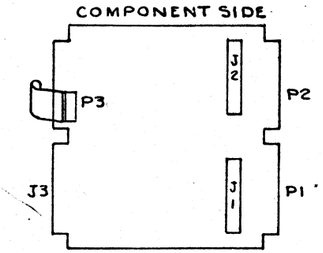
REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL
H0	PRODUCTION RELEASE ENSCRIBE	KF	BP	10-APR-80	
H1	INCORP PER EN 8385H	KF	KL	7/11/83	
H2	INCORP PER EN 9220H	KF	KL		
H3	INCORP PER EN 9479D	KF	KL		
H4	INCORP PER EN 9610D	KF	KL		
H5	INCORP PER EN 9714H	KF	KL	7/10/84	

J3	SIGNAL	DIRECTION	LOC.
PIN B01	SPARE		
B02			
B03			
B04			
B05			
B06			
B07			
B08			
B09			
B10			
B11			
B12			
B13			
B14			
B15			
B16			
B17			
B18			
B19			
B20			
B21			
B22			
B23			
B24			
B25			
B26			
B27			
B28			
B29			
B30			
B31			
B32			
B33			
B34			
B35			
B36			
B37			
B38			
B39			
B40			
B41			
B42			
B43			
B44			
B45			
B46			
B47			
B48			
B49			
B50	SPARE		
A01	TRP	(TP) →	C89
A02	QPFD	(TP) →	C126
A03	FULL	(TP) →	
A04	CIE-	(TP) →	C90
A05	CUSQ-	(TP) →	A123
A06	PFE	(TP) →	A89
A07	SPARE		
A08	MIN	(TP) →	C78
A09	SPARE		
A10			
A11			
A12			
A13			
A14			
A15			
A16			
A17	SPARE		
A18	SNCZ	(TP) →	A97
PIN A19	SPARE		

J3 CONT	SIGNAL	DIRECTION	LOC.
PIN A20	SPARE		
A21			
A22			
A23			
A24			
A25			
A26			
A27			
A28			
A29			
A30			
A31			
A32			
A33			
A34	SPARE		
A35	STRTI-	(TP) →	C76
A36	SPARE		
A37			
A38			
A39			
A40			
A41			
A42			
A43			
A44			
A45			
A46			
A47			
A48			
A49	SPARE		
PIN A50	MBYT-	(TP)	C50

UNUSED GATES/IC			
I/C DESIG.	I/C TYPE	UNUSED PIN IN	UNUSED PIN OUT
87	7432	9,10	8



TABULATION BLOCK	
DASH NO.	DESCRIPTION
- 00	WITH POWER FAIL
- 01	W/OUT PWR FAIL
- 02	WITH RESTART
(10) - 03	ACTIVE DMA

(10) DASH 03 IS IDENTICAL TO DASH 00.

(9) THIS SIGNAL CONNECTED THRU MOTHERBOARD ONLY.

8. BIDIRECTION SIGNAL DENOTED BY —⋈—
7. OUTPUT SIGNAL DENOTED BY —▷—
6. INPUT SIGNAL DENOTED BY —◁—
5. RESISTOR PACKS ARE 1KOHMS, ±5%, 1/4 W.
4. 2.2 MICROFARAD CAPACITORS ARE ±10%, 35V.
3. .022 MICROFARAD CAPACITORS ARE -80%-20%, 25V.
2. RESISTORS ARE IN OHMS, ±5%, 1/4 W.
1. SEE DRAWING NUMBER 73-53506-XX FOR ASSEMBLY DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX ±.03 ANGULAR .XXX ±.010 ±½°	DR	G. FONTAN	10/1/79
2. BREAK ALL SHARP EDGES .010 APPROX.	CH	[illegible]	11/27/79
3. ALL DIM. IN INCHES	DSG	G. FONTAN	10/1/79
	ENGR	[illegible]	6/5/84

DASH NO.	NEXT ASSEMBLYS

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ComputerAutomation
18651 Von Karman, Irvine, Calif. 92664

TITLE: LOGIC DIAGRAM — PROCESSOR FULL/CARD

SIZE	DWG. NO.	REV
D	75-53506-XX	H5

DO NOT SCALE DRAWING | SCALE = NONE | SHT. 1 OF 18

31

DRAWING NO. 75-53506-XX H5

PRINTED ON DIETZGEN-POST CLEARPRINT 1000-H

CØNNECTØR SIGNALS

P1	SIGNAL	DIRECTIØN	LOC.
PIN 101	GND	←	
102	GND	←	
103	+12V		
104	+12V		
105	+12V		
106	+12V		
107	−12V		
108	−12V		
109	SSW−	←	A77
110	IF−	→	B63
111	TYLF	←	B10
112	+5H	←	D122
113	+5V	←	
114	+5V	←	
115	MST−	→	
116	SPARE		
117	MACK−	←	A112
118	RD−	→	D105
119	TYP I−	→	B10
120	SLB−	→	C49
121	PFD−	↔	
122	MDIS−	→	C121
123	ABØ8−	→	C65
124	ABØ9−	→	C65
125	ABI0−	→	D65
126	ABII−	→	D65
127	GND	←	
128	GND	←	
129	ABI2−	→	B65
130	ABI3−	→	B65
131	ABI4−	→	B65
132	ABI5−	→	B65
133	AL−	→	B10
134	BM−	→	C114
135	STØP−	→	C115
136	SACK−	→	B10
137	ØVF−	→	B81
138	START−	→	B122
139	DBØØ−	↔	A63
140	DBØI−	↔	A62
141	DBØ2−	↔	B62
142	DBØ3−	↔	B62
143	+5V	←	
144	+5V	←	
145	DBØ4−	↔	B62
146	DBØ5−	↔	B62
147	DBØ6−	↔	C62
148	DBØ7−	↔	B62
149	DBØ8−	↔	C62
150	DBØ9−	↔	C62
151	DBI0−	↔	C62
152	DBII−	↔	C62
153	DBI2−	↔	D62
154	DBI3−	↔	D62
155	DBI4−	↔	D62
156	DBI5−	↔	D62
157	EXEC−	→	
158	IN−	→	
159	GND	←	
160	GND	←	
161	IØCL−	→	B110
162	ØUT−	→	B10
163	CLK−	→	
164	SER−	←	B112
165	IUR−	←	C104
166	ILI−	NØT USED	
167	IAR−	→	
168	IL2−	NØT USED	
169	RST−	→	C121
170	IUA−	→	
171	PLSE−	→	
172	ECHØ−	→	
173	+5V	←	
174	+5V	←	
175	AEØ3−	→	A65
176	ABØ4−	→	A65
177	ABØ5−	→	A65
178	ABØ6−	→	C65
179	ABØ7−	→	C65
180	ABØØ−	→	B65
181	ABØI−	→	D65
182	ABØ2−	→	A65
183	SERV−	→	B121
184	CINT−	←	D104
185	GND	←	
PIN 186	GND	←	

