.2o {284,200}    #c120.2o {316,200}    #c121.2o {300,200}    #c122.2o {332,200}
    #c123.2o {348,200}    #c124.2o {380,200}    #c125.2o {364,200}    #c126.2o {396,200}
    #c127.2o {412,200}    #c128.2o {428,200}    #c129.2o {716,200}    #c130.2o {700,200}
    #c65.2o {604,196}     #c66.2o {620,196}     #c67.2o {636,196}     #c68.2o {668,196}
    #c69.2o {652,196}     #c70.2o {684,196}     #c71.2o {700,196}     #c72.2o {732,196}
    #c73.2o {716,196}     #c74.2o {748,196}     #c75.2o {764,196}     #c76.2o {796,196}
    #c77.2o {780,196}     #c79.2o {812,196}     #c80.2o {828,196}     #c81.2o {172,200}
    #c82.2o {156,200}     #c83.2o {140,200}     #c84.2o {108,200}     #c85.2o {124,200}
    #c86.2o {92,200}      #c87.2o {76,200}      #c88.2o {44,200}      #c89.2o {60,200}
    #c90.2o {28,200}      #c91.2o {12,200}      #c92.2o {892,196}     #c93.2o {908,196}
    #c94.2o {876,196}     #c95.2o {860,196}     #c96.2o {844,196}     #c33.2o {588,196}
    #c34.2o {572,196}     #c35.2o {556,196}     #c36.2o {524,196}     #c37.2o {540,196}
    #c38.2o {508,196}     #c39.2o {492,196}     #c40.2o {460,196}     #c41.2o {476,196}
    #c42.2o {444,196}     #c43.2o {428,196}     #c44.2o {396,196}     #c45.2o {412,196}
    #c46.2o {380,196}     #c47.2o {364,196}     #c49.2o {108,196}     #c50.2o {124,196}
    #c51.2o {140,196}     #c52.2o {172,196}     #c53.2o {156,196}     #c54.2o {188,196}
    #c55.2o {204,196}     #c56.2o {236,196}     #c57.2o {220,196}     #c58.2o {252,196}
    #c59.2o {268,196}     #c60.2o {300,196}     #c61.2o {284,196}     #c62.2o {316,196}
    #c63.2o {332,196}     #c64.2o {348,196}     #c1.2o {504,152}      #c2.2o {520,152}
    #c3.2o {536,152}      #c4.2o {568,152}      #c5.2o {552,152}      #c6.2o {584,152}
    #c7.2o {600,152}      #c8.2o {632,152}      #c9.2o {616,152}      #c10.2o {648,152}
    #c11.2o {664,152}     #c12.2o {696,152}     #c13.2o {680,152}     #c14.2o {712,152}
    #c15.2o {728,152}     #c16.2o {744,152}     #c17.2o {92,196}      #c18.2o {76,196}
    #c19.2o {60,196}      #c20.2o {28,196}      #c21.2o {44,196}      #c22.2o {12,196}
    #c23.2o {904,152}     #c24.2o {872,152}     #c25.2o {888,152}     #c26.2o {856,152}
    #c27.2o {840,152}     #c28.2o {808,152}     #c29.2o {824,152}     #c30.2o {792,152}
    #c31.2o {776,152}     #c32.2o {760,152}     E175 {188,4}          E176 {192,4}
    E186 {232,4}          E185 {228,4}          E111 {444,0}          E112 {448,0}
    E102 {408,0}          E101 {404,0}          C402 {72,44}          C401 {68,44}
    C302 {184,40}         C301 {180,40}         C325 {276,40}         C326 {280,40}
    C425 {164,44}         C426 {168,44}         C450 {264,44}         C449 {260,44}
    C350 {376,40}         C349 {372,40}         C501 {468,44}         #u130.10i {476,188}
    #u129.10i {460,188}   #u123.10i {444,188}   #u111.10i {412,188}   #u29.15i {388,156}
    #u39.15i {404,156}    #u88.19i {332,164}    #u58.19i {372,164}    #u28.19i {352,164}
    #u38.19i {292,164}    #u68.19i {272,164}    #u98.19i {312,164}    #u30.11i {156,188}
    #u20.8i {64,180}      #u20.9i {64,184}      #u20.19o {76,156}     #u20.12o {76,184}
    #u20.11i {76,188}     #u79.1i {96,152}      #u109.1i {80,152}     #u96.2i {852,112}
    #u105.6i {832,128}    #u116.11i {468,100}   #u120.4i {868,120}    #u120.5i {868,124}
    #u110.4i {884,120}    #u110.5i {884,124}    #u96.15i {864,112}    #u105.18i {848,124}
    #u105.17i {848,128}   #u47.19i {628,68}     #u97.15i {644,84}     #u97.18i {644,72}
    #u97.19i {644,68}     #u37.19i {612,68}     #u47.1i {616,64}      #u37.1i {600,64}
    #u57.12i {596,96}     #u93.4i {504,76}      #u93.5i {504,80}      #u94.4i {488,76}
    #u94.5i {488,80}      #u104.17i {452,84}    #u104.18i {452,80}    #u95.15i {432,68}
    #u103.18i {416,80}    #u103.17i {416,84}    #u7.19i {348,68}      #u7.1i {336,64}
    #u91.3i {368,72}      #u91.8i {368,92}      #u91.9i {368,96}      #u112.1i {272,64}
    #u125.16i {204,80}    #u125.18i {204,72}    #u125.15i {204,84}    #u125.17i {204,76}
    #u115.1i {240,64}     #u115.2i {240,68}     #u115.3i {240,72}     #u115.4i {240,76}
    #u115.5i {240,80}     #u115.6i {240,84}     #u115.7i {240,88}     #u115.8i {240,92}
    #u114.1i {224,64}     #u114.2i {224,68}     #u114.3i {224,72}     #u114.4i {224,76}
    #u114.5i {224,80}     #u114.6i {224,84}     #u114.7i {224,88}     #u114.8i {224,92}
    #u101.4i {208,76}     #u101.5i {208,80}     #u17.10i {92,80}      #u127.1i {128,64}
    #r12.1i {160,64}      #u8.11i {124,100}     #u19.2i {0,68}

