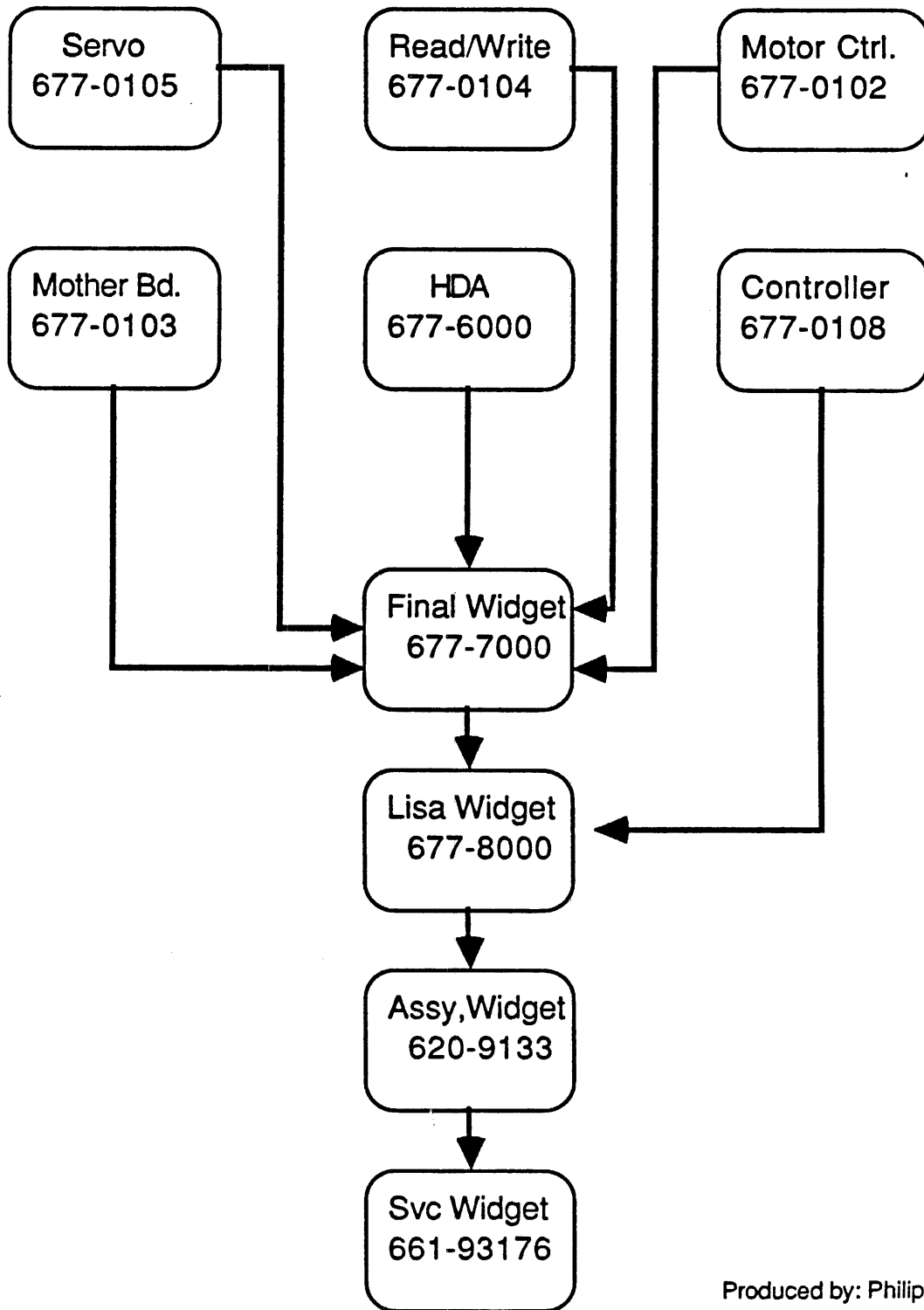


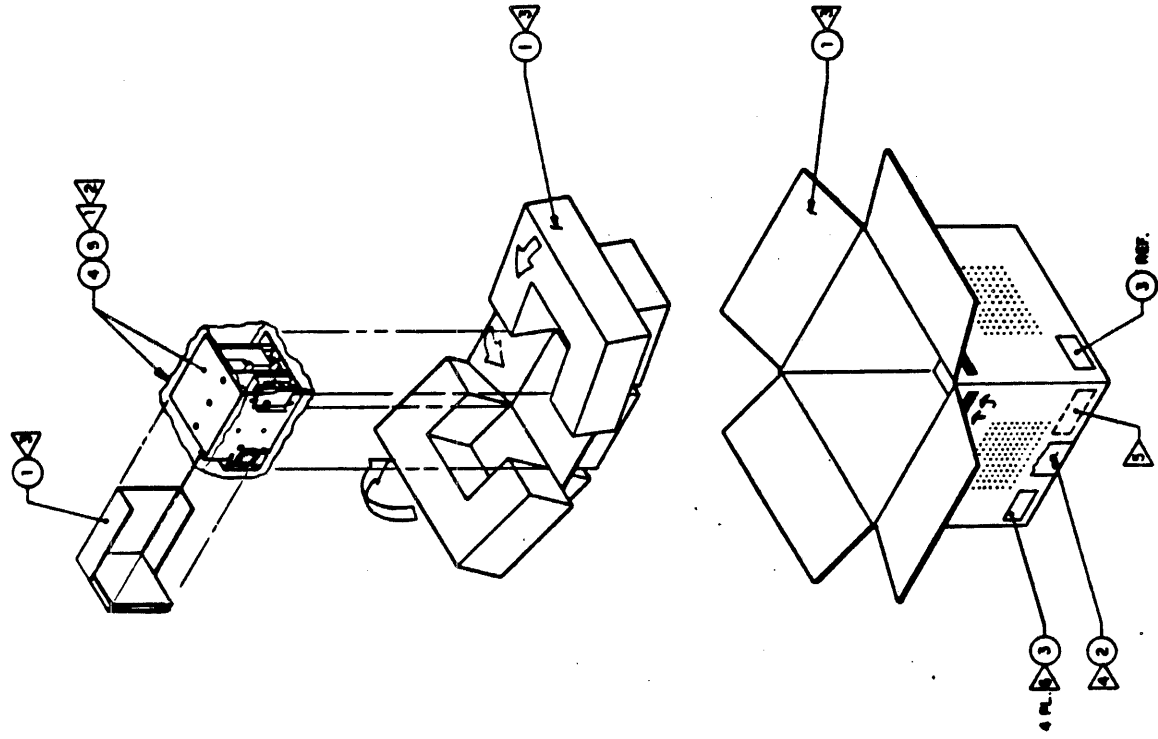
Widget Build Tree



Produced by: Philip Atwood
August 15, 1985

NOTE: INCLUDE OTHERS AS SPECIFIED

- 1 ITEMS 4 AND 5 ARE SUBSTITUTE PART NUMBERS. REFERENCE BILL OF MATERIAL FOR PROPER ASSEMBLY TO BE SHIPPED.
- 2 PLACE HARD DISK ASSY. (ITEM 4 OR 5) IN BAG. (BAG INCLUDED WITH ITEM 4 OR 5).
- 3 CARRIER, COLLAR AND SPACER ARE INCLUDED IN HARD DISK CARRIER ASSY. (ITEM 1).
- 4 AFTER ASSEMBLY SEAL BOX WITH TAPE (ITEM 2) STAMP OR LABEL END OF BOX WITH ASSEMBLY TITLE, PART NUMBER AND REVISION LEVEL.
- 5 APPLY LABEL ON ALL FOUR SIDES OF BOX.



1	DISK CARRIER ASSY. (ITEM 1)	1
2	HARD DISK CARRIER ASSY. (ITEM 2)	1
3	HARD DISK ASSY. (ITEM 4 OR 5)	1
4	DISK CARRIER ASSY. (ITEM 1)	1
5	HARD DISK CARRIER ASSY. (ITEM 2)	1

SEE SEPARATE BILL OF MATERIAL: 661-9876

1	DISK CARRIER ASSY. (ITEM 1)	1
2	HARD DISK CARRIER ASSY. (ITEM 2)	1
3	HARD DISK ASSY. (ITEM 4 OR 5)	1
4	DISK CARRIER ASSY. (ITEM 1)	1
5	HARD DISK CARRIER ASSY. (ITEM 2)	1

PACKAGING DRAWING
HARD DISK ASSY.
MACINTOSH II

b c d e f g h i j k l m n o p q r s t u v w x y z

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1445
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY	PLT	MODEL	SEQ(I,C) I	EFF: DATE	SER NO	LOT NO						
ITM	COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X
001	677-7000	ASSY,FINAL,WIDGET	ME	D	121983	123199	N		1.000	EA	Y	
002	677-4108	ASSY,PCB,TSTD LISA	ME	D	013184	123199	N		0.000	EA	Y	
003	590-0207	ASSY,CA,INTCON,IDC	ME	D	121983	123199	N		0.000	EA	Y	
004	400-1607	SCR 6-32X7/16 PN H	ME	D	121983	123199	N		4.000	EA		
005	677-0108	ASSY,PCB,UNTSTD LI	ME	D	010101	013084	N		0.000	EA	Y	
006	400-1603	SCR 6-32X3/16 PN H	ME	D	013184	123199	N		4.000	EA		
007	805-4054	CARRIER SHELF, WID	ME	D	013184	123199	N		1.000	EA	Y	
008	677-4110	ASSY,PCB,TSTD LISA	ME	D	051484	123199	N		0.000	EA	Y	
009	590-0222	CABLE ASSY,MTHR BD	ME	D	071984	123199	N		1.000	FT	Y	
010	677-9110	ASSY,PCB,T&BI,LISA	ME	D	101084	123199	N		1.000	EA	Y	

EXPLOSION LEVEL : 1

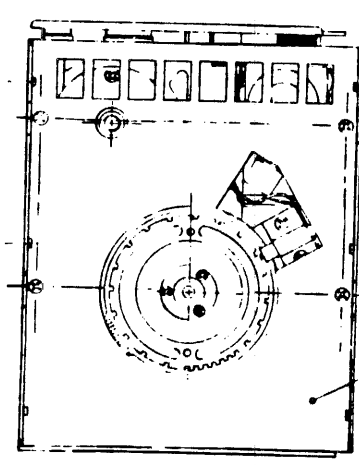
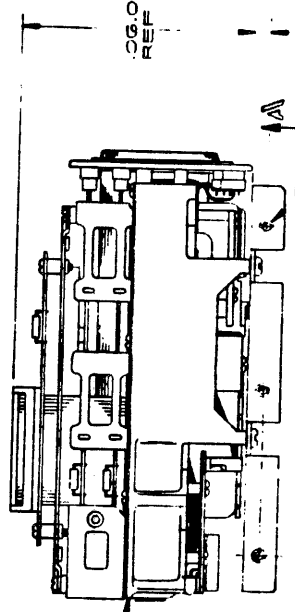
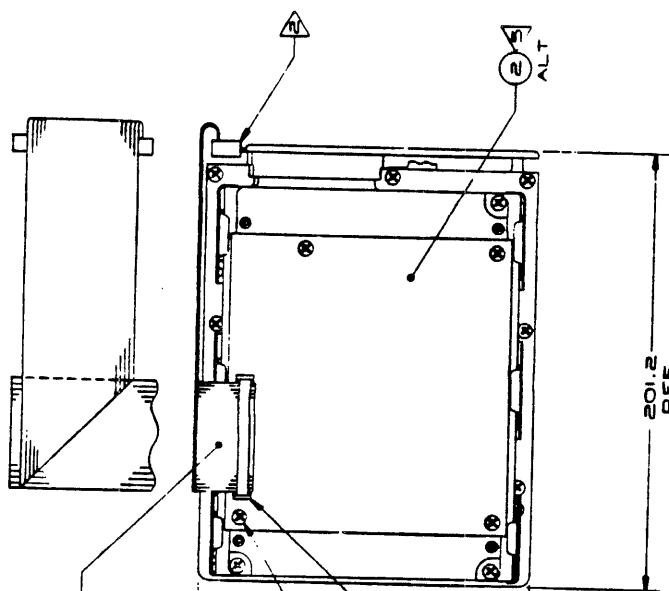
NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700012 END OF LIST **

677-8000-B 1/2

REV	DATE	BY	APP	DESCRIPTION
A				INITIAL RELEASE (SK-W230)
B				ADDED ITEM 3 AND MOTHER BOARD, CONNECTOR J3, CABLE TO BE ROUTED AS SHOWN.
C				ADDED ITEM 9 AND SHEET 2 AND SHEET 3.
D				RECORD CHANGE ONLY. BOM CHANGE ONLY. REVISED NOTE 9. ACCIDENTALLY DELETED ITEM 9 FROM BOM. DELETED 4-LAYER CONTROLLER ASSY. PRICE TO CALL OUT AND 2-LAYER CONTROLLER ASSY. DELETED "ALTERNATE CONFIGURATION".

SEE SEPARATE BILL OF MATL: 677-8000-4-LAYER CONTROLLER ASSY

METRIC		ASSEMBLY	
MIDGET, LISA		MIDGET, LISA	
677-8000-B		677-8000-B	



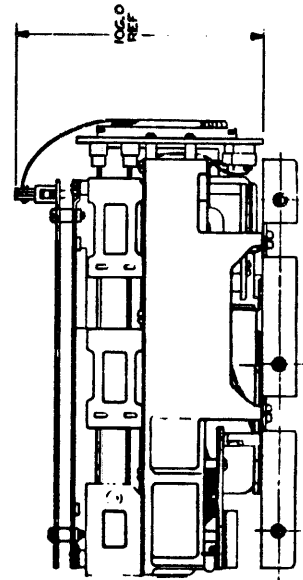
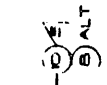
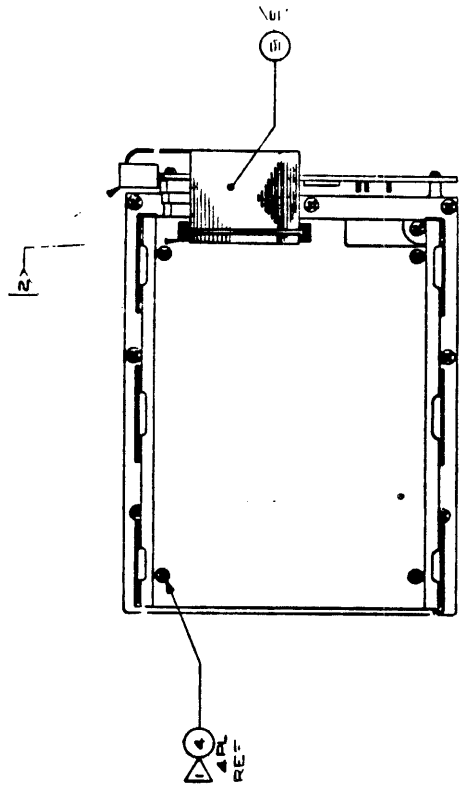
NOTE: UNLESS OTHERWISE SPECIFIED

- 1) TORQUE SCREWS (ITEMS 1, 2) TO 10 IN./LB.
- 2) CONNECT CABLE ASSEMBLY (ITEM 3 OR 9) TO CONTROLLER BOARD, CONNECTOR J3 AND MOTHER BOARD, CONNECTOR J3. CABLE TO BE ROUTED AS SHOWN.
- 3) SHEET 1 DEPICTS WIDGET ASSY USING 4-LAYER LISA CONTROLLER PCB (ITM 2).
- 4) SHEET 2 DEPICTS WIDGET ASSY USING 2-LAYER LISA CONTROLLER PCB (ITM 9 OR 10).
- 5) LISA/WIDGET CONTROLLER PCB'S AND CABLES ARE TO BE USED AS FOLLOWS:
 - A. ITEMS 2 AND 8 ARE ALTERNATES FOR ITEM 10.
 - B. ITEM 3 MUST BE USED WHEN ITEM 2 IS INSTALLED.
 - C. ITEM 9 MUST BE USED WHEN EITHER ITEM 2 OR 10 IS INSTALLED.

VIEW A-A

REV	DATE	BY	CHKD

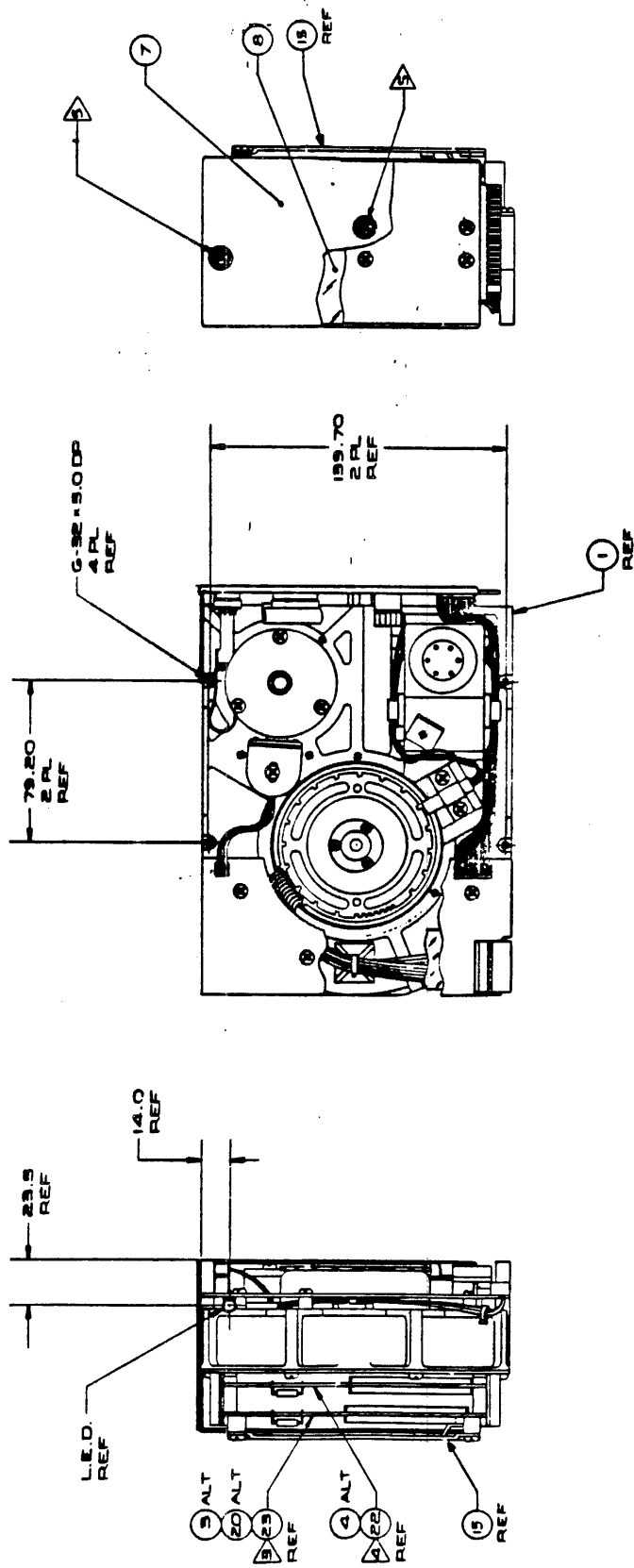
NOTE: UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS



<input type="checkbox"/> METRIC METRIC DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED		ASSEMBLY WIDBET, LISA	
FULL		000-B 2/2	

REV	DATE	BY	CHKD
SEE SHEET 1			

577-7000-C2



VIEW A-A

METRIC		English Computer Inc.	
UNITS OF MEASUREMENT PROPERTY		UNITS OF MEASUREMENT PROPERTY	
ASSEMBLY, WIDGET		ASSEMBLY, WIDGET	
577-7000-C2		577-7000-C2	

NOTE: INCLUDE DIMENSIONS SPECIFIED

PLT	MODEL	SEQ(I,C) I	EFF: DATE	SER NO	LOT NO				E	
		SKIP TO ITEM/COMPONENT								
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY PER ASSY	UOM	X	
25	699-0207	SPINDLEMOTOR ASSY,	ME	D	013184	123199	N	1.000	EA	
026	699-5004	ASSY,INDEX SENSOR	ME	D	013184	123199	N	1.000	EA	
027	815-5028	FILTER, BREATHER,	ME	D	013184	123199	N	1.000	EA	
028	830-0091	PIN,SCALE,ALIGNMEN	ME	D	013184	112584	N	2.000	EA	
029	699-5002	ASSY,BRAKE,WIDGET	ME	D	013184	123199	N	1.000	EA	
030	699-5006	ASSY.,ACTUATOR MOT	ME	D	013184	123199	N	1.000	EA	
031	805-5021	FILTER,RECIRCULATI	ME	D	013184	123199	N	1.000	EA	
032	860-0110	SPACER,.117LX.315I	ME	D	013184	123199	N	1.000	EA	
033	677-4102	ASSY,PCB,TSTD MOTO	ME	D	013184	123199	N	1.000	EA	Y
034	677-0103	ASSY,PCB,UNSTD,MO	ME	D	013184	123199	N	1.000	EA	Y
035	800-5030	COUNTERWEIGHT,ARM,	ME	D	013184	123199	N	0.000	EA	
036	590-0204	CABLE ASSY,AWG.22,	ME	D	013184	123199	N	1.000	EA	Y

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

PLT	MODEL	SEQ(I,C) I	EFF: DATE	SER NO	LOT NO				E	
		SKIP TO ITEM/COMPONENT								
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY PER ASSY	UOM	X	
337	677-5013	SUBASSY,ARM,WIDGET	ME	D	013184	123199	N	1.000	EA	Y
38	400-1614	SCR 6-32X7/8 PN HD	ME	D	013184	073084	N	1.000	EA	
39	907-0019	CEMENT (LOCTITE 42	ME	D	013184	123199	N	0.000	OZ	
040	830-0027	CLIP,CABLE,ADH BAC	ME	D	013184	123199	N	1.000	EA	
041	825-5023	LABEL,SERIAL NUMBE	ME	D	013184	123199	N	1.000	EA	
042	830-0056	MOUNT,CABLE TIE,AD	ME	D	013184	123199	N	2.000	EA	
043	860-0320	SHIELD-ISOLATION,M	ME	D	013184	123199	N	1.000	EA	
044	830-0031	TIE WRAP, 3.800LG	ME	D	013184	123199	N	4.000	EA	
045	805-5027	SHLD W/FLNGE,MTHR	ME	D	012984	073084	N	0.000	EA	
046	725-0012	INSULATOR,MYLAR,.0	ME	D	013184	073084	N	0.000	EA	
047	406-1604	SCR 6-32X1/4 PN HD	ME	D	013184	123199	N	4.000	EA	
048	406-1406	SCR 4-40X3/8 PN HD	ME	D	013184	123199	N	2.000	EA	

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1145
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-6000	EFF: DATE	SER NO	LOT NO										
PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT										
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM							E
049	907-0022	ADHESIVE,SEALANT,T	ME D 013184 123199	N	0.002	EA							
050	400-1603	SCR 6-32X3/16 PN H	ME D 050784 123199	N	2.000	EA							
051	400-1616	SCR 6-32X1 PN CRS	ME D 073184 123199	N	1.000	EA							
052	870-0076	WASHER,#6 .156 ID	ME D 073184 123199	N	2.000	EA							
053	800-5082	SCALE,GLASS-WIDGET	ME D 073184 123199	N	1.000	EA							
054	800-5081	BAR,SPCR,GLS SCL,M	ME D 073184 123199	N	1.000	EA							
055	406-1203	SCR 2-56X3/16 PN C	ME D 073184 112584	N	0.000	EA							
056	860-0640	SHIM,GLASS AMBER	ME D 073184 123199	N	0.000	EA							
057	860-0641	SHIM,GLASS-RED	ME D 073184 123199	N	1.000	EA							
058	860-0642	SHIM,GLASS-GREEN	ME D 073184 123199	N	1.000	EA							
059	860-0643	SHIM,GLASS-TAN	ME D 073184 123199	N	1.000	EA							
060	860-0644	SHIM,GLASS-BLUE	ME D 073184 123199	N	1.000	EA							

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1146
 XPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-6000	EFF: DATE	SER NO	LOT NO										
PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT										
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM							E
061	860-0645	SHIM,GLASS-BROWN	ME D 073184 123199	N	2.000	EA							
062	830-0092	PIN,GLS SCL,ALIGNM	ME D 073184 123199	N	2.000	EA							
063	677-9102	ASSY,PCB,T&BI,MTR	ME D 101084 123199	N	1.000	EA							Y
064	406-1204	SCR 2-56X1/4 PN CR	ME D 112684 123199	N	2.000	EA							

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700012 END OF LIST **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1145 STEP
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH

ASSY 677-6000 PLT	MODEL	SEQ(I,C) I	EFF: DATE SKIP TO ITEM/COMPONENT	SER NO	LOT NO				
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM	E		
049	907-0022	ADHESIVE,SEALANT,T	ME D 013184 123199	N	0.002	EA	X		
050	400-1603	SCR 6-32X3/16 PN H	ME D 050784 123199	N	2.000	EA			
051	400-1616	SCR 6-32X1 PN CRS	ME D 073184 123199	N	1.000	EA			
052	870-0076	WASHER,#6 .156 ID	ME D 073184 123199	N	2.000	EA			
053	800-5082	SCALE,GLASS-WIDGET	ME D 073184 123199	N	1.000	EA			
054	800-5081	BAR,SPCR,GLS SCL,M	ME D 073184 123199	N	1.000	EA			
055	406-1203	SCR 2-56X3/16 PN C	ME D 073184 112584	N	0.000	EA			
056	860-0640	SHIM,GLASS AMBER	ME D 073184 123199	N	0.000	EA			
057	860-0641	SHIM,GLASS-RED	ME D 073184 123199	N	1.000	EA			
058	860-0642	SHIM,GLASS-GREEN	ME D 073184 123199	N	1.000	EA			
059	860-0643	SHIM,GLASS-TAN	ME D 073184 123199	N	1.000	EA			
060	860-0644	SHIM,GLASS-BLUE	ME D 073184 123199	N	1.000	EA			

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1146 STEP
 XPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH

ASSY 677-6000 PLT	MODEL	SEQ(I,C) I	EFF: DATE SKIP TO ITEM/COMPONENT	SER NO	LOT NO				
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM	E		
061	860-0645	SHIM,GLASS-BROWN	ME D 073184 123199	N	2.000	EA	X		
062	830-0092	PIN,GLS SCL,ALIGNM	ME D 073184 123199	N	2.000	EA			
063	677-9102	ASSY,PCB,T&BI,MTR	ME D 101084 123199	N	1.000	EA	Y		
064	406-1204	SCR 2-56X1/4 PN CR	ME D 112684 123199	N	2.000	EA			

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700012 END OF LIST **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1149
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-5013	EFF: DATE	SER NO	LOT NO										
PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	ABBREVIATED	--EFFECTIVITY--	F						E	
ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X		
001	677-5014			INACTIVE,SUBASSY,U	ME	D	090183	060784	N		0.000	EA	Y
002	677-5015			INACTIVE,SUBASSY,L	ME	D	090183	060784	N		0.000	EA	Y
003	677-5009			SUBASSY,POSTION SE	ME	D	090183	123199	N		0.000	EA	Y
004	409-6406			SCREW, 4-40 x 3/8	ME	D	090183	123199	N		2.000	EA	
005	409-6206			SCREW, 2-56 x 3/8	ME	D	090183	123199	N		2.000	EA	
006	677-5012			INACTIVE,FLXCBL SU	ME	D	090183	060784	N		0.000	EA	Y
007	800-5024			CLIP,CABLE,WIDGET	ME	D	090183	123199	N		1.000	EA	
008	409-6610			SCR 6-32X5/8 HEX S	ME	D	090183	123199	N		1.000	EA	
009	800-0121			ARM-LOWER,MACHINE,	ME	D	013184	123199	N		1.000	EA	
010	800-0120			ARM-UPPER,MACHINE,	ME	D	013184	123199	N		1.000	EA	
011	590-0168			FLEXCABLE,DATA,WID	ME	D	013184	123199	N		1.000	EA	
012	699-5001			LOWER HD SUSPENSIO	ME	D	013184	123199	N		1.000	EA	