P2	SIGNAL	DIRECTIØN	LOC.
PIN 201	GND	←	
202	GND	←	
203	+12V	NØT USED	
204	+12V		
205	+12V		
206	+12V		
207	−12V		
208	−12V		
209	DPIN−	NØT USED	
210	DPØT−	→	
211	SPARE		
212	SPARE		
213	+5V	←	
214	+5V	←	
215	MST−	→	C114
216	SPARE		
217	MACK−	←	A112
218	RD−	→	D105
219	RESERVE		
220	SLB−	NØT USED	
221	PFD−	↔	
222	MDIS−	→	C121
223	ABØ8−	NØT USED	
224	ABØ9−	NØT USED	
225	ABI0−	→	
226	ABII−	→	
227	GND	←	
228	GND	←	
229	ABI2−	→	
230	ABI3−	→	
231	ABI4−	→	
232	ABI5−	NØT USED	
233	SPARE		
234	SPARE		
235	STØP−	NØT USED	
236	SACK−	→	D114
237	MEIN−	NØT USED	
238	MBØT	→	
239	DBØØ−	NØT USED	
240	DBØI−	↔	
241	DBØ2−	↔	
242	DBØ3−	NØT USED	
243	+5V	←	
244	+5V	←	
245	DBØ4−	NØT USED	
246	DBØ5−	↔	
247	DBØ6−	↔	
248	DBØ7−	↔	
249	DBØ8−	↔	
250	DBØ9−	↔	
251	DBI0−	↔	
252	DBII−	↔	
253	DBI2−	↔	
254	DBI3−	↔	
255	DBI4−	↔	
256	DBI5−	NØT USED	
257	EXEC−	→	B114
258	IN−	→	A114
259	GND	←	
260	GND	←	
261	IØCL−	→	A110
262	ØUT−	→	A114
263	CLK−	→	D114
264	SER−	←	C112
265	IUR−	←	
266	ILI−	←	D104
267	IAR−	→	B114
268	IL2−	→	C104
269	RST−	NØT USED	
270	IUA−	→	D114
271	PLSE−	→	B114
272	ECHØ−	→	C114
273	+5V	←	
274	+5V	←	
275	ABØ3−	NØT USED	
276	ABØ4−	↔	
277	ABØ5−	↔	
278	ABØ6−	↔	
279	ABØ7−	↔	
280	ABØØ−	↔	
281	ABØI−	↔	
282	ABØ2−	↔	
283	PRIN−	NØT USED	
284	PRØT−	→	C100
285	GND	←	
PIN 286	GND	←	

P3	SIGNAL	DIRECTIØN	LOC.
PIN 01	ØVCLK−	←	A86
02	ØVØ2	←	C86
03	FWSØØ	↔	B31
04	MDISI−	→	D122
05	ØVØI	←	C86
06	ILØCK−	→	D52
07	SLØCK−	→	A53
08	GND	←	
09	FWSØI	↔	C31
10	FRSCO	↔	C31
11	FRSØI	↔	D31
12	ALM	←	A38
13	WSTB−	←	C80
14	ØVØØ	←	B86
15	FWUL−	↑	A28
16	LNKØ2	↑	D45
17	WRSØI−	↑	B53
18	FREU−	↑	C28
19	LNKCI−	↑	D45
20	MRSØØ	↓	B53
21	MRSØI	←	A53
22	CSØ8−	←	D87
23	GND	←	
24	INHBI−	→	A53
25	RØMQØ−	←	B75
26	RMAØI	←	D50
27	WRSCO−	←	B53
28	SIF	←	C64
29	FREL−	←	A28
30	TIMØØ	←	B75
31	TIMØI	←	B75
32	TIMØ2	←	B75
33	LNKØØ	←	B48
34	RESVD		
35	FW	←	B80
36	MWMXN−	←	D44
37	TSTR	→	C73
38	IPCLR	←	C99
39	PCSØØ	←	B56
40	PCSØ3	←	C56
41	RMXØN−	←	B53
42	PCSØI	←	B56
43	BCLK−	←	D64
44	PCSØ2	←	C56
45	DFZER	←	C95
46	ALCN	←	B38
47	IØCLI	←	C104
48	MRST−	←	C63
49	IF	←	C63
PIN 50	GND	←	

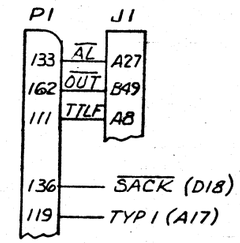
J1	SIGNAL	DIRECTIØN
PIN A01	GND	→
A02	SPARE	
A03	SPARE	
A04	+12V	→
A05	−12V	→
A06	RESVD	
A07	SSW−	←
A08	TILF	→
A09	+5H	→
A10	BSØ3	→
A11	SPARE	
A12	+5V	→
A13	MST−	→
A14	MACK−	←
A15	SPARE	
A16	FCLK−	→
A17	PFD−	→
A18	ABØ8−	→
A19	SPARE	
A20	SPARE	
A21	ABI0−	→
A22	GND	→
A23	SPARE	
A24	ABI2−	→
A25	SPARE	
A26	ABI4−	→
A27	AL−	→
A28	SPARE	
A29	SPARE	
A30	SPARE	
A31	DBCØ−	↔
A32	DBC2−	↔
A33	DBØ4−	↔
PIN A34	SPARE	

J1-CØNT.	SIGNAL	DIRECTIØN	LOC.
PIN A35	+5V	→	
A36	SPARE		
A37	SPARE		
A38	DBØ8−	↔	C62
A39	DBØ6−	↔	C62
A40	DBII−	↔	C62
A41	SPARE		
A42	DBI2−	↔	D62
A43	DBI5−	↔	D62
A44	SPARE		
A45	SPARE		
A46	EXEC−	→	B113
A47	GND	←	
A48	SPARE		
A49	IØCL−	→	B110
A50	CLK−	→	D113
A51	IUR−	←	C104
A52	SPARE		
A53	IAR−	→	B113
A54	RST−	→	C121
A55	BKDIS−	→	
A56	PLSE−	→	B113
A57	ECHØ−	→	C113
A58	+5V	→	
A59	ABQ3−	→	A65
A60	AEØ5−	→	A65
A61	ABØ7−	→	C65
A62	ABØI−	→	B65
A63	STEND	→	B108
A64	BSØ4	→	C105
A65	GND	←	
B01	GND	←	
B02	ØFST−	→	C104
B03	SPARE		
B04	+12V	←	
B05	−12V	←	
B06	IØØK2	→	C126
B07	IF ✱−	→	B63
B08	SPARE		
B09	+5H	→	D128
B10	ØATLD−	→	A125
B11	ØPT−	→	B104
B12	+5V	←	
B13	SPARE		
B14	RD−	→	D105
B15	ØPRØT	→	C104
B16	SLB−	→	C49
B17	MDIS−	→	C121
B18	ABØ9−	→	C65
B19	SPARE		
B20	SPARE		
B21	ABII−	→	D65
B22	GND	←	
B23	SPARE		
B24	ABI3−	→	B65
B25	SPARE		
B26	ABI5−	→	B65
B27	SPARE		
B28	SPARE		
B29	SPARE		
B30	SPARE		
B31	DBØI−	↔	B62
B32	DBØ3−	↔	B62
B33	DBØ5−	↔	B62
B34	SPARE		
B35	+5V	→	
B36	SPARE		
B37	SPARE		
B38	DBØ9−	↔	C62
B39	DBØ7−	↔	B62
B40	DBI0−	↔	C62
B41	STICM	→	B108
B42	DBI3−	↔	D62
B43	DBI4−	↔	D62
B44	SPARE		
B45	SPARE		
B46	IN−	→	A113
B47	GND	←	
B48	SPARE		
B49	ØUT−	→	A113
B50	SER−	←	B112
B51	SPARE		
B52	SPARE		
B53	SPARE		
B54	IUA−	→	D113
PIN B55	SPARE		

