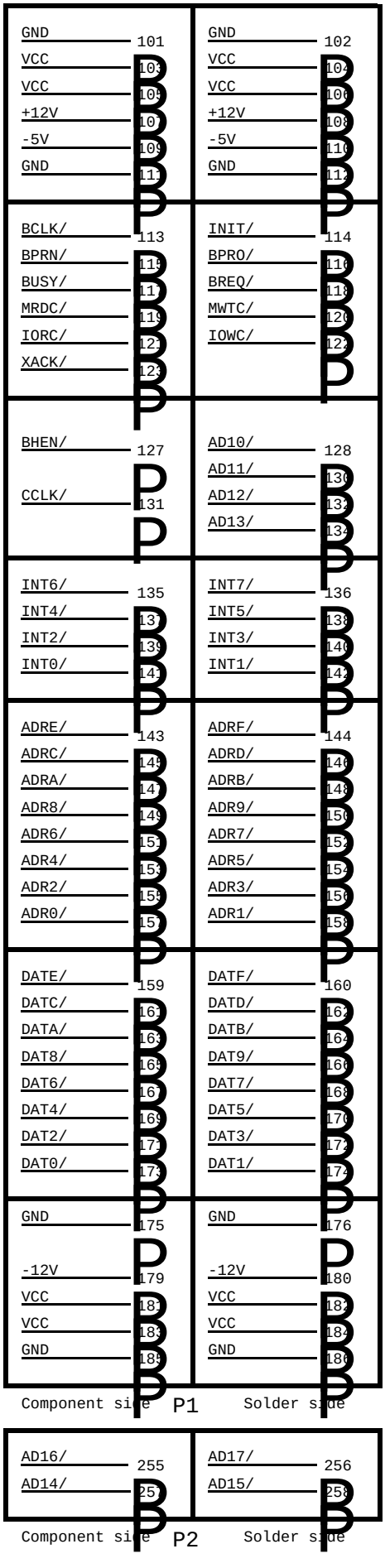
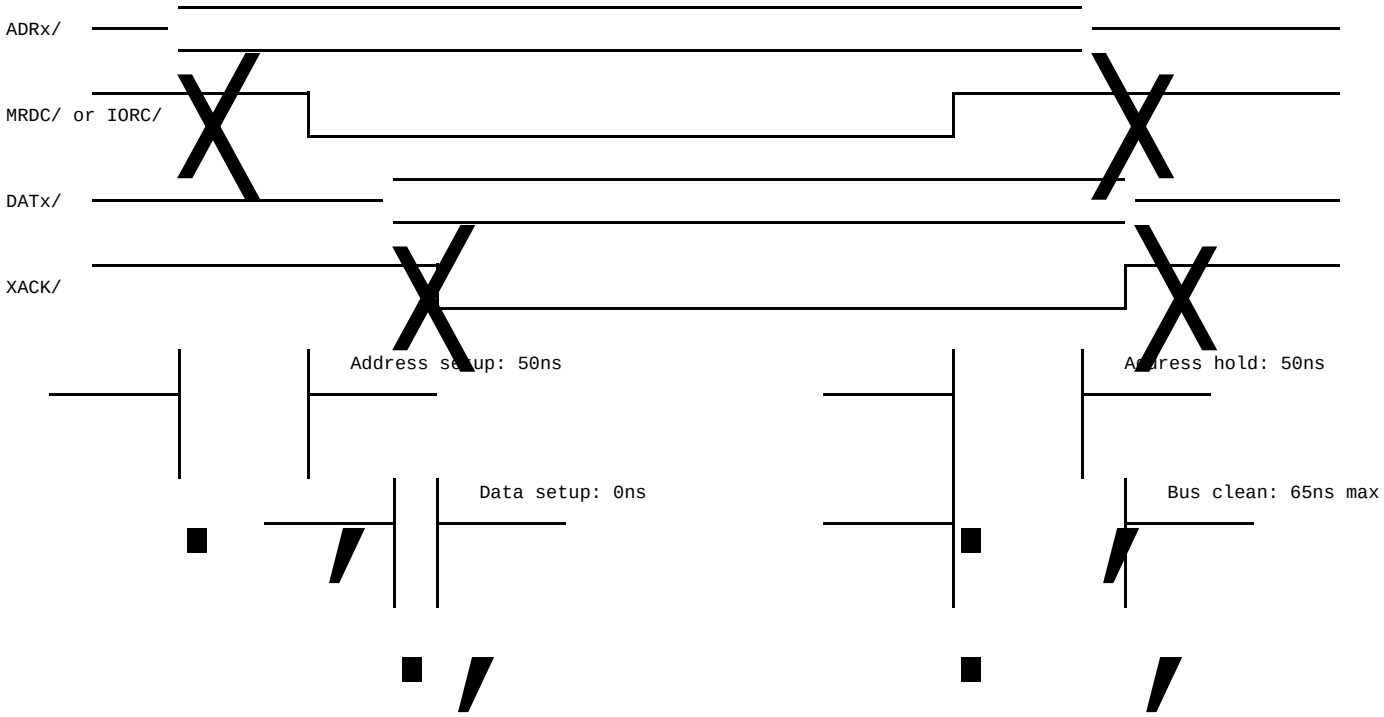