HBAddr.0: <111> (268)
    #u58.4i {356,164}     #u28.4i {336,164}     #u88.4i {316,164}     #u98.4i {296,164}
    #u38.4i {276,164}     #u68.4i {256,164}     #u50.11o {204,172}    #u60.2i {112,156}

HBAddr.1: <109> (256)
    #u58.3i {356,160}     #u28.3i {336,160}     #u88.3i {316,160}     #u98.3i {296,160}
    #u38.3i {276,160}     #u68.3i {256,160}     #u50.12o {204,168}    #u60.4i {112,164}

HBAddr.2: <110> (260)
    #u58.2i {356,156}     #u28.2i {336,156}     #u88.2i {316,156}     #u98.2i {296,156}
    #u38.2i {276,156}     #u68.2i {256,156}     #u50.13o {204,164}    #u60.6i {112,172}

HBAddr.3: <112> (272)
    #u58.1i {356,152}     #u28.1i {336,152}     #u88.1i {316,152}     #u98.1i {296,152}
    #u38.1i {276,152}     #u68.1i {256,152}     #u50.14o {204,160}    #u60.8i {112,180}

HBAddr.4: <113> (280)
    #u58.21i {372,156}    #u28.21i {352,156}    #u88.21i {332,156}    #u98.21i {312,156}
    #u38.21i {292,156}    #u68.21i {272,156}    #u70.11o {188,172}    #u60.11i {124,188}

HBAddr.5: <106> (244)
    #u58.5i {356,168}     #u28.5i {336,168}     #u88.5i {316,168}     #u98.5i {296,168}
    #u38.5i {276,168}     #u68.5i {256,168}     #u70.12o {188,168}    #u60.13i {124,180}

HBAddr.6: <107> (248)
    #u58.6i {356,172}     #u28.6i {336,172}     #u88.6i {316,172}     #u98.6i {296,172}
    #u38.6i {276,172}     #u68.6i {256,172}     #u70.13o {188,164}    #u60.15i {124,172}

HBAddr.7: <108> (252)
    #u58.7i {356,176}     #u28.7i {336,176}     #u88.7i {316,176}     #u98.7i {296,176}
    #u38.7i {276,176}     #u68.7i {256,176}     #u70.14o {188,160}    #u60.17i {124,164}

HBCnt.0: <219> (76)
    #u80.11o {220,172}    #u90.2i {160,156}

HBCnt.1: <201> (64)
    #u80.12o {220,168}    #u90.4i {160,164}
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HBCnt.2: <210> (68)
    #u80.13o {220,164}    #u90.6i {160,172}

HBCnt.3: <230> (80)
    #u80.14o {220,160}    #u90.8i {160,180}

HBCnt.4: <229> (80)
    #u100.11o {236,172}   #u90.11i {172,188}

HBCnt.5: <218> (76)
    #u100.12o {236,168}   #u90.13i {172,180}

HBCnt.6: <214> (72)
    #u100.13o {236,164}   #u90.15i {172,172}

HBCnt.7: <209> (68)
    #u100.14o {236,160}   #u90.17i {172,164}

HBData.0: <277> (136)
    #u39.4o {392,164}     #u38.9i {276,184}

HBData.1: <276> (132)
    #u39.7o {392,176}     #u38.11i {276,192}

HBData.2: <271> (120)
    #u39.9o {404,180}     #u38.13i {292,188}

HBData.3: <274> (124)
    #u39.12o {404,168}    #u38.15i {292,180}

HBData.4: <191> (60)
    #u28.9i {336,184}     #u29.4o {376,164}

HBData.5: <188> (56)
    #u28.11i {336,192}    #u29.7o {376,176}

HBData.6: <166> (44)
    #u28.13i {352,188}    #u29.9o {388,180}

HBData.7: <169> (48)
    #u28.15i {352,180}    #u29.12o {388,168}

HBDone: <337> (228)
    #u30.19o {156,156}    #u19.6i {0,84}

HBMode.0: <373> (812)
    #u30.5i {144,168}     #u40.2o {900,112}

HBMode.1: <372> (804)
    #u30.6i {144,172}     #u40.5o {900,124}

HBMode.2: <374> (816)
    #u30.7i {144,176}     #u40.11o {912,128}

HBReg.0: <54> (488)
    #u110.3i {884,116}    #u120.3i {868,116}    #u96.5i {852,124}     #u105.9o {832,140}
    #u116.13i {468,92}

