

IOP				OPTIONS				CP				HSIO			
02				02	Cycle.1'	Click.0		02	Cycle1'	Click.0		02	Cycle1'	Click.0	02
03				03	Cycle.2'	Click.1		03	Cycle2'	Click.1		03	Cycle2'	Click.1	03
04				04	Cycle.3'	Click.2		04	Cycle3'	Click.2		04	Cycle3'	Click.2	04
05	Spare22	Spare23		05	Spare22	Spare23		05	Spare22	Spare23		05	CAS	LRAS'	05
06	Spare2			06	Spare2			06	Spare2			06	CAS	LCAS	06
07	Spare20	Spare21		07	Spare20	Spare21		07	Spare20	Spare21		07	WPulse	DR/C	07
08	Spare18	Spare19		08	Spare18	Spare19		08	Spare18	Spare19		08			08
09	ppCLK			09	ppCLK			09	ppCLK			09	ppCLK		09
11	Spare16	Spare17		11	Spare16	Spare17		11	AllowWrite			11	AllowWrite		11
12	IOPClk			12	IOPClk			12				12			12
13	Spare14	Spare15		13	Spare14	Spare15		13	MAR-	mem		13	MAR-	mem	13
14	Spare12	Spare13		14	Spare12	Spare13		14		-MStatus'		14		-MStatus'	14
15	IOPDataOut	BRCIk		15	IOPDataOut	BRCIk		15	MapRef	MCTl-'		15	MapRef	MCTl-'	15
16	SeITroyMode	Spare9		16	SeITroyMode	Spare9		16	Refresh'			16	Refresh'		16
17	Wait	IOPReset'		17	Wait	IOPReset'		17	Wait	IOPReset'		17	Wait	IOPReset'	17
18	TrIndex	TrHdLd		18	TrIndex	TrHdLd		18	Spare26	Spare27		18	Spare26	Spare27	18
19	TrReady	TrStep		19	TrReady	TrStep		19	Spare24	Spare25		19	Spare24	Spare25	19
21	IOPData-	IOPCtl-		21	IOPData-	IOPCtl-		21	IOPData-	IOPCtl-		21	IOPData-	IOPCtl-	21
22	TrTK00	TrDirIn		22	TrTK00	TrDirIn		22	KOData-	KCtl-		22	KOData-	KCtl-	22
23				23	EOData-	EICtl-		23	EOData-	EICtl-		23	EOData-	EICtl-	23
24	TrWrProt	TrWrGate		24	TrWrProt	TrWrGate		24	DCtlFifo-	DCtl-		24	DCtlFifo-	DCtl-	24
25	TrRdData	TrWrData		25	TrRdData	TrWrData		25	DBorder-			25	DBorder-		25
26	EWrite'	EOCtl-'		26	EWrite'	EOCtl-'		26	EWrite'	EOCtl-'		26	EWrite'	EOCtl-'	26
27	KCmd-	IOOutSp4-		27	KCmd-	IOOutSp4-		27	KCmd-	IOOutSp4-		27	KCmd-	IOOutSp4-	27
28				28	POData-	PCTl-		28	POData-	PCTl-		28	POData-	PCTl-	28
29	Spare6	Spare7		29	Spare6	Spare7		29	Spare6	Spare7		29	Spare6	Spare7	29
31				31	EIData'	EStatus'		31	EIData'	EStatus'		31	EIData'	EStatus'	31
32	Spare4	Spare5		32	Spare4	Spare5		32	-KIData'	-KStatus'		32	-KIData'	-KStatus'	32
33				33		KWrite'		33	-KTest'	KWrite'		33	-KTest'	KWrite'	33
34	-IOPIData'	-IOPStatus'		34	-IOPIData'	-IOPStatus'		34	-IOPIData'	-IOPStatus'		34	-IOPIData'	-IOPStatus'	34
35	-IOInSp2'			35	-IOInSp2'	PrtReq'		35	-IOInSp2'	PrtReq'		35	-IOInSp2'	PrtReq'	35
36	IOPALE	Spare3		36	IOPALE	Spare3		36	IOPALE	Spare3		36	IOPALE	Spare3	36
37	CSParErr			37	CSParErr	EndLine'		37	CSParErr	EndLine'		37	CSParErr	EndLine'	37
38	IODisp.0	IODisp.1		38	IODisp.0	IODisp.1		38	IODisp.0	IODisp.1		38	IODisp.0	IODisp.1	38
39	YIODisp.0	YIODisp.1		39	YIODisp.0	YIODisp.1		39	YIODisp.0	YIODisp.1		39	YIODisp.0	YIODisp.1	39
41	X.0	X.1		41	X.0	X.1		41	X.0	X.1		41	X.0	X.1	41
42	X.2	X.3		42	X.2	X.3		42	X.2	X.3		42	X.2	X.3	42
43	X.4	X.5		43	X.4	X.5		43	X.4	X.5		43	X.4	X.5	43
44	X.6	X.7		44	X.6	X.7		44	X.6	X.7		44	X.6	X.7	44
45	X.8	X.9		45	X.8	X.9		45	X.8	X.9		45	X.8	X.9	45
46	X.10	X.11		46	X.10	X.11		46	X.10	X.11		46	X.10	X.11	46
47	X.12	X.13		47	X.12	X.13		47	X.12	X.13		47	X.12	X.13	47
48	X.14	X.15		48	X.14	X.15		48	X.14	X.15		48	X.14	X.15	48
49				49	Y.0	Y.1		49	Y.0	Y.1		49	Y.0	Y.1	49