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 1149
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-5013	EFF: DATE	SER NO	LOT NO										
PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	ABBREVIATED	--EFFECTIVITY--	F						E	
ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X		
013	699-5000			UPPER HD SUSPENSIO	ME	D	013184	123199	N		1.000	EA	
014	515-0071			CONN,HDR,PLUG,DIP,	ME	D	013184	123199	N		1.000	EA	
015	677-5010			SUBASSY,LED,WIDGET	ME	D	013184	123199	N		1.000	EA	Y
016	677-5011			SUBASSY,SENSOR,WID	ME	D	013184	123199	N		1.000	EA	Y
017	699-5019			HEAD SUSPENSION AS	ME	D	040484	123199	N		0.000	EA	
018	699-5020			HEAD SUSPENSION AS	ME	D	040484	123199	N		0.000	EA	
019	800-5030			COUNTERWEIGHT,ARM,	ME	D	060884	112584	N		1.000	EA	
020	400-1406			SCR 4-40X3/8 PN HD	ME	D	060884	112584	N		1.000	EA	
021	907-0022			ADHESIVE,SEALANT,T	ME	D	060884	112584	N		0.000	EA	
022	907-0013			CEMENT	ME	D	060884	112584	N		0.000	OZ	

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700012 END OF LIST **

I ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 1143
01PMH STEP

ASSY 677-6000	EFF: DATE	SER NO	LOT NO	
PLT MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT		
ITM COMPONENT	ABBREVIATED	--EFFECTIVITY--	F	E
	DESCRIPTION	MOD TYP FROM THRU	Q QTY PER ASSY	UOM X
001 677-5016	INACTIVE,SUBASSY,H	ME D 110183 050684	N 0.000	EA Y
002 699-5003	ASSY, TOP COVER, WID	ME D 110183 123199	N 1.000	EA
003 875-0052	GASKET, CHASSIS, W	ME D 110183 123199	N 1.000	EA
004 699-5005	ASSY., DISK, WIDGET	ME D 110183 123199	N 1.000	EA
005 815-5029	PLUG, COVER, WIDGE	ME D 110183 123199	N 1.000	EA
006 875-0008	BUMPER, O-RING, WIDG	ME D 110183 123199	N 2.000	EA
007 875-0009	O-RING, CRASH STOP	ME D 110183 123199	N 2.000	EA
008 815-5030	SCALE, METAL, WIDG	ME D 110183 112584	N 1.000	EA
009 815-5031	CLAMP, DISK, WIDGET	ME D 110183 123199	N 1.000	EA
010 805-5020	CLAMP, METAL SCALE	ME D 110183 112584	N 2.000	EA
011 400-1604	SCR 6-32X1/4 PN HD	ME D 110183 123199	N 17.000	EA
012 406-1207	SCR 2-56X7/16 PN H	ME D 110183 112584	N 3.000	EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 1144
01PMH STEP

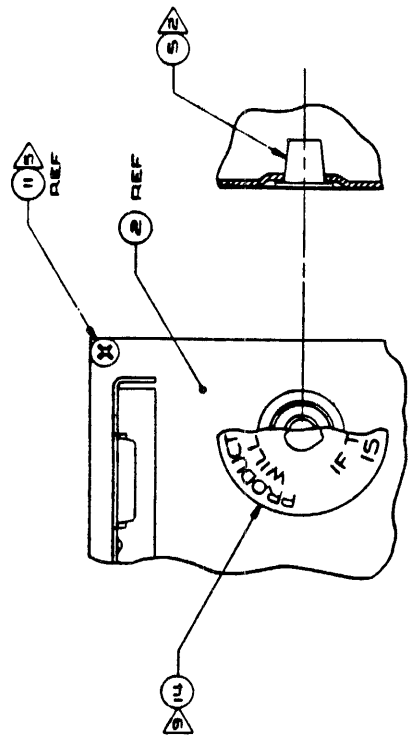
ASSY 677-6000	EFF: DATE	SER NO	LOT NO	
PLT MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT		
ITM COMPONENT	ABBREVIATED	--EFFECTIVITY--	F	E
	DESCRIPTION	MOD TYP FROM THRU	Q QTY PER ASSY	UOM X
013 406-1605	SCR 6-32X5/16 PN H	ME D 110183 123199	N 9.000	EA
014 825-5021	LABEL, WARRANTY WA	ME D 110183 123199	N 1.000	EA
015 860-0430	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
016 860-0431	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
017 860-0432	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
018 860-0433	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
019 860-0434	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
020 860-0435	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
021 860-0436	SHIM, PLASTIC SCALE	ME D 110183 112584	N 1.000	EA
022 918-0104	TORQUE SEAL, BLUE,	ME D 110183 123199	N 0.100	EA
023 800-5027	CHASSIS, MACHINED,	ME D 013184 123199	N 1.000	EA
024 805-5023	CLAMP, INDEX SENSO	ME D 013184 123199	N 1.000	EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

NOTE: UNLESS OTHERWISE SPECIFIED

REV	DATE	BY	CHKD
SEE SHEET 1			



VIEW B-B
SCALE: 2X

977-G000-E 2/6

METRIC		Digital Computer Inc.	
DATE	BY	DATE	BY
PROPERTY OF DIGITAL COMPUTER INC.		PROPERTY OF DIGITAL COMPUTER INC.	
ALL RIGHTS RESERVED		ALL RIGHTS RESERVED	
NO PARTS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.		NO PARTS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.	
ASSEMBLY		ASSEMBLY	
HEAD/DISK		HEAD/DISK	
WIDGET		WIDGET	
IN S.D.		IN S.D.	
NOTED		NOTED	
977-G000-E		977-G000-E	
2/6		2/6	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

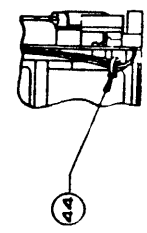
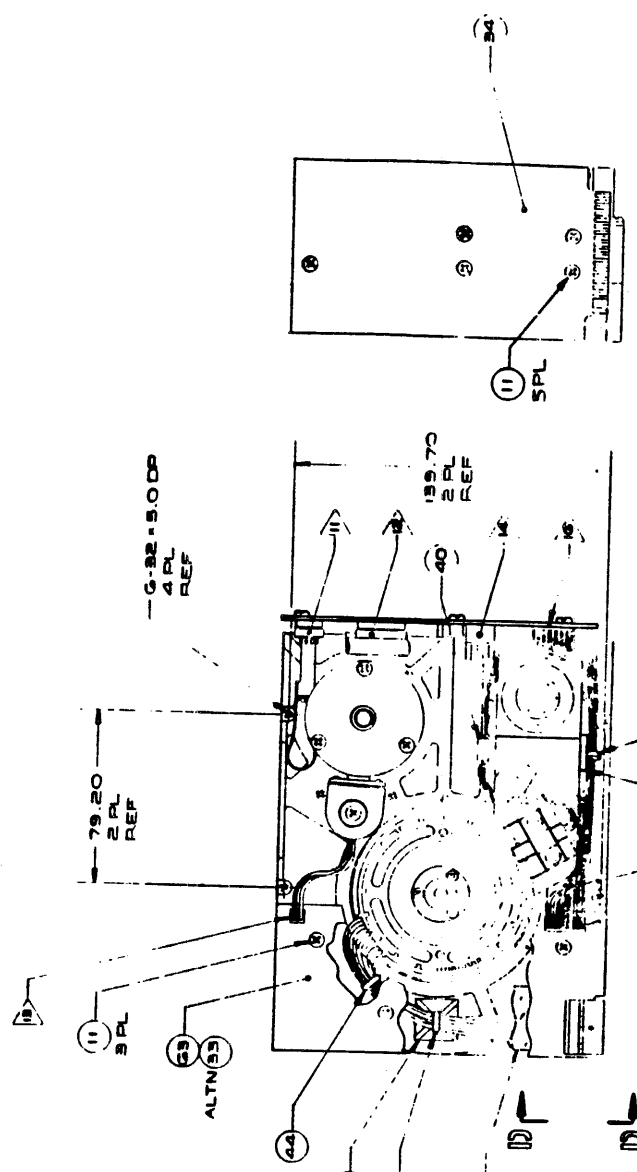
NOTE: UNLESS OTHERWISE SPECIFIED

NOTES CONTINUED FROM SHEET 1

- 11. CONNECT ACTUATOR MOTOR CABLE TO MOTHER BOARD, CONNECTOR J4. ROUTE CABLE APPROXIMATELY AS SHOWN.
- 12. CONNECT ARM ASSEMBLY CABLE TO MOTHER BOARD, CONNECTOR J5. ROUTE CABLE APPROXIMATELY AS SHOWN.
- 13. CONNECT BRAKE ASSEMBLY TO MOTOR CONTROL BOARD, CONNECTOR J3. ROUTE WIRES APPROXIMATELY AS SHOWN.
- 14. CONNECT INDEX SENSOR ASSEMBLY TO MOTHER BOARD, CONNECTOR J6. ROUTE WIRES APPROXIMATELY AS SHOWN.
- 15. CONNECT SPINDLE MOTOR ASSEMBLY TO MOTOR CONTROL BOARD, CONNECTOR J6. ROUTE WIRES APPROXIMATELY AS SHOWN.
- 16. CONNECT CABLE ASSEMBLY (ITEM 56) TO MOTOR CONTROL BOARD, CONNECTOR J1 AND MOTHER BOARD, CONNECTOR J7. ROUTE WIRES APPROXIMATELY AS SHOWN.

17. PRIOR TO ASSEMBLY, POSITION INSULATOR (ITEM 43) BETWEEN CIRCUIT SIDE OF MOTOR CONTROL BOARD AND CHASSIS AS SHOWN.

NOTES CONTINUED ON SHEET 4



VIEW D - D

VIEW C - C

677-6000-E

METRIC		Apple Computer Inc.	
DATE	REV	DESCRIPTION	BY
		ASSY. HEAD/DISK WIDGET	
		677-6000-E	1/8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

NOTE: 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES.

- 27. ALIGN ARM ASSY (ITEM 37) TO ACTUATOR MOTOR ASSY (ITEM 30) BY FOLLOWING THE PROCEDURES LISTED BELOW:
 - A. ROTATE ARM ASSY CLOCKWISE (LOOKING AT VIEW E-E) UNTIL LOWER ARM CONTACTS 7.0 DIA BOSS ON CHASSIS.
 - B. ROTATE ACTUATOR SHAFT CLOCKWISE (LOOKING AT VIEW E-E) AS FAR AS POSSIBLE.
 - C. TIGHTEN G-32 SCREW ON ARM TO 15.0 IN/LBS.

28. PRIOR TO ASSEMBLY, REMOVE COVERING TO EXPOSE ADHESIVE ON FLEXIBLES (SEE ITEMS 30 AND 37) IN LOCATIONS SHOWN. FLEXIBLES TO BE ROUTED APPROXIMATELY AS SHOWN.

29. POSITION LABEL (ITEM 41) APPROXIMATELY AS SHOWN.

30. APPLY LOCTITE (ITEM 49) TO SCREW THREADS (ITEM 48) PRIOR TO ASSEMBLY. TORQUE SCREW TO 7.0 IN/LBS.

31. POSITION BRAKE ASSY (ITEM 20) SO THAT BRAKE HOUSING CENTER LINE IS RADIAL TO ACTUATOR CENTER SHAFT. AIR GAP BETWEEN NEOPRENE PAD ON BRAKE AND ACTUATOR BRAKE PAD TO BE .390 (0.15 IN) WHEN BRAKE IS ENERGIZED.

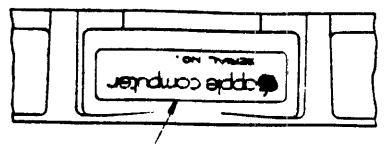
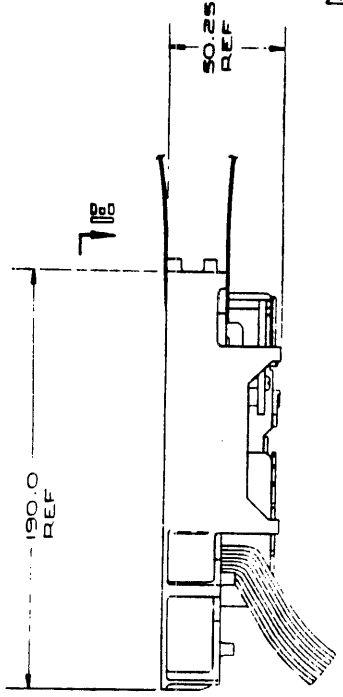
32. POSITION INDEX SENSOR ASSY (ITEM 24) SO THAT SENSOR HOUSING CENTER LINE IS RADIAL TO SPINDLE MOTOR SHAFT. AIR GAP BETWEEN SENSOR TIP AND SECTOR DISK TO BE .391 (0.15 IN).

26. UNLESS OTHERWISE SPECIFIED, TORQUE ALL SCREWS TO 10.0 IN/LBS.

27. AFTER BRAKE AND INDEX SENSOR ARE PROPERLY POSITIONED ON CHASSIS PER NOTES 26, 27 AND SCREWS (ITEMS 50/26) ARE TORQUED IN PLACE, APPLY TORQUE SEAL (ITEM 22) TO SCREW HEADS TO PREVENT TAMPERING.

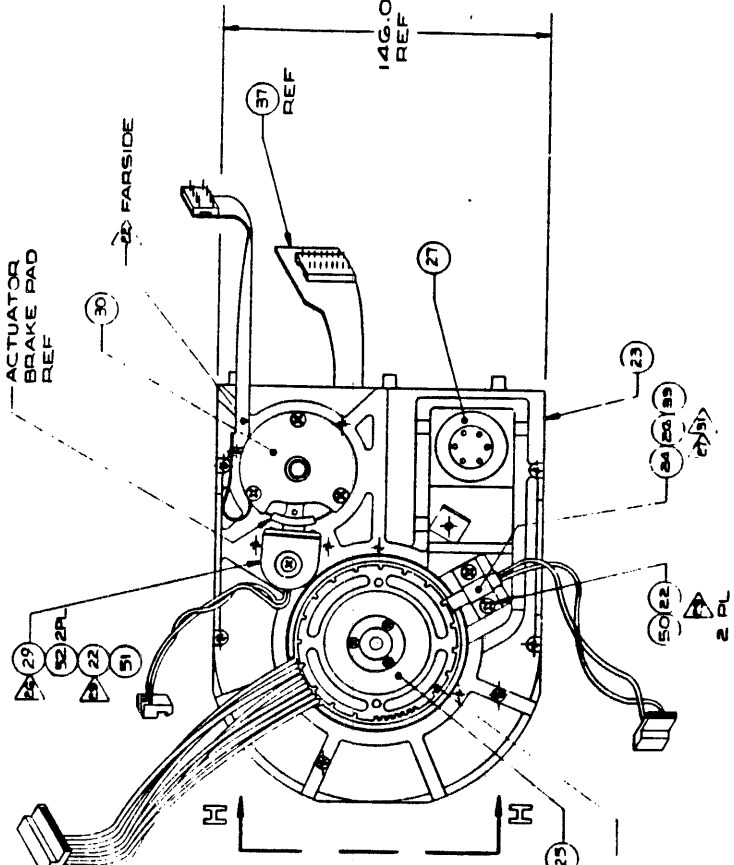
33. AFTER INSTALLATION OF INDEX SENSOR PER NOTE 27, APPLY LOCTITE (ITEM 49) BETWEEN CLAMP AND SENSOR TO PREVENT SENSOR FROM MOVING.

NOTES CONTINUED ON SHEET G



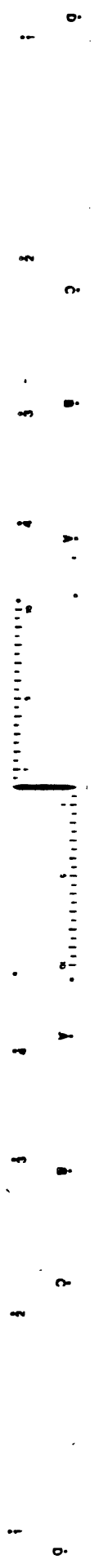
VIEW H = H

SCALE: 2X



HDA SUBASSY

METRIC		apple computer inc.	
1357		HEAD/DISK WIDGET	
PULL		P 677-6000-E 7/6	

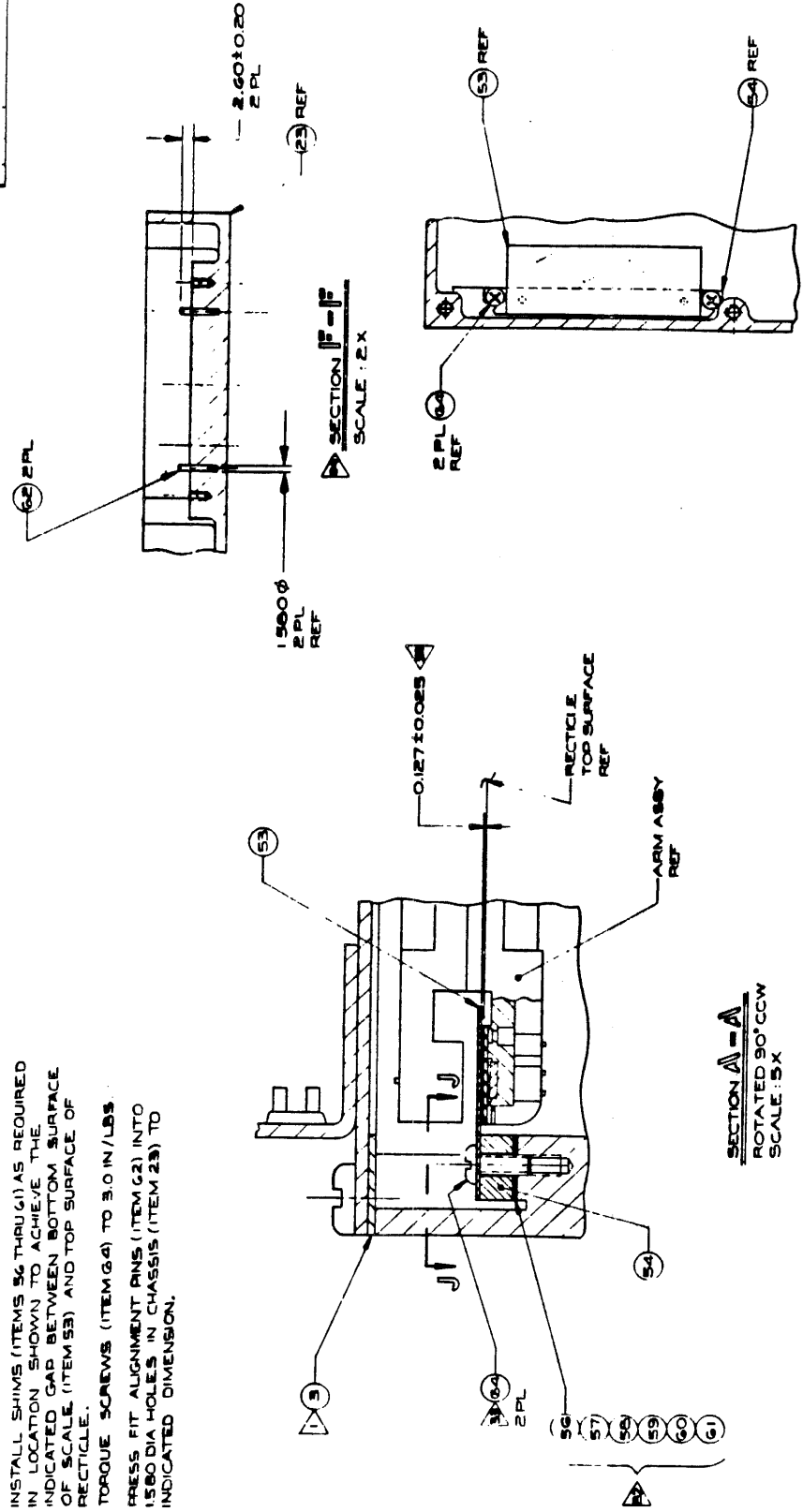


677-6000-E 3/6

METRIC		Digital Computer Inc.	
UNITS OF MEASUREMENT: INCHES			
CONVERSION FACTOR: 1 INCH = 25.4 MILLIMETERS			
TOLERANCES UNLESS OTHERWISE SPECIFIED:			
FRAMES	ASSEMBLY	FINISH	OTHER
1/16	1/32	1/64	1/128
1/8	1/16	1/32	1/64
1/4	1/8	1/16	1/32
3/8	3/16	1/8	1/16
1/2	3/8	1/4	1/8
3/4	1/2	3/16	1/4
1	3/4	1/2	3/8
1 1/4	1	5/8	1/2
1 1/2	1 1/4	3/4	5/8
1 3/4	1 1/2	7/8	3/4
2	1 3/4	1	7/8
2 1/4	2	1 1/8	1
2 1/2	2 1/4	1 1/4	1 1/8
2 3/4	2 1/2	1 1/2	1 1/4
3	2 3/4	1 3/4	1 1/2
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3 1/2	3 1/4	2 1/8	2
3 3/4	3 1/2	2 1/4	2 1/8
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5 3/4	5 1/2	3 3/8	3 1/2
6	5 3/4	3 3/4	3 3/8
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58 3/4	58 1/2	39	38 3/4
59	58 3/4	39 1/8	39
59 1/4	59	39 1/4	39 1/8

SEE SHEET

- NOTE: SPECIAL OPERATIONS SPECIFIED**
- 21 INSTALL SHIMS (ITEMS 56 THRU 61) AS REQUIRED IN LOCATION SHOWN TO ACHIEVE THE INDICATED GAP BETWEEN BOTTOM SURFACE OF SCALE (ITEM 53) AND TOP SURFACE OF RECTICLE.
 - 22 TORQUE SCREWS (ITEM 64) TO 3.0 IN./LBS.
 - 23 PRESS FIT ALIGNMENT PINS (ITEM 62) INTO 1.580 DIA HOLES IN CHASSIS (ITEM 23) TO INDICATED DIMENSION.



SECTION J-J
SCALE: 2 X

SECTION A-A
ROTATED 90° CCW
SCALE: 5 X

SECTION J-J
SCALE: 2 X

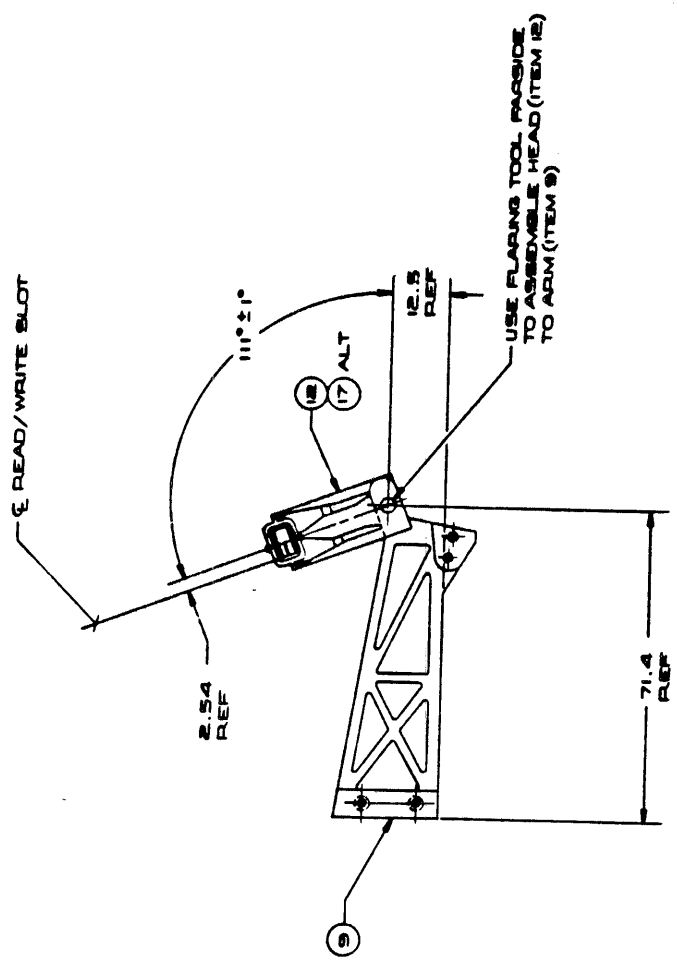
Q	METRIC	677-6000-E	5/6
Digital Computer Inc. 10000 W. 10th Ave., Suite 100 Denver, Colorado 80202 U.S.A.		ASSY HEAD/DISK WIDGET	
NOTED		677-6000-E	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

677-50130 4/6

LOWER ARM SUBASSY

E		METRIC		Apple Computer Inc.	
SUBASSY, ARM WIDGET		N.B.G.		677-50130 4/6	
PART NO.		REV.		DATE	
677-50130		1		11/11/77	
DRAWN BY		CHECKED BY		APPROVED BY	
J. J.	



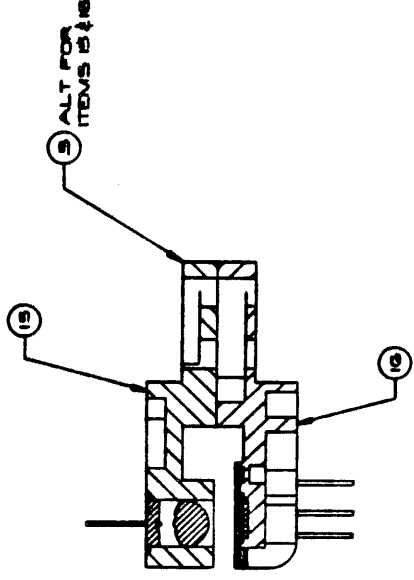
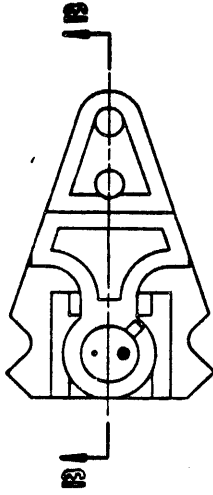
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677-5019-D

POSITION SENSOR SUBASSY

QTY	1	UNIT	EA	PERCENT	0
DESCRIPTION	POSITION SENSOR SUBASSY				
DATE	1967-01-19				
BY	[Signature]				
CHKD	[Signature]				
APPROVED	[Signature]				
DESIGNED BY	[Signature]				
DRAWN BY	[Signature]				
TESTED BY	[Signature]				
INSPECTED BY	[Signature]				
REVISIONS	[Table]				
REV	DESCRIPTION	DATE	BY	CHKD	APP
1	AS SHOWN				
2	ALT FOR ITEMS 15 & 16				

SECTION 13 - 13



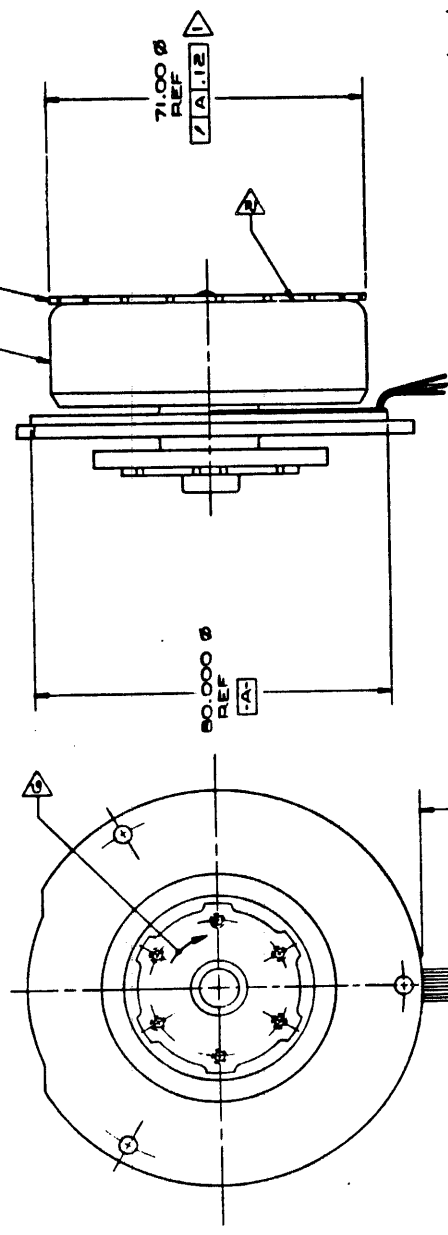
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REV	DATE	BY	CHKD

ORIENTATION OF WIRE BUNDLE TO SPINDLE MOTOR (ITEM 1) TO BE AS SHOWN.
 DIRECTION OF ROTATION TO BE AS SHOWN.

