

POINT 4 BACKPLANE SIGNALS



POINT 4 Computer

USER'S REFERENCE CARD

BOT'M		A		TOP		BOT'M		B		TOP	
GND	2	1	GND	GND	2	1	GND	GND	2	1	GND
+5V	4	3		+5V	4	3	+5V	+5V	4	3	+5V
-5V	6	5	+5BU		6	5			6	5	
	8	7	PWRGON		8	7			8	7	
+15V	10	9	-5BU		10	9			10	9	
	12	11	PWRF		12	11			12	11	
	14	13			14	13			14	13	
	16	15			16	15			16	15	
	18	17			18	17			18	17	
	20	19			20	19			20	19	
	22	21			22	21			22	21	
	24	23			24	23			24	23	
	26	25			26	25			26	25	
	28	27			28	27			28	27	
	30	29			30	29			30	29	
	32	31			32	31			32	31	
GND	34	33	GND		34	33			34	33	
	36	35			36	35			36	35	
MSKO-	38	37			38	37			38	37	
INTA+	40	39			40	39			40	39	
DATI8+	42	41			42	41			42	41	
DATI8+	44	43			44	43			44	43	
DS3-	46	45			46	45			46	45	
DATOC+	48	47			48	47			48	47	
CLR+	50	49			50	49			50	49	
STR+	52	51			52	51			52	51	
DATIC+	54	53			54	53			54	53	
DATOB+	56	55			56	55			56	55	
DATO8+	58	57			58	57			58	57	
DCHA-	60	59			60	59			60	59	
DS4-	62	61			62	61			62	61	
DS5-	64	63			64	63			64	63	
DS2-	66	65			66	65			66	65	
DS1-	68	67			68	67			68	67	
IORST+	70	69			70	69			70	69	
DS0-	72	71			72	71			72	71	
IOPLS+	74	73			74	73			74	73	
	76	75			76	75			76	75	
	78	77			78	77			78	77	
SEL0-	80	79			80	79			80	79	
SELB-	82	81			82	81			82	81	
PEL-	84	83			84	83			84	83	
RUNL-	86	85			86	85			86	85	
CL-	88	87			88	87			88	87	
CONF-	90	89			90	89			90	89	
STOP-	92	91			92	91			92	91	
DCHPIN-	94	93	DCHPOUT-		94	93			94	93	
INTPIN-	96	95	INTPOUT-		96	95			96	95	
+5V	98	97	+5V		98	97			98	97	
GND	100	99	GND		100	99			100	99	

ASCII CODE in OCTAL							
0	↑@	NUL	40	100	@	140	↑
1	↑A	SOH	41	! 101	A	141	a
2	↑B	STX	42	" 102	B	142	b
3	↑C	ETX	43	# 103	C	143	c
4	↑D	EOT	44	\$ 104	D	144	d
5	↑E	ENQ	45	% 105	E	145	e
6	↑F	ACK	46	& 106	F	146	f
7	↑G	BELL	47	' 107	G	147	g
10	↑H	BACKSP	50	(110	H	150	h
11	↑I	H TAB	51) 111	I	151	i
12	↑J	LF	52	* 112	J	152	j
13	↑K	V TAB	53	+ 113	K	153	k
14	↑L	FF	54	, 114	L	154	l
15	↑M	CR	55	- 115	M	155	m
16	↑N	SH.OUT	56	. 116	N	156	n
17	↑O	SH.IN	57	/ 117	O	157	o
20	↑P	DLE	60	0 120	P	160	p
21	↑Q	XON	61	1 121	Q	161	q
22	↑R	AUX ON	62	2 122	R	162	r
23	↑S	XOFF	63	3 123	S	163	s
24	↑T	AUXOFF	64	4 124	T	164	t
25	↑U	NAK	65	5 125	U	165	u
26	↑V	SYN	66	6 126	V	166	v
27	↑W	ETB	67	7 127	W	167	w
30	↑X	CAN	70	8 130	X	170	x
31	↑Y	END MD	71	9 131	Y	171	y
32	↑Z	SUB	72	: 132	Z	172	z
33	↑[ESC	73	; 133	[173	{
34	↑\	F SEP	74	< 134	\	174	
35	↑]	G SEP	75	= 135]	175	}
36	↑^	R SEP	76	> 136	^	176	~
37	↑_	U SEP	77	? 137	_	177	DEL