HBReg.1: <55> (508)
    #u110.2i {884,112}    #u120.2i {868,112}    #u96.11i {864,128}    #u105.10o {832,144}
    #u116.15i {468,84}

HBReg.2: <32> (524)
    #u116.17i {468,76}    #u110.1i {884,108}    #u120.1i {868,108}    #u96.14i {864,116}
    #u105.12o {848,148}

HBWE': <103> (136)
    #u58.20i {372,160}    #u28.20i {352,160}    #u88.20i {332,160}    #u98.20i {312,160}
    #u38.20i {292,160}    #u68.20i {272,160}    #u108.8o {252,176}

IncCSA': <43> (148)
    #u104.7o {436,88}     #u87.7i {536,88}      #u77.7i {552,88}      #u67.7i {568,88}
    #u57.7i {584,88}

IncHBA': <371> (628)
    #u108.2i {240,156}    #u105.15o {848,136}

INIT/: <335> (220)
    E114 {456,0}          #u122.6o {320,84}

IORC/: <120> (308)
    #u102.1i {256,64}     #u112.3i {272,72}     #u126.1i {288,64}     E121 {484,0}

IORef: <154> (244)
    #u10.5i {128,168}     #u30.13o {156,180}    C440 {224,44}

IOWC/: <121> (316)
    #u102.2i {256,68}     #u112.4i {272,76}     E122 {488,0}

ManTrig: <377> (900)
    #u20.5i {64,168}      #u40.14o {912,116}

MapRef: <153> (236)
    #u10.4i {128,164}     #u30.14o {156,176}    C439 {220,44}

MatchHigh': <187> (56)
    #u20.3i {64,160}      #u99.19o {12,156}

MatchLow': <25> (12)
    #u20.4i {64,164}      #u59.19o {60,156}
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MBCmdSel': <6> (60)
    #u102.6o {256,84}     #u102.9i {268,84}     #u102.10i {268,80}    #u126.19i {300,68}

MBIdle: <183> (56)
    C423 {156,44}         #u8.19o {124,68}

MBRdAddr': <279> (144)
    #u107.4i {352,76}     #u101.10o {220,88}

MBRdData': <287> (148)
    #u107.12i {364,80}    #u101.11o {220,84}

MBSel: <132> (256)
    #u112.8i {272,92}     #u102.4i {256,76}     #u118.4o {32,76}

MBWrAddr': <275> (132)
    #u107.5i {352,80}     #u101.12o {220,80}

MBWrData': <280> (144)
    #u107.13i {364,76}    #u101.13o {220,76}

NIA.0: <193> (996)
    #u99.11i {12,188}     #u89.11i {28,144}     C307 {204,40}         #u88.9i {316,184}
    #u77.13o {564,92}     #u37.2i {600,68}

NIA.1: <175> (996)
    #u99.13i {12,180}     #u89.13i {28,136}     C308 {208,40}         #u88.11i {316,192}
    #u77.14o {564,88}     #u37.4i {600,76}

NIA.10: <176> (1000)
    #u59.15i {60,172}     #u49.15i {44,128}     C317 {244,40}         #u58.13i {372,188}
    #u57.15o {596,84}     #u47.11i {628,100}

NIA.11: <167> (976)
    #u59.17i {60,164}     #u49.17i {44,120}     C318 {248,40}         #u58.15i {372,180}
    #u57.16o {596,80}     #u47.13i {628,92}

NIA.2: <151> (972)
    #u99.15i {12,172}     #u89.15i {28,128}     C309 {212,40}         #u88.13i {332,188}
    #u77.15o {564,84}     #u37.6i {600,84}

NIA.3: <174> (964)
    #u99.17i {12,164}     #u89.17i {28,120}     C310 {216,40}         #u88.15i {332,180}
    #u77.16o {564,80}     #u37.8i {600,92}

NIA.4: <158> (928)
    #u49.2i {32,112}      #u59.2i {48,156}      #u68.9i {256,184}     C311 {220,40}
    #u67.13o {580,92}     #u37.11i {612,100}

NIA.5: <150> (920)
    #u49.4i {32,120}      #u59.4i {48,164}      #u68.11i {256,192}    C312 {224,40}
    #u67.14o {580,88}     #u37.13i {612,92}

NIA.6: <182> (940)
    #u49.6i {32,128}      #u59.6i {48,172}      #u68.13i {272,188}    C313 {228,40}
    #u67.15o {580,84}     #u47.2i {616,68}

NIA.7: <157> (892)
    #u49.8i {32,136}      #u59.8i {48,180}      #u68.15i {272,180}    C314 {232,40}
    #u67.16o {580,80}     #u47.4i {616,76}