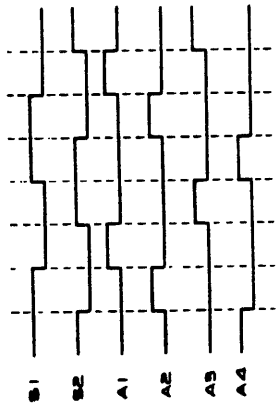
ORIENTATION OF SECTOR DISK (ITEM 2) TO SPINDLE MOTOR (ITEM 1) IS OPTIONAL EXCEPT AS NOTED.
 METHOD OF ATTACHING SECTOR DISK (ITEM 2) TO SPINDLE MOTOR (ITEM 1) IS OPTIONAL; DISK MUST BE REMOVABLE AFTER ASSY.

5. SPECIFICATIONS:
- A. NO LOAD RUNNING CURRENT AT 3200 RPM = 180 MA
 - B. TYPICAL (200 MA MAX).
 - C. PLANE MAX UNBALANCE = 2.5 GM-MM.
 - D. RUNOUT:
 - REPEATABLE = LESS THAN 400 μIN.
 - NON-REPEATABLE = LESS THAN 50 μIN.
 - E. SPEED = 3200 RPM.
 - F. STARTING CURRENT = NO MORE THAN 750 MA.
 - G. STARTING TIME = LESS THAN 10 SEC.
- SEE WIRING CHART FOR ROUTING REQUIREMENTS AND WIRE COLOR.



WIRING CHART

PIN NO.	COLOR	FUNCTION
1	GREEN	+12V
2	PURPLE	+5V
3	GRAY	5P
4	WHITE	5N
5	BLUE	GROUND
6	BROWN	A3
7	RED	A4
8	ORANGE	A2
9	YELLOW	A1
10		



MOTOR TIMING DIAGRAM

WIRE	NO.	WIRE	NO.
1	2	3	4
5	6	7	8
9	10	11	12

Apple Computer Inc.

SPINDLE MOTOR ASSY-WIDGET

699-0207-B 2/4

DATE: 11/11/77

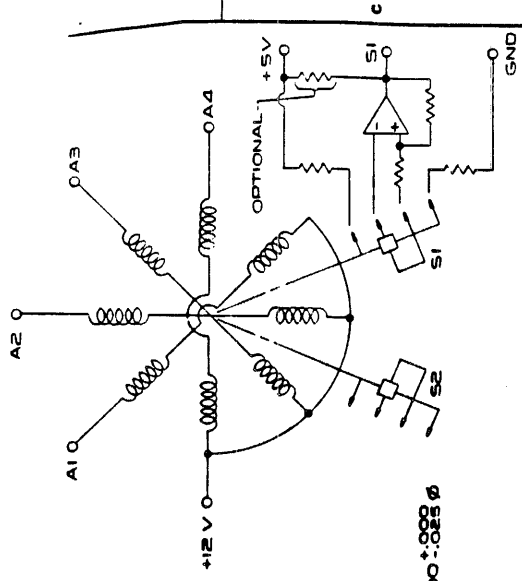
BY: J. J. ...

CHKD: ...

REV: ...

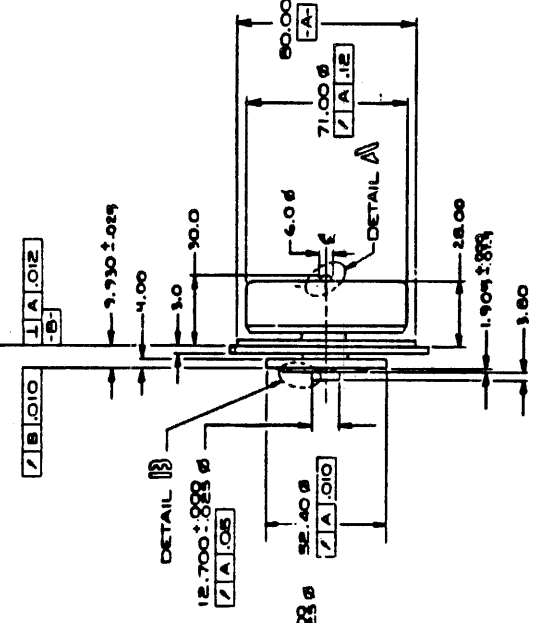
NOTE: UNLESS OTHERWISE SPECIFIED

SEE SHEET 1 FOR RE. 1

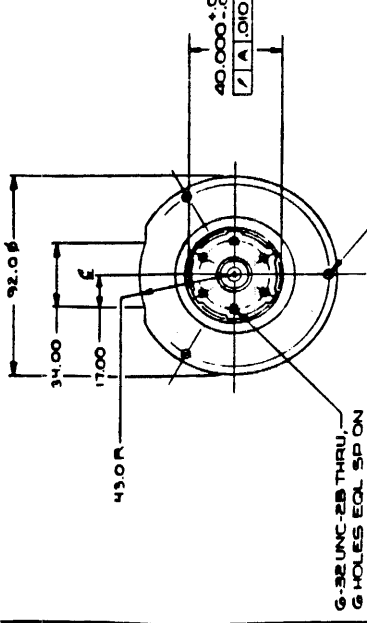


SCHEMATIC
VIEW FROM ROTOR END
SCALE: NONE

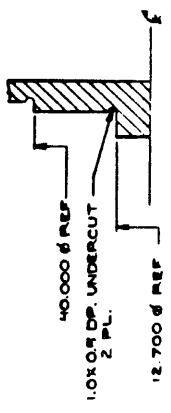
MOUNTING SURFACE



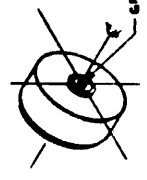
1 B .010
1 A .012
-B-



3.80 Ø THRU,
3 HOLES EQL SP ON
A 89.00 Ø B.C.



DETAIL B
SCALE: NONE



DETAIL A
SCALE: 1/2 X

METRIC		IMPERIAL	
1	2	1	2
3	4	3	4
5	6	5	6
7	8	7	8
9	10	9	10
11	12	11	12
13	14	13	14
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89	90	89	90
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93	94	93	94
95	96	95	96
97	98	97	98
99	100	99	100

1 MOTOR, SPINDLE

SPINDLE MOTOR
ASSY - WIDGET

649-0207-B

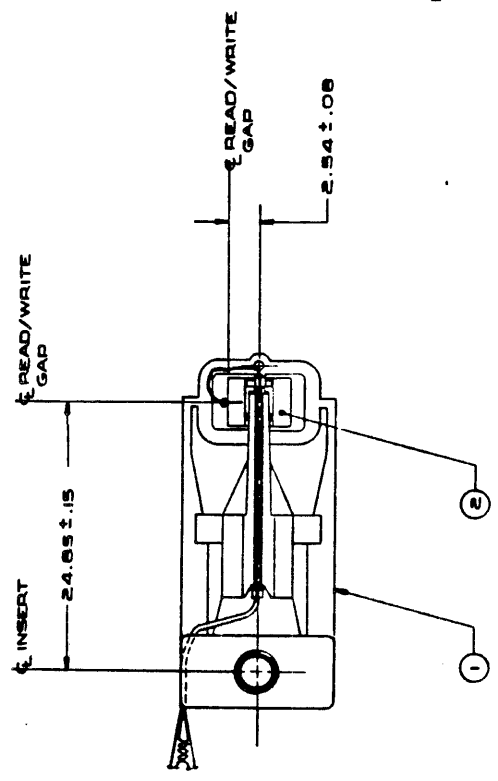
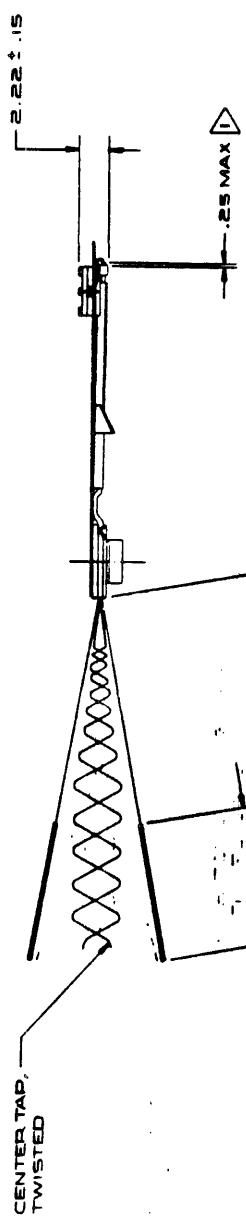
REV	NO	DATE	DESCRIPTION
			SEE SHEET 1 (WAS SK-W080-04)

699-5000-A 2/8

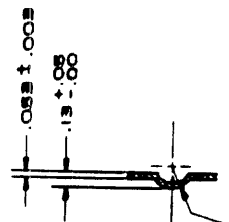
REF: ASSY, UPPER-HEAD SUSPENSION

METRIC		English Computer Inc.	
DATE	BY	DATE	BY
TITLE: UPPER-HEAD SUSPENSION			
PART: ASSY, UPPER-HEAD SUSPENSION, WIDGE			
REV	NO	DATE	BY

NOTE: UNLESS OTHERWISE SPECIFIED
 INDICATED DIMENSION SPECIFIES LENGTH OF PVC TUBING THAT MAY EXTEND BEYOND LOAD FINGER.

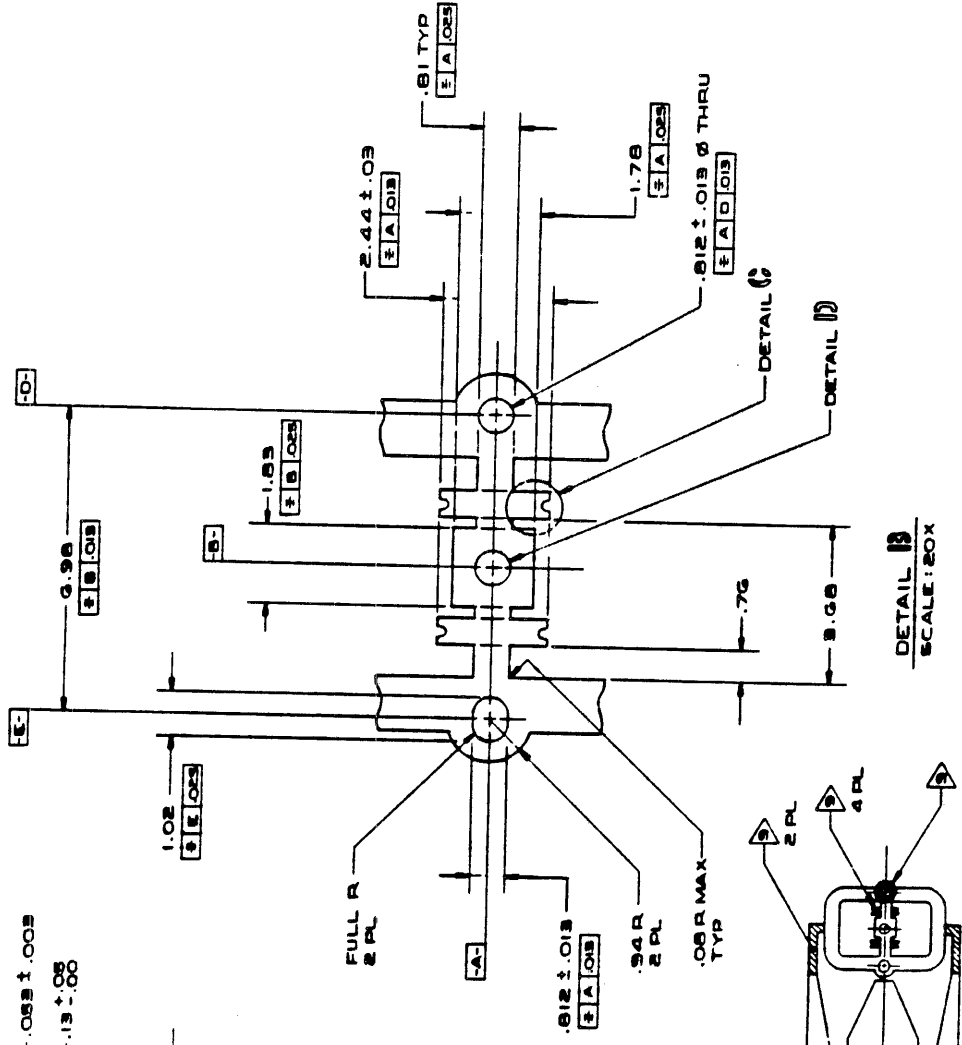


NOTE: UNLESS OTHERWISE SPECIFIED
(FOR NOTES SEE
SHEET 8/8)

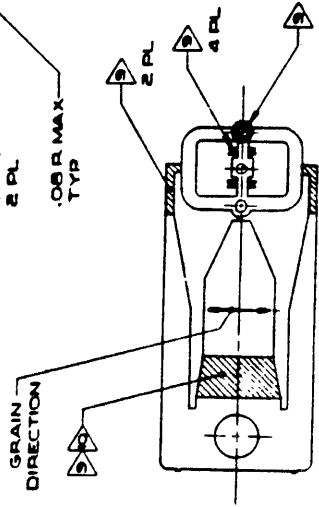


.41 SPHERICAL R

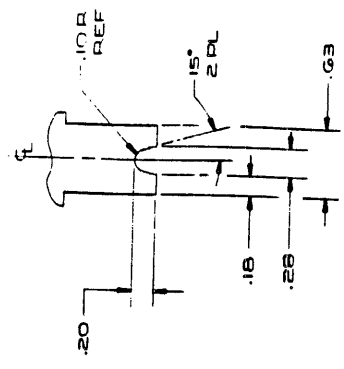
DETAIL A
SCALE: 30X



DETAIL B
SCALE: 20X



SURFACE QUALITY DETAIL
SCALE: 5X



DETAIL C
SCALE: 50X
4 PL

REF: GIMBAL SPRING SHT 5/8 & 4/8
(FOR NOTES SEE SHT 5/8)

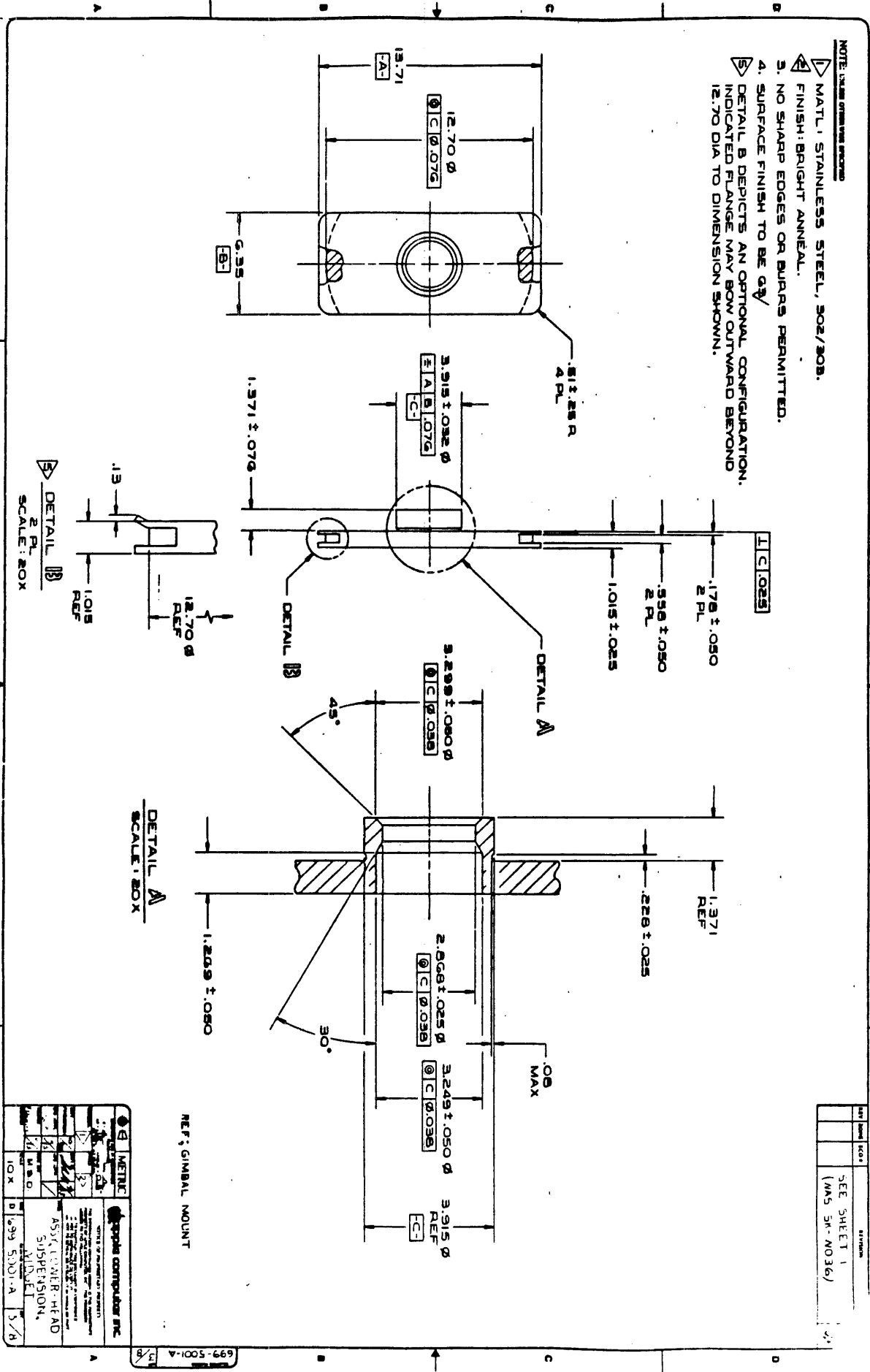
REV	DATE	BY	CHKD

SEE SHEET 1
HWAS SK-W0551

METRIC ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED	METRIC CONVERSION INC. 1000 WILSON AVENUE WILSON, N.J. 07094 TEL: (201) 391-1000 FAX: (201) 391-1001
ASSEMBLY SUSPENSION MOUNT	M.S.D. MOUNT
NOTED 090-5000-A 9/8	090-5000-A 9/8

NOTE: UNLESS OTHERWISE SPECIFIED

- 1. MAT'L: STAINLESS STEEL, 302/308.
- 2. FINISH: BRIGHT ANNEAL.
- 3. NO SHARP EDGES OR BURRS PERMITTED.
- 4. SURFACE FINISH TO BE 63/
- 5. DETAIL B DEPICTS AN OPTIONAL CONFIGURATION. INDICATED FLANGE MAY BOW OUTWARD BEYOND 12.70 DIA TO DIMENSION SHOWN.



REV	DATE	BY	CHKD	DESCRIPTION

SEE SHEET 1
(M&S SW-0036)

REF: GIMBAL MOUNT

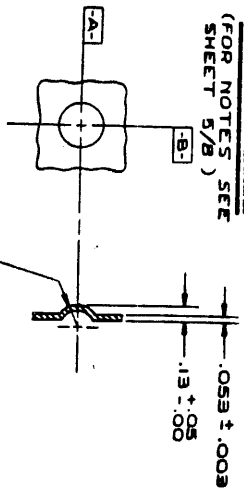
DETAIL A
SCALE: 1:1

DETAIL B
SCALE: 2:1

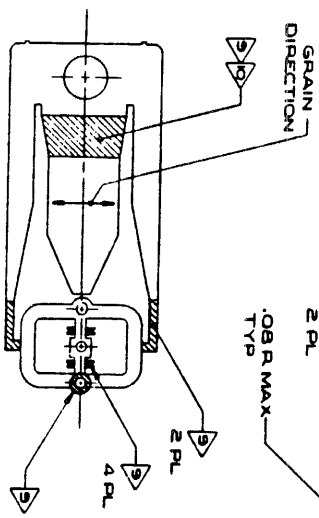
<p>METRIC</p>	<p>Digital Computer Inc.</p>
<p>10X</p>	<p>5/8</p>
<p>199 5001-A</p>	<p>5/8</p>

699-5001-A

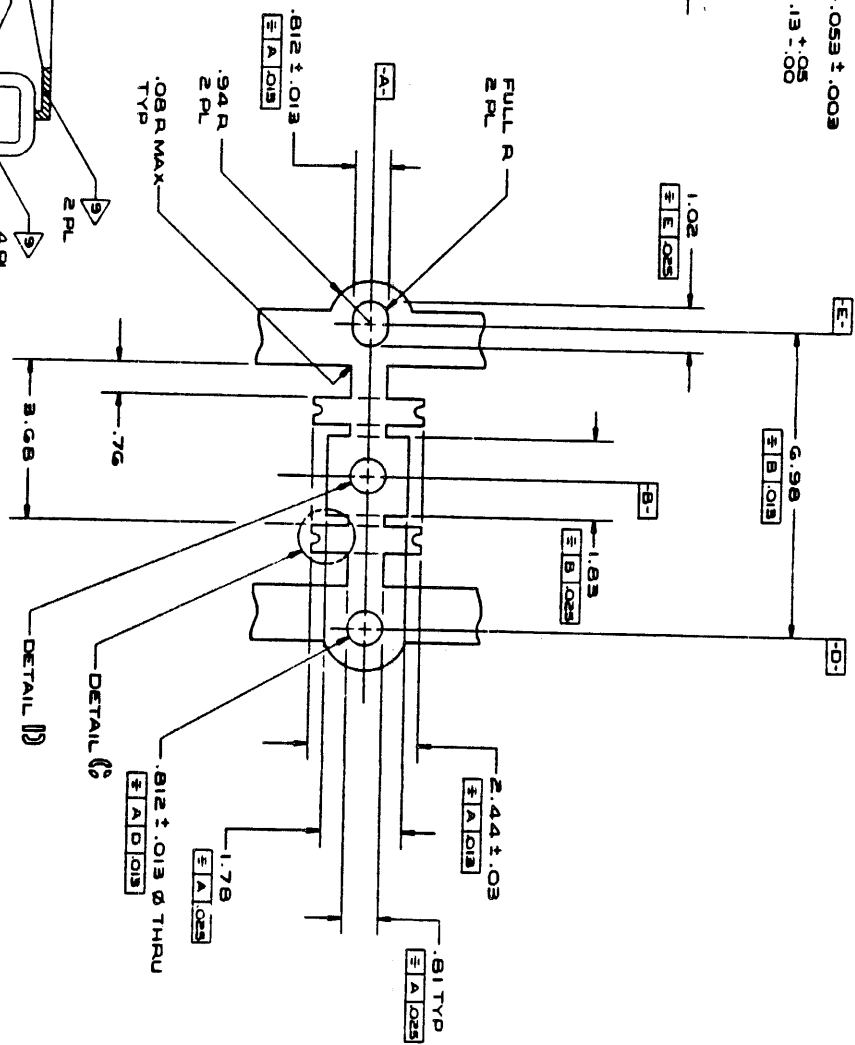
NOTE: UNLESS OTHERWISE SPECIFIED
(FOR NOTES SEE
SHEET 5/8)



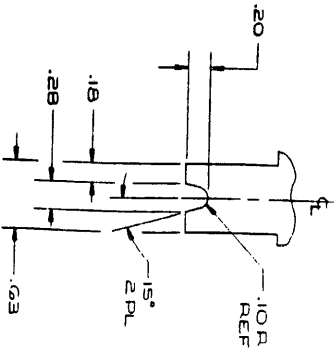
DETAIL 11
SCALE: 50X



SURFACE QUALITY DETAIL
SCALE: 5X



DETAIL 12
SCALE: 20X



DETAIL 12
SCALE: 50X

REV	DATE	BY	CHKD

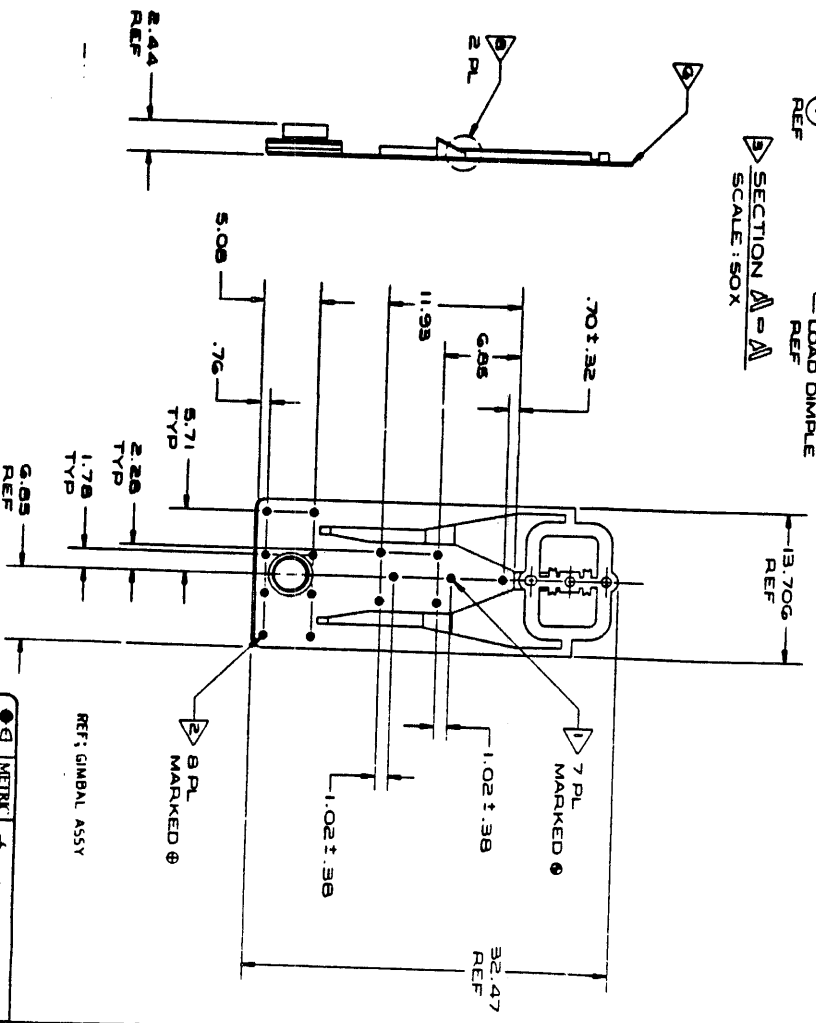
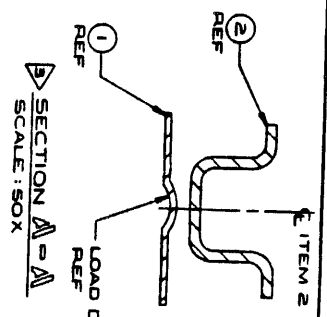
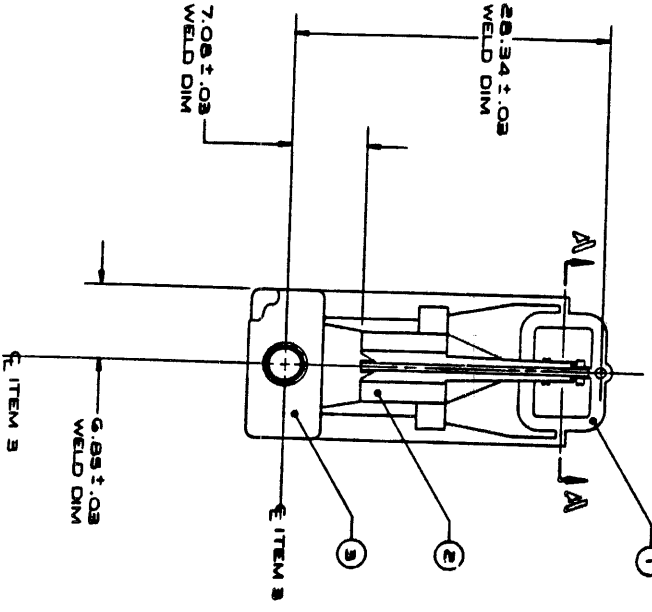
SEE SHEET 1
(WAS SK. WOSS)

REF: GIMBAL SPRING SHIT 5/8 & 6/8
(FOR NOTES SEE SHIT 5/8)

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NOTE: WELDING STIFFENER SPECIFICATIONS

1. SPOT WELD STIFFENER (ITEM 2) TO GIMBAL SPRING (ITEM 1) IN LOCATIONS SHOWN.
2. SPOT WELD MOUNT (ITEM 3) TO GIMBAL SPRING (ITEM 1) IN LOCATIONS SHOWN.
3. AFTER WELDING, CONTACT POINT BETWEEN LOAD DIMPLE ON GIMBAL SPRING (ITEM 1) AND STIFFENER (ITEM 2) TO BE WITHIN .305 (.012 IN) FROM GIMBAL SPRING CENTERLINE.
4. ALL WELDS TO BE SUFFICIENTLY STRONG TO REMOVE NUGGET FROM GIMBAL SPRING (ITEM 1) WHEN PULLED APART.
5. NO CREASES OR KINKS PERMITTED IN GIMBAL SPRING (ITEM 1).
6. GIMBAL SPRING (ITEM 1) SHOWN IN FLAT POSITION.
7. LOAD RANGE: 9.5 ± 1.0 GRAMS.
8. CAM LOCATED ON STIFFENER (ITEM 2) MUST CLEAR GIMBAL SPRING (ITEM 1).