52				52	Y.2	Y.3		52	Y.2	Y.3		52	Y.2	Y.3	52
53				53	Y.4	Y.5		53	Y.4	Y.5		53	Y.4	Y.5	53
54				54	Y.6	Y.7		54	Y.6	Y.7		54	Y.6	Y.7	54
55				55	Y.8	Y.9		55	Y.8	Y.9		55	Y.8	Y.9	55
56				56	Y.10	Y.11		56	Y.10	Y.11		56	Y.10	Y.11	56
57				57	Y.12	Y.13		57	Y.12	Y.13		57	Y.12	Y.13	57
58				58	Y.14	Y.15		58	Y.14	Y.15		58	Y.14	Y.15	58
59	DmaReqC'	DmaAckC'		59	DmaReqC'	DmaAckC'		59	YH.0	YH.1		59	YH.0	YH.1	59
61	DmaReqA'	DmaAckA'		61	DmaReqA'	DmaAckA'		61	YH.2	YH.3		61	YH.2	YH.3	61
62	DmaReqB'	DmaAckB'		62	DmaReqB'	DmaAckB'		62	YH.4	YH.5		62	YH.4	YH.5	62
63	DmaCycle	ExtWaitReq'		63	DmaCycle	ExtWaitReq'		63	YH.6	YH.7		63	YH.6	YH.7	63
64	IOPIntReq0	IOPIntReq1		64	IOPIntReq0	IOPIntReq1		64	Pt.0	Pt.1		64	Pt.0	Pt.1	64
65	IOPIntReq2	IOPIntReq3		65	IOPIntReq2	IOPIntReq3		65	Pt.2			65	Pt.2		65
66	IOPSel.0'	IOPSel.1'		66	IOPSel.0'	IOPSel.1'		66	Disp-Proc'	MemErr		66	Disp-Proc'	MemErr	66
67	IOPSel.2'	IOPSel.3'		67	IOPSel.2'	IOPSel.3'		67				67	DAddr.0	DAddr.1	67
68	IOPSel.4'	IOPSel.5'		68	IOPSel.4'	IOPSel.5'		68				68	DAddr.2	DAddr.3	68
69	IOPAddr.00	IOPAddr.01		69	IOPAddr.00	IOPAddr.01		69				69	DAddr.4	DAddr.5	69
71	IOPAddr.02	IOPAddr.03		71	IOPAddr.02	IOPAddr.03		71				71	DAddr.6	DAddr.7	71
72	IOPAddr.04	IOPAddr.05		72	IOPAddr.04	IOPAddr.05		72				72	DAddr.8	DAddr.9	72
73	IOPAddr.06	IOPAddr.07		73	IOPAddr.06	IOPAddr.07		73				73	DAddr.10	DAddr.11	73
74	IOPAddr.08	IOPAddr.09		74	IOPAddr.08	IOPAddr.09		74				74	DAddr.12	DAddr.13	74
75	IOPAddr.10	IOPAddr.11		75	IOPAddr.10	IOPAddr.11		75				75	DAddr.14	DAddr.15	75
76	IOPAddr.12	IOPAddr.13		76	IOPAddr.12	IOPAddr.13		76	IOPAddr.12	IOPAddr.13		76	DData.0	DData.1	76
77	IOPAddr.14	IOPAddr.15		77	IOPAddr.14	IOPAddr.15		77	IOPAddr.14	IOPAddr.15		77	DData.2	DData.3	77
78	Spare0	Spare1		78	Spare0	Spare1		78	Spare0	Spare1		78	DData.4	DData.5	78
79	IOPMemRd'	IOPI/ORD'		79	IOPMemRd'	IOPI/ORD'		79				79	DData.6	DData.7	79
81	CSWE.a'	CSWE.b'		81	CSWE.a'	CSWE.b'		81	CSWE.a	CSWE.b'		81	DData.8	DData.9	81
82	CSWE.c'	CSWE.d'		82	CSWE.c'	CSWE.d'		82	CSWE.c'	CSWE.d'		82	DData.10	DData.11	82
83	CSWE.e'	CSWE.f'		83	CSWE.e'	CSWE.f'		83	CSWE.e'	CSWE.f'		83	DData.12	DData.13	83
84	IOPReq'	ClrIOPReq'		84	IOPReq'	ClrIOPReq'		84	IOPReq'	ClrIOPReq'		84	DData.14	DData.15	84
85				85	DPReq'	ClrDPReq'		85	DPReq'	ClrDPReq'		85	DPReq'	ClrDPReq'	85
86				86	EReq'	ClrRefReq'		86	EReq'	ClrRefReq'		86	EReq'	ClrRefReq'	86
87	IOPMemWr'	IOPI/OWr'		87	IOPMemWr'	IOPI/OWr'		87	KReq'	ClrKFlags'		87	KReq'	ClrKFlags'	87
88	RefReq'	ReadCSEn'		88	RefReq'	ReadCSEn'		88	RefReq'	ReadCSEn'		88	RefReq'		88
89	EORound	IOPWait		89	EORound	IOPWait		89	EORound	IOPWait		89	EORound		89
91	WrTPCHigh'	WrTPCLow		91	WrTPCHigh'	WrTPCLow		91	WrTPCHigh'	WrTPCLow		91			91
92	IOPData.0	IOPData.1		92	IOPData.0	IOPData.1		92	IOPData.0	IOPData.1		92			92
93	IOPData.2	IOPData.3		93	IOPData.2	IOPData.3		93	IOPData.2	IOPData.3		93			93
94	IOPData.4	IOPData.5		94	IOPData.4	IOPData.5		94	IOPData.4	IOPData.5		94			94
95	IOPData.6	IOPData.7		95	IOPData.6	IOPData.7		95	IOPData.6	IOPData.7		95			95
96	SwTAddr	SwTAddr'		96	SwTAddr	SwTAddr'		96	SwTAddr	SwTAddr'		96			96
1-100	101-200			1-100	101-200			1-100	101-200			1-100	101-200		