NIA.8: <129> (980)
    #u59.11i {60,188}     #u49.11i {44,144}     C315 {236,40}         #u58.9i {356,184}
    #u57.13o {596,92}     #u47.6i {616,84}

NIA.9: <122> (988)
    #u59.13i {60,180}     #u49.13i {44,136}     C316 {240,40}         #u58.11i {356,192}
    #u57.14o {596,88}     #u47.8i {616,92}

paD.0: <263> (880)
    #u83.12o {900,96}     #u73.13o {828,136}    #u53.13o {636,136}    #u33.13o {444,136}
    #u13.13o {236,136}    C335 {316,40}

paD.1: <264> (888)
    #u83.11o {900,100}    #u73.12o {828,140}    #u53.12o {636,140}    #u33.12o {444,140}
    #u13.12o {236,140}    C336 {320,40}

paF.0: <320> (1016)
    C332 {304,40}         #u3.12o {172,140}     #u23.12o {364,140}    #u43.12o {556,140}
    #u63.12o {748,140}    #u83.15o {900,84}

paF.1: <261> (864)
    #u83.14o {900,88}     #u73.15o {828,128}    #u53.15o {636,128}    #u33.15o {444,128}
    #u13.15o {236,128}    C333 {308,40}

paF.2: <262> (872)
    #u83.13o {900,92}     #u73.14o {828,132}    #u53.14o {636,132}    #u33.14o {444,132}
    #u13.14o {236,132}    C334 {312,40}

paS.0: <300> (960)
    #u83.18o {900,72}     #u63.15o {748,128}    #u43.15o {556,128}    #u23.15o {364,128}
    C329 {292,40}         #u3.15o {172,128}

paS.1: <301> (968)
    #u83.17o {900,76}     #u63.14o {748,132}    #u43.14o {556,132}    #u23.14o {364,132}
    C330 {296,40}         #u3.14o {172,132}

paS.2: <302> (976)
    #u83.16o {900,80}     #u63.13o {748,136}    #u43.13o {556,136}    #u23.13o {364,136}
    C331 {300,40}         #u3.13o {172,136}
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pCIn: <324> (1176)
    C338 {328,40}          #u2.14o {92,132}      #u22.14o {284,132}    #u42.14o {476,132}
    #u62.14o {668,132}     #u82.17o {884,76}

pEnU: <286> (1040)
    #u82.16o {884,80}      #u62.13o {668,136}    #u42.13o {476,136}    C339 {332,40}
    #u22.13o {284,136}     #u2.13o {92,136}

pEP: <323> (1168)
    C337 {324,40}          #u2.15o {92,128}      #u22.15o {284,128}    #u42.15o {476,128}
    #u62.15o {668,128}     #u82.18o {884,72}

pfS.0: <321> (1072)
    C341 {340,40}          #u12.15o {140,128}    #u32.15o {332,128}    #u52.15o {524,128}
    #u72.15o {716,128}     #u82.14o {884,88}

pfS.1: <256> (968)
    #u82.13o {884,92}      #u72.14o {716,132}    #u52.14o {524,132}    C342 {344,40}
    #u32.14o {332,132}     #u12.14o {140,132}

pfS.2: <322> (1088)
    C343 {348,40}          #u12.13o {140,136}    #u32.13o {332,136}    #u52.13o {524,136}
    #u72.13o {716,136}     #u82.12o {884,96}

pfS.3: <272> (984)
    #u82.11o {884,100}     #u72.12o {716,140}    #u52.12o {524,140}    C344 {352,40}
    #u32.12o {332,140}     #u12.12o {140,140}

pfX.0: <265> (896)
    #u1.15o {188,128}      C345 {356,40}         #u21.15o {380,128}    #u41.15o {572,128}
    #u61.15o {764,128}     #u81.18o {852,72}

pfX.1: <266> (904)
    #u1.14o {188,132}      C346 {360,40}         #u21.14o {380,132}    #u41.14o {572,132}
    #u61.14o {764,132}     #u81.17o {852,76}

pfX.2: <267> (912)
    #u81.16o {852,80}      #u61.13o {764,136}    #u41.13o {572,136}    #u21.13o {380,136}
    C347 {364,40}          #u1.13o {188,136}

pfX.3: <268> (920)
    #u1.12o {188,140}      C348 {368,40}         #u21.12o {380,140}    #u41.12o {572,140}
    #u61.12o {764,140}     #u81.15o {852,84}

pfY.0: <237> (900)
    #u81.14o {852,88}      #u71.15o {812,128}    #u51.15o {620,128}    #u31.15o {428,128}
    #u11.15o {220,128}     C403 {76,44}

pfY.1: <236> (900)
    #u81.13o {852,92}      #u71.14o {812,132}    #u51.14o {620,132}    #u31.14o {428,132}
    #u11.14o {220,132}     C404 {80,44}

pfY.2: <235> (900)
    #u81.12o {852,96}      #u71.13o {812,136}    #u51.13o {620,136}    #u31.13o {428,136}
    #u11.13o {220,136}     C405 {84,44}