METRIC		INCHES	
1	2	3	4
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9	10	11	12
13	14	15	16
17	18	19	20
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65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

REF: GIMBAL ASSY

Apple Computer Inc.

Apple Computer Inc.
10101ower Hill Rd
Sunnyvale, CA
689-5001-A 9.11

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	EFF: DATE	SER NO	LOT NO					
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM X
091	351-2074	QUAD DARLINGTON XS	ME	D	090183	123199	N				
002	337-0421	IC, COP421, CMOS,	ME	D	090183	123199	N			1.000	EA
003	327-0451	IC, 75451, PERF PO	ME	D	090183	123199	N			1.000	EA
004	372-3904	TRANSISTOR, NPN SW.	ME	D	090183	123199	N			1.000	EA
005	372-4403	TRANSISTOR, PNP 2N4	ME	D	090183	123199	N			2.000	EA
006	376-0017	TRANSISTOR, NPN 30	ME	D	090183	123199	N			1.000	EA
007	376-0036	TRANSISTOR, AMPLIFI	ME	D	090183	123199	N			1.000	EA
008	371-4001	DIODE RECTIFIER 1N	ME	D	101983	123199	N			10.000	EA
009	378-0006	LED, GREEN	ME	D	090183	123199	N			1.000	EA
010	101-4101	RES 100 OHM 1/4W 5	ME	D	090183	123199	N			2.000	EA
011	101-4201	RES 200 OHM 1/4W 5	ME	D	090183	123199	N			1.000	EA
012	101-4102	RES 1K OHM 1/4W 5%	ME	D	090183	123199	N			2.000	EA

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	EFF: DATE	SER NO	LOT NO					
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM X
013	101-4103	RES 10K OHM 1/4W 5	ME	D	090183	123199	N			3.000	EA
014	101-4333	RES 33K OHM 1/4W 5	ME	D	090183	123199	N			2.000	EA
005	101-4104	RES 100K OHM 1/4W	ME	D	090183	123199	N			1.000	EA
016	101-4105	RES 1M OHM 1/4W 5%	ME	D	090183	123199	N			1.000	EA
017	101-2010	RES 1 OHM 1/2W 5%	ME	D	090183	123199	N			2.000	EA
018	112-0013	RES NETWORK 5 X 2.	ME	D	090183	123199	N			1.000	EA
019	111-0049	RES NETWORK 4 X 10	ME	D	090183	123199	N			1.000	EA
020	137-5401	CAP DIP MICA 20 pF	ME	D	081583	123199	N			1.000	EA
021	130-0007	CAP CER AXIAL .1 U	ME	D	090183	123199	N			13.000	EA
022	125-6702	CAP ELECT 470 UF 1	ME	D	090183	123199	N			1.000	EA
023	155-7103	CHOKE, COIL 28uH	ME	D	090183	123199	N			1.000	EA
024	197-0027	CRYSTAL, 1.940 MHz	ME	D	090183	123199	N			1.000	EA

EXPLOSION LEVEL : 1
 NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700012 END OF LIST **

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	EFF: DATE	SER NO	LOT NO					
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM X
025	515-0200	CONN, HDR, STR, LKG, 2	ME	D	090183	053084	N			0.000	EA
026	515-0207	CONN, HDR, STR, LKG, 7	ME	D	090183	123199	N			1.000	EA
027	515-0103	CONN, HDR, RT ANG, 10	ME	D	090183	123199	N			1.000	EA
030	511-2401	SOCKET, IC 24 PIN	ME	D	090183	123199	N			1.000	EA
033	820-5012	PCB, MOTOR CONTROL,	ME	D	101983	123199	N			1.000	EA
034	101-4221	RES 220 OHM 1/4W 5	ME	D	100383	123199	N			1.000	EA
035	101-8043	RES 4.3 OHM 1/8W 5	ME	D	051684	123199	N			1.000	EA
036	371-0091	DIODE RECTIFIER 1N	ME	D	101983	020784	N			0.000	EA
037	515-0206	CONN, HDR, STR, LKG, 2	ME	D	060184	123199	N			1.000	EA
038	130-0120	CAP CER AXIAL 22 P	ME	D	060184	123199	N			1.000	EA
009	050-5023	SCHEMATIC, MOTOR CO	ME	D	101983	123199	N			0.000	EA

REV	DATE	BY	DESCRIPTION
A	10/21/74	INITIALS	REL. CASE (SK-WB52-BY)
B	11/14/74	11/14/74	1. CR1 W/14-999 2. COMPLETED 3. DELETED CR2 4. DELETED C2
C	1/16/75	1/16/75	ADDED CR18 & CR11 CRI WAS IN 91
D	1/16/75	1/16/75	

APPLE COMPUTER CONFIDENTIAL

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(ii) Not to reproduce or copy it.
(iii) Not to reveal or publish it in whole or part.

REFERENCE DESIGNATOR	
LAST USED	HOT USED
CR17	CR2
CR11	
D1	
L1	
Q5	
RP2	
U3	

Apple Computer, Inc. logo

SCHEMATIC MOTOR CONTROL, WIDGET

8000-5023-D

REV. 1 OF 1

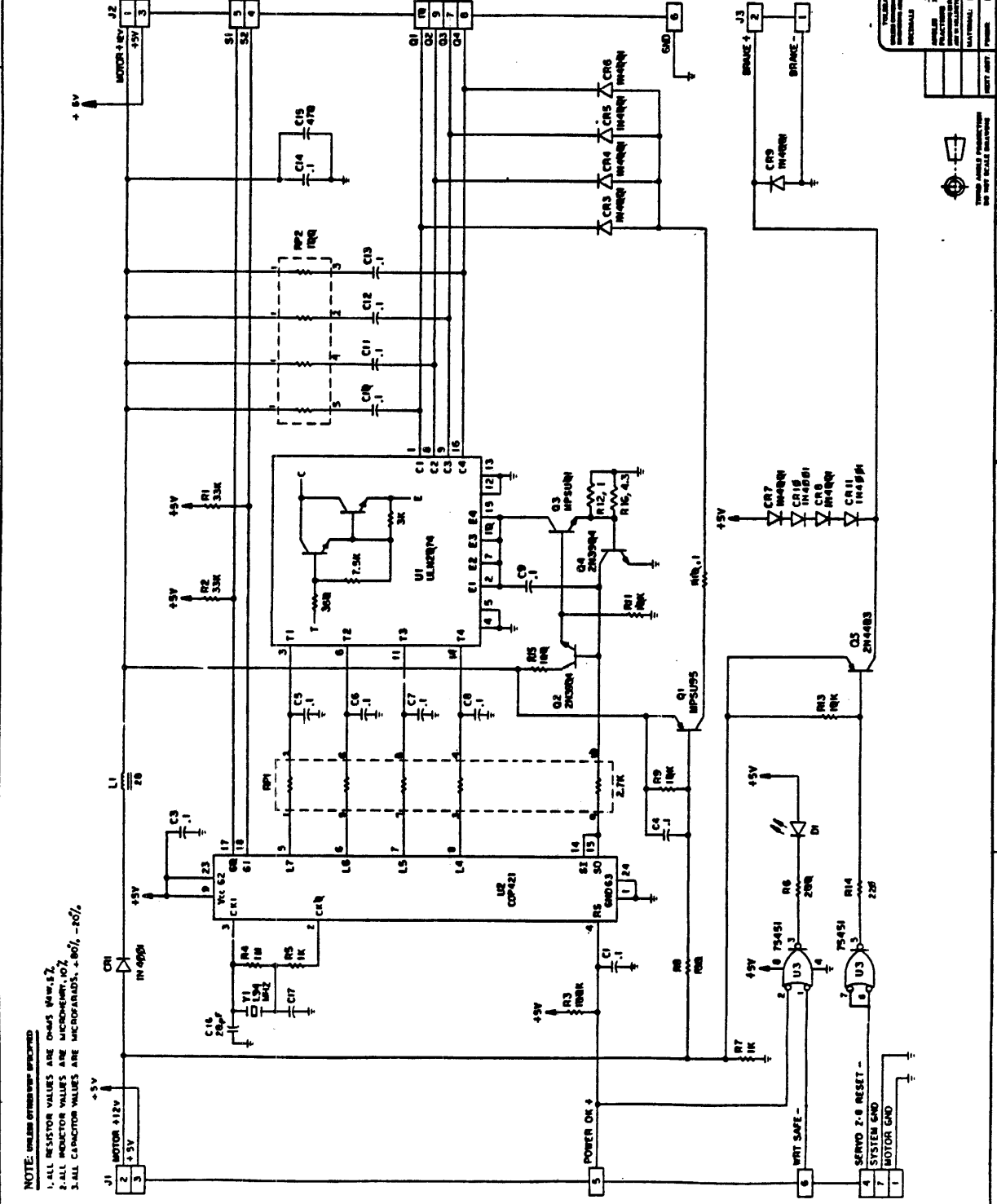
DATE: 1/16/75

DESIGNER: [Name]

CHECKED: [Name]

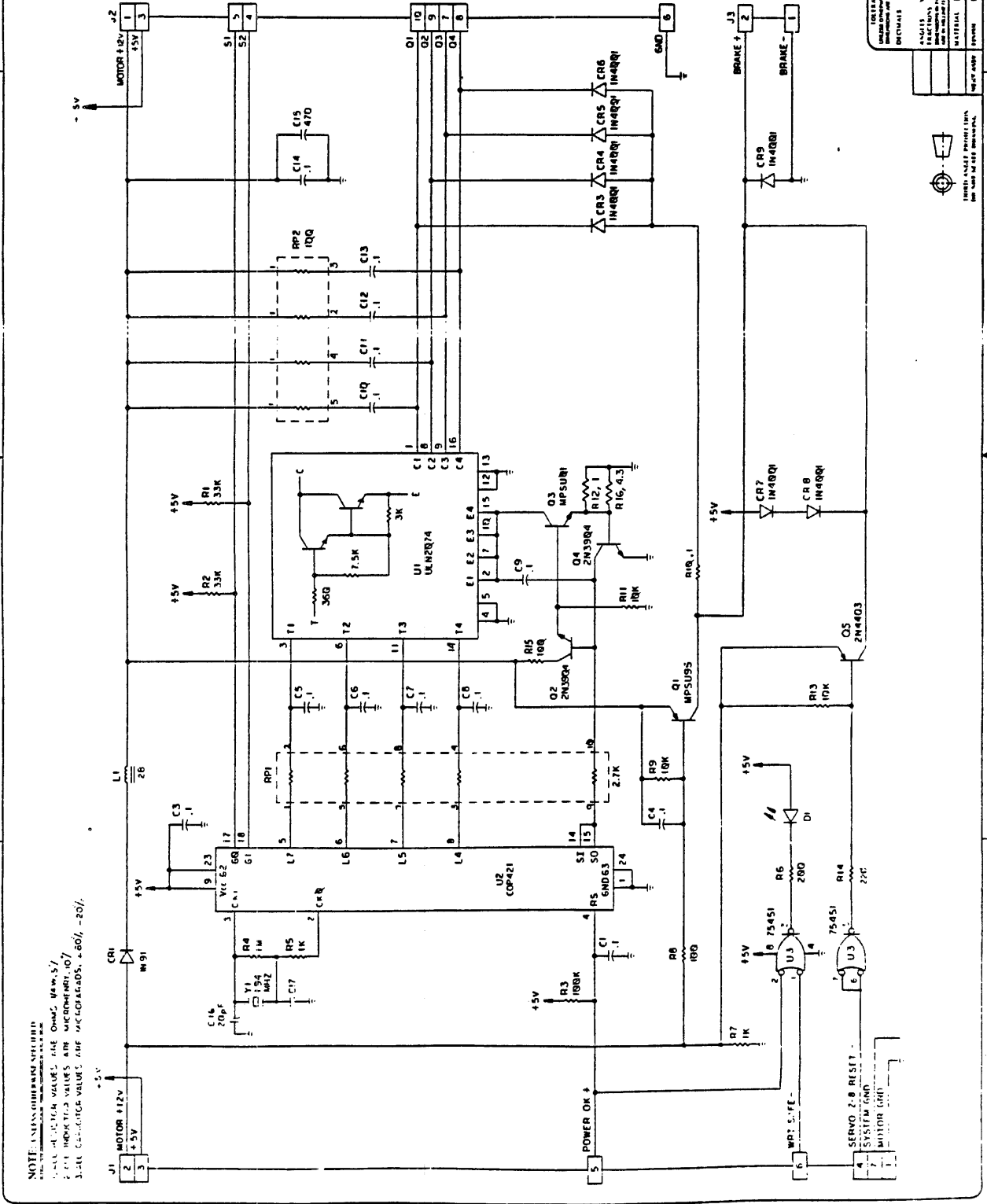
APPROVED: [Name]

SCALE: NONE



NOTE: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTOR VALUES ARE OHMS UNLESS NOTED
2. ALL INDUCTOR VALUES ARE MICROHENRY (μH)
3. ALL CAPACITOR VALUES ARE MICROFARAD (μF), UNLESS NOTED

REV	DATE	BY	DESCRIPTION
1	05/01	...	INITIAL
2	05/01
3	05/01
4	05/01
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NOTE: DIMENSIONS ARE IN MILLIMETERS
 1. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED
 2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED
 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED

APPLE COMPUTER

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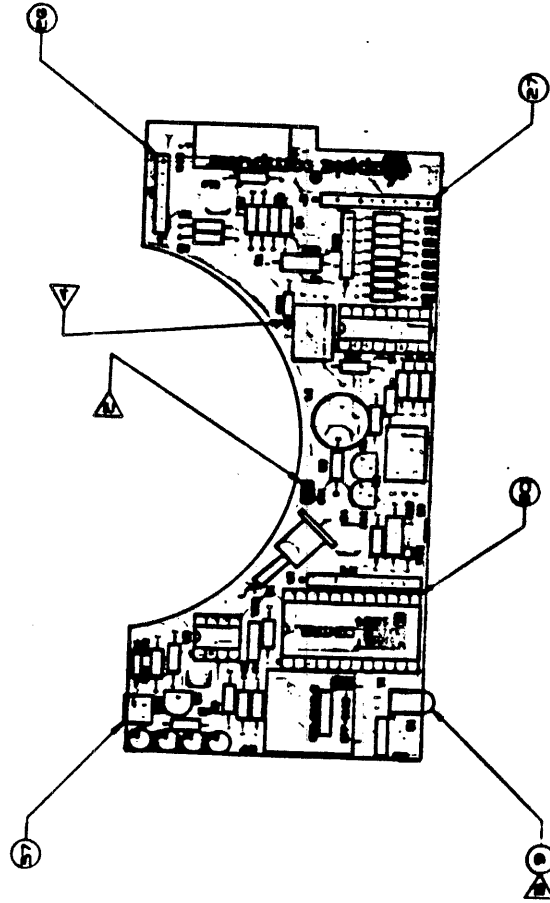
LAST USED	DESIGNATOR	NOT USED
C17		CR2
C19		CR2
U3		
L1		
Q3		
Q5		
RP2		
U3		

REV	DATE	BY	DESCRIPTION
1	05/01
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83	05/01
84	05/01
85	05/01
86	05/01
87	05/01
88	05/01
89	05/01
90	05/01
91	05/01
92	05/01
93	05/01
94	05/01
95	05/01
96	05/01
97	05/01
98	05/01
99	05/01
100	05/01

Apple Computer
 SCHEMATIC SHEET 1
 CR7 POL. WACSET
 DSD - CC23-C
 DATE: 05/01/81
 BY: ...
 CHECKED: ...
 APPROVED: ...
 TITLE: ...
 PART NUMBER: ...
 REV: ...
 DATE: ...
 BY: ...
 DESCRIPTION: ...

NOTE: INCLUDE ORIGINATOR SPECIFICATIONS

- 1. REFERENCE SCHEMATIC: OSO-5025.
- 2. STAMP DATE TESTED 6000.
- 3. ITEM 9 (DI GREENLED) IS MOUNTED ON NONCOMPONENT SIDE.
- 4. LEAVE CR2 COMPONENT DESIGNATED SPACE OPEN (NO PART ASSEMBLED).



REV	DATE	DESCRIPTION
0	7/20	REDRAWN AND REVISED
1	7/27	ITEM 37 WAS ADDED ITEM 25 TO BO.M
2	7/27	DELETED NOTE 3. NOTE 3 WAS 4
3	7/27	# NOTE 4 WAS 5.

PLANNING NUMBER: G77-0102-E (REV. 0)

SEE SEPARATE BILL OF MATERIAL: G77-0102

DATE	REV	DESCRIPTION
7/20	0	PLANNING NUMBER: G77-0102-E
7/27	1	PLANNING NUMBER: G77-0102-E
7/27	2	PLANNING NUMBER: G77-0102-E
7/27	3	PLANNING NUMBER: G77-0102-E

MOTOR CONTROL BOARD
 WIDSET
 G77-0102-E
 1 OF 1

ASSY 677-0103
PLT MODEL

EFF: DATE SER NO LOT NO
SEQ(I,C) I SKIP TO ITEM/COMPONENT

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
026 109-0610	RES VARIABLE	14 PI	ME	D	090183	123199	N			1.000	EA	X
27 109-0620	RES VARIABLE	16 PI	ME	D	090183	123199	N			1.000	EA	
28 112-0012	RES NETWORK	4 X 10	ME	D	090183	123199	N			1.000	EA	
029 112-0011	RES NETWORK	4 X 10	ME	D	090183	123199	N			3.000	EA	
030 130-0127	CAP CER AXIAL	1000	ME	D	090183	123199	N			2.000	EA	
031 130-0007	CAP CER AXIAL	.1 U	ME	D	090183	123199	N			9.000	EA	
032 130-0221	CAP CER	.18 uF 10%	ME	D	090183	123199	N			1.000	EA	
033 134-5601	CAP CER	33 pF 10%	ME	D	090183	123199	N			6.000	EA	
034 120-0023	CAP POLYCARB	.018	ME	D	090183	123199	N			2.000	EA	
035 120-0018	CAP POLYCARB	.027	ME	D	090183	123199	N			1.000	EA	
036 127-0107	CAP TANT	10 uF 10%	ME	D	090183	123199	N			1.000	EA	
037 515-0208	CONN,HDR,STR,LKG	5	ME	D	090183	123199	N			1.000	EA	
EXPLOSION LEVEL : 1												

NEXT RESPONSE : EXPL0D1 NEXT KEY :
DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0920
EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0103
PLT MODEL

EFF: DATE SER NO LOT NO
SEQ(I,C) I SKIP TO ITEM/COMPONENT

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
038 515-0508	CONN,HDR,RT ANG	7P	ME	D	090183	123199	N			1.000	EA	X
039 513-0106	CONN,CD EDG,PC	TAI	ME	D	090183	123199	N			2.000	EA	
40 515-0005	CONN,PIN,SINGLE		ME	D	090183	123199	N			5.000	EA	
42 511-1601	SOCKET, IC	16 PIN	ME	D	090183	123199	N			1.000	EA	
43 511-0801	SOCKET, IC	8 PIN	ME	D	090183	123199	N			1.000	EA	
044 820-5013	PCB,MOTHER BD	WIDG	ME	D	102083	123199	N			1.000	EA	
046 101-4433	RES 43K OHM	1/4W 5	ME	D	090183	123199	N			2.000	EA	
047 101-4683	RES 68K OHM	1/4W 5	ME	D	090183	092883	N			0.000	EA	
048 120-0022	CAP POLYCARB	.018	ME	D	092983	123199	N			0.000	EA	
049 120-0025	CAP POLYCARB	.027	ME	D	092983	123199	N			0.000	EA	
050 517-1440	SOCKET,PIN,TERMINA		ME	D	050784	123199	N			0.125	EA	
999 050-5024	SCHEMATIC,MOTHER	B	ME	D	092983	123199	N			0.000	EA	
EXPLOSION LEVEL : 1												

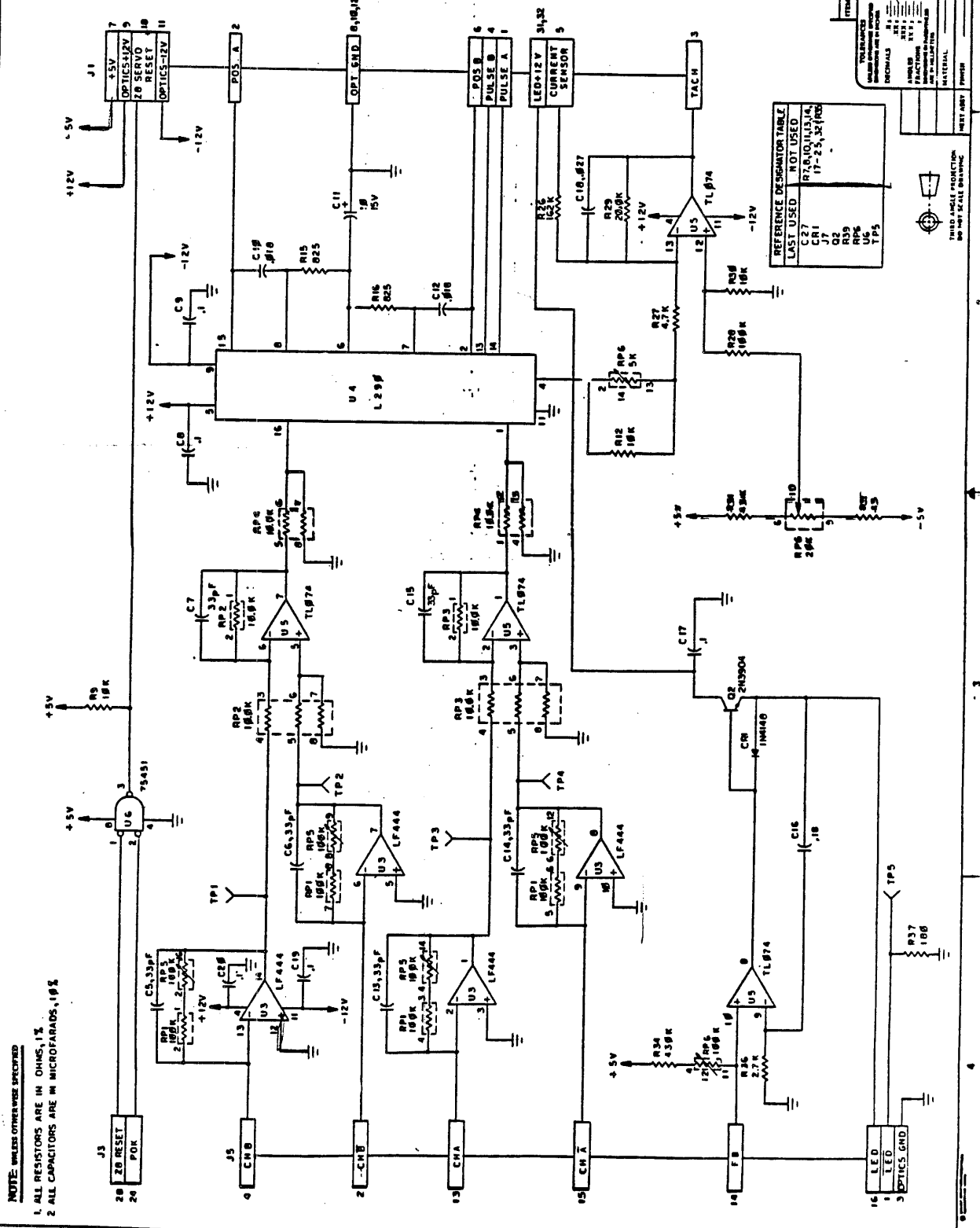
REV	DATE	DESCRIPTION
A	1-5-78	INITIAL RELEASE (SHEET 2)
B	1-24-78	REWORK WALS ORR
C		
D		

APPLE COMPUTER

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1050-5024-B

ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	75431	75431
U2	1	TL074	TL074
U3	1	TL074	TL074
U4	1	TL074	TL074
U5	1	TL074	TL074
U6	1	TL074	TL074
U7	1	TL074	TL074
U8	1	TL074	TL074
U9	1	TL074	TL074
U10	1	TL074	TL074
U11	1	TL074	TL074
U12	1	TL074	TL074
U13	1	TL074	TL074
U14	1	TL074	TL074
U15	1	TL074	TL074
U16	1	TL074	TL074
U17	1	TL074	TL074
U18	1	TL074	TL074
U19	1	TL074	TL074
U20	1	TL074	TL074
U21	1	TL074	TL074
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U25	1	TL074	TL074
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U36	1	TL074	TL074
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U41	1	TL074	TL074
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U46	1	TL074	TL074
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U92	1	TL074	TL074
U93	1	TL074	TL074
U94	1	TL074	TL074
U95	1	TL074	TL074
U96	1	TL074	TL074
U97	1	TL074	TL074
U98	1	TL074	TL074
U99	1	TL074	TL074
U100	1	TL074	TL074



NOTE: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE IN OHMS, 1%
2. ALL CAPACITORS ARE IN MICROFARADS, 10%

REFERENCE DESIGNATOR	TABLE	NOT USED
C27	17-20, 103J, 103K	
CRI	17-20, 3610B	
Q2		
Q9		
Q10		
Q11		
Q12		
Q13		
Q14		
Q15		
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Q97		
Q98		
Q99		
Q100		

THIRD ANGLE PRODUCTION
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ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	75431	75431
U2	1	TL074	TL074
U3	1	TL074	TL074
U4	1	TL074	TL074
U5	1	TL074	TL074
U6	1	TL074	TL074
U7	1	TL074	TL074
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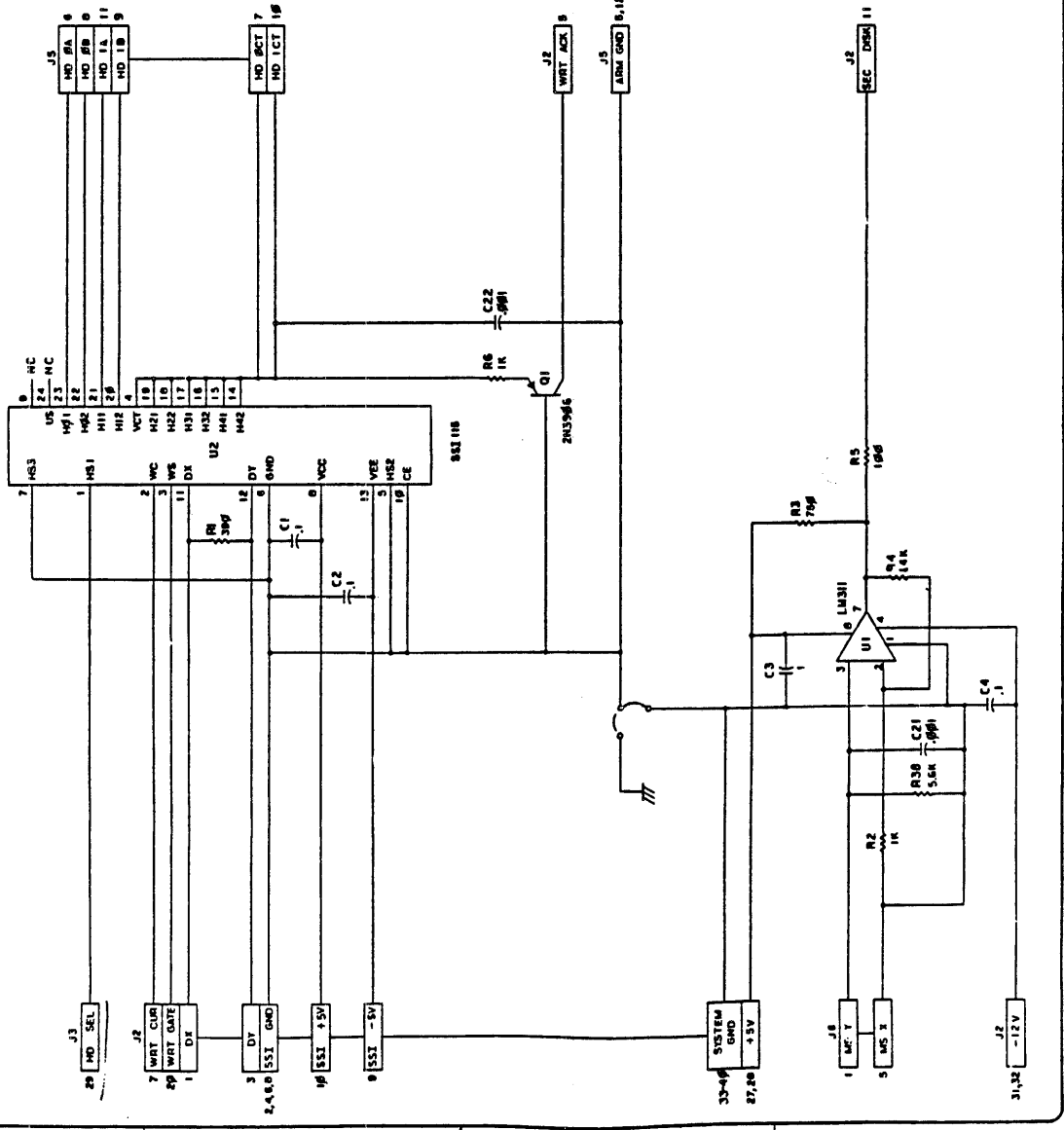
SCALE: 1:1