Above diagram is rear view (wiring side) of backplane.  
ALL NUMBERS ARE IN DECIMAL.

Dandelion Backplane Signals - 1

Stamen1-4.sil in: [Iris]<Workstation>Backplane>Backplane-C.dm

Rev	C	9/26/80
Ogus		

## MEM CTRL

## STORAGE

02	Cycle1'		02		02
03	Cycle2'		03		03
04	Cycle3'		04		04
05	RAS'	LRAS'	05	RAS'	LRAS'
06	CAS	LCAS	06	CAS	LCAS
07	WPulse	DR/C	07		
08			08		
09	ppCLK		09	ppCLK	
11	AllowWrite		11		
12	Bank0'		12	Bank0'	
13	MAR←	mem	13		
14		←MStatus'	14		
15	MapRef	MCTI←'	15		
16	Refresh'	CRrefresh'	16	Refresh'	CRrefresh'
17	Wait		17		
18	SDO.00	SDO.01	18	SDO.00	SDO.01
19	SDO.02	SDO.03	19	SDO.02	SDO.03
21	SDO.04	SDO.05	21	SDO.04	SDO.05
22	SDO.06	SDO.07	22	SDO.06	SDO.07
23	SDO.08	SDO.09	23	SDO.08	SDO.09
24	SDO.10	SDO.11	24	SDO.10	SDO.11
25	SDO.12	SDO.13	25	SDO.12	SDO.13
26	SDO.14	SDO.15	26	SDO.14	SDO.15
27	SDO.16	SDO.17	27	SDO.16	SDO.17
28	SDO.18	SDO.19	28	SDO.18	SDO.19
29	SDO.20	SDO.21	29	SDO.20	SDO.21
31			31		
32	SAddr.00	SAddr.01	32	SAddr.00	SAddr.01
33	SAddr.02	SAddr.03	33	SAddr.02	SAddr.03
34	SAddr.04	SAddr.05	34	SAddr.04	SAddr.05
35	SAddr.06	SAddr.07	35	SAddr.06	SAddr.07
36	Y1Latch	Y0Latch	36	Y1Latch	Y0Latch
37	Bank 1'	Bank 2'	37	Bank 1'	Bank 2'
38	MRef'	Write'	38	MRef'	Write'
39			39		
41	X.0	X.1	41		
42	X.2	X.3	42		
43	X.4	X.5	43		
44	X.6	X.7	44		
45	X.8	X.9	45		
46	X.10	X.11	46		
47	X.12	X.13	47		
48	X.14	X.15	48		
49	Y.0	Y.1	49		
52	Y.2	Y.3	52		
53	Y.4	Y.5	53		
54	Y.6	Y.7	54		
55	Y.8	Y.9	55		
56	Y.10	Y.11	56		
57	Y.12	Y.13	57		
58	Y.14	Y.15	58		
59	YH.0	YH.1	59		