pfY.3: <234> (900)
    #u81.11o {852,100}     #u71.12o {812,140}    #u51.12o {620,140}    #u31.12o {428,140}
    #u11.12o {220,140}     C406 {88,44}

pfZ.0: <254> (916)
    #u86.18o {868,72}      #u66.15o {684,128}    #u46.15o {492,128}    #u26.15o {300,128}
    #u6.15o {108,128}      C407 {92,44}

pfZ.1: <253> (916)
    #u86.17o {868,76}      #u66.14o {684,132}    #u46.14o {492,132}    #u26.14o {300,132}
    #u6.14o {108,132}      C408 {96,44}

pfZ.2: <252> (916)
    #u86.16o {868,80}      #u66.13o {684,136}    #u46.13o {492,136}    #u26.13o {300,136}
    #u6.13o {108,136}      C409 {100,44}

pfZ.3: <251> (916)
    #u86.15o {868,84}      #u66.12o {684,140}    #u46.12o {492,140}    #u26.12o {300,140}
    #u6.12o {108,140}      C410 {104,44}

pMem: <159> (1144)
    #u30.15o {156,172}     #u10.3i {128,160}     #u2.12o {92,140}      #u22.12o {284,140}
    C340 {336,40}          #u42.12o {476,140}    #u62.12o {668,140}    #u82.15o {884,84}

pNIA.0: <250> (884)
    #u86.14o {868,88}      #u76.15o {700,128}    #u56.15o {508,128}    #u36.15o {316,128}
    #u16.15o {124,128}     C411 {108,44}

pNIA.1: <249> (884)
    #u86.13o {868,92}      #u76.14o {700,132}    #u56.14o {508,132}    #u36.14o {316,132}
    #u16.14o {124,132}     C412 {112,44}

pNIA.10': <291> (924)
    #u75.13o {796,136}     #u55.13o {604,136}    #u35.13o {412,136}    #u15.13o {204,136}
    #u85.12o {60,140}      C421 {148,44}

pNIA.11': <292> (932)
    #u75.12o {796,140}     #u55.12o {604,140}    #u35.12o {412,140}    #u15.12o {204,140}
    #u85.11o {60,144}      C422 {152,44}

pNIA.2: <248> (884)
    #u86.12o {868,96}      #u76.13o {700,136}    #u56.13o {508,136}    #u36.13o {316,136}
    #u16.13o {124,136}     C413 {116,44}

pNIA.3: <247> (884)
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    #u86.11o {868,100}    #u76.12o {700,140}    #u56.12o {508,140}    #u36.12o {316,140}
    #u16.12o {124,140}    C414 {120,44}

pNIA.4: <278> (868)
    #u65.15o {780,128}    #u45.15o {588,128}    #u25.15o {396,128}    #u5.15o {252,128}
    #u85.18o {60,116}     C415 {124,44}

pNIA.5: <283> (876)
    #u65.14o {780,132}    #u45.14o {588,132}    #u25.14o {396,132}    #u5.14o {252,132}
    #u85.17o {60,120}     C416 {128,44}

pNIA.6: <284> (884)
    #u65.13o {780,136}    #u45.13o {588,136}    #u25.13o {396,136}    #u5.13o {252,136}
    #u85.16o {60,124}     C417 {132,44}

pNIA.7: <285> (892)
    #u65.12o {780,140}    #u45.12o {588,140}    #u25.12o {396,140}    #u5.12o {252,140}
    #u85.15o {60,128}     C418 {136,44}

pNIA.8': <289> (908)
    #u75.15o {796,128}    #u55.15o {604,128}    #u35.15o {412,128}    #u15.15o {204,128}
    #u85.14o {60,132}     C419 {140,44}

pNIA.9': <290> (916)
    #u75.14o {796,132}    #u55.14o {604,132}    #u35.14o {412,132}    #u15.14o {204,132}
    #u85.13o {60,136}     C420 {144,44}

prA.0: <223> (968)
    #u64.15o {652,128}    #u44.15o {460,128}    #u24.15o {268,128}    #u4.15o {76,128}
    #u84.18o {12,116}     C319 {252,40}

prA.1: <222> (888)
    #u4.14o {76,132}      #u84.17o {12,120}     C320 {256,40}         #u24.14o {268,132}
    #u44.14o {460,132}    #u64.14o {652,132}

prA.2: <224> (984)
    #u64.13o {652,136}    #u44.13o {460,136}    #u24.13o {268,136}    #u4.13o {76,136}
    #u84.16o {12,124}     C321 {260,40}

prA.3: <221> (860)
    #u64.12o {652,140}    #u44.12o {460,140}    C322 {264,40}         #u24.12o {268,140}
    #u4.12o {76,140}      #u84.15o {12,128}

prB.0: <294> (1048)
    #u74.15o {732,128}    #u54.15o {540,128}    #u34.15o {348,128}    C323 {268,40}
    #u84.14o {12,132}     #u14.15o {156,128}

prB.1: <295> (1060)
    #u74.14o {732,132}    #u54.14o {540,132}    C324 {272,40}         #u34.14o {348,132}
    #u14.14o {156,132}    #u84.13o {12,136}

prB.2: <296> (1064)
    #u14.13o {156,136}    #u84.12o {12,140}     C327 {284,40}         #u34.13o {348,136}
    #u54.13o {540,136}    #u74.13o {732,136}

prB.3: <293> (1044)
    #u74.12o {732,140}    #u54.12o {540,140}    C328 {288,40}         #u34.12o {348,140}
    #u14.12o {156,140}    #u84.11o {12,144}