DATE: 1/5/78

DESIGNED BY: [Signature]

APPROVED BY: [Signature]

NOTE: UNLESS OTHERWISE SPECIFIED



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ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	88118	CPU
2	1	243596	RAM
3	1	LM311	Comparator
4	1	88118	CPU
5	1	243596	RAM
6	1	LM311	Comparator
7	1	88118	CPU
8	1	243596	RAM
9	1	LM311	Comparator
10	1	88118	CPU
11	1	243596	RAM
12	1	LM311	Comparator
13	1	88118	CPU
14	1	243596	RAM
15	1	LM311	Comparator
16	1	88118	CPU
17	1	243596	RAM
18	1	LM311	Comparator
19	1	88118	CPU
20	1	243596	RAM
21	1	LM311	Comparator
22	1	88118	CPU
23	1	243596	RAM
24	1	LM311	Comparator
25	1	88118	CPU
26	1	243596	RAM
27	1	LM311	Comparator
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29	1	243596	RAM
30	1	LM311	Comparator
31	1	88118	CPU
32	1	243596	RAM
33	1	LM311	Comparator
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35	1	243596	RAM
36	1	LM311	Comparator
37	1	88118	CPU
38	1	243596	RAM
39	1	LM311	Comparator
40	1	88118	CPU
41	1	243596	RAM
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89	1	243596	RAM
90	1	LM311	Comparator
91	1	88118	CPU
92	1	243596	RAM
93	1	LM311	Comparator
94	1	88118	CPU
95	1	243596	RAM
96	1	LM311	Comparator
97	1	88118	CPU
98	1	243596	RAM
99	1	LM311	Comparator
100	1	88118	CPU

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EXPLOD1

PART COMPONENTS EXPL INQ - 1

08/15/85 0921
01PMH

STEP

ASSY 677-0104
PLT MODEL

EFF: DATE

SER NO

LOT NO

SEQ(I,C) I SKIP TO ITEM/COMPONENT

ABBREVIATED

--EFFECTIVITY-- F

E

DESCRIPTION

MOD

TYP

FROM

THRU

Q

QTY PER ASSY

UOM X

ITM COMPONENT

01 351-3127

TRANSISTOR,ARRAY N ME

D 101083 123199 N

3.000 EA

02 351-3146

IC, 3146 HI VOLT. MF

D 101083 123199 N

2.000 EA

004 351-6700

IC, TRANS. ARRAY Q ME

D 101083 123199 N

2.000 EA

005 353-0592

IC, VIDEO AMPLIFIE ME

D 101083 123199 N

1.000 EA

006 353-0353

DUAL FET OP AMP/BU ME

D 101083 123199 N

5.000 EA

007 353-0319

IC, HIGH SPEED DUA ME

D 101083 123199 N

1.000 EA

008 353-1350

IC, 1350, IF AMP ME

D 101083 123199 N

1.000 EA

009 327-0452

IC,75452,DUAL PERF ME

D 101083 123199 N

1.000 EA

010 315-0820

IC,TTL,8T20,BI-DIR ME

D 101083 123199 N

1.000 EA

011 329-0002

IC,96LS02,DUAL RET ME

D 101083 052084 N

0.000 EA

012 305-0074

IC, 74LS74 ME

D 101083 123199 N

1.000 EA

013 305-0628

IC, 74LS628 ME

D 101083 123199 N

1.000 EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :

DC700011 MORE

**

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 0922
01PMH

STEP

ASSY 677-0104
PLT MODEL

EFF: DATE

SER NO

LOT NO

SEQ(I,C) I SKIP TO ITEM/COMPONENT

ABBREVIATED

--EFFECTIVITY-- F

E

DESCRIPTION

MOD

TYP

FROM

THRU

Q

QTY PER ASSY

UOM X

ITM COMPONENT

014 341-0263

IC, LSI READ/WRITE ME

D 101083 123199 N

1.000 EA

15 353-0004

IC,79L05AC VOLTAGE ME

D 101083 123199 N

2.000 EA

6 372-3904

TRANSISTOR,NPN SW. ME

D 101083 113083 N

0.000 EA

017 372-5555

TRANSISTOR,N-CHANN ME

D 101083 123199 N

1.000 EA

018 371-0914

DIODE FAST SWITCH ME

D 101083 113083 N

0.000 EA

019 101-4027

RES 2.7 OHM 1/4W 5 ME

D 101083 123199 N

3.000 EA

020 101-4390

RES 39 OHM 1/4W 5% ME

D 101083 123199 N

8.000 EA

021 101-4101

RES 100 OHM 1/4W 5 ME

D 101083 123199 N

1.000 EA

022 101-4151

RES 150 OHM 1/4W 5 ME

D 101083 123199 N

2.000 EA

023 101-4241

RES 240 OHM 1/4W 5 ME

D 101083 123199 N

1.000 EA

024 108-2672

RES 267 OHM 1/4W 1 ME

D 101083 123199 N

2.000 EA

025 101-4391

RES 390 OHM 1/4W 5 ME

D 101083 123199 N

9.000 EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :

DC700011 MORE

**

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 0924
01PMH

STEP

ASSY 677-0104
PLT MODEL

EFF: DATE SER NO
SEQ(I,C) I SKIP TO ITEM/COMPONENT

LOT NO

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
025	101-4471	RES 470 OHM 1/4W 5 ME	D	101083	123199	N		2.000		EA		
027	101-4511	RES 510 OHM 1/4W 5 ME	D	101083	123199	N		3.000		EA		
028	101-4561	RES 560 OHM 1/4W 5 ME	D	101083	123199	N		1.000		EA		
029	101-4621	RES 620 OHM 1/4W 5 ME	D	101083	123199	N		1.000		EA		
030	101-4751	RES 750 OHM 1/4W 5 ME	D	101083	123199	N		4.000		EA		
031	101-4102	RES 1K OHM 1/4W 5% ME	D	120183	123199	N		8.000		EA		
032	101-4152	RES 1.5K OHM 1/4W ME	D	101083	123199	N		4.000		EA		
033	101-4202	RES 2K OHM 1/4W 5% ME	D	101083	123199	N		9.000		EA		
034	101-4272	RES 2.7K OHM 1/4W ME	D	101083	123199	N		1.000		EA		
035	101-4332	RES 3.3K OHM 1/4W ME	D	101083	123199	N		4.000		EA		
036	101-4392	RES 3.9K OHM 1/4W ME	D	101083	123199	N		3.000		EA		
037	101-4472	RES 4.7K OHM 1/4W ME	D	120183	123199	N		2.000		EA		

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ASSY 677-0104
PLT MODEL

EFF: DATE SER NO
SEQ(I,C) I SKIP TO ITEM/COMPONENT

LOT NO

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
038	101-4103	RES 10K OHM 1/4W 5 ME	D	120183	123199	N		9.000		EA		
039	101-4123	RES 12K OHM 1/4W 5 ME	D	101083	113083	N		0.000		EA		
040	101-4243	RES 24K OHM 1/4W 5 ME	D	101083	123199	N		1.000		EA		
041	108-1001	RES 10 OHM 1/4W 1% ME	D	101083	123199	N		1.000		EA		
042	101-4563	RES 56K OHM 1/4W 5 ME	D	101083	123199	N		1.000		EA		
043	101-4753	RES 75K OHM 1/4W 5 ME	D	101083	123199	N		2.000		EA		
044	101-4104	RES 100K OHM 1/4W ME	D	101083	121483	N		0.000		EA		
045	101-4164	RES 160K OHM 1/4W ME	D	101083	123199	N		1.000		EA		
047	101-4474	RES 470K OHM 1/4W ME	D	101083	113083	N		0.000		EA		
048	108-1003	RES 1K OHM 1/4W 1% ME	D	120183	123199	N		4.000		EA		
050	108-3923	RES 3.92K OHM 1/4W ME	D	101083	123199	N		2.000		EA		
051	108-1214	RES 12.1K OHM 1/4W ME	D	101083	123199	N		4.000		EA		

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ABMDISP1
EXPLOD1

ASSY 677-0104
PLT MODEL

EFF: DATE SER NO
SEQ(I,C) I SKIP TO ITEM/COMPONENT

LOT NO

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
052	108-2434	RES 24.3K OHM 1/4W ME	D	101083	123199	N		5.000		EA		
053	108-6814	RES 68.1K OHM 1/4W ME	D	101083	123199	N		2.000		EA		
054	137-5301	CAP DIP MICA 15 pF ME	D	101083	123199	N		2.000		EA		
055	109-0422	POT, 1 TURN .250 D ME	D	101083	123199	N		1.000		EA		
056	130-0119	CAP CER AXIAL 12 P ME	D	120183	123199	N		1.000		EA		
057	130-0120	CAP CER AXIAL 22 P ME	D	101083	123199	N		1.000		EA		
058	130-0121	CAP CER AXIAL 47 P ME	D	101083	123199	N		1.000		EA		
059	130-0122	CAP CER AXIAL 100 ME	D	101083	123199	N		7.000		EA		
062	130-0125	CAP CER AXIAL 470 ME	D	101083	123199	N		2.000		EA		
063	130-0126	CAP CER AXIAL 510 ME	D	120183	123199	N		5.000		EA		
064	130-0218	CAP CER .0022 UF 10 ME	D	101083	123199	N		5.000		EA		
066	130-0220	CAP CER .022 uF 10 ME	D	101083	123199	N		1.000		EA		

EXPLOSION LEVEL : 1

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0926
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY	MODEL	SEQ(I,C) I	EFF: DATE	SER NO	LOT NO			
.TM COMPONENT		ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM	X
067	130-0007		CAP CER AXIAL .1 U	ME D 101083 123199	N	39.000	EA	
068	151-5401		INDUCTOR, 18 uH 10	ME D 101083 123199	N	4.000	EA	
069	197-0017		CRYSTAL, 10MHz	ME D 101083 123199	N	1.000	EA	
070	156-0113		DELAY LINE, 80 NS,	ME D 101083 123199	N	1.000	EA	
071	515-0005		CONN,PIN,SINGLE	ME D 101083 123199	N	10.000	EA	
072	108-1004		RES 10.0K OHM 1/4W	ME D 120183 123199	N	3.000	EA	
073	106-2103		RES 2.10K OHMS 1/8	ME D 101083 113083	N	0.000	EA	
074	511-0801		SOCKET, IC 8 PIN	ME D 101083 041584	N	0.000	EA	
075	511-1401		SOCKET, IC 14 PIN	ME D 101083 123199	N	1.000	EA	
076	511-1601		SOCKET, IC 16 PIN	ME D 101083 041584	N	0.000	EA	
077	511-4001		SOCKET, IC 40 PIN	ME D 101083 123199	N	1.000	EA	
078	820-5017		PCB.,R/W BD.WIDGET	ME D 110183 123199	N	1.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0927
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STE

ASSY	MODEL	SEQ(I,C) I	EFF: DATE	SER NO	LOT NO			
ITM COMPONENT		ABBREVIATED	DESCRIPTION	MOD TYP FROM THRU	Q	QTY PER ASSY	UOM	X
079	101-4153		RES 15K OHM 1/4W 5	ME D 101083 123199	N	1.000	EA	
080	101-4394		RES 390K OHM 1/4W	ME D 101083 123199	N	2.000	EA	
081	130-0128		CAP CER AXIAL 150	ME D 101083 123199	N	1.000	EA	
082	108-1503		RES 1.5K OHM 1/4W	ME D 120183 123199	N	2.000	EA	
083	108-1823		RES 1.82K OHM 1/4W	ME D 101083 113083	N	0.000	EA	
084	108-2003		RES 2K OHM 1/4W 1%	ME D 120183 123199	N	2.000	EA	
085	108-3013		RES 3.01K OHM 1/4W	ME D 120183 123199	N	4.000	EA	
086	111-0002		RES NETWORK 7 X 3.	ME D 101083 123199	N	3.000	EA	
087	112-0014		RES NETWORK 4 X 15	ME D 101083 123199	N	2.000	EA	
088	112-0011		RES NETWORK 4 X 10	ME D 101083 123199	N	1.000	EA	
089	137-5201		CAP DIP MICA 12 pF	ME D 120183 123199	N	1.000	EA	
092	137-6402		CAP DIP MICA 200 p	ME D 101083 123199	N	2.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE **

NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0928
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

SSY 677-0104
 PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT EFF: DATE SER NO LOT NO

ITEM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY PER ASSY	UOM	E
093 101-4393	RES	39K OHM 1/4W 5 ME	D	101083	123199	N	1.000	EA	X
095 137-5803	CAP	DIP MICA 62 pF ME	D	101083	123199	N	1.000	EA	
096 130-0012	CAP	CER AXIAL .015 ME	D	120183	123199	N	2.000	EA	
097 130-0129	CAP	CER AXIAL 8.2 ME	D	101083	123199	N	1.000	EA	
098 101-4620	RES	62 OHM 1/4W 5% ME	D	101083	123199	N	2.000	EA	
099 371-4148	DIODE	FAST SWITCH ME	D	120183	123199	N	6.000	EA	
100 101-4562	RES	5.6K OHM 1/4W ME	D	120183	123199	N	1.000	EA	
101 101-4274	RES	270K OHM 1/4W ME	D	120183	123199	N	1.000	EA	
102 130-0219	CAP	CER .01 uF 10% ME	D	120183	123199	N	2.000	EA	
103 108-2103	RES	2.10K OHM 1/4W ME	D	120183	043084	N	0.000	EA	
104 130-0222	CAP	CER .001 UF 10 ME	D	120183	043084	N	0.000	EA	
105 108-4753	RES	4.75K OHM 1/4W ME	D	020184	123199	N	1.000	EA	

EXPLOSION LEVEL : 1

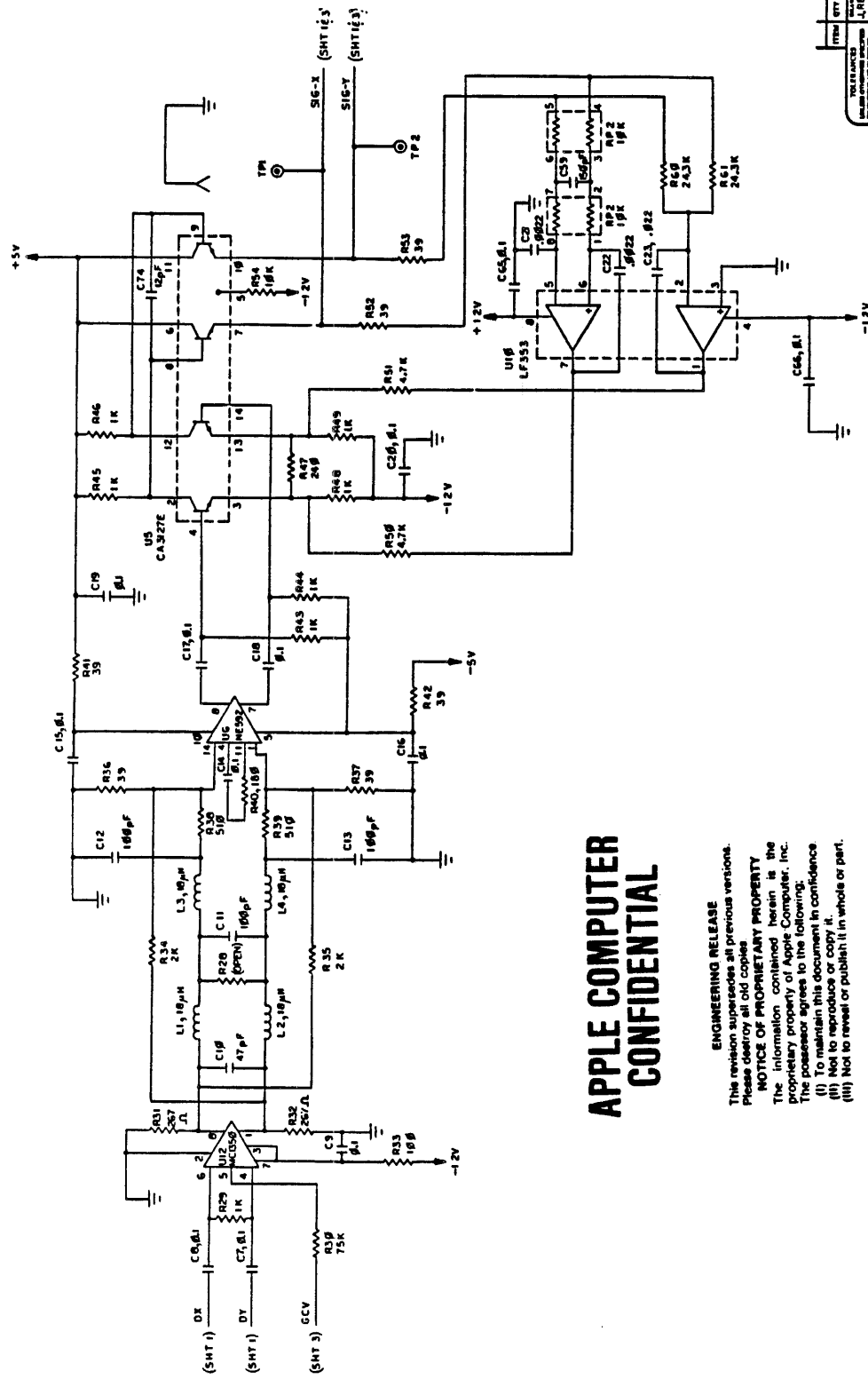
NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0929
 EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0104
 PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT EFF: DATE SER NO LOT NO

ITEM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY PER ASSY	UOM	E
106 101-4105	RES	1M OHM 1/4W 5% ME	D	121583	123199	N	1.000	EA	X
107 108-4703	RES	4.70K OHM 1/4W ME	D	010101	041584	N	0.000	EA	
108 108-6812	RES	681 OHM 1/4W 1 ME	D	050184	062484	N	0.000	EA	
109 101-4181	RES	180 OHM 1/4W 5 ME	D	050184	123199	N	1.000	EA	
110 108-2213	RES	2.21K OHM 1/4W ME	D	050184	123199	N	1.000	EA	
111 305-0123	IC	74LS123 ME	D	052184	123199	N	2.000	EA	
999 050-5028	SCHEMATIC	R/W BD., ME	D	121583	123199	N	0.000	EA	

NOTE: UNLESS OTHERWISE SPECIFIED



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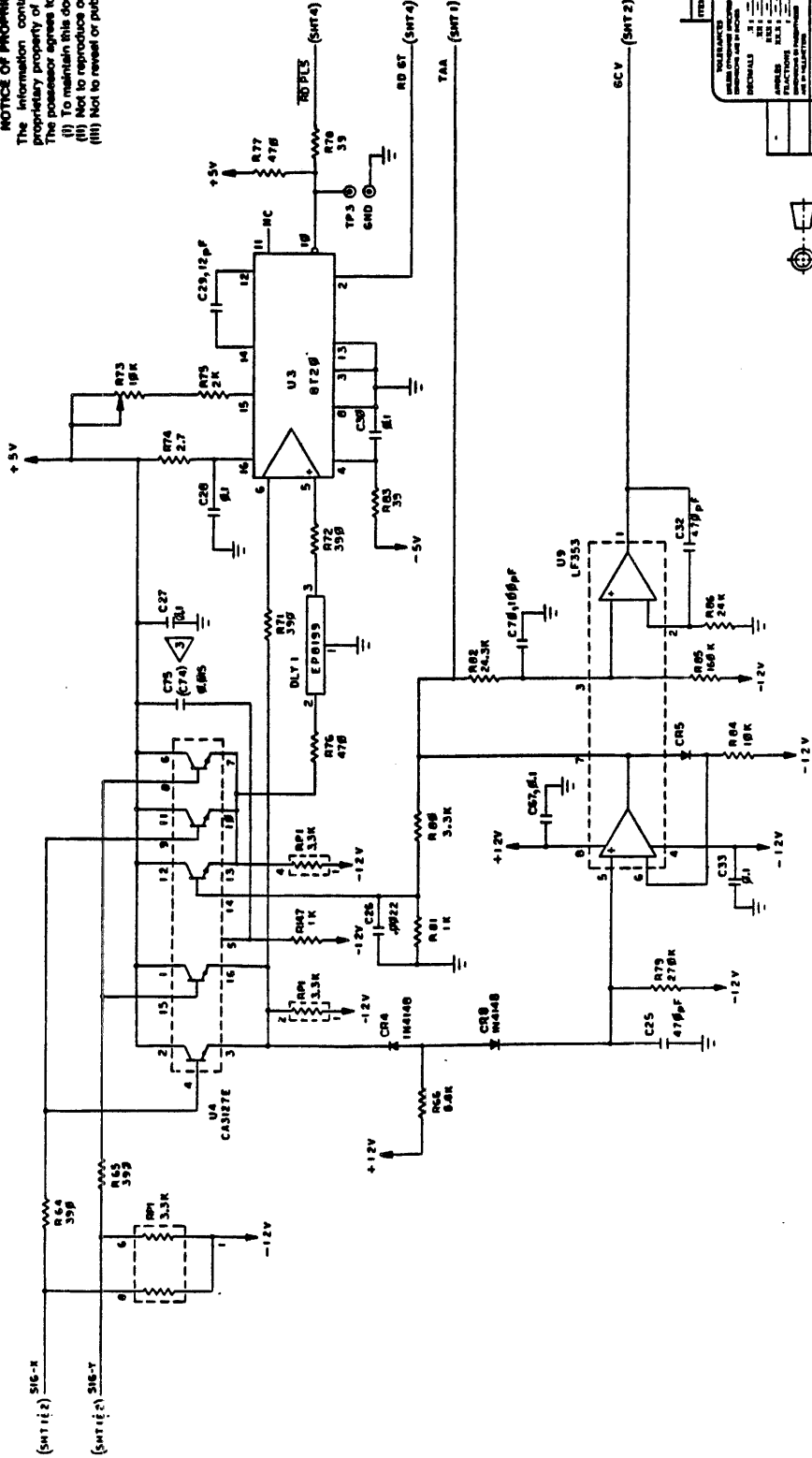
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ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	74181	ALU
U2	1	74180	MUX
U3	1	74182	MUX
U4	1	74183	MUX
U5	1	74184	MUX
U6	1	74185	MUX
U7	1	74186	MUX
U8	1	74187	MUX
U9	1	74188	MUX
U10	1	74189	MUX
U11	1	74190	MUX
U12	1	74191	MUX
U13	1	74192	MUX
U14	1	74193	MUX
U15	1	74194	MUX
U16	1	74195	MUX
U17	1	74196	MUX
U18	1	74197	MUX
U19	1	74198	MUX
U20	1	74199	MUX
U21	1	74200	MUX
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U24	1	74203	MUX
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U27	1	74206	MUX
U28	1	74207	MUX
U29	1	74208	MUX
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U31	1	74210	MUX
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U33	1	74212	MUX
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U38	1	74217	MUX
U39	1	74218	MUX
U40	1	74219	MUX
U41	1	74220	MUX
U42	1	74221	MUX
U43	1	74222	MUX
U44	1	74223	MUX
U45	1	74224	MUX
U46	1	74225	MUX
U47	1	74226	MUX
U48	1	74227	MUX
U49	1	74228	MUX
U50	1	74229	MUX
U51	1	74230	MUX
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U64	1	74243	MUX
U65	1	74244	MUX
U66	1	74245	MUX
U67	1	74246	MUX
U68	1	74247	MUX
U69	1	74248	MUX
U70	1	74249	MUX
U71	1	74250	MUX

Apple Computer, Inc.
 SCHEMATIC
 R/W BOARD
 WIDGET
 D 050-5028-K
 SHEET 2 OF 4

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NOTE: MANUFACTURING SPECIFIED

REVISIONS
1. 05-05-80
2. 05-05-80
3. 05-05-80
4. 05-05-80
5. 05-05-80
6. 05-05-80
7. 05-05-80
8. 05-05-80
9. 05-05-80
10. 05-05-80

REV	QTY	PART NUMBER	DESCRIPTION
1	1	U3	74180
2	1	U9	74133
3	1	R73	10K
4	1	R74	2.7K
5	1	R75	2K
6	1	R76	35
7	1	R77	470
8	1	R78	35
9	1	R79	270K
10	1	R80	1K
11	1	R81	1K
12	1	R82	3.3K
13	1	R83	3.3K
14	1	R84	10K
15	1	R85	10K
16	1	R86	3.3K
17	1	R87	470
18	1	R88	3.3K
19	1	R89	3.3K
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22	1	R92	1K
23	1	R93	35
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27	1	R97	10K
28	1	R98	10K
29	1	R99	10K
30	1	R100	10K
31	1	C25	470pF
32	1	C26	100pF
33	1	C27	100pF
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103	1	C97	100pF
104	1	C98	100pF
105	1	C99	100pF
106	1	C100	100pF

Apple Computer Inc.
SHEETS 10-2183
REVISED 10-21-80
ORIGINALS 10-21-80
PARTS LIST 10-21-80
SCHEMATIC 10-21-80
R/W BOARD, WIDGET
D 050-502B-K
SCALE SHEET 3 OF 4

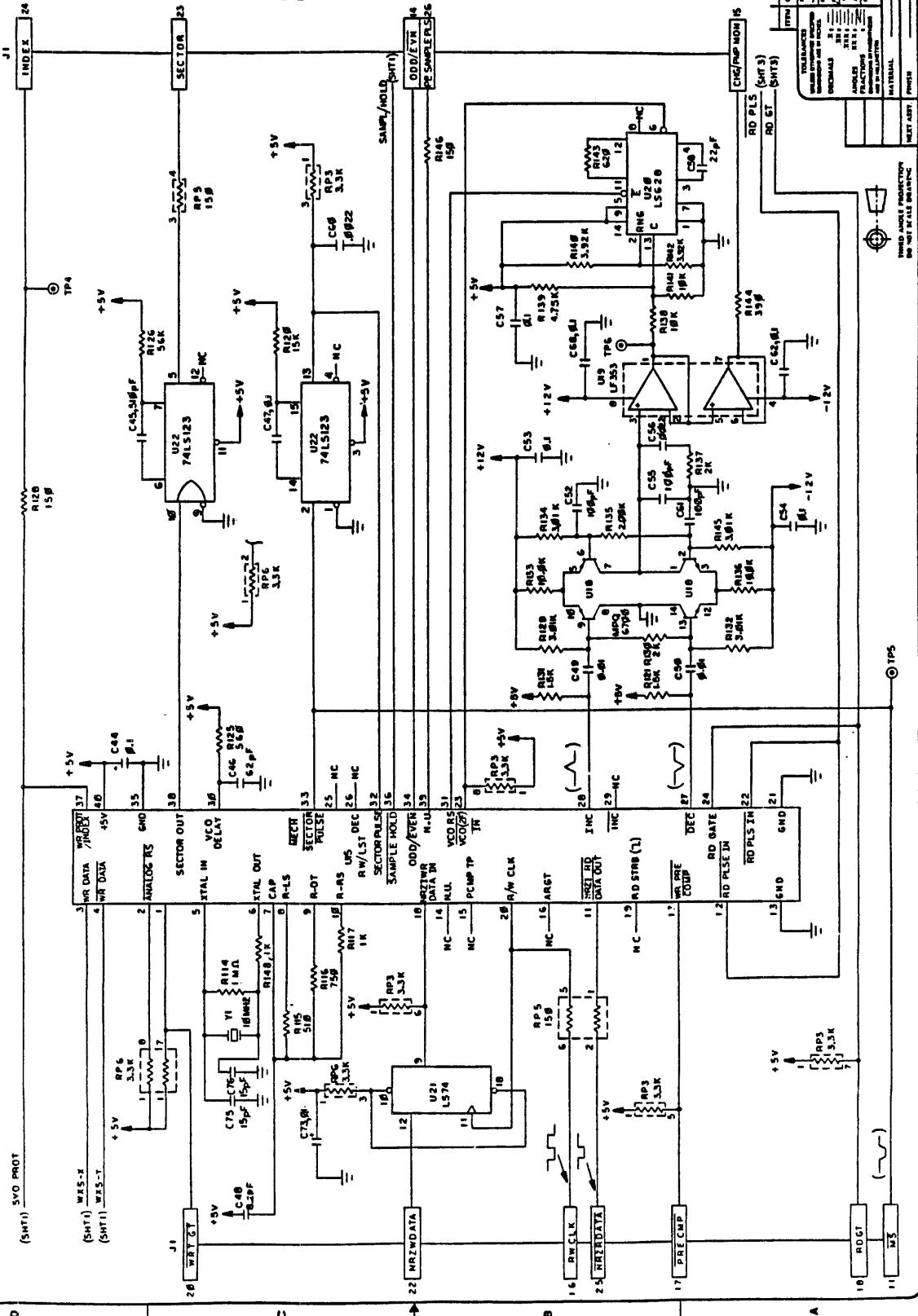
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050-5028-K-4