J1-CONT.	SIGNAL	DIRECTION	LOC.
PIN B56	XPRØI	→	C100
B57	2MHZ		
B58	+5V		
B59	ABQ4−		A65
B60	ABQ6−		C65
B61	ABQØ−		B65
B62	ABQ2−	→	A65
B63	GMDIS−	→	C121
B64	CINI−	←	D104
PIN B65	GND	←	

J2	SIGNAL	DIRECTIØN	
PIN A01	GND		
A02	GND		
A03	IRQ7−	←	B60
A04	IRQ6−	←	C60
A05	IRQØ	←	A60
A06	IRI3−	←	D60
A07	IRQ8−	←	C60
A08	IRI5−	←	D58
A09	I67−	←	B58
A10	+5V		
A11	+5V		
A12	SPARE		
A13	ALUØØ	←	B40
A14	ALUØ2	←	B40
A15	WMBBS−	←	D44
A16	RESVD		
A17	ØPDO4−	→	C59
A18	ØPDØØ−	→	B59
A19	RESVD		
A20	RESVD		
A21	GND	→	
A22	GND	→	
A23	RESVD		
A24	RESVD		
A25	IRIØ−	→	C60
A26	MSELF−	→	D69
A27	RESVD		
A28	MSELF	→	C69
A29	RESVD		
A30	RESVD		
A31	RESVD		
A32	RESVD		
A33	+5V	→	
A34	+5V	→	
A35	RESVD		
A36	IØSØØ	←	A120
A37	RESVD		
A38	IRQ2−	→	B60
A39	RESVD		
A40	RESVD		
A41	SPARE		
A42	SPARE		
A43	CSØ2	←	D72
A44	SPARE		
A45	SPARE		
A46	GND	→	
A47	GND	→	
A48	BSØ4	→	C105
A49	SPARE		
A50	RESVD		
A51	SPARE		
A52			
A53			
A54			
A55	SPARE		
A56	+5V	→	
A57	+5V	→	
A58	NSER−	→	C108
A59	INTFK	←	A104
A60	INTF−	←	A101
A61	BSØ3−	←	C105
A62	RESVD		
A63	SPARE		
A64	GND	→	
A65	GND	→	
BCI	GND	→	
BC2	GND	→	
BC3	2MHZ	←	
BC4	IRQI−	→	A60
BC5	IRQ5−	→	B60
BC6	IRI4−	→	D60
BC7	IRQ9−	→	C60
PIN BC8	IRII−	→	C60

J2-CØNT.	SIGNAL	DIRECTIØN	LOC.
PIN B09	IIL6−	←	B58
B10	+5V	→	
B11	+5V	→	
B12	IRI2−	→	C60
B13	STØPI−	→	C114
B14	ALUØI	←	B40
B15	ALUØ3	←	B40
B16	IRØ4− (TP)	→	B60
B17	ØPDOI−	→	B59
B18	ØPDO5−	→	D59
B19	CSØI	←	A120
B20	IMHZ−	←	D116
B21	GND	→	
B22	GND	→	
B23	IRØ3− (TP)	→	B60
B24	RESVD		
B25	IØCLI−	←	B112
B26	ØPDO2−	→	C59
B27	SACKI−	←	D116
B28	10MHZ−	→	D116
B29	ØPDO3−	→	C59
B30	RESVD		
B31	RESVD		
B32	RESVD		
B33	+5V	→	
B34	+5V	→	
B35	BSØ8 (TP)	→	B105
B36	GØ	←	B120
B37	IØ−	←	A118
B38	START−	←	B122
B39	SPARE		
B40	BSØ6 (TP)	→	B105
B41	IRI5− (TP)	→	D60
B42	IØSØI	→	A119
B43	PØ5− NØT USED		
B44	SPARE		
B45	SPARE		
B46	GND	→	
B47	GND	→	
B48	PAUSF	←	D110
B49	BSØ7 (TP)	→	B105
B50	BSØ5 (TP)	→	B105
B51	BSØ2 (TP)	→	C105
B52	PØØ−	←	B99
B53	BSØI (TP)	→	C105
B54	RSVP	←	C118
B55	IØ	←	A120
B56	+5V	→	
B57	+5V	→	
B58	DLY	←	A108
B59	INTFJ	←	A104
B60	RESVD		
B61	20MHZ	←	B111
B62	FC2−	←	A64
B63	ENDP	→	A106
B64	GND	→	
PIN B65	GND	→	



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

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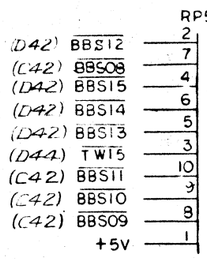
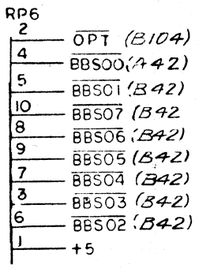
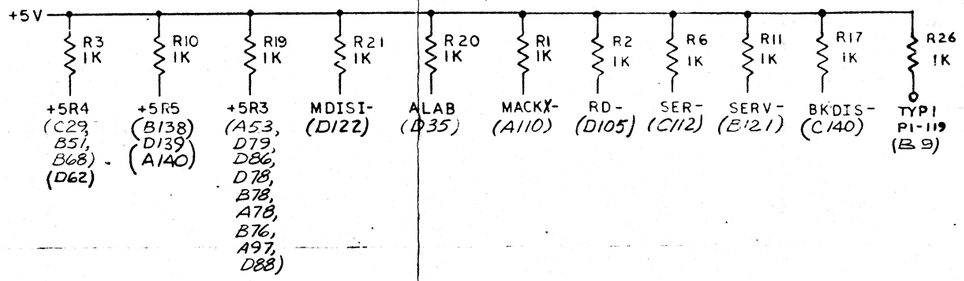
SIZE		REV
D	75-53506-XX	45
SCALE=		SHT. 2 OF