PreArcA: <105> (188)
    #u7.16o {348,80}      #u7.11i {348,100}     #u108.9i {252,172}

PreArcB: <7> (196)
    #u18.9i {156,92}      #u7.13i {348,92}      #u7.14o {348,88}

PreArcC: <26> (104)
    #u7.12o {348,96}      #u7.15i {348,84}      #u102.12i {268,72}

PrePreArc': <22> (276)
    #u7.8i {336,92}       #u7.6i {336,84}       #u7.4i {336,76}       #u7.18o {348,72}
    #u8.1i {112,64}

PUa: <8> (728)
    #u18.1i {144,64}      #u121.1i {304,64}     #u121.2i {304,68}     ?.2i {408,156}
    #u87.9i {536,96}      #u87.8i {536,92}      #u77.8i {552,92}      #u67.8i {568,92}
    #u67.9i {568,96}      #u57.9i {584,96}      #u57.8i {584,92}      #u57.1i {584,64}
    #u67.1i {568,64}      #u77.1i {552,64}      #u87.1i {536,64}      #u77.9i {552,96}

PUb: <49> (316)
    #u70.10i {188,176}    #u50.1i {192,152}     #u70.1i {176,152}     #u80.1i {208,152}
    #u100.1i {224,152}    #u100.10i {236,176}   #u68.17i {272,172}    #u38.17i {292,172}
    #u98.17i {312,172}    #u88.17i {332,172}    #u28.17i {352,172}    #u58.17i {372,172}
    ?.3i {408,160}

RawClk: <258> (320)
    #u0.8o {440,176}      #u7.2i {336,68}       C447 {252,44}

RdAddr': <29> (360)
    #u91.11i {380,100}    #u107.2o {352,68}     #u106.2i {64,68}      #u106.5i {64,80}

RdData': <118> (148)
    #u113.3i {472,72}     #u113.9i {484,84}     #u107.10o {364,88}

RdMatchHigh': <81> (912)
    #u119.1i {16,152}     #u119.19i {28,156}    #u110.11o {896,128}

RdMatchLow': <80> (892)
    #u69.1i {32,152}      #u69.19i {44,156}     #u110.10o {896,132}

RdNIAHigh': <59> (548)
    #u89.1i {16,108}      #u89.19i {28,112}     #u93.15o {516,68}
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RdNIALow': <57> (528)
    #u49.1i {32,108}      #u49.19i {44,112}     #u93.14o {516,72}

ReadCnt': <65> (760)
    #u90.1i {160,152}     #u90.19i {172,156}    #u110.9o {896,136}

ReadCSA': <206> (68)
    #u104.8o {436,92}     #u27.4i {384,76}

ReadDebA': <333> (204)
    C438 {216,44}         #u117.5o {48,80}

ReadHB.0': <115> (636)
    #u98.18i {312,168}    #u88.18i {332,168}    #u110.14o {896,116}

ReadHB.1': <246> (672)
    #u110.13o {896,120}   #u58.18i {372,168}    #u68.18i {272,168}

ReadHB.2': <192> (648)
    #u38.18i {292,168}    #u28.18i {352,168}    #u110.12o {896,124}

ReadHBA': <67> (832)
    #u60.1i {112,152}     #u60.19i {124,156}    #u110.15o {896,112}

ReadNIA: <52> (412)
    #u57.17i {596,76}     #u67.17i {580,76}     #u77.17i {564,76}     #u87.17i {548,76}
    #u27.6o {384,84}      C442 {232,44}

ReadStatus': <33> (16)
    #u40.7i {900,132}     #u110.7o {884,132}

ReadTemp': <270> (120)
    #u104.10o {436,100}   #u92.1i {520,64}

Run: <232> (460)
    #u20.2i {64,156}      #u30.2i {144,156}     C443 {236,44}         #u27.3o {384,72}

sADR1': <241> (92)
    #u101.1i {208,64}     #u112.16o {284,80}

sDebAddr.14: <38> (112)
    #u117.3i {48,72}      #u117.13i {60,76}     #u127.13o {140,92}

sDebAddr.15: <39> (120)
    #u117.2i {48,68}      #u117.14i {60,72}     #u127.12o {140,96}

sDebRead': <259> (112)
    #u117.1i {48,64}      #u127.15o {140,84}

sDebWrite': <131> (132)
    #u127.2i {128,68}     #u127.14o {140,88}    #u106.9i {76,84}      #u117.15i {60,68}

sIORC': <255> (104)
    #u112.12o {284,96}    #u101.2i {208,68}

sIOWC': <240> (88)
    #u112.15o {284,84}    #u101.3i {208,72}

sMBSel: <242> (92)
    #u101.6i {208,84}     #u112.19o {284,68}

SW.0: <341> (568)
    #u97.16i {644,80}     ?.6i {408,172}        #u115.10o {252,88}