Apple Computer Inc.
 TITLE: SCHEMATIC R/W BOARD, WIDGET
 SIZE: D
 DRAWING NUMBER: 050-5028-K
 SCALE: SHEET 4 OF 4

REV	DATE	DESCRIPTION
1		SEE SHEET 1



NOTE: UNLESS OTHERWISE SPECIFIED

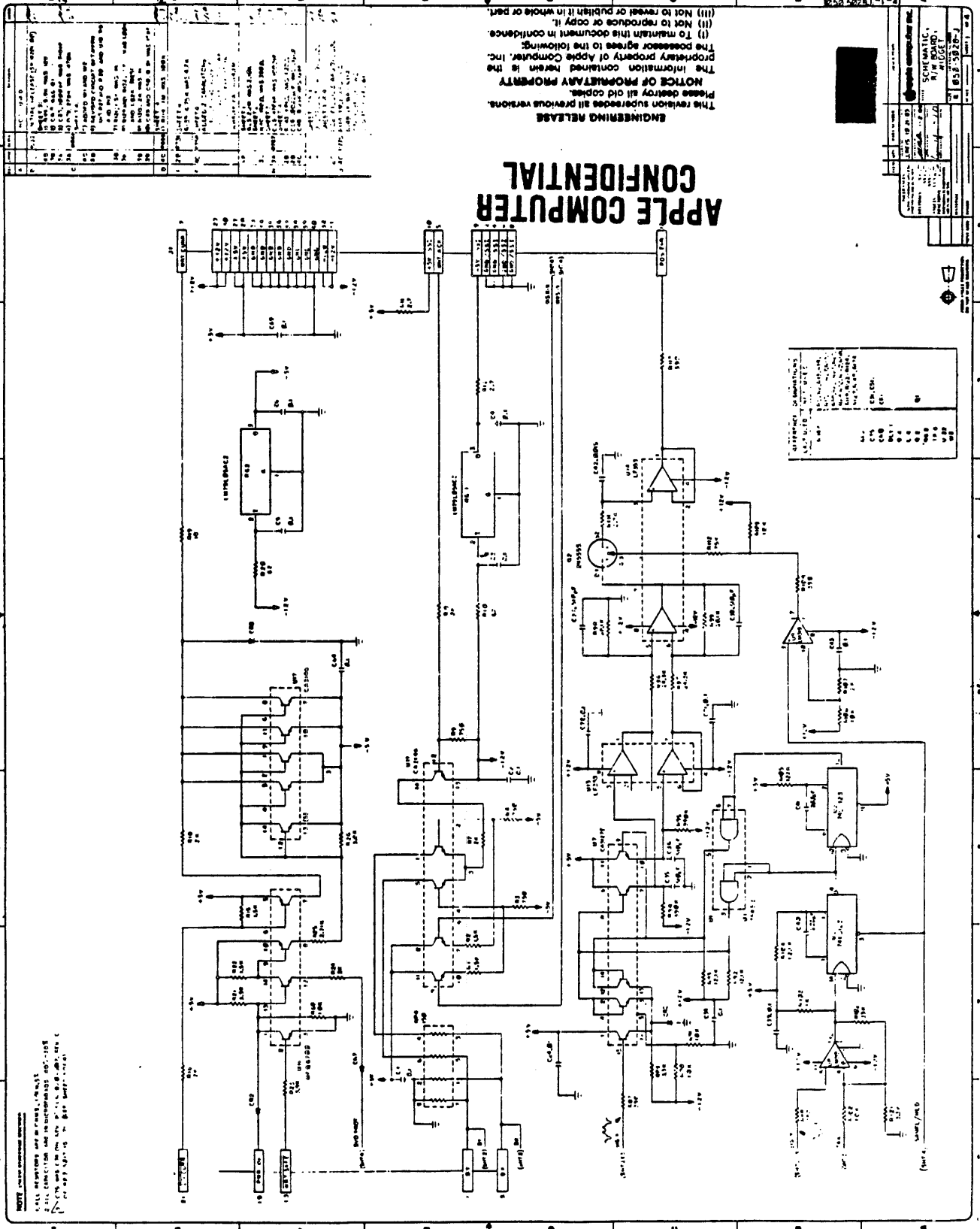


NEED APPLE PARTS FOR THIS BOARD

1-1520-0524
 8 858 858
 BOARD
 SCHMATIC
 DATE: 12/15/77
 DRAWN BY: J. J. ...
 CHECKED BY: ...
 APPROVED BY: ...
 TITLE: ...
 PART: ...

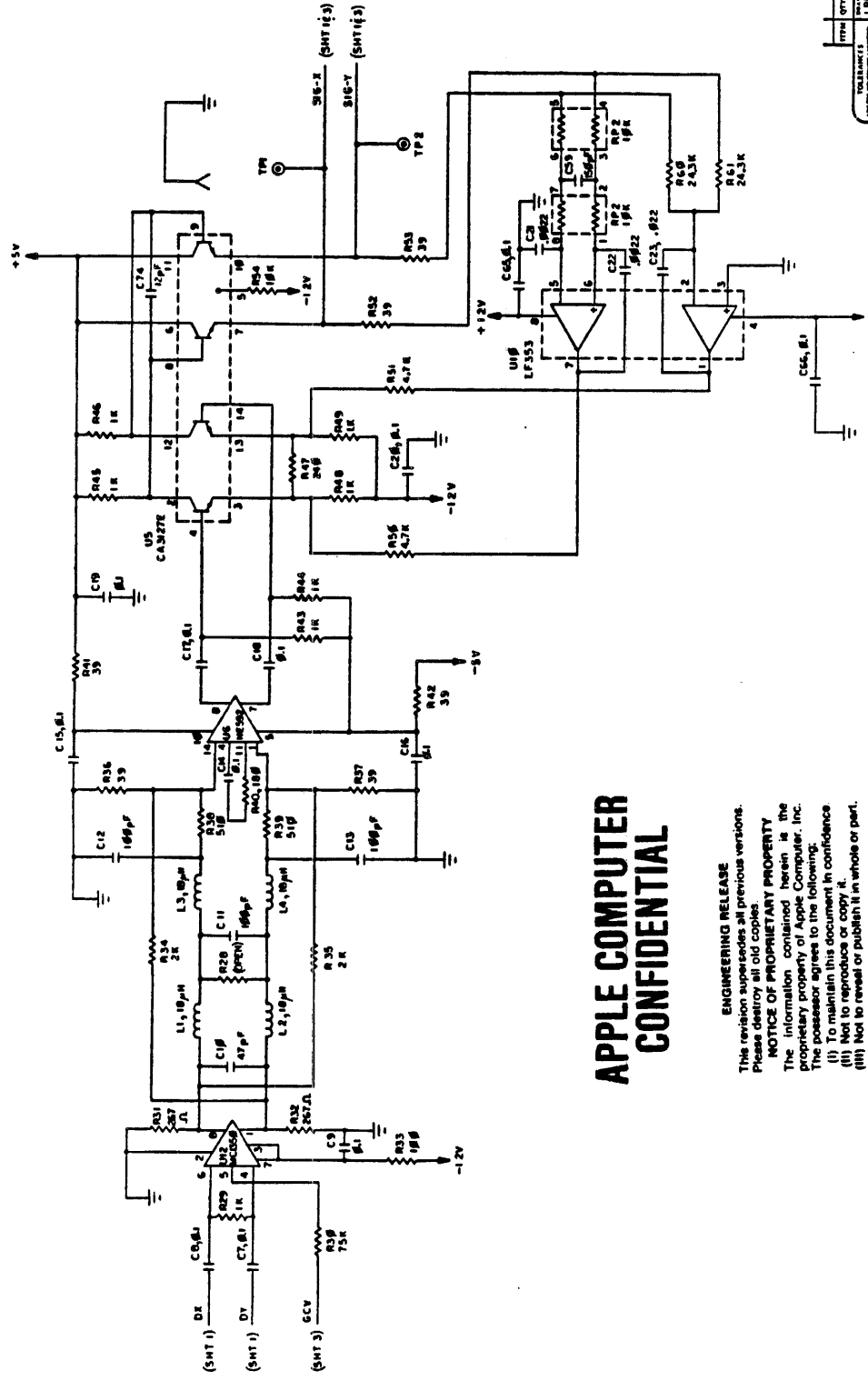
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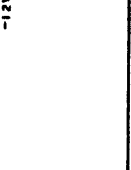
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 DATE 10/15/2001 BY SP-6 J. J. ...
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REV	DATE	BY	CHKD
1			
SEE SHEET 1			



DESIGNER	DATE	DESCRIPTION
J. REIS	10-26-83	Apple Computer Inc
APPROVED	REV	TITLE
	2	SCHEMATIC, R/W BOARD, WIDGET
		SIZE
		D 0505028-1
		SCALE
		SHEET 2 of 4

TOLERANCE	VALUE
RESISTORS	±1%
CAPACITORS	±5%
INDUCTORS	±5%
WELDS	±0.005"
DRILLING	±0.005"
MATERIAL	
TEST APT	
TEST DATE	



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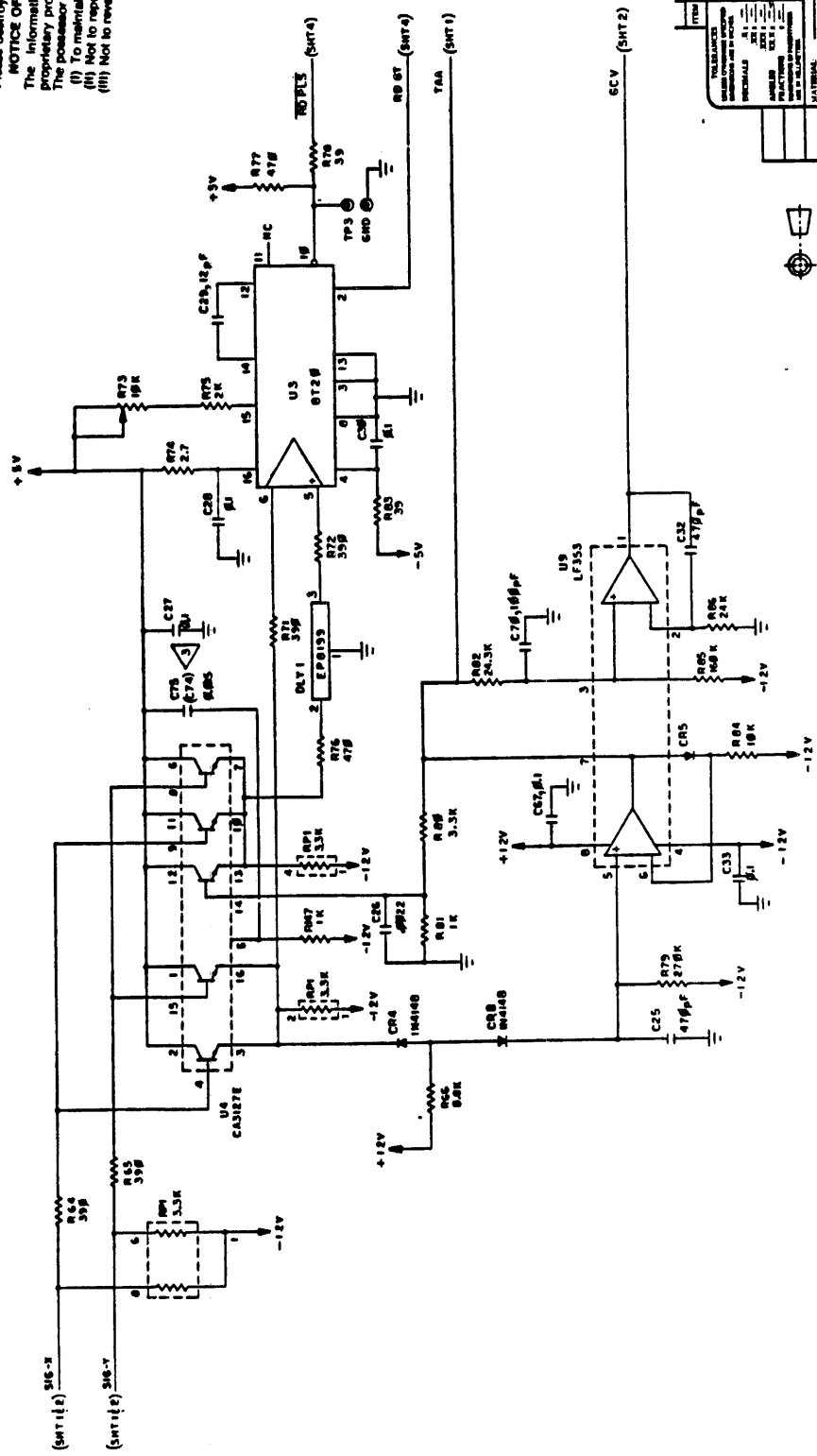
NOTE: UNLESS OTHERWISE SPECIFIED

REV	DATE	DESCRIPTION

NOTE: UNLESS OTHERWISE SPECIFIED

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DRAWING NUMBER
050-5028-J

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION

APPLE COMPUTER, INC. TITLE: SCHEMATIC, R/W BOARD, WIDGET. DRAWING NUMBER: 050-5028-J. SCALE: 1:1. SHEET 3 OF 4.

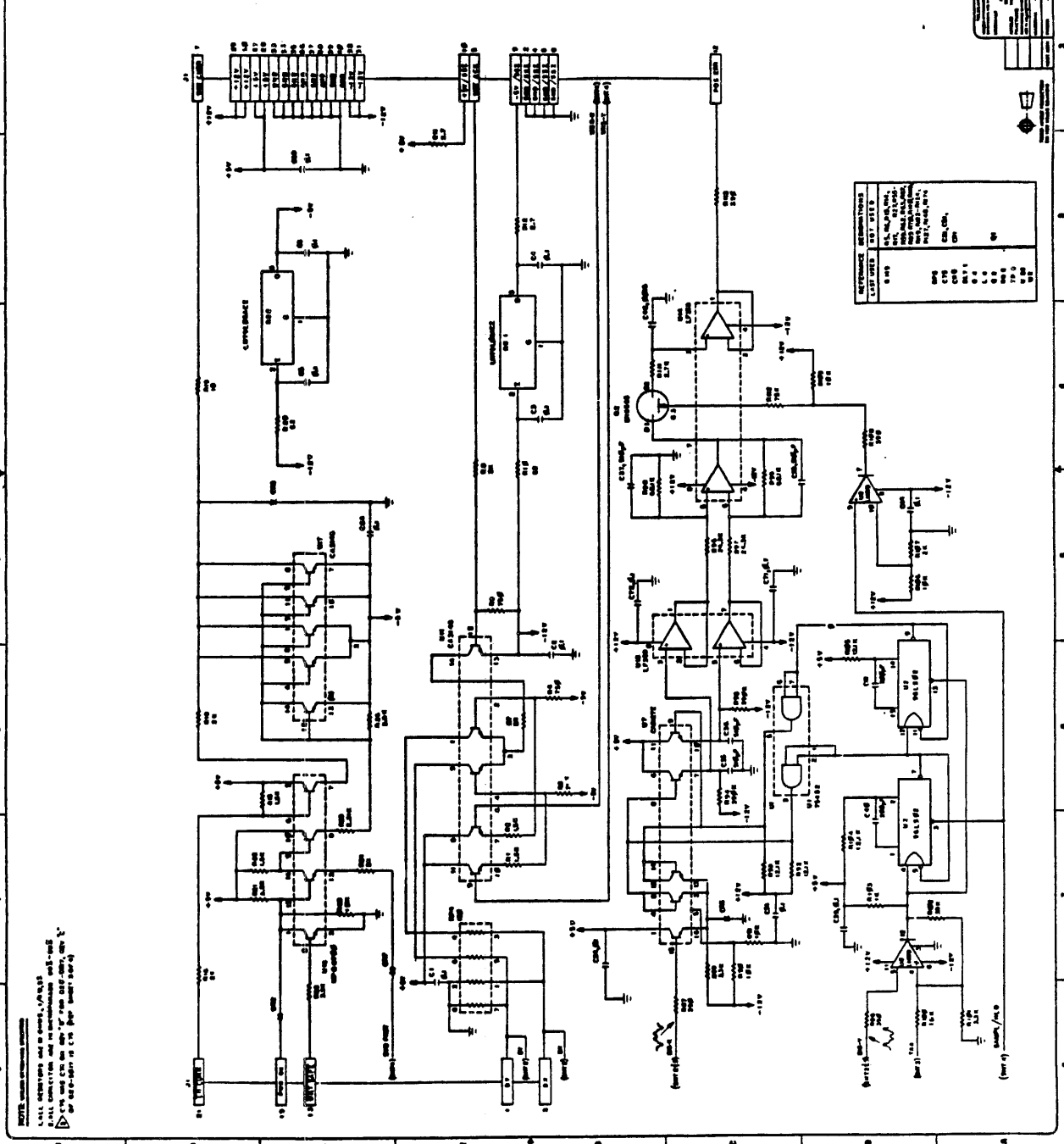
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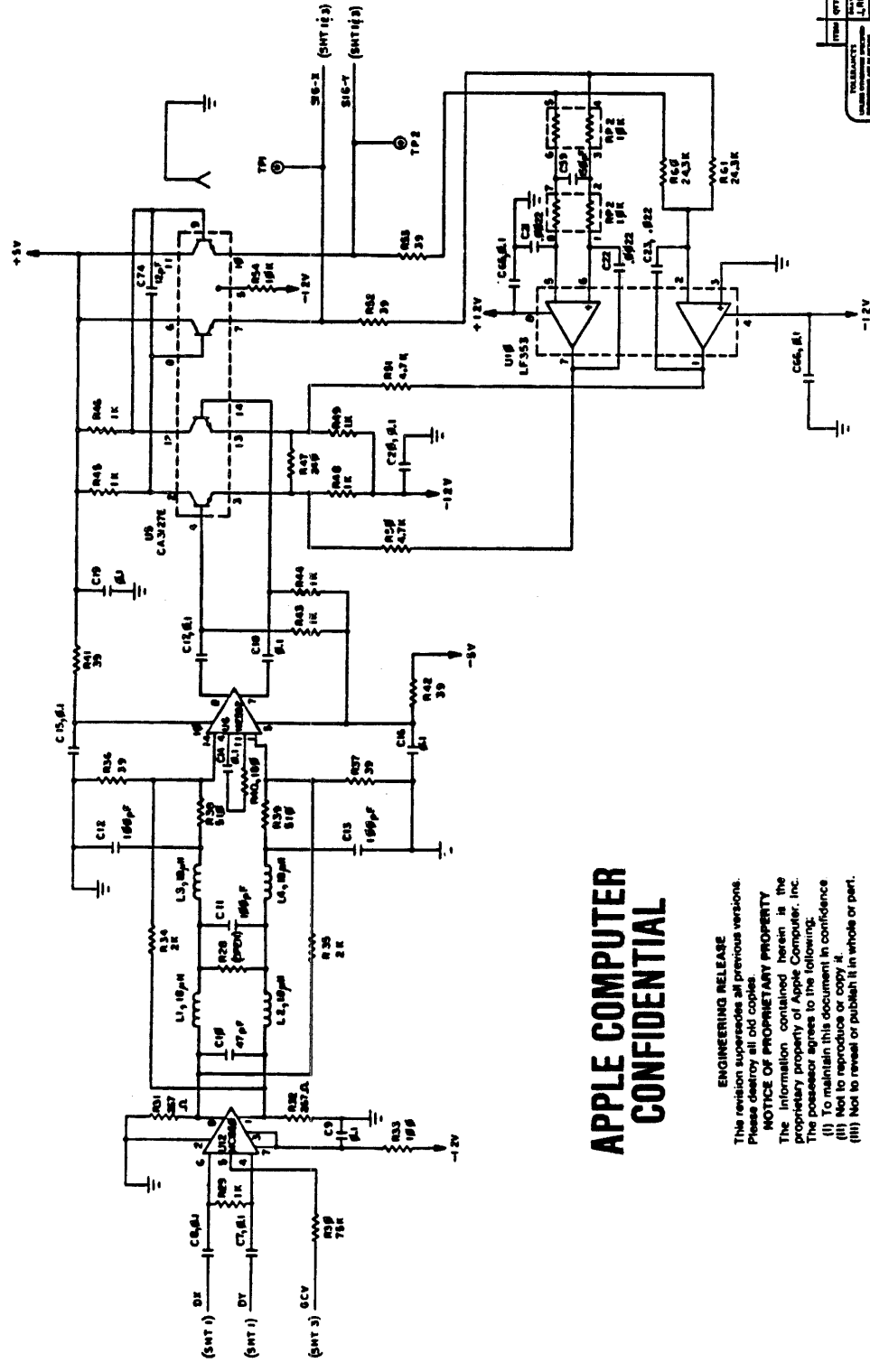
SCHEMATIC
 NAME: []
 DATE: []
 DRAWN BY: []
 CHECKED BY: []
 APPROVED BY: []

REV.	DESCRIPTION	DATE
1	INITIAL RELEASE	10/10/77
2	REVISION	10/10/77
3	REVISION	10/10/77
4	REVISION	10/10/77
5	REVISION	10/10/77
6	REVISION	10/10/77
7	REVISION	10/10/77
8	REVISION	10/10/77
9	REVISION	10/10/77
10	REVISION	10/10/77

NO.	DESCRIPTION	QTY	UNIT
1	RESISTOR 10K	10	PC
2	RESISTOR 1K	10	PC
3	RESISTOR 100K	10	PC
4	RESISTOR 100	10	PC
5	RESISTOR 1000	10	PC
6	RESISTOR 10000	10	PC
7	RESISTOR 100000	10	PC
8	RESISTOR 1000000	10	PC
9	RESISTOR 10000000	10	PC
10	RESISTOR 100000000	10	PC
11	RESISTOR 1000000000	10	PC
12	RESISTOR 10000000000	10	PC
13	RESISTOR 100000000000	10	PC
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17	RESISTOR 1000000000000000	10	PC
18	RESISTOR 10000000000000000	10	PC
19	RESISTOR 100000000000000000	10	PC
20	RESISTOR 1000000000000000000	10	PC



NOTE: ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.



NOTE: UNLESS OTHERWISE SPECIFIED

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DESIGNER	DATE	REV.	DESCRIPTION
LREIS (P-EC-6)	4-2-73	1	SCHEMATIC
APPROVED BY	DATE	REV.	R/W BOARD
W. J. ...	4-2-73	1	WIDGET
DATE	REV.	DESCRIPTION	
4-2-73	1	SCHEMATIC	
4-2-73	1	R/W BOARD	
4-2-73	1	WIDGET	
SCALE		SHEET 2 OF 4	
D 1050 - 5020 - H			



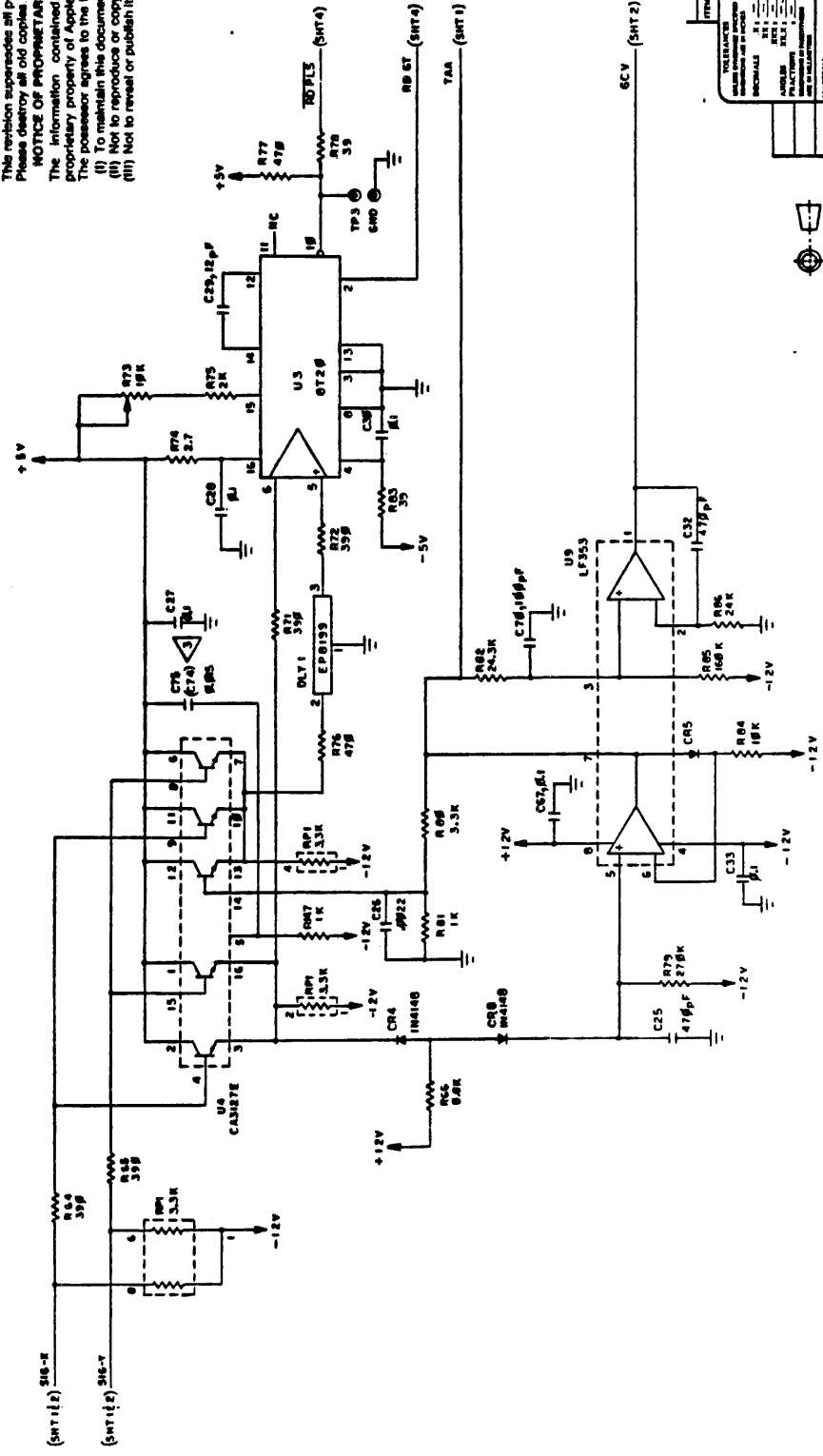
THIS BOARD IS AVAILABLE
FOR REPAIR ONLY

REV	DATE	BY	CHKD	APP'D
SEE SHEET 1				

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NOTE: USE THE OTHER SIDE, UNLESS OTHERWISE SPECIFIED

REVISION NUMBER: 050-5028-H 3 of 4

REV	DATE	BY	CHKD	APP'D

DESCRIPTION: apple computer inc. SCHEMATIC, R/W BOARD, WIDGET.