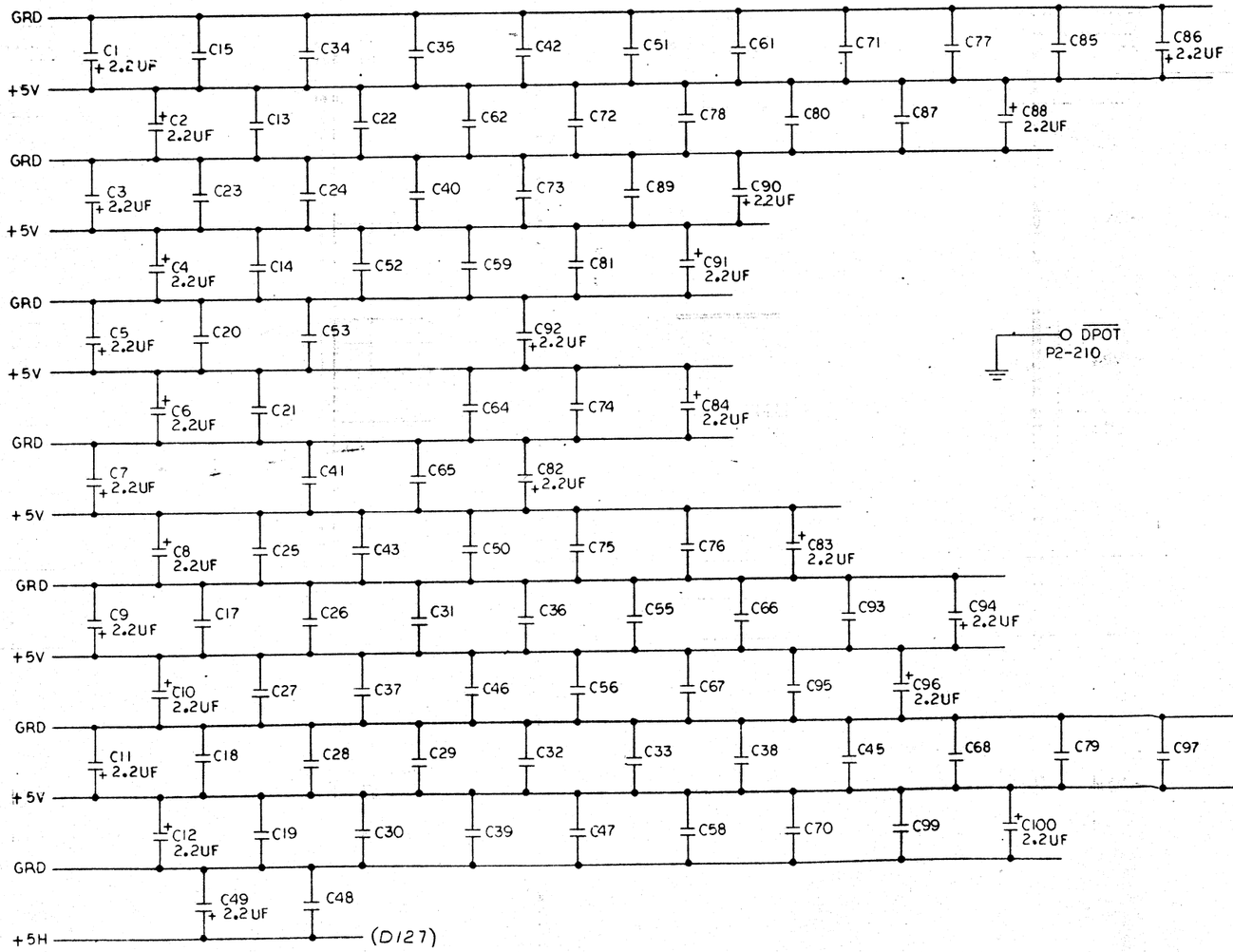
75-53506-XX

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

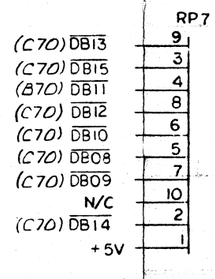


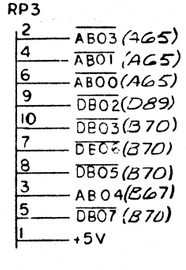


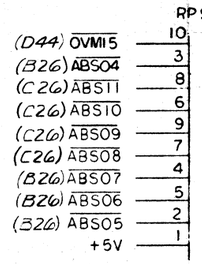


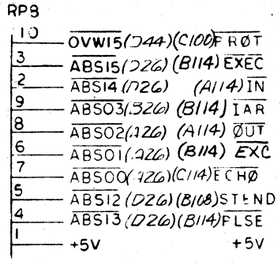


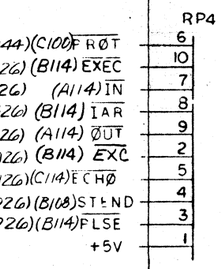
PULLUPS

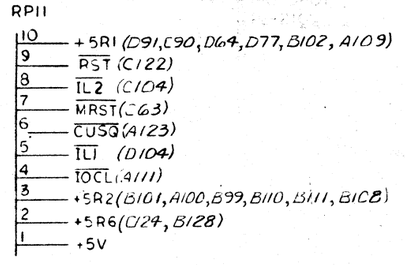


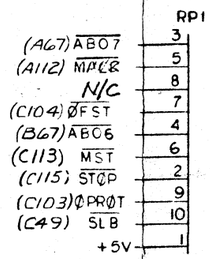


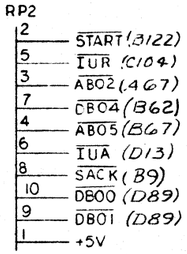












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SIZE	75-53506-XX	REV
D		145
SCALE=	SHT. 5 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(A86,D53) ØVCLK — 74H00 — (C85) ØVO1

FILS (D70,C95) — (D69) — FILS — 74S04

P3

11 FRSO1

10 FRSO0

09 FWSO1 (B80)

03 FWSO0 (B80)

(B61) IRO3 — 7438

(B61) IRO5 — 7438

(B61) IRO2 — 7438

7438

7438

7438

SPECIAL FILE ADDRESS

FWSO1 — HEX D F/F 49 — 74S174 — LFWO1

FWSO0 — LFWO0

(D35) EB15 — EBS14 — EBS13 — EBS12 (D36) — (D27) — FL15 FL14 FL13 FL12

(C80) WSTB — (A19) +5R4

HEX D F/F 50 — 74S174

EBS11 — EBS10 — EBS09 — EBS08 (C36) — (C27) — FL11 FL10 FL09 FL08

(B36) EBS07 — (B36) EBS06 — (B27) — FL07 FL06

HEX D F/F 51 — 74S174

(B36) EBS05 — (B36) EBS04 — (B27) — FL05 FL04

EBS03 — EBS02 — EBS01 — EBS00 (A36) — (A27) — FL03 FL02 FL01 FL00

P3 18 FREU

P3 29 FREL

FILE LATCH

(D28) FL15 FL14 FL13 FL12 — 74170 — ABS15 ABS14 ABS13 ABS12 (D37, C19)

(C28) FL11 FL10 FL09 FL08 — 74170 — ABS11 ABS10 ABS09 ABS08 (C37, C20)

(C28) FL07 FL06 — (B28) FL05 FL04 — 74170 — ABS07 ABS06 ABS05 ABS04 (B37, C20)

(B28) FL03 FL02 FL01 FL00 — 74170 — ABS03 ABS02 ABS01 ABS00 (A37, C19)

FRSO1 — FRSO0 — FREU — FREL — LFWO1 — LFWO0 — (A28) FWUL — RSB RSA REN WSB WSA WEN — 4×4 REG FILE

P3 15 FWUL — (B27, C27, D27)

FILES

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SIZE		REV
D	75-53506-XX	H5
SCALE:	SHT. 4 OF	

RICHO® GRAPHICS/ACCUPRESS RECORDER NO. 7309

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

CNZ

CIN
ALU
74181
COUT

(D26)	ABS12	2	A0		
	ABS13	23	A1		
	ABS14	21	A2		
	ABS15	19	A3		
(D42)	BBS12	1	B0		
	BBS13	22	B1		
	BBS14	20	B2		
	BBS15	18	B3		
	GALS0	6	S0		
	ALS01	5	S1		
	GALS2	4	S2		
	ALS03	3	S3		
	ALM	8	M		
G7				F0	9 — RBS12 (D29, D71, D48, B46)
				F1	10 — RBS13 (D29, D71, D48, B46)
				F2	11 — RBS14 (D29, C71, D48, B46)
				F3	13 — RBS15
				F=0	14 — ALAB
				G	17 — ALO3G
				P	15 — ALO3P
				COUT	16 — COUT (B77)

RBS15 (B51, B78, D88)

3, 4, 5 → 135 → 6 — EBS15 (D29) (D48, B46, C71)