SW.1: <342> (576)
    #u97.17i {644,76}     ?.7i {408,176}        #u115.9o {252,92}

Triggered': <220> (204)
    #u30.4i {144,164}     #u20.15o {76,172}     #u118.11i {44,76}

UseRom: <282> (584)
    #u97.5i {632,80}      C441 {228,44}         #u8.15o {124,84}

VCC: <17> (13480)
    #u0.14i {440,152}     #u39.16i {404,152}    #u29.16i {388,152}    #u58.22i {372,152}
    #u28.22i {352,152}    #u88.22i {332,152}    #u98.22i {312,152}    #u38.22i {292,152}
    #u68.22i {272,152}    #u108.14i {252,152}   #u100.16i {236,152}   #u80.16i {220,152}
    #u50.16i {204,152}    #u70.16i {188,152}    #u90.20i {172,152}    #u30.20i {156,152}
    #u60.20i {124,152}    #u79.20i {108,152}    #u109.20i {92,152}    #u20.20i {76,152}
    #u59.20i {60,152}     #u69.20i {44,152}     #u119.20i {28,152}    #u99.20i {12,152}
    #u40.16i {912,108}    #u110.16i {896,108}   #u120.16i {880,108}   #u96.16i {864,108}
    #u105.22i {848,108}   #u73.20i {828,108}    #u71.20i {812,108}    #u75.20i {796,108}
    #u65.20i {780,108}    #u61.20i {764,108}    #u63.20i {748,108}    #u74.20i {732,108}
    #u72.20i {716,108}    #u76.20i {700,108}    #u66.20i {684,108}    #u62.20i {668,108}
    #u64.20i {652,108}    #u53.20i {636,108}    #u51.20i {620,108}    #u55.20i {604,108}
    #u45.20i {588,108}    #u41.20i {572,108}    #u43.20i {556,108}    #u54.20i {540,108}
    #u52.20i {524,108}    #u56.20i {508,108}    #u46.20i {492,108}    #u42.20i {476,108}
    #u44.20i {460,108}    #u33.20i {444,108}    #u31.20i {428,108}    #u35.20i {412,108}
    #u25.20i {396,108}    #u21.20i {380,108}    #u23.20i {364,108}    #u34.20i {348,108}
    #u32.20i {332,108}    #u36.20i {316,108}    #u26.20i {300,108}    #u22.20i {284,108}
    #u24.20i {268,108}    #u5.20i {252,108}     #u13.20i {236,108}    #u11.20i {220,108}
    #u15.20i {204,108}    #u1.20i {188,108}     #u3.20i {172,108}     #u14.20i {156,108}
    #u12.20i {140,108}    #u16.20i {124,108}    #u6.20i {108,108}     #u2.20i {92,108}
    #u4.20i {76,108}      #u85.20i {60,108}     #u49.20i {44,108}     #u89.20i {28,108}
    #u84.20i {12,108}     #u83.20i {900,64}     #u82.20i {884,64}     #u86.20i {868,64}
    #u81.20i {852,64}     #u97.20i {644,64}     #u47.20i {628,64}     #u37.20i {612,64}
    #u57.20i {596,64}     #u67.20i {580,64}     #u77.20i {564,64}     #u87.20i {548,64}
    #u92.20i {532,64}     #u93.16i {516,64}     #u94.16i {500,64}     #u113.14i {484,64}
    #u116.20i {468,64}    #u104.22i {452,64}    #u95.16i {432,64}     #u103.22i {416,64}
    #u27.14i {396,64}     #u91.20i {380,64}     #u107.16i {364,64}    #u7.20i {348,64}
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    #u122.14i {332,64}    #u121.14i {316,64}    #u126.20i {300,64}    #u112.20i {284,64}
    #u102.14i {268,64}    #u101.16i {220,64}    #u125.20i {204,64}    #u124.20i {188,64}
    #u18.16i {156,64}     #u127.20i {140,64}    #u8.20i {124,64}      #u128.14i {108,64}
    #u17.14i {92,64}      #u106.14i {76,64}     #u117.16i {60,64}     #u118.14i {44,64}
    #u9.20i {28,64}       #u19.20i {12,64}      #c97.1i {672,200}     #c130.1i {688,200}
    #c129.1i {704,200}    #c128.1i {416,200}    #c127.1i {400,200}    #c126.1i {384,200}
    #c125.1i {352,200}    #c124.1i {368,200}    #c123.1i {336,200}    #c122.1i {320,200}
    #c121.1i {288,200}    #c120.1i {304,200}    #c119.1i {272,200}    #c118.1i {256,200}
    #c117.1i {224,200}    #c116.1i {240,200}    #c115.1i {208,200}    #c114.1i {192,200}
    #c113.1i {176,200}    #c112.1i {432,200}    #c111.1i {448,200}    #c110.1i {464,200}
    #c109.1i {496,200}    #c108.1i {480,200}    #c107.1i {512,200}    #c106.1i {528,200}
    #c105.1i {560,200}    #c104.1i {544,200}    #c103.1i {576,200}    #c102.1i {592,200}
    #c101.1i {624,200}    #c100.1i {608,200}    #c99.1i {640,200}     #c98.1i {656,200}
    #c65.1i {592,196}     #c96.1i {832,196}     #c95.1i {848,196}     #c94.1i {864,196}
    #c93.1i {896,196}     #c92.1i {880,196}     #c91.1i {0,200}       #c90.1i {16,200}
    #c89.1i {48,200}      #c88.1i {32,200}      #c87.1i {64,200}      #c86.1i {80,200}
    #c85.1i {112,200}     #c84.1i {96,200}      #c83.1i {128,200}     #c82.1i {144,200}
    #c81.1i {160,200}     #c80.1i {816,196}     #c79.1i {800,196}     #c77.1i {768,196}
    #c76.1i {784,196}     #c75.1i {752,196}     #c74.1i {736,196}     #c73.1i {704,196}
    #c72.1i {720,196}     #c71.1i {688,196}     #c70.1i {672,196}     #c69.1i {640,196}
    #c68.1i {656,196}     #c67.1i {624,196}     #c66.1i {608,196}     #c33.1i {576,196}
    #c64.1i {336,196}     #c63.1i {320,196}     #c62.1i {304,196}     #c61.1i {272,196}
    #c60.1i {288,196}     #c59.1i {256,196}     #c58.1i {240,196}     #c57.1i {208,196}
    #c56.1i {224,196}     #c55.1i {192,196}     #c54.1i {176,196}     #c53.1i {144,196}
    #c52.1i {160,196}     #c51.1i {128,196}     #c50.1i {112,196}     #c49.1i {96,196}
    #c47.1i {352,196}     #c46.1i {368,196}     #c45.1i {400,196}     #c44.1i {384,196}
    #c43.1i {416,196}     #c42.1i {432,196}     #c41.1i {464,196}     #c40.1i {448,196}
    #c39.1i {480,196}     #c38.1i {496,196}     #c37.1i {528,196}     #c36.1i {512,196}
    #c35.1i {544,196}     #c34.1i {560,196}     #c1.1i {492,152}      #c32.1i {748,152}
    #c31.1i {764,152}     #c30.1i {780,152}     #c29.1i {812,152}     #c28.1i {796,152}
    #c27.1i {828,152}     #c26.1i {844,152}     #c25.1i {876,152}     #c24.1i {860,152}
    #c23.1i {892,152}     #c22.1i {0,196}       #c21.1i {32,196}      #c20.1i {16,196}
    #c19.1i {48,196}      #c18.1i {64,196}      #c17.1i {80,196}      #c16.1i {732,152}
    #c15.1i {716,152}     #c14.1i {700,152}     #c13.1i {668,152}     #c12.1i {684,152}
    #c11.1i {652,152}     #c10.1i {636,152}     #c9.1i {604,152}      #c8.1i {620,152}
    #c7.1i {588,152}      #c6.1i {572,152}      #c5.1i {540,152}      #c4.1i {556,152}
    #c3.1i {524,152}      #c2.1i {508,152}      E181 {212,4}          E183 {220,4}
    E182 {216,4}          E184 {224,4}          E106 {424,0}          E104 {416,0}
    E105 {420,0}          E103 {412,0}          #u130.20i {488,152}   #u111.20i {424,152}
    #u123.20i {456,152}   #u129.20i {472,152}   ?.1i {408,152}