DATE: 10-2-83

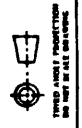
DESIGNED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

SCALE: 1:1

SHEET 3 of 4

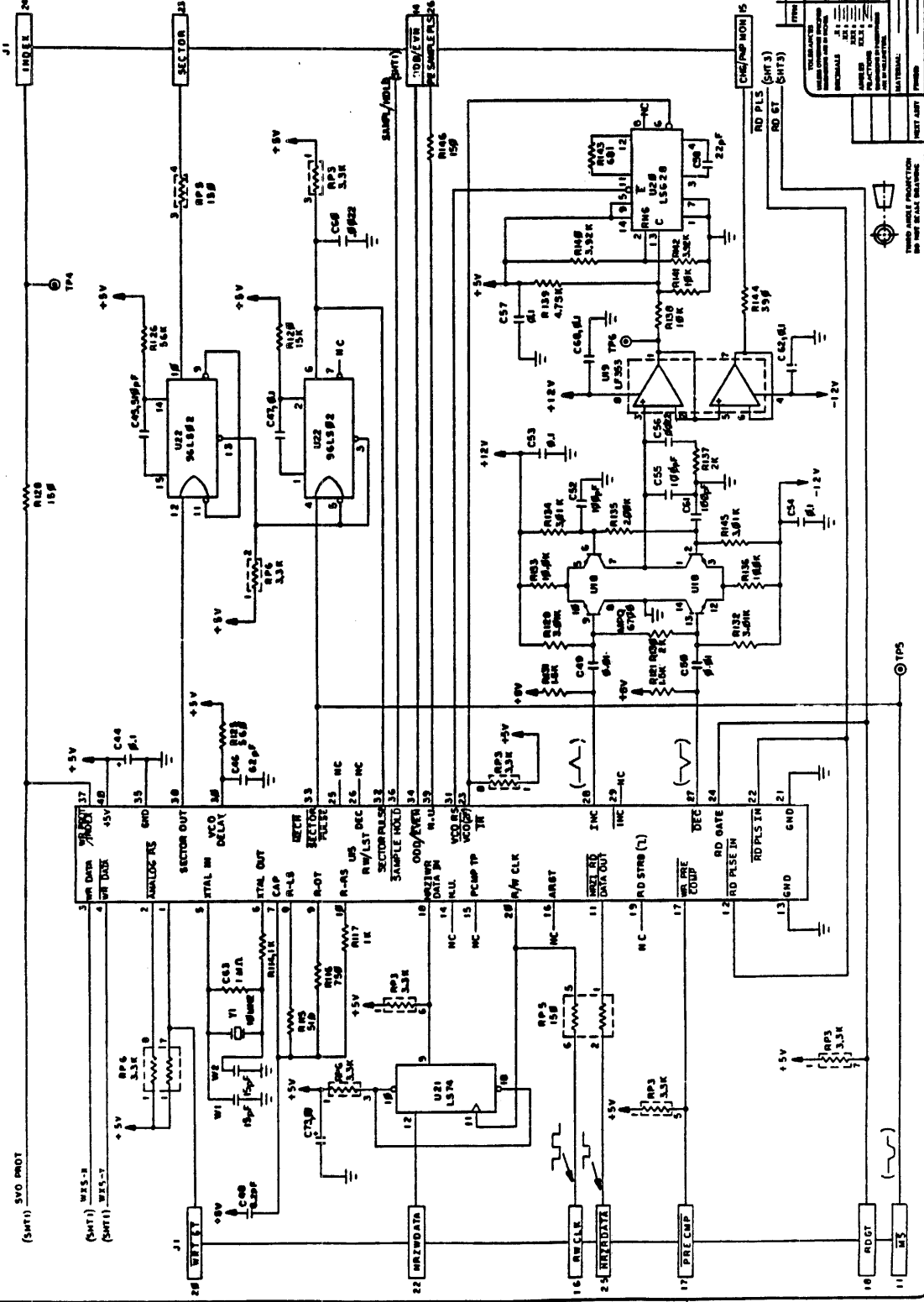


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DRAWING NUMBER
 0505028

DATE	REV	DESCRIPTION
10/24/83	1	Apple Computer Inc
11/2/83	2	SCHEMATIC
11/2/83	3	R/W BOARD
11/2/83	4	WIDGET
DRAWING NUMBER		0505028-H
SCALE		SHEET 4 OF 4



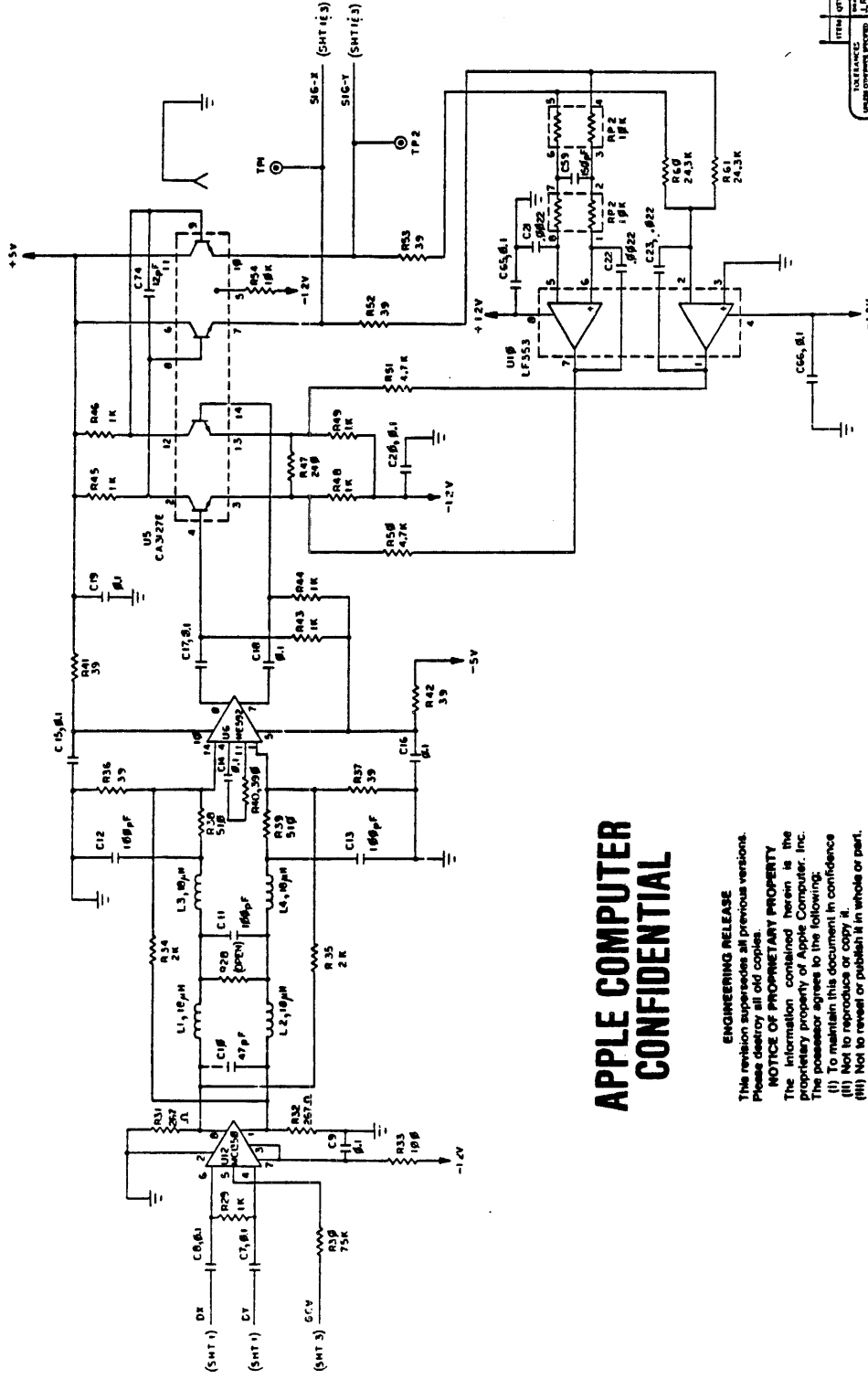
NOTE: UNLESS OTHERWISE SPECIFIED

SEE SHEET 1

DATE

REV

NOTE 1: WIRE CONNECTIONS OMITTED



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DRAWING NUMBER
050-5028-F
 SHEET 2 OF 4

ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	74180	74180
U2	1	74181	74181

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ITEM	QTY	PART NUMBER	DESCRIPTION
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L2	1	10UH	10UH
L3	1	10UH	10UH
L4	1	10UH	10UH

ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	74180	74180
U2	1	74181	74181

ITEM	QTY	PART NUMBER	DESCRIPTION
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ITEM	QTY	PART NUMBER	DESCRIPTION
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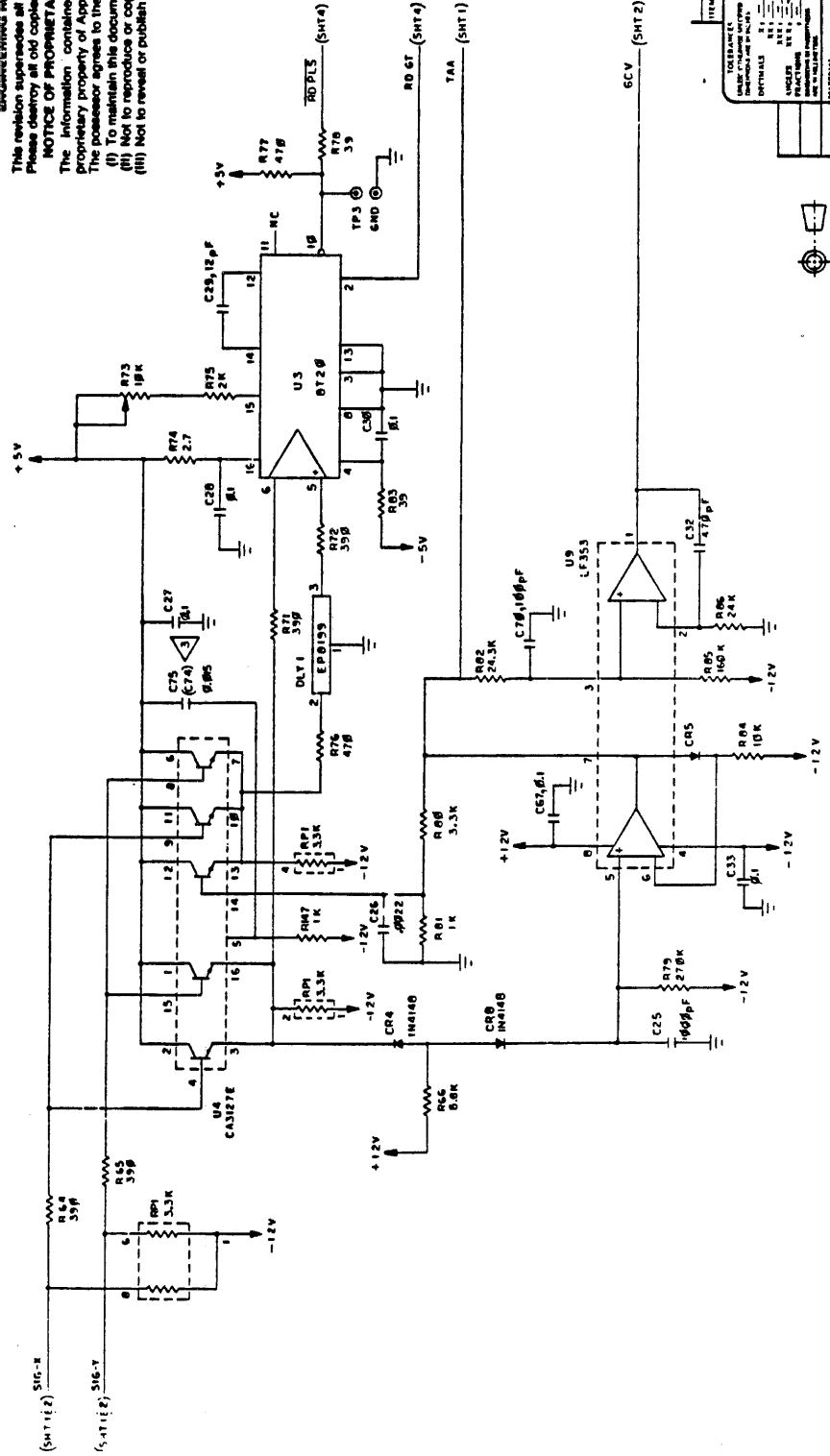
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ITEM	QTY	PART NUMBER	DESCRIPTION
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L2	1	10UH	10UH
L3	1	10UH	10UH
L4	1	10UH	10UH

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DRAWING NUMBER
050-5028-F #3 of 4

Apple Computer Inc.	
TITLE: SCHEMATIC R/W BOARD WIDGET	
DATE: 11-27-83	BY: J.A.
DESIGNED BY: J.A.	CHECKED BY: J.A.
APPROVED BY: J.A.	DATE: 11-27-83
MATERIALS:	
ITEM	QTY
PART NUMBER	
100% IN STOCK	
SCALE: 1:1	
SHEET 3 OF 4	



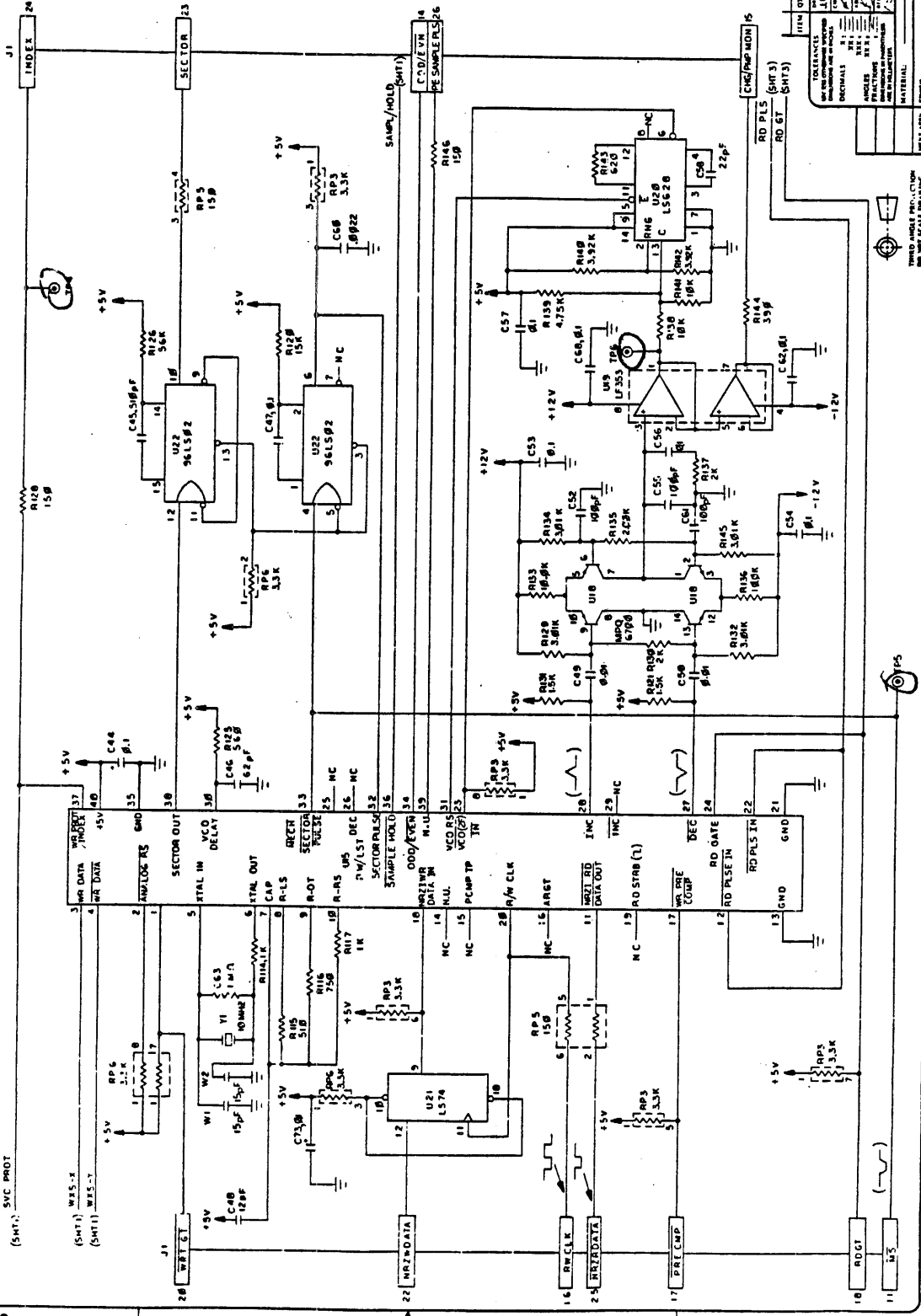
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DRAWING NUMBER
 0505028-F

DESCRIPTION	
SCHEMATIC, R/W BOARD, WIDGET	
REV	DATE
1	11/22/77
2	12/1/77
3	12/1/77
4	12/1/77
DRAWN BY: [Signature]	
CHECKED BY: [Signature]	
APPROVED BY: [Signature]	
MATERIAL	
FINISH	
SCALE	SHEET 4 OF 4



NOTE: 1. ALL COMPONENTS SPECIFIED

(SMT) SVC PROT

(SMT) W/S-X

(SMT) W/S-Y

456

SEE SHEET 1

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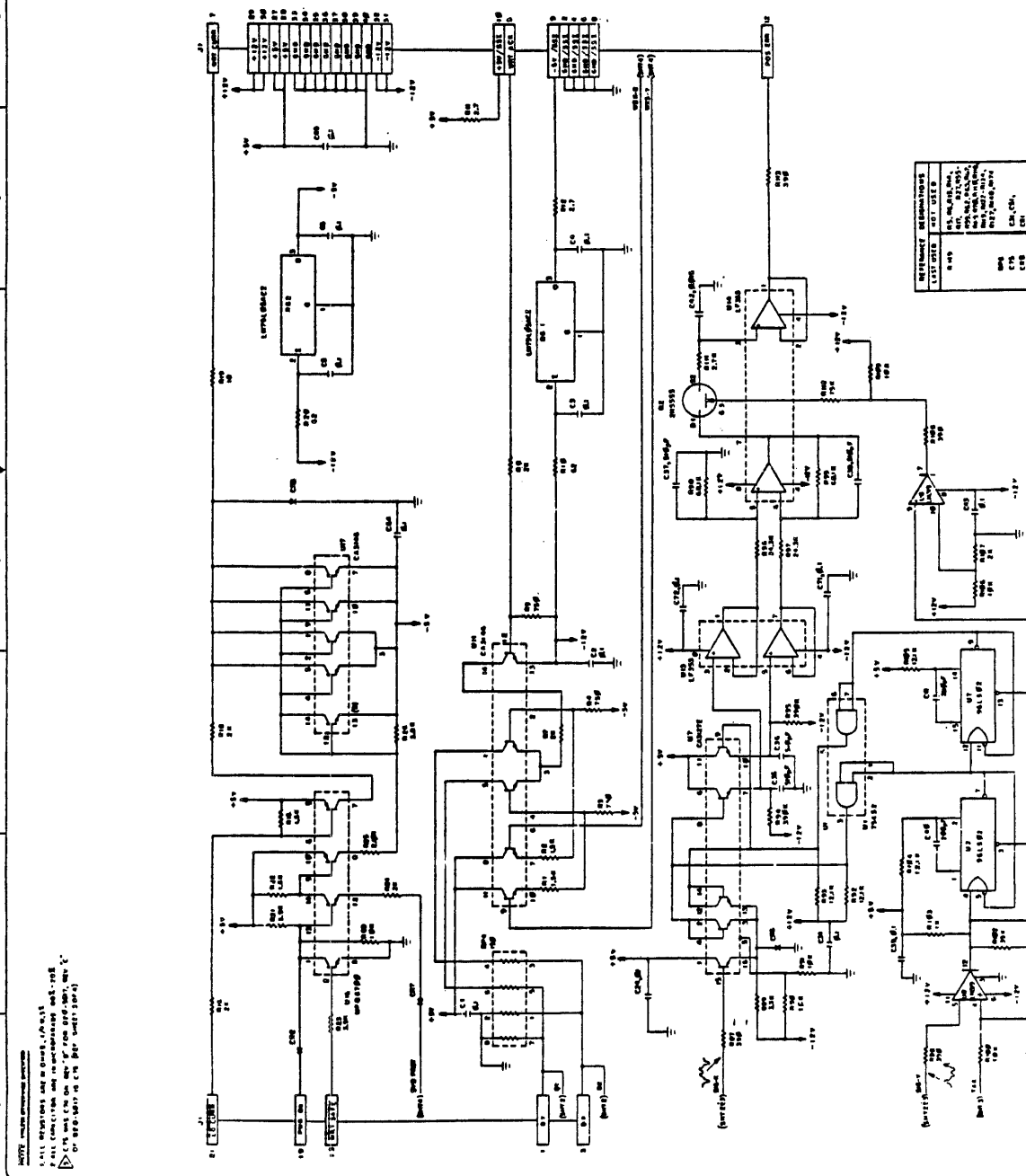
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 CUPERTINO, CALIF. 95014
 (415) 931-2000

DATE: 11/11/77
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]

REFERENCE DESIGNATIONS

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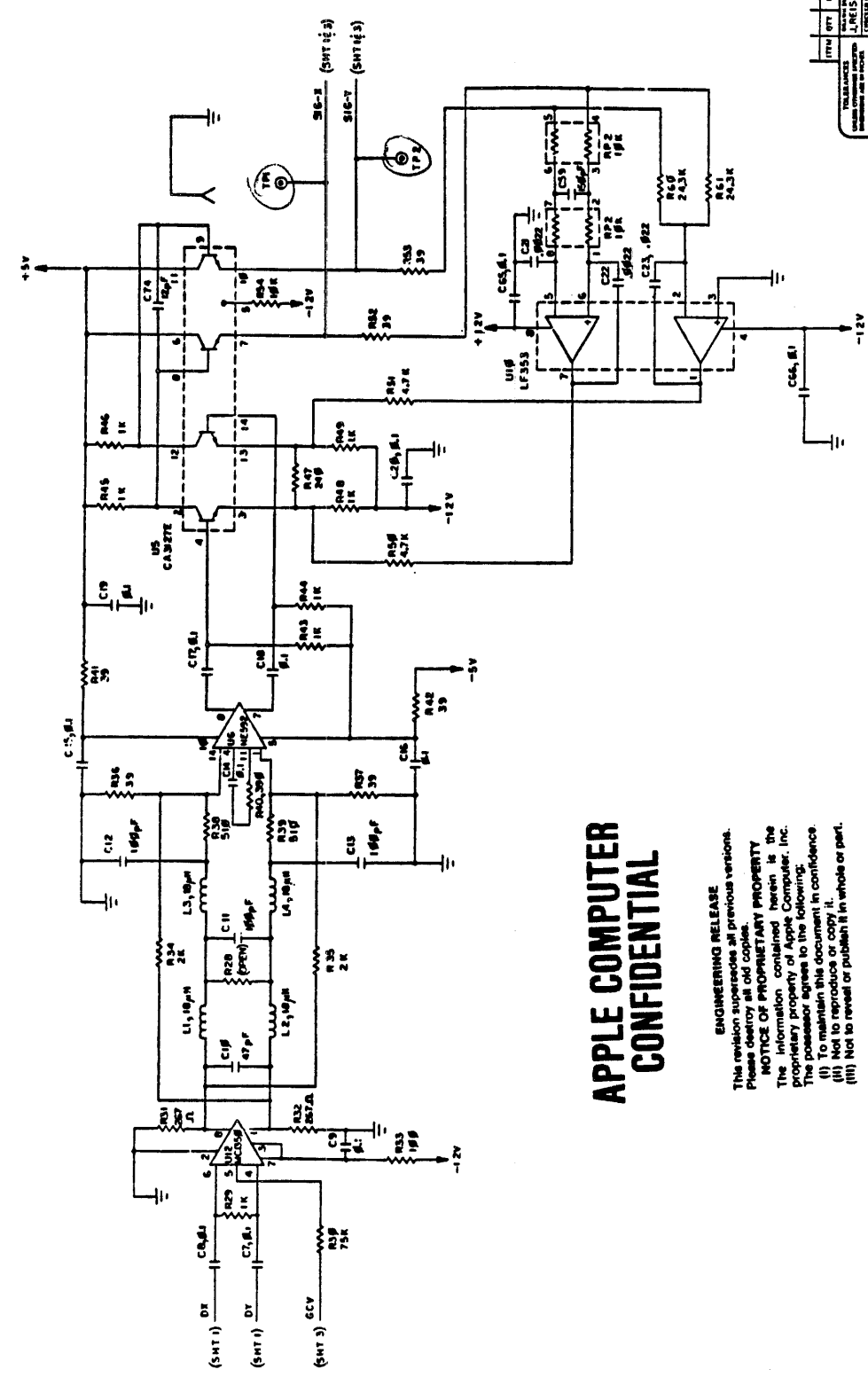


REVISIONS

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99	11/11/77	REVISIONS
100	11/11/77	REVISIONS

Apple Computer, Inc.
 1000 AVENUE AVENUE
 CUPERTINO, CALIF. 95014
 (415) 931-2000

REV	DATE	DESCRIPTION
1		SEE SHEET 1



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LF353	OP AMP
2	1	LF353	OP AMP
3	1	5U12	DECODER
4	1	5S	CASSETTE TAPE
5	1	17V	TRANSFORMER
6	1	12V	TRANSFORMER

DATE	10-26-80
DESIGNED BY	...
CHECKED BY	...
APPROVED BY	...
DATE	10-26-80
SCALE	1:1
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REV	2
OF	4

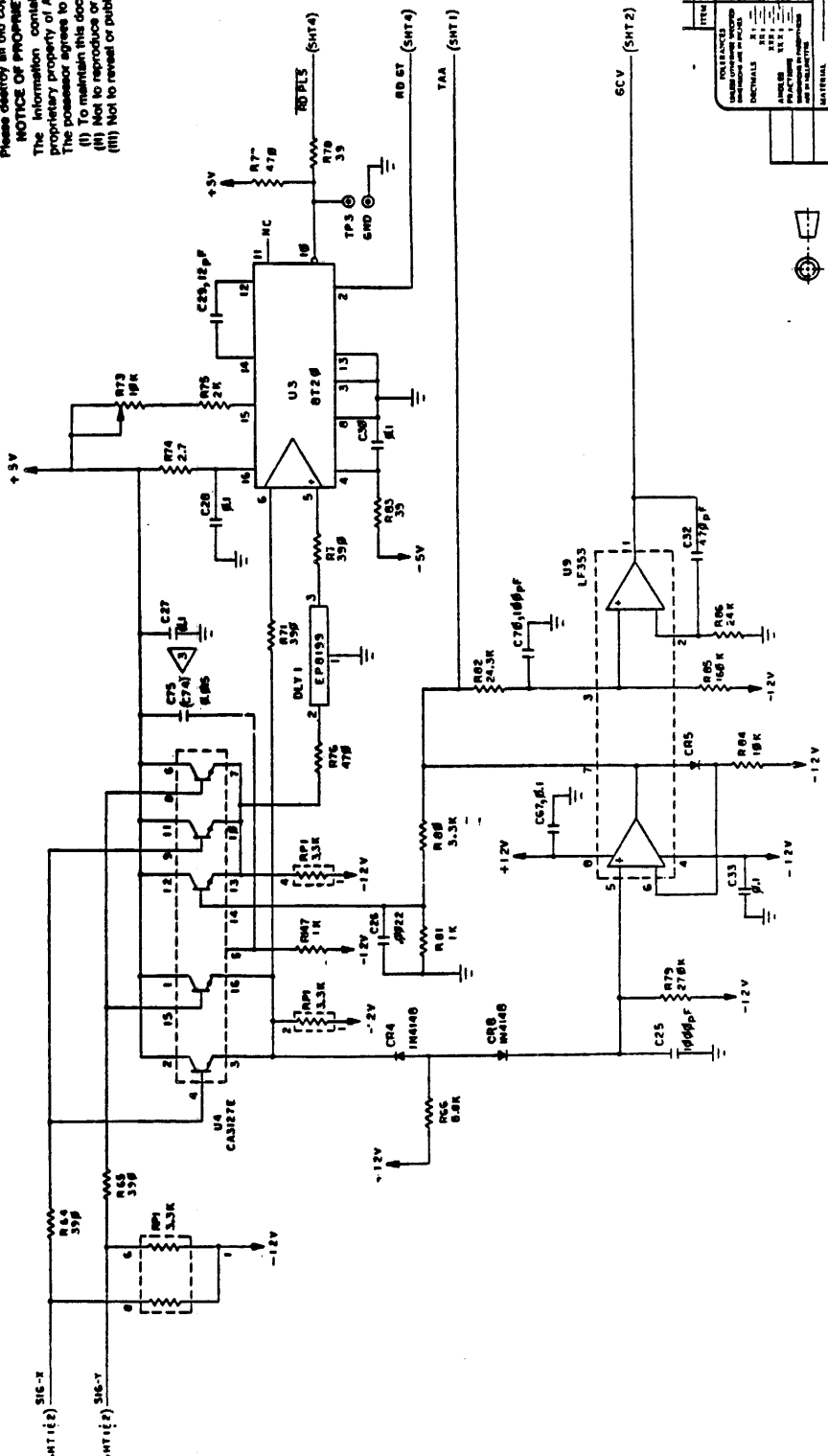
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DRAWING NUMBER
050-5028-E #3 of 4