(C78, A18) 74H11

(B54) BYTIN 5 → 99 → 6 — 7404

4, 5 → 87 → 6 GALS0 — 7432

1, 2 → 87 → 3 GALS2 — 7432

CNY

CIN
ALU
74181
COUT

(C26)	ABS08	2	A0		
	ABS09	23	A1		
	ABS10	21	A2		
	ABS11	19	A3		
(C42)	BBS08	1	B0		
	BBS09	22	B1		
	BBS10	20	B2		
	BBS11	18	B3		
	GALS0	6	S0		
	ALS01	5	S1		
	GALS2	4	S2		
	ALS03	3	S3		
	ALM	8	M		
66				F0	9 — RBS08
				F1	10 — RBS09 (C29, D48) (C71, B46)
				F2	11 — RBS10
				F3	13 — RBS11
				F=0	14 — ALAB
				G	17 — ALO2G
				P	15 — ALO2P
				COUT	16 — N/C

CNX

CIN
ALU
74181
COUT

(B26)	ABS04	2	A0		
	ABS05	23	A1		
	ABS06	21	A2		
	ABS07	19	A3		
(B42)	BBS04	1	B0		
	BBS05	22	B1		
	BBS06	20	B2		
	BBS07	18	B3		
	ALS00	6	S0		
	ALS01	5	S1		
	ALS02	4	S2		
	ALS03	3	S3		
	ALM	8	M		
65				F0	9 — RBS04 (A46, B29)
				F1	10 — RBS05 (B71, B47)
				F2	11 — RBS06 (B46, B71, C29, C48)
				F3	13 — RBS07
				F=0	14 — ALAB
				G	17 — ALO1G
				P	15 — ALO1P
				COUT	16 — N/C

(B36) ALCN

CIN
CNZ
CNY
CNX
74182

				CIN	13
				CNZ	9
				CNY	11
				CNX	12
				G3	5
				P3	6
				G2	14
				P2	15
				G1	1
				P1	2
				G0	3
				P0	4
90				G	10 — N/C
				P	7 — N/C

U2
3097
EN 8

A13	ALU00	10	9 — ALS00
B14	ALU01	6	7 — ALS01
A14	ALU02	4	5 — ALS02
B15	ALU03	2	3 — ALS03 (B87, D87)

P3
46 ALCN — ALCN (B47, B35) (B103)

P3
12 ALM

(C83, B83, B29, C48, A46, A71)

(D91, B29, C48, A46, A71)

ALU

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SIZE		REV
D	75-53506-XX	45
SCALE=		Sht. 5 OF

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

W SHIFT REGISTER

M SHIFT REGISTER

SHIFT MUX LINKING

M/W TO BBUS

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SIZE		REV
D	75-53506-XX	H5
SCALE=	SH. 6 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(D42) BBS15 — 7404 — 7410 — ILOCK — P3 6

(D32) ØVCLK, (B85) ØV00 — 7408

(B54) PCBYT 11, WØRDM 12 — 7402 — 7438 — RMAO1 — P3 26

(C61) IRI1, (D61) IRI3 — 7400 — (D61) IRM4, (D61) IRI2, (D90) BYT, (A97) SNCE 9 — 7410

WØRDM — (B74)

ROM LATCH CLOCK CONTROL

(C61) IRI0, BPCS — 7432

WØRDM 8 — 7402

BCLK# (B54) — 74H106 — MBYT — (B66) — J3 A50

(C63) IFI

(C47) WR00, (C61) IRI0, (A19) +5R4, (D35) RBS15, (C80) WSTB, MRST (C63) — 74194 — SLRB, N/C, N/C, WI5X (D45, D85)

SHIFT SIGN CONTROL AND WORD/BYTE ACCESS

P3 44 PCS02, 40 PCS03, 39 PCS00, 42 PCS01

(C79) WSTB — 7400 — 74155 (116, 128) — XEN, YEN, A, B

N/C (NØP), N/C, N/C, BPCS, SWB (D94), CINTF (A102), N/C, INTN (B103)

PCBYT (D52), BYTIN (D39), IRSTR (AG4, C117), ECEN (C118), BYTS, SHCN (D79), RMXØN — P3 41

BYTS

PCS DEMUX

BCLK* (C64, C51, D78, C83, B83) — 7400

(D64) BCLK — 74S04 — 74S04

(A19) +5R3

(D76) SHCZ, (C63) MRST — 74H106 (97) — INHBT (A86)

P3 27 WRS00, 17 WRS01, 20 MRS00, 21 MRS01 — 7400 — GWRS00 (D48), GWRS01 (D48), GMRS00 (B46), GMRS01 (B46)

INHBT — 7411

(C63) IF, (A101) INTF, (A99) PWRUF — 7410

SLØCK — P3 24, 7

M AND W REG SETUP BITS

SHIFT SETUP

J1 B16 — SLB1 — (D18, B64)

(D116) SACKI — 7438

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SIZE		REV
D	75-53506-XX	H5
	SCALE=	SHT. 7 OF

DRAWING NO. 75-53506-XX REV H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(A55, D79)
+5R1 (C18)
(C121) RST
P3 43 BCLK
130 7474
N/C
RSTF (C94)
(D122) MDISI
75452P
MRST
P3 48
(C92, B91, C90)
(A92, B77, A55, B102)
(B99, C48, D48, B51)
(B76, A109, B109, C109)
(C111, C18)

(A54) BCLK*
(C73) TSTR
74H00
P3 28 SIF
74S113
IFI
(C96, D72, D70, D79, C78, C51)
IF
P3 49
(A92, A52)
(C90, D78, B99)

IFI
+5V
R25 1K
(D115) SACKI
118 8097
IF
P1 110
N/C
IF*
J1 B07
+5V
R34 1K
+5V
R33 1K
(C49) SLBI
8097
SLB
P1 120

J2 B62 PO2
7402
(D86, A102, B99)
ICLK
(D77)
(B54) IRSTR
(B115) PLSEI
7402

I REG CLOCK

(A19) +5R4
J1 P1

A43 156	(C70) DB15	74175 31	IR15 (A60, D58) (D60, C60)	IR15 (C60)	J2 B41
B43 155	(C70) DB14		IR14 (D58) (D60, A60)	IR14 (D54, C60)	B6
B42 154	(D70) DB13		IR13 (A60, C58) (D54, D60, C60)	IR13 (C60)	A6
A42 153	(D70) DB12		IR12 (C58, B86) (B76, B60, C60)	IR12 (D54, C60)	B12
A40 152	(C70) DB11	74175 19	IR11 (C58, B60) (D54, C60)	IR11 (B74, A77, D80)	B8
B40 151	(C70) DB10		IR10 (B60, C58, B85) (C51, D52, C85)	IR10 (B77)	A25
B38 150	(C70) DB09		IR09 (B60) (C58)	IR09 (B77, B86)	B7
A38 149	(C70) DB08		IR08 (B60) (C58)	IR08 (B77)	A7
A39 147	(B70) DB06	74175 30	IR06 (B69) (B96, B58)	IR06 (D74)	A4
B39 148	(B70) DB07		IR07 (B69) (B96, B58)	IR07 (B77)	A3
B33 146	(B70) DB05		IR05 (B96) (B58, A69)	IR05 (C31)	B5
A33 145	(D18, B70) DB04		IR04 (B96) (B58, A69)	IR04 (B60, D78, C74)	B16
B32 142	(A70) DB03	74175 29	IR03 (A69) (B96, B58)	IR03 (B60, C31, D80)	B23
A32 141	(D89) DB02		IR02 (A69, A98, C96, B58)	IR02 (C31, D79, B94) (B69, B98 C96, B58)	A38
B31 140	(D89) DB01		IR01 (C96, B58)	IR01 (D79, B94)	B4
A31 139	(D89) DB00		IR00 (B69, B98, C96, A58)	IR00 (D79, B94)	A05