WrAddr': <245> (340)
    #u118.8i {44,88}      #u127.3i {128,72}     #u107.7o {352,88}

WrAddrP: <189> (868)
    #u118.10o {44,80}     #u91.2i {368,68}      #u95.1i {420,64}      #u96.1i {852,108}

WrCSAHigh': <37> (96)
    #u94.15o {500,68}     #u87.11i {548,100}    #u77.11i {564,100}

WrCSALow': <42> (124)
    #u94.14o {500,72}     #u67.11i {580,100}    #u57.11i {596,100}

WrData': <117> (148)
    #u113.6i {472,84}     #u113.12i {484,72}    #u107.15o {364,68}

WriteCnt': <74> (864)
    #u20.7i {64,176}      #u80.9i {220,180}     #u100.9i {236,180}    #u120.9o {880,136}

WriteCtrl': <168> (48)
    #u40.9i {912,136}     #u120.7o {868,132}

WriteDebB': <297> (152)
    C437 {212,44}         #u17.11o {92,76}

WriteHB': <61> (692)
    #u120.14o {880,116}   #u39.1i {392,152}     #u29.1i {376,152}     #u108.5i {240,168}

WriteHBA': <64> (760)
    #u120.15o {880,112}   #u50.9i {204,180}     #u70.9i {188,180}

WriteTemp: <326> (196)
    #u104.9o {436,96}     #u102.13i {268,68}

WrMatchHigh': <376> (848)
    #u109.11i {92,188}    #u120.11o {880,128}

WrMatchLow': <375> (828)
    #u79.11i {108,188}    #u120.10o {880,132}

XACK/: <343> (244)
    E123 {492,0}          #u122.3o {320,72}
```