XEROX PARC	Project	Title	File	Designer	Rev	Date	Page
	Dicentra	Multibus Backplane	Fig-01.sil	Hal Murray		02/20/85	

Read



Write

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	Dicentra	Read/Write transfers	Fig-02.sil	Hal Murray		03/16/85	

* These 4 bits are inverted when stored in CS RAM or ROM.

Field	Description
rA	2901 A reg addr, U addr [0-3]
rB	2901 B reg addr, RH addr
aS	2901 alu Source operand pair
aF	2901 alu Function
aD	2901 alu Destination/shift control
ep	Even Parity
Cin	2901 Carry In, Shift Ends, writeSU (if enSU=1)
enSU	enable SU reg file
mem	MAR_ (if c1), MDR_ (if c2), _MD (if c3)
fS	Function field Selector
fX	X Function
fY	Y Function
fZ	Z Function
INIA	Next Instruction Address

aS	R, S
0	A, Q
1	A, B
2	0, Q
3	0, B
4	0, A
5	D, A
6	D, Q
7	D, 0

aF	F
0	R + S + Cin
1	S — R — Cin’
2	R — S — Cin’
3	R or S
4	R and S
5	~R and S
6	R xor S
7	~R xor S

sh,,aD	R[rB]_	Q_	Ybus_
0	no write	F	F
1	no write	no write	F
2	F	no write	A
3	F	no write	F
4	F/2	Q/2	F
5	F/2	no write	F
6	2F	2Q	F
7	2F	no write	F

sh _ (fX=shift) OR (fX=cycle) OR (fY=cycle)

fS[0-1]	fY=
0	DispBr
1	fyNorm
2	IOOut
3	Byte

fS[2-3]	fZ=	SU addr[0-7]			
0	fZNorm	0,,stackP			
1	Nibble	0,,stackP			
2	Uaddr[4-7]	rA,,fZ	|	rA,,Y[12-15]*	IF fZ=AltUaddr*
3	IOXin	rA,,fZ	|	rA,,Y[12-15]*	IF fZ=AltUaddr*

* as executed by previous u-instr

fX	fXNorm
0	pCall/Ret0
1	pCall/Ret1
2	pCall/Ret2
3	pCall/Ret3
4	pCall/Ret4
5	pCall/Ret5
6	pCall/Ret6
7	pCall/Ret7
8	Noop
9	RH_
A	shift
B	cycle
C	Cin_pc16
D	Map_
E	pop
F	push

fY	fYNorm	DispBr	IOOut
0	*	NegBr	DebA_
1	*	ZeroBr	ExtCtrl_
2	ClrIntErr	NZeroBr	
3	IBDisp	MesaIntBr	
4	MesaIntRq	PgCarryBr	
5	stackP_	CarryBr	
6	IB_	XRefBr	
7	cycle	NibCarryBr	
8	Noop	XDisp	
9	Map_	YDisp	
A	*	XC2npcDisp	
B	push		
C	IO_	XwdDisp	IO_, BHEN
D	Bank_	XHDisp	
E	RawRef	XLDisp	RawRef, BHEN
F		PgCrOvDisp	BHEN

fZ	fZNorm	IOXIn
0	*	ADR0
1	IBPtr_1	
2	IBPtr_0	
3	Cin_pc16	
4		
5	pop	
6	push	_ExtStat
7	AltUaddr	IO_
8	Noop	_DebB
9		
A		_ErrnIBnStkp
B		_RH
C	LRot0	_ibNA
D	LRot12	_ib
E	LRot8	_ibLow
F	LRot4	_ibHigh

pCall when NIA[7]=0 pRet when NIA[7]=1.

* Left unused for Burdock DLion/Dicentra simplicity.

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	Dicentra	CP MicroInstruction Format	Fig-03.sil	Hal Murray		03/20/85	