61	YH.2	YH.3	61		
62	YH.4	YH.5	62		
63	YH.6	YH.7	63		
64	Pt.0	Pt.1	64		
65	Pt.2		65		
66	Disp.Proc'	MemErr	66		
67	DAddr.0	DAddr.1	67		
68	DAddr.2	DAddr.3	68		
69	DAddr.4	DAddr.5	69		
71	DAddr.6	DAddr.7	71		
72	DAddr.8	DAddr.9	72		
73	DAddr.10	DAddr.11	73		
74	DAddr.12	DAddr.13	74		
75	DAddr.14	DAddr.15	75		
76	DData.0	DData.1	76		
77	DData.2	DData.3	77		
78	DData.4	DData.5	78		
79	DData.6	DData.7	79		
81	DData.8	DData.9	81		
82	DData.10	DData.11	82		
83	DData.12	DData.13	83		
84	DData.14	DData.15	84		
85	SDI.20	SDI.21	85	SDI.20	SDI.21
86	SDI.18	SDI.19	86	SDI.18	SDI.19
87	SDI.16	SDI.17	87	SDI.16	SDI.17
88	SDI.14	SDI.15	88	SDI.14	SDI.15
89	SDI.12	SDI.13	89	SDI.12	SDI.13
91	SDI.10	SDI.11	91	SDI.10	SDI.11
92	SDI.08	SDI.09	92	SDI.08	SDI.09
93	SDI.06	SDI.07	93	SDI.06	SDI.07
94	SDI.04	SDI.05	94	SDI.04	SDI.05
95	SDI.02	SDI.03	95	SDI.02	SDI.03
96	SDI.00	SDI.01	96	SDI.00	SDI.01

1-100

101-200

1-100

101-200

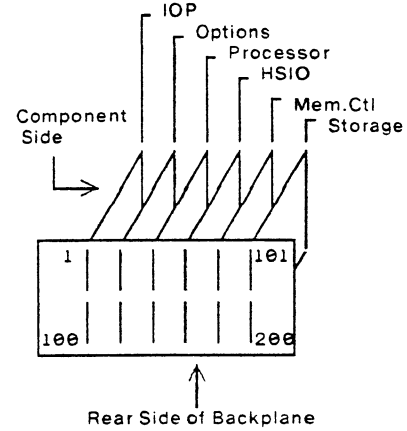
## Dandelion Backplane - 2

Rev C

9/26/80

Ogus

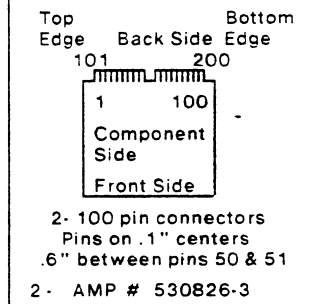
## Physical arrangement of cards:



## Power &amp; Ground

Voltage	Pins
+ 12 V	1,101
+ 5 V	50,51,150,151
GND	10,20,30,40,60 70,80,90,110,120, 130,140,160,170, 180,190
-5 V	100,200
-12 V	98,198
No Conn	97,99,197,199

## Card Edge Connector



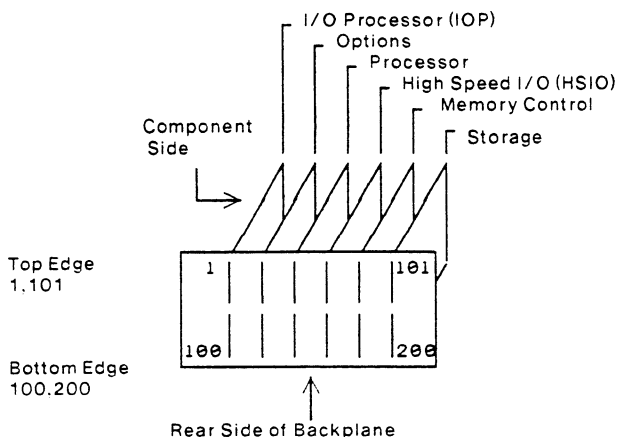
Stamen5-6.sil in:

[Iris]&lt;Workstation&gt;Backplane&gt;Backplane-C.dm

Above diagram is rear view (wiring side) of backplane.  
All numbers are in DECIMAL.