ICLK

I REG

(D61) IR15 IR14 IR13 IR12 — 44 7420 — 8 RCHG — 11 — 32 7410 — ØPDO5 — (B60) — J2 B18
(D61) IR15 IR14 — 44 7420 — 6 SHIFT — 9
(D61) IR13 IR12 — 56 7410 — 8 — 1 — 57 7400 — ØPDO4 — (B60) — A17
(D61) IR15 IR14 IR13 — 59 74H11 — 12 IRI — 2 — 32 7410 — (D61) IR12, (C61) IR11 — 9 — 57 7400 — ØPDO3 — B29
JØC (B86) (C85)
(D61) IR15 IR14 IR13 — 56 7410 — 12 — 5 — 56 7410 — 6 — ØPDO2 — B26
(D61) IR15, (C61) IR10 — 57 7400 — 6

(C59) ØPDO4
(D59) ØPDO5
(C61) IR11
(B61) IR03, (C61) IR08
(D61) IR12
(B61) IR04, (C61) IR09
(C61) IR11
74153 20 — ADI, MO, M1, M2, M3, MEN, NO, N1, N2, N3, NEN; ADO, MOUT, NOUT
7 — ØPDOO — A18
9 — ØPDO1 — B17
2 — 58 7427 — 12
4 — 3 — 32 7410 — 6
(D61) IR14 IR13 IR15

PRE CODE

J2 A8 I8I5
EN 43 8097
(D61) IR15 IR14 IR13 IR12 — BBS15 BBS14 BBS13 BBS12 — (D42)
EN 42 8097
(C61) IR11 IR10 IR09 IR08 — BBS11 BBS10 BBS09 BBS08 — (C42)
J2 A9 I6I7
EN
(B61) IR07 — BBS07
(C61) IR06 — BBS06
EN 41 8097
(B61) IR05 IR04 — BBS05 BBS04 — (B42)
J2 B9 IL6
EN 8097
(B61) IR03 — BBS03 (B42)
(B61) IR02 — BBS02 (A42)
(A61) IR01 — BBS01 (B42)
(A61) IR00 — BBS00 (B42)

I REG TO BBUS

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SIZE		REV
D	75-53506-XX	H5
SCALE:	SHT. 8 OF	

75-53506-XX H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

DATA BUS TRANSCEIVERS

I REG TO ADD BUS

M REG TO ADD BUS

W REG TO ADD BUS

SIZE	75-53506-XX	REV
D		H5
SCALE=	SHT. 9 OF	

75-53506-XX REV H5 SH 9

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(B54) $\overline{SHCN}$
(D64) $\overline{BCLK}$
(C61) IR11
(B61) IR03
7408
113B 74191
UP DOWN BINARY COUNTER
(B61) IR02
(A61) IR01
(A61) IR00
(C63) $\overline{IFI}$
(A19) +5R3
SLD
DN
TC
RC
N/C
$\overline{RPL}$
MIN
J3 A08

(B61) IR04
(C63) IF
7408
(C18) +5R1
144
(A54) BCLK*
74H106
$\overline{ICLK}$
(B63)
SHIFT COUNT
141A
7404
(B118) PCNM
7432
SHCZ (A55)
7408

(A19) +5R3
111 7474
(B121) $\overline{STF}$
$\overline{STRTI}$
J3 A35
(D122) MDISI
(C63) $\overline{IFI}$
7408

(D36) ALAB

(A46, B51, C29, D47)
P3 13 WSTB
35 FW
WSTB (C56, ,A99)
7404
74H11
(B31) FWS00
(C31) FWS01
74S04

+5R3 (A19)
122 7474
$\overline{RBSIS}$ (D35)
APOS
$\overline{APOS}$
(C63) $\overline{MRST}$
AZER
XZER
111 7474
N/C
7400

(A19) +5R3
109
74H106
(D87) $\overline{CS08}$
(C36) COUT
7410
(C63) $\overline{MRST}$
(B61) IR07
(C61) IR08
(C61) IR09
(B82) ϕVF
(C61) IR10
(C61) IR11
(D61) $\overline{IR12}$
7486

J1 P1 A07 109 SSW
R31 1K
+5V
C102 100 PF

FILE FLAGS

B73 TTM00
TTM01
TTM02
AD2 AD1 AD0
(B109) NSER
(C61) IR06
$\overline{STRTI}$
(B61) IR04
ALAB
CDJTT
SHCZ
APØS
8-INPUT MULTIPLEXER
112A 74S151
OUT
$\overline{OUT}$
C64
P3 37 TSTR
74H00
RØM00
101 7404

(C84) $\overline{ØVM}$
(A101) INTF
(D53) WØRDM
CØUTL
(B121) $\overline{SERV}$
(B97) $\overline{INTP}$
(C61) IR11
(D86) $\overline{RBL15}$
112B 74S151
P3 25 RØM00
32 TTM02
31 TTM01
30 TTM00
(D74)

TEST TREE

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SIZE		REV
D	75-53506-XX	45
SCALE=	SHT. 10 OF	

DRAWING NO. 75-53506-XX REV 45

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(D35) $\overline{RBS15}$

(A19) +5R3

7486 138

74H106 121

$\overline{RBL15}$ (B74)

+5V R30 1K

(B119) GØ

7438 1100

7486 138

74H11 115

(B50) $\overline{W15X}$

(D47) $\overline{WR14}$

NORMG

P3 22

$\overline{CS08}$

(B76) $\overline{CS08}$

(AG4) $\overline{P02}$

N/C

(B38) ALS03

(A19) +5R3

7486 138

74H11 86

7404 101

$\overline{RBS15}$

91 74S151

(B38) ALS03

(D42) $\overline{BBS15}$

(D26) $\overline{ABS15}$

$\overline{AR\emptyset V}$

$\overline{AR\emptyset V}$

102A 74S151

(D46) $\overline{WR15}$

(C47) $\overline{WR00}$

(A45) $\overline{MR00}$

$\overline{RBL15}$

(C59) JØC

74H00 100

(C61) $\overline{IR10}$

ØVF

$\overline{OUT}$ ØVM (C74)

(A36) $\overline{RBS00}$

7404 101

(A54) BCLK*

(D93) STØUT

7410 126

7S11 33

109 74H106

(A54) BCLK*

KØVF

ØVF (B77, D90)

(D45, B48) $\overline{ØVF}$

P1 137

P3

(D32)

ØVO2

ØVO1

ØVO0

(D53)

102B 74S151

(D46) $\overline{WR15}$

(C47) $\overline{WR00}$

(A45) $\overline{MR00}$

(C61) $\overline{IR10}$

KØVF

N/C

OVERFLOW LOGIC

(D61) $\overline{IR12}$

(C61) IR09

74H11 18

(C59) JØC

7404 101

P3 01

(D32)

ØVCLK

(A53) $\overline{INHBT}$

7402 98

74S04 88

(A36) $\overline{RBS00}$

(D93) STØUT

(A54) BCLK*

7410 126

(D91) $\overline{STCLR}$

7408 37

ØVF

ØVF

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SIZE		REV
D	75-53506-XX	H5
SCALE=	SHT. 11 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