VIRTUAL FRONT PANEL COMMANDS

A	Display PC, A0, A1, A2, A3 and carry.
Cx,y	Change accumulator x (or carry if x=4) to value y.
Dx*	Dump memory in octal, beginning at address x.
Ex*	Enable entry at address x.
Fx,y	Establish offset x-y, where x=real memory address, y=virtual (listing) address.
Ix*	Input ASCII (2 characters/word), starting at address x. Press ESC to terminate input.
Jx*	Jump to location x, after restoring accumulators and carry.
Kx,y,z	Store constant z in memory locations x through y.
Mx,y,z	Move memory block x through y to location z.
Nx,y,z,m	Search memory x through y for not-equal to z, using mask m (optional).
Ox*	Output memory in ASCII, starting at location x, until a 0 byte is encountered.
Px	Program load from DMA device code x. If x omitted reads switches.
R/R1	Read binary paper tape from TTY (R) or PTR (R1).
Sx,y,z,m	Search memory x through y for the value z, using mask m (optional).
V/V1	Verify paper tape, from TTY (V) or PTR (V1).
Xx,y	Calculate checksum over x through y.
Yx	Set up a delay after each CR/LF. x=0 for max. delay; x=177777 for none.
x:y	Enter value y at address x, and open next cell for entry.
^	Open previous cell for entry.

* Address may be followed by mode designator 0, 1, 2 or 3:

MODE	MEANING
None	Word address, incl. "F" offset, if any
0	Word address, absolute
1	Byte address, using offset
2	Byte address, lower 32K
3	Byte address, upper 32K

INSTRUCTION FORMAT SUMMARY

MEM. REF.	INSTRUCTION															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JMP	0	0	0	0	0	0										
JSR	0	0	0	0	0	1										
ISZ	0	0	0	1	0											
DSZ	0	0	0	0	1	1										
LDA	0	0	1			AC										
STA	0	1	0			AC										
I/O	0	1	1	AC		OPCODE	CTRL									
A/L	1	ACS	AC			OPCODE	SH	CY	NL							SK

POINT 4 INSTRUCTION REFERENCE OCTAL-TO-SYMBOLIC CONVERTER

ARITH/LOGIC	MEMORY REF.	INPUT/OUTPUT
100000 COM	0 JMP	60000 NIO
100400 NEG	4000 JSR	60400 DIA
101000 MOV		61000 DOA
101400 INC	10000 ISZ	61400 DIB
102000 ADC	14000 DSZ	62000 DOB
102400 SUB		62400 DIC
103000 ADD	20000 LDA	63000 DOC
103400 AND	40000 STA	
SOURCE	ACCUMULATOR	ACCUMULATOR
0 0	0 0	0 0
20000 1	4000 1	4000 1
40000 2	10000 2	10000 2
60000 3	14000 3	14000 3
DEST.	INDIRECT	I/O PULSE
0 0	2000 @	100 S
4000 1		200 C
10000 2	ADR. MODE	300 P
14000 3	0 - ABS	
	400 REL	I/O SKIP
SHIFT	1000 BASE 2	63400 SKPBN
100 L	1400 BASE 3	63500 SKPBB
200 R		63600 SKPBD
300 S	DISPLACEMENT	63700 SKPDB
	0 - 177 POS.	
CARRY	200-377 NEG. (EXC. ABSOLUTE)	DEV. CODE
20 Z		10 TTI
40 O		11 TTO
60 C		12 PTR
	SPECIAL ARITH.	13 PTP
	TESTS	14 RTC
NO-LOAD		17 LPT
10 #	101014 SKZ	
	101015 SNZ	SPEC. CPU INST
SKIP COND.	101112 SSP	60277 INTEN
1 SKP	101113 SSN	60177 INTDS
2 SZC	102032 SGE	60477 READS
3 SNC	102033 SLS	61477 INTA
4 SZR	102414 SEQ	62077 MSKO
5 SNR	102415 SNE	62677 IORST
6 SEZ	102432 SGR	63077 HALT
7 SBN	102433 SLE	

CTRL D

CYCLE SHIFT K - BACK TO MAIN MENU