# Dandelion Backplane

## Physical arrangement



## Files

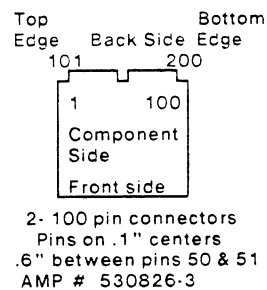
[Iris]<Workstation>Backplane>  
Backplane-C.press  
Backplane-C.dm

## Backplane Signals

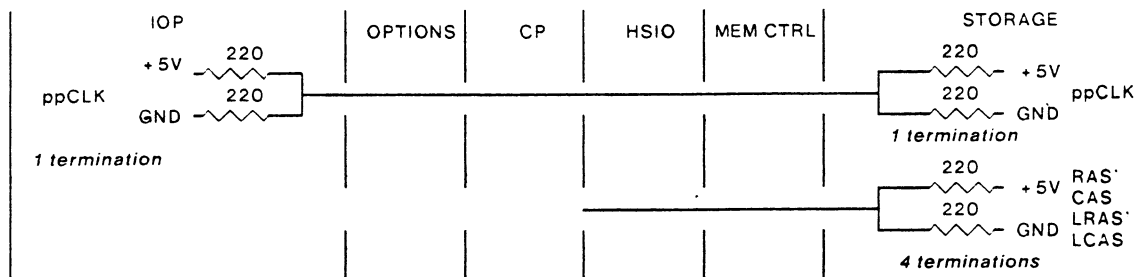
Card	IOP	Options	Central Processor	High Speed I/O	Memory Control	Storage	
Total Signal lines used	131	166	140	141	155	66	170 max. per card
I/O Connectors on front of boards	Floppy Keyboard Printer MaintenanceP Alto umb.	LSEP/Ethernet RS232/RS366		SA4XXX SA100X Display			

## Power distribution

Backplane Power & Ground		30 lines total
Voltage	Backplane Pins	
+ 12 V	1.101	
+ 5 V	50.51.150.151	
Gnd	10.20.30.40.60.70.80.90.110.120.130.140.160.170.180.190	
- 5V	100.200	
- 12 V	98.198	
No Conn.	97.99.197.199	



## Termination of clock signals



Terminations are placed on the IOP and STORAGE cards.

XEROX SDD	Project Dandelion	Backplane Description General Characteristics	File WSBackplane.sil	Designer Ogus	Rev C	Date 9/26/80
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*Revision B to Revision C*

- Rename XOData- to EOData- (23)
- Rename XCtl- to EICtl- (123)
- Rename IOOutSp1- to EWrite- (26)
- Rename IOOutSp2- to EOctl- (126)
- Rename IOOutSp3- to KCmd- (27)
- Rename -XIData- to EIData- (31)
- Rename -XStatus- to EStatus- (131)
- Rename -PStatus- to KWrite- (133)
- Rename XReq- to EReq- (86)
- Rename ClrXReq- to ClrRefReq- (186)
- Rename SpareReq- to EORound (89)
- Rename Spare10 to IOPDataOut (15)
- Rename Spare11 to BRCIk (115)
- Rename ClrRefReq- to PrtReq- (135)
- Rename Spare2 to IOPALE (36)
- Rename IOPALE to Spare2 (06)
- Rename DmaReqA to DmaReqA' (61)
- Rename DmaReqB to DmaReqB' (62)
- Rename DmaReqC to DmaReqC' (59)
- Rename DmaAckA to DmaAckA' (161)
- Rename DmaAckB to DmaAckB' (162)
- Rename DmaAckC to DmaAckC' (159)
- rename IOPSel.0 to IOIPSel.0' (66)
- rename IOPSel.1 to IOIPSel.1' (166)
- rename IOPSel.2 to IOIPSel.2' (67)
- rename IOPSel.3 to IOIPSel.3' (167)
- rename IOPSel.4 to IOIPSel.4' (68)
- rename IOPSel.5 to IOIPSel.5' (168)

<p><b>XEROX</b> SDD</p>	<p><i>Project</i> Dandelion</p>	<p><b>Backplane Revision History</b></p>	<p><i>File</i> StamenChanges1.si</p>	<p><i>Designer</i> Ogus</p>	<p><i>Rev</i> C</p>	<p><i>Date</i> 9/26/80</p>
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