STATUS IN/ØUT

(A114) ØUT — 141A 7404 — ØUT(A99)

ØUT(A99) — 140 7400 — STØUT — 141A 7404 — STØUT(C83, B83)

STØUT — (A99) — (C54) SWB — 140 7400

STIN

(B61) IRQ2, (A61) IRQ1, (A61) IRQ0, (C63) IFI — 127 74H11 — DFZER

(D116) SACKI — 115 74H11 — (D31) FILS

(A114) IN — 141A 7404 — 140 7400 — 125 7402 — (B115) PLSEI

(D63) RSTF — 125 7402 — STCLR

DFZER — P3 45

DAZER(A99)

(B61) IRQ7, (C61) IRQ6, (B61) IRQ5, (B61) IRQ4, (B61) IRQ3 — 18 74H11 — 124 7400 — CLKF

(B114) EXC — 99 7404

DUAL 2 TO 4 DECODER 141B 74155

(A61) IR00 — A
(A61) IR01 — B
(B61) IR02 — XEN

YEN — Y0 N/C; Y1 SCIE; Y2 SCID; Y3 STRP; X0 N/C; X1 N/C; X2 SPFE; X3 SPFD

STCLR(B83)

(A36) RBSO1 — 117 7474 — BYT(C115)

BYT(D53)

(C18)+5R1

(B102)INT — 7438 — DBO2 (A70, B62, C99, B18)

DBO1 (A70, A62, C99, D18)

(B82)ØVF — DBO0 (A70, A62, D18)

STIN

STATUS IN

J3 A04

CIE(D103)

SCIE

(D101) CIO2 — 142 74H106 — N/C

SCID — (C63) MRST — 143 7408

STRP

TRPF — 142 74H106 — N/C

(B114) IAR — 34 74S04 — IAR(C102)

MRST (C63)

PROCESSOR FLAG CONTROL

(C18)+5R1 — (D103) — TRP — J3 A01

TRPF — 130 7474 — N/C

(C63) IF

(C63) MRST

PFR AND CONSOLE ENABLE CONTROL

SPFE

(C63) IF — 129 74H106 — 129 74H106

(C63) MRST — 143 7408 — SPFD

(B102) — 127 74H11 — PFE — J3 A06

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SIZE	DRAWING NO.	REV
D	75-53506-XX	H5
SCALE=	SHT. 12 OF	

BISHOP GRAPHICS/ACCUPRESS REORDER NO 3999

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

INTERRUPT DETECTION

INTERRUPT VECTOR

SIN COUNTER

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SIZE		REV
D	75-53506-XX	H5
SCALE=	SHT. 13 OF	

DRAWING NO. 75-53506-XX H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(D71) CSOZ
BSJF
(A119) IØSO1
(A109) MACKI
PAUSF
BSJF
(B106) BSO8
(A118) IØ
(D72, A18)
RD
(C115)
DLY (A107)
BSO2
(B106) BSO8
(C111)
BSO1 (C111, B110)
BSO1
BSO2
BSO3
BSO4
(B117)
(A109, B108)
BSO3 (C111, D117)
BSLD
(A120) IØ
(B106) BSO8
(A108) MACKI
(C106) BSO1
(C118) RSVP
(C106) BSO2
(C106) BSO3
SERI
(C63) MRST
SER
(A18)
(A106) BSO8
+5R2 (C17)
NSER
NSER (D74)
(C106) BSO4
(A120) IØ
(C18)
STEND
STIOM
20MHZ
(C106) BSO1
(C17) +5R2
BSO5
BSO6
BSO7
BSO8
BSO7 (B116)
BSO8 (C111, A108, C118)
(B99) POO
IØCLI
(C117)
SACKI (D115)
IOCL
(C18)
MACKX
MACK
(D19)
+5V
R29
270
(C106) BSO4
(A118) IØ
DLY (D106)
ENDP
(B105) BSO6
BSO8 (A106)

SHIFT REGISTER
23B 74S195
23A 74S195
72 7474
24 74H106
36 74S113
144 74H106
43 8097

I/Ø BUS SEQUENCER

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SIZE		REV
D	75-53506-XX	45
SCALE=	SHT. 14 OF	

DRAWING NO. 75-53506-XX REV 45

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

+5V
R28
1K

(B112) IECLI
(A101) INTF
4
5 69 6
7438

J2
B28
10 MHZ
IUAI

(C50, D69, C69, C95)
SACKI
/MHZ
J2
B20
B27
SACKI
9 12 8
74S04
(B64, A112)
SACKI

(B106) BS08
(C106) BS03
11
9 10 33 8
74S11
11
10 21 8
9
74S10

(B54) ECEN
1 48 2
7404

ECHØI

(D106) MSTI

8097
EN 9
1 2 3 FCLK
4 5 IUA
6 7 SACK
10 9 CLK
(B140, A143, C127)
15 EN
12 11 (B140), MST
14 13 ECHØ
(C18)

J1
A16 P2
9
270
236
263
215
272

P1
170 IUA (D17)
163 CLK
115 MST (D18)
172 ECHØ

J1
B54 IUA
A50 CLK
A13 MST
A57 ECHØ

(D91) BYT
P1
135
(D19)
STØP
C101
390PF
±5%
500V

8097
15 EN 1
12 11 BM
14 13 STØPI

P1
134
J2
B13

J2
B54
RSVP
(C111)
5
4 46 6
74S00
SEN

ECEN
(B54) IRSTR
10
11 59 8
9
74H11

13 AB 12
7404

(B99) P00
3 U
1 C 36
2 K
74S113
S Q 4
5 N/C
6 Q

(C106) BS03
(A119) IØ

4
5 47 6
74S00
CDEN

(C106) BS04
(B106) BS07
2
1 46 3
74S00
(A69, C94)
PLSEI

8097
1 EN 10
2 3 EXC (B96, C19)
4 5 PLSE (C18)
6 7 IAR (B92, C18)
10 9 EXEC (C19)
15 EN
12 11 ØUT (C95, C19)
14 13 IN (C95, C19)

271
267
257
262
258

171 PLSE A56
167 IAR A53
157 EXEC A46
162 ØUT B49
158 IN B46

IARI
EXCI
ØUTI
INI

J2
B36 GØ
A36 IØS00
B42 IØS01
B19 CS01
B55 IØ

(D72, D85, D70)
GØ
(D72, D108, A119)
2
1 47 3
74S00
(B117, B108)
(D70, C110)
1 34 2
74S04
IØ
(A109, D106)

14 5 XEN
13 A
3 B
2 1 YEN
74155
XØ 9 NC
X1 10
X2 11 NC
X3 12 NC
YØ 7 IARI
Y1 6 INI
Y2 5 ØUTI
Y3 4 EXCI

PCNM (D77)

J2
B37

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SIZE		REV
D	75-53506-XX	H5
	SCALE=	SHT. 15 OF

BISHOP GRAPHICS / ACCUPRESS REORDER NO. 2059

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

P1 J1 112 A9 B9 +5H (D124, B128, D23)

(C124) MDEN 1 14 2 92 3 7400 UPSEQ

(A121) +5V R7 1K

(B137) PFD 2 D PR 4 14 7474 80 CP CL 1 Q 5 QPFD

RTC CTR 100 KZ 3 CP

Q 6 QPFD J3 A2

(B125, A124) 5

+5V R16 22K C69 .15uf ±10% 50V

4 95 9602 1MSEC Q 6 7 PF (D103)

R 3 (D127) MDEN

MDEN (D125) 13 12 92 11 7400

QMDIS (C123)

10 9 92 8 7400

+5H (D127)

RP10 1K 1 2 1D

R12 330Ω

12 D PR 7474 80 CP CL 13 Q 9 MDEN 8 MDEN

(B126) 200KZ 11

(A126) PRST

R13 510Ω (A124)

+5V R32 300Ω

Q1 2N3724

3 4 5 60 6 7410

6 7 96 5 75452P MDIS1 P3 04

(A46, B46, C64, C28, A19, C139, D143)

MDIS P2 222 9 P1 122 MDIS J1 B17

J1 QMDIS B63

MDEN (D128, D125, C126)

+5 R6 (C17)

RTC CTR 100 KZ J1' B6

CLK (D114) 6 CP2 10 B QB 9 NC 3 C QC 2 NC 11 D QD 12 200KZ (C125, C124)

CP1 8

(C17) +5R6 4 A QA 5 RTC CTR 100 KZ 1 C/L 13 R 74196 93

RTC CTR 100 KZ 6 CP2 10 B QB 9 N.C. 3 C QC 2 N.C. 11 D QD 12

CP1 8 4 A QA 5 74196 94

(D127) QPFD 1 C/L 13 R

+SH (D127)

RP10 1K 1 10 CR1 IN4002 RP10 1K 5 RP10 1K 6 RP10 1K 7 RP10 1K 8 RP10 1K 9

Q2 2N2905

C60 2.2uf

R14 390Ω

4 5 92 6 7400 PRST (C124)

(B126) 200KZ 1 2 106 3 7400 12 13 106 7400 // PFCLK

+5V R18 1K

J1 B10 QATLD 1 2 104 3 7408

(D127) QPFD

3 K 2 J 1 R 15 QA 14 QB 13 QC 12 QD 10 CP 9 L/S 4 A 5 B 6 C 7 D 74195 1DS

QMDIS (D125) 11 48 10 7404

-00, -02 -01 ETCH CUT REQD R22 1K +5V

-00, -02 -01 ETCH CUT REQD R.4 1K +5V

12 13 69 11 7438

(D64, C18, B100) ZST J1 A54 P1 169 183

13 81 12 1 Z 69 3 7438 SERV (B74, B100), (A17)

P1 J2 138 B38 START

12 13 104 11 7408 STF (C77)

(D17)

5 4 104 6 7408 BKEN (B143)

C57 .15uf ±10% 50V +5V R15 22K

(C124) MDEN 11 12 95 9602 1MSEC R 13 Q 9 10 9 106 8 7400 UPSEQ (D128)

J3 A5 CUSQ (C17)

POWER FAIL

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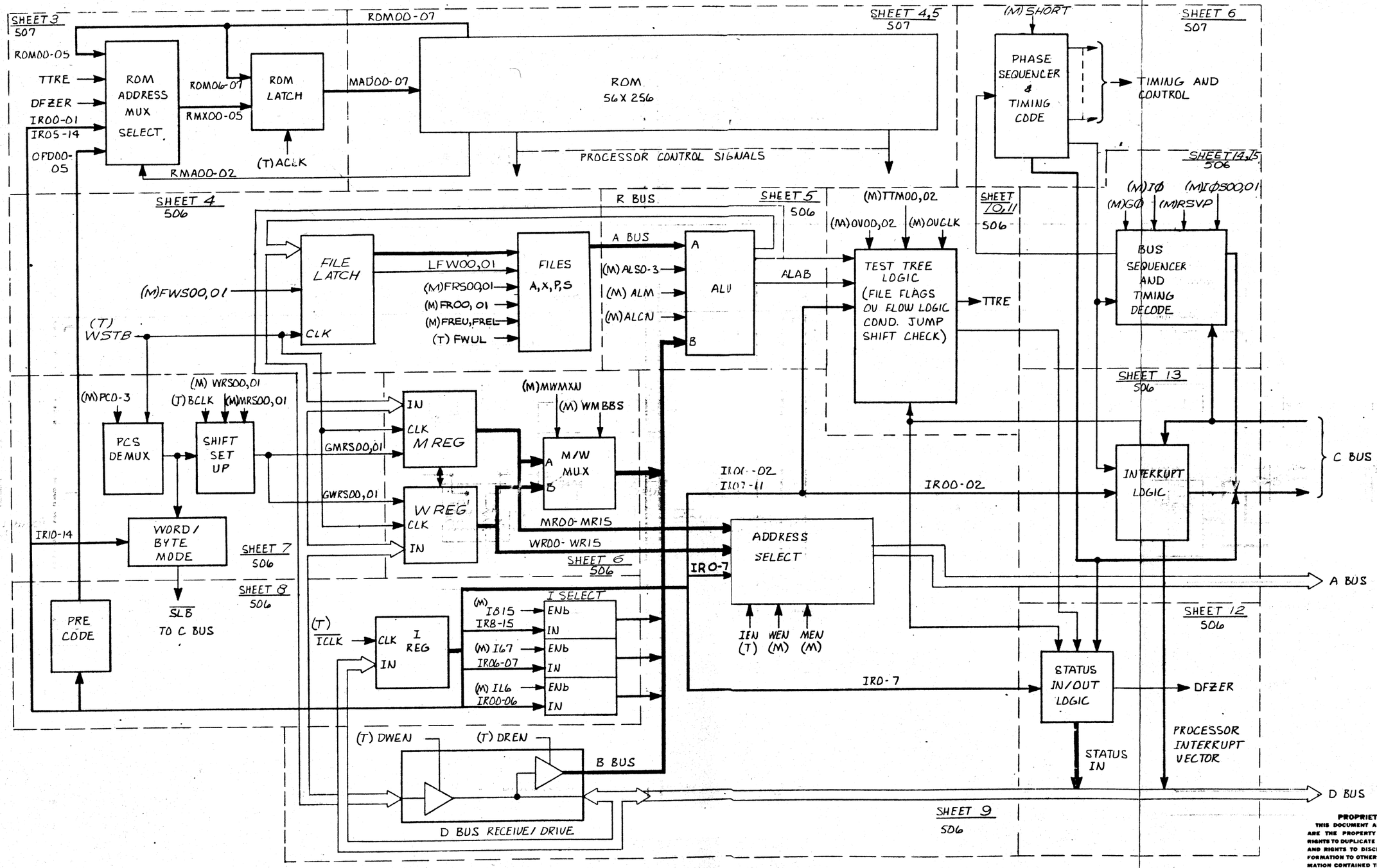
SIZE		REV
D	75-53506-XX	45
	SCALE = /	SHT. 16 OF

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL



2. (T) DESIGNATES TIMING AND CONTROL SIGNALS.
1. (M) DESIGNATES PROCESSOR (ROM) CONTROL SIGNALS.

NOTES- UNLESS OTHERWISE SPECIFIED

LSI-2 BLOCK DIAGRAM

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SIZE	DRAWING NO.	REV
D	75-53506-XX	H5
SCALE=	SHT. 17 OF	

BISHOP GRAPHICS/ ACCUPRESS RECORDER NO. 2959

136 135 134 133 132 131 130 129

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

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	SIZE		REV
	D	75-53506-XX	H5
	SCALE=	SHT. 18 OF 18	

BISMON GRAPHICS ACCUPASS REORDER NO. 2016

144 143 142 141 140 139 138 137