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Apple Computer, Inc.
 TITLE: SCHEMATIC, R/W BOARD, WIDGET
 DRAWING NUMBER: 050-5028-E
 SHEET: 3 of 4

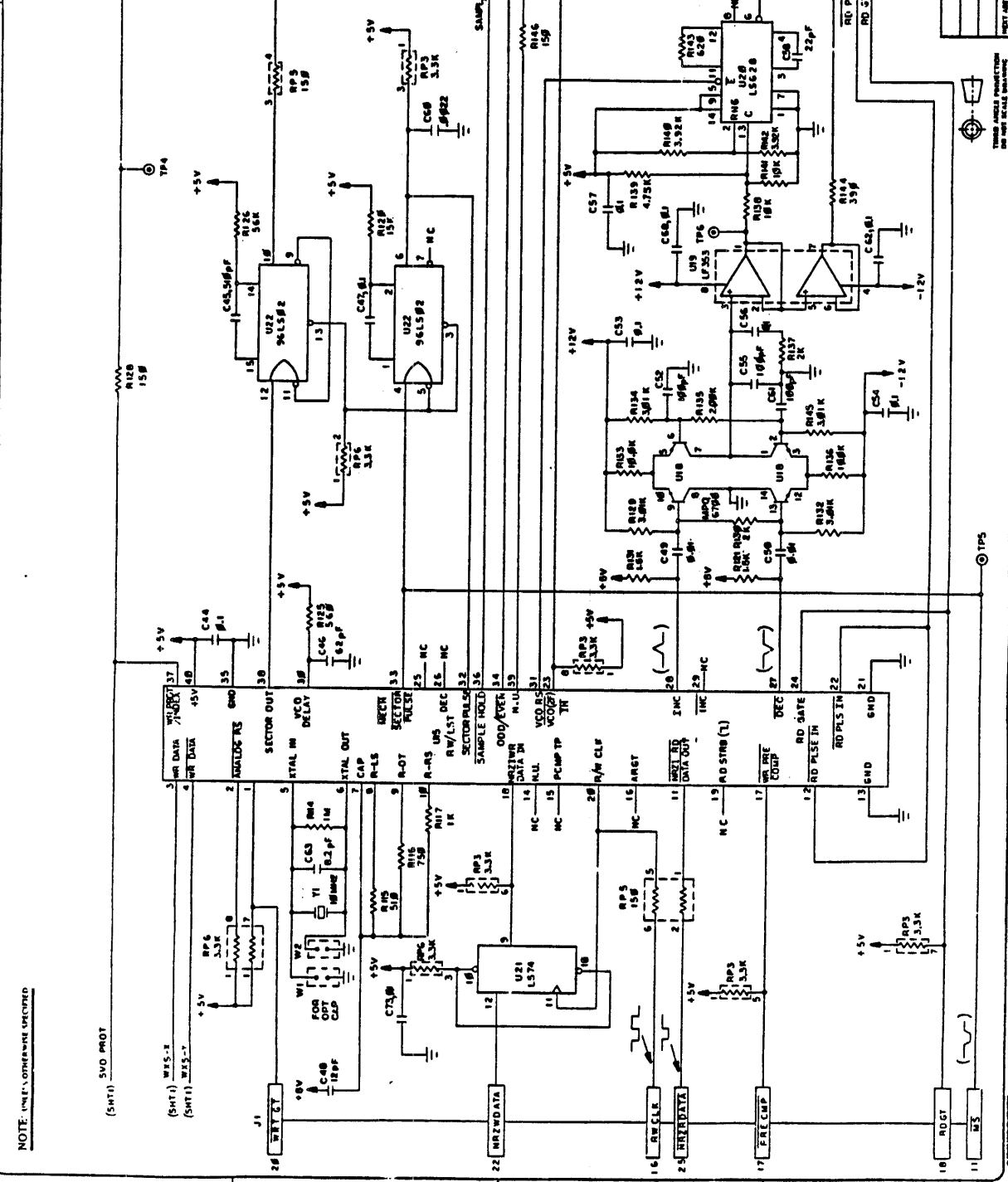
DATE: JUN 1976, OTHERS: NONE SPECIFIED

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REV	DATE	BY	APP

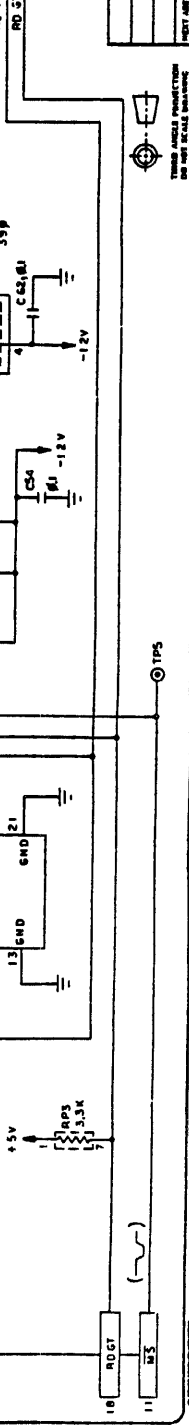
SEE SHEET 1



NOTE: UNLESS OTHERWISE SPECIFIED

REV	DATE	BY	APP

apple computer inc
 TITLE: SCHEMATIC R/W WIDGET
 PART NUMBER: 050-5028-E
 SCALE: 1:1
 SHEET 4 OF 4



REV.	DATE	DESCRIPTION
1	11/11/77	INITIAL SCHEMATIC
2	11/11/77	REVISION 1
3	11/11/77	REVISION 2
4	11/11/77	REVISION 3
5	11/11/77	REVISION 4
6	11/11/77	REVISION 5
7	11/11/77	REVISION 6
8	11/11/77	REVISION 7
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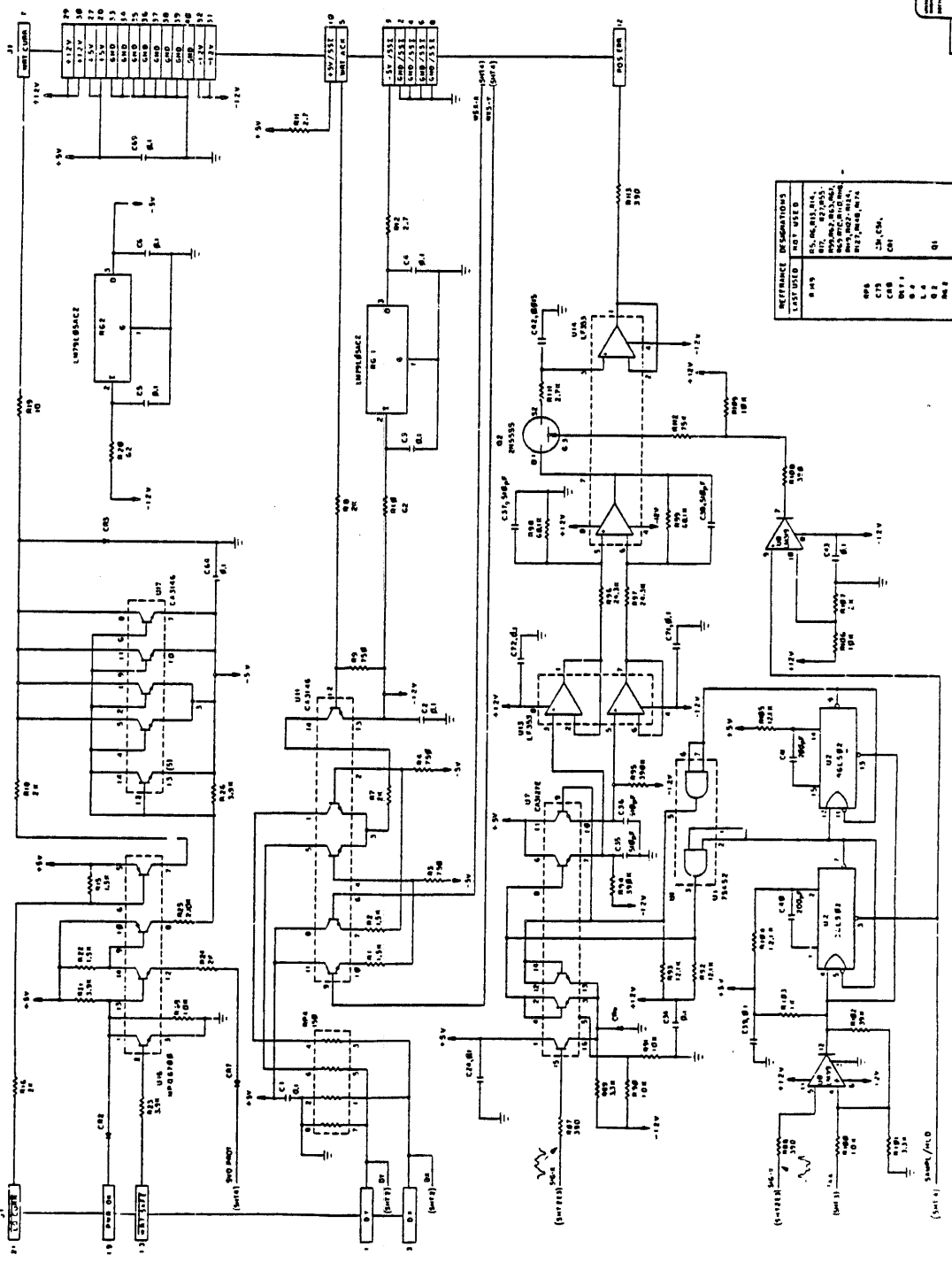
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SCHEMATIC
R/W BOARD
 050-5028D

Apple Computer, Inc.
 100 Apple Way
 Cupertino, CA 95014

DATE: 11/11/77
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]

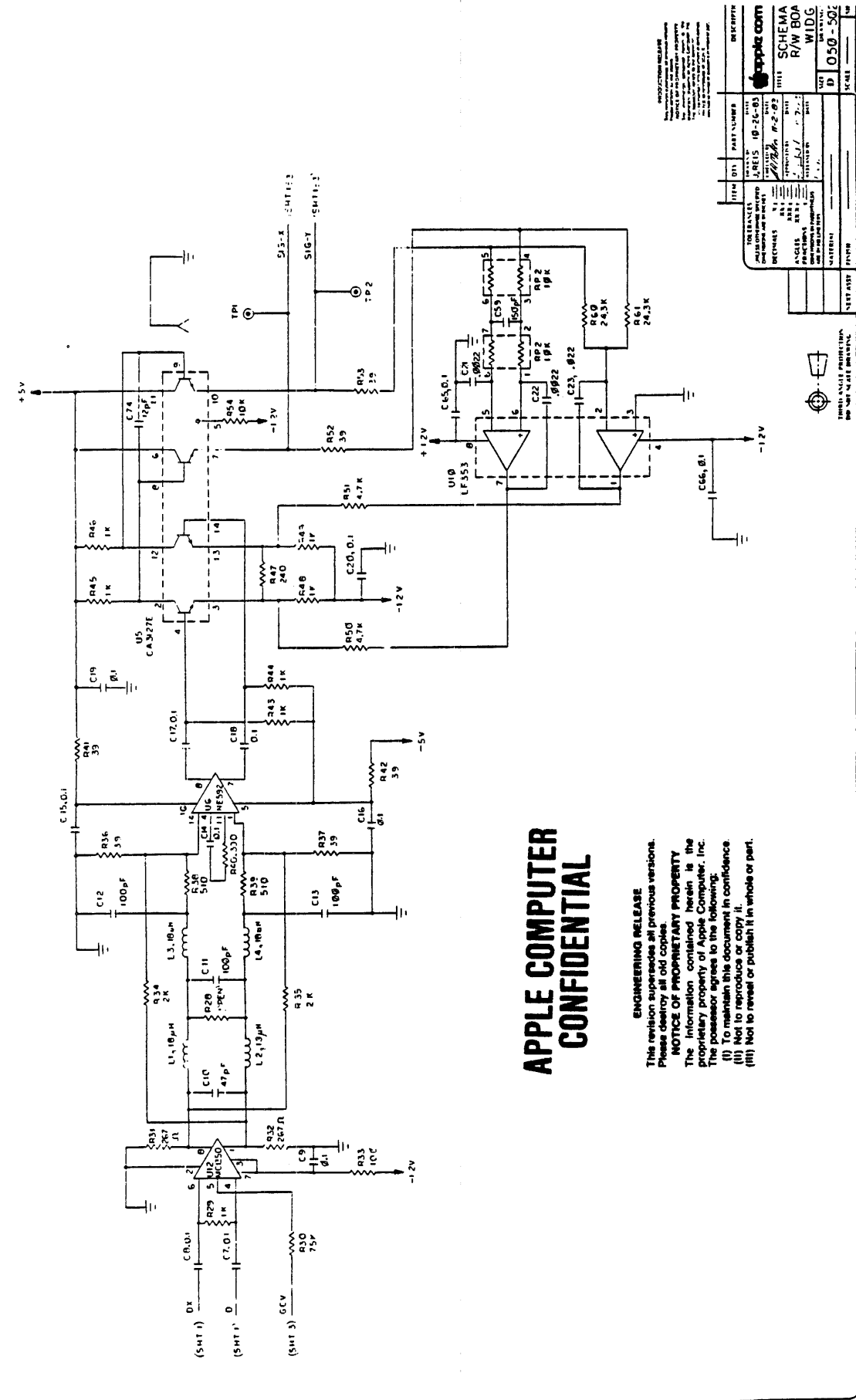
NOTE: SYSTEM OPERATING INSTRUCTIONS
 1. ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.
 2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 3. UNLESS OTHERWISE SPECIFIED, ALL COMPONENTS ARE TO BE MOUNTED ON THE FRONT SIDE OF THE BOARD.
 4. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



REFERENCE DESIGNATIONS

LAST USED	NOT USED
Q100	Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q52, Q53, Q54, Q55, Q56, Q57, Q58, Q59, Q60, Q61, Q62, Q63, Q64, Q65, Q66, Q67, Q68, Q69, Q70, Q71, Q72, Q73, Q74, Q75, Q76, Q77, Q78, Q79, Q80, Q81, Q82, Q83, Q84, Q85, Q86, Q87, Q88, Q89, Q90, Q91, Q92, Q93, Q94, Q95, Q96, Q97, Q98, Q99, Q100
U10	U1, U2, U3, U4, U5, U6, U7, U8, U9
R100	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100
C100	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100





NOTE: IN THIS DOCUMENT, ALL PARTS ARE IDENTIFIED BY PART NUMBER.

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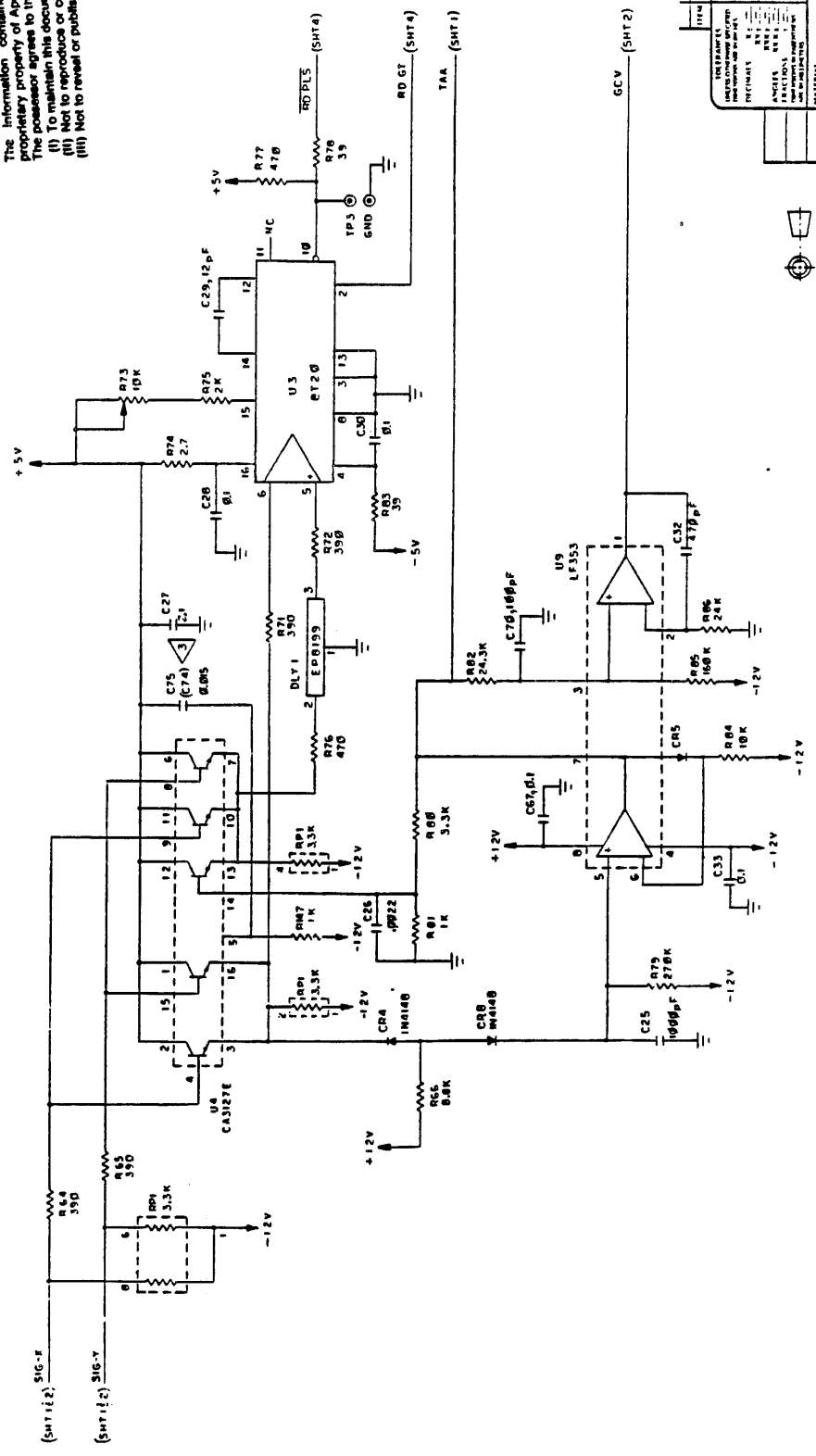
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ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	REIS 10-26-83	SCHEMA
2	1	77786	R/W BOA
3	1	1050-502	WIDG
4	1		SCALE
5	1		DATE
6	1		BY
7	1		CHKD BY
8	1		APPROVED BY
9	1		DATE
10	1		REVISION
11	1		DESCRIPTION
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13	1		BY
14	1		CHKD BY
15	1		APPROVED BY
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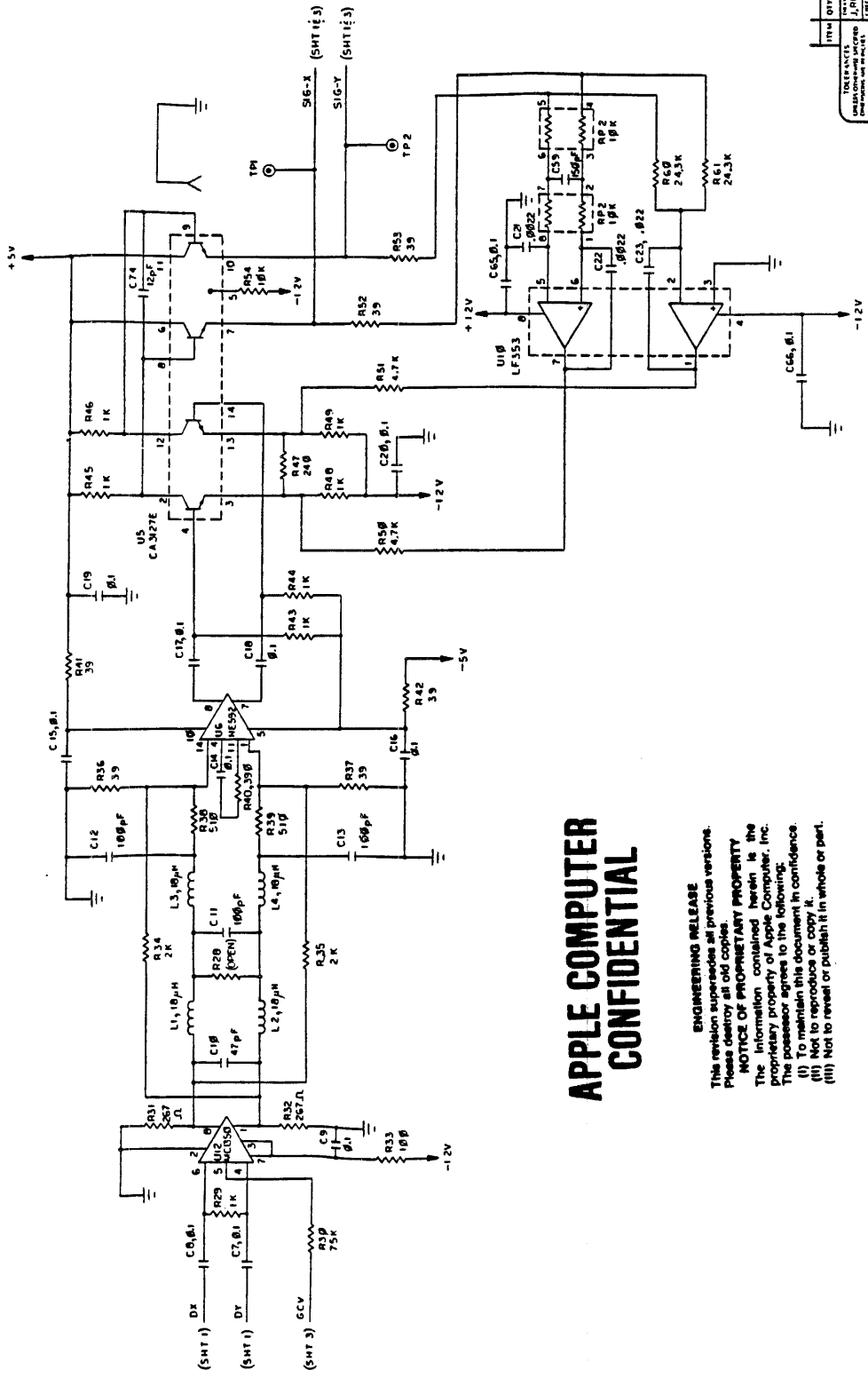
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ITEM	QTY	PART NUMBER	DESCRIPTION
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U9	1	LF353	LF353
DLY1	1	EPO139	EPO139
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Apple Computer, Inc.
 R/W BOARD, WIDGET
 050-5028-D
 SHEET 3 OF 3



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ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	J. REIS (P-26-83)	Apple Computer
2	1	74180	8-BIT PARITY GENERATOR
3	1	74181	8-BIT ALU
4	1	LF353	OP-AMP
5	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
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7	1	74181	8-BIT ALU
8	1	LF353	OP-AMP
9	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
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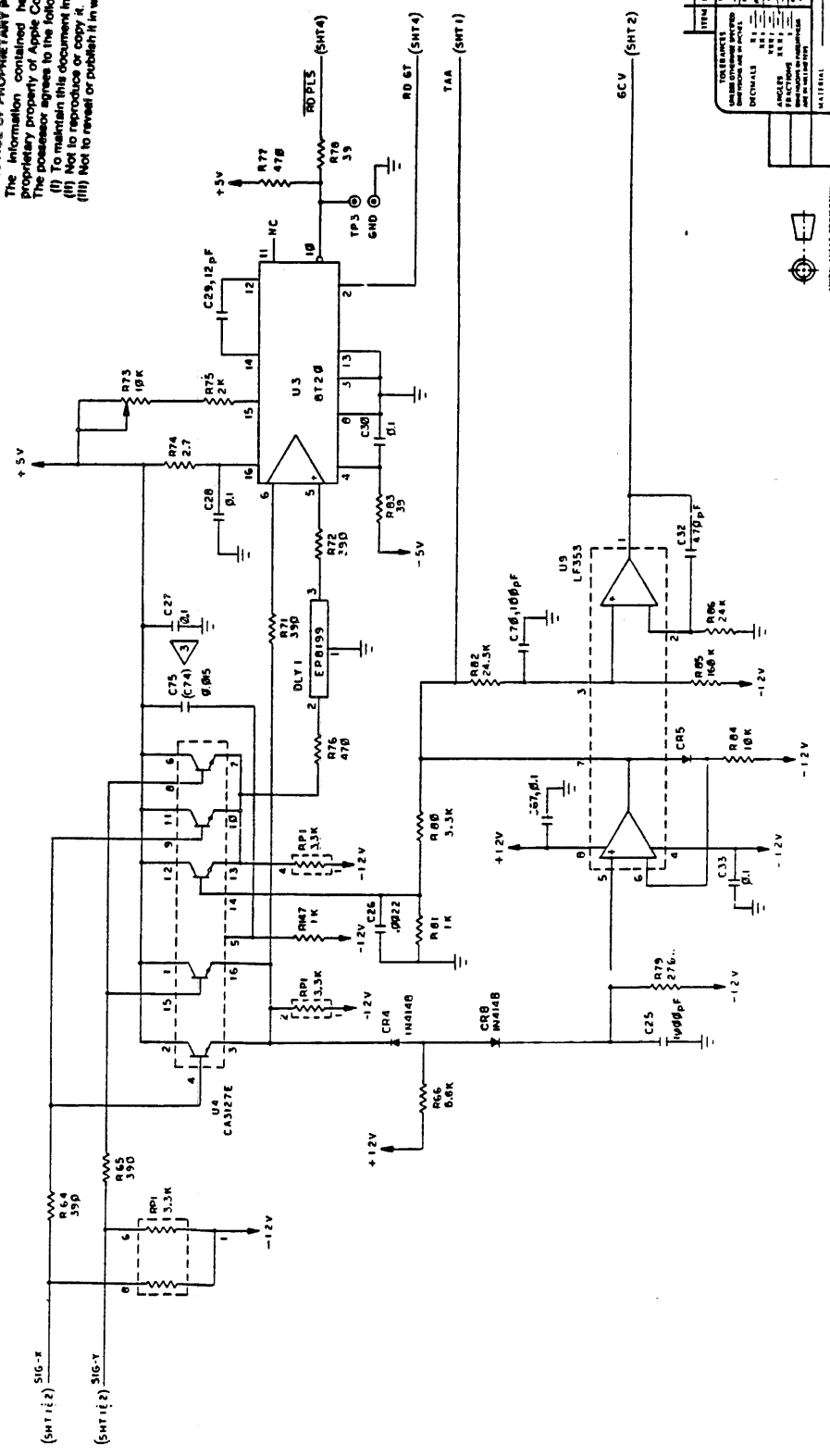
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29	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
30	1	74180	8-BIT PARITY GENERATOR
31	1	74181	8-BIT ALU
32	1	LF353	OP-AMP
33	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
34	1	74180	8-BIT PARITY GENERATOR
35	1	74181	8-BIT ALU
36	1	LF353	OP-AMP
37	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
38	1	74180	8-BIT PARITY GENERATOR
39	1	74181	8-BIT ALU
40	1	LF353	OP-AMP
41	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
42	1	74180	8-BIT PARITY GENERATOR
43	1	74181	8-BIT ALU
44	1	LF353	OP-AMP
45	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
46	1	74180	8-BIT PARITY GENERATOR
47	1	74181	8-BIT ALU
48	1	LF353	OP-AMP
49	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR
50	1	74180	8-BIT PARITY GENERATOR
51	1	74181	8-BIT ALU
52	1	LF353	OP-AMP
53	1	CA3272E	CMOS 3-STATE 2-INPUT AND/OR OR

NOTE: UNLESS OTHERWISE SPECIFIED

APPLE COMPUTER CONFIDENTIAL

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DATE	REV.	DESCRIPTION
10-27-83	1	SCHEMATIC
10-27-83	2	R/W BOARD
10-27-83	3	WIDGET
10-27-83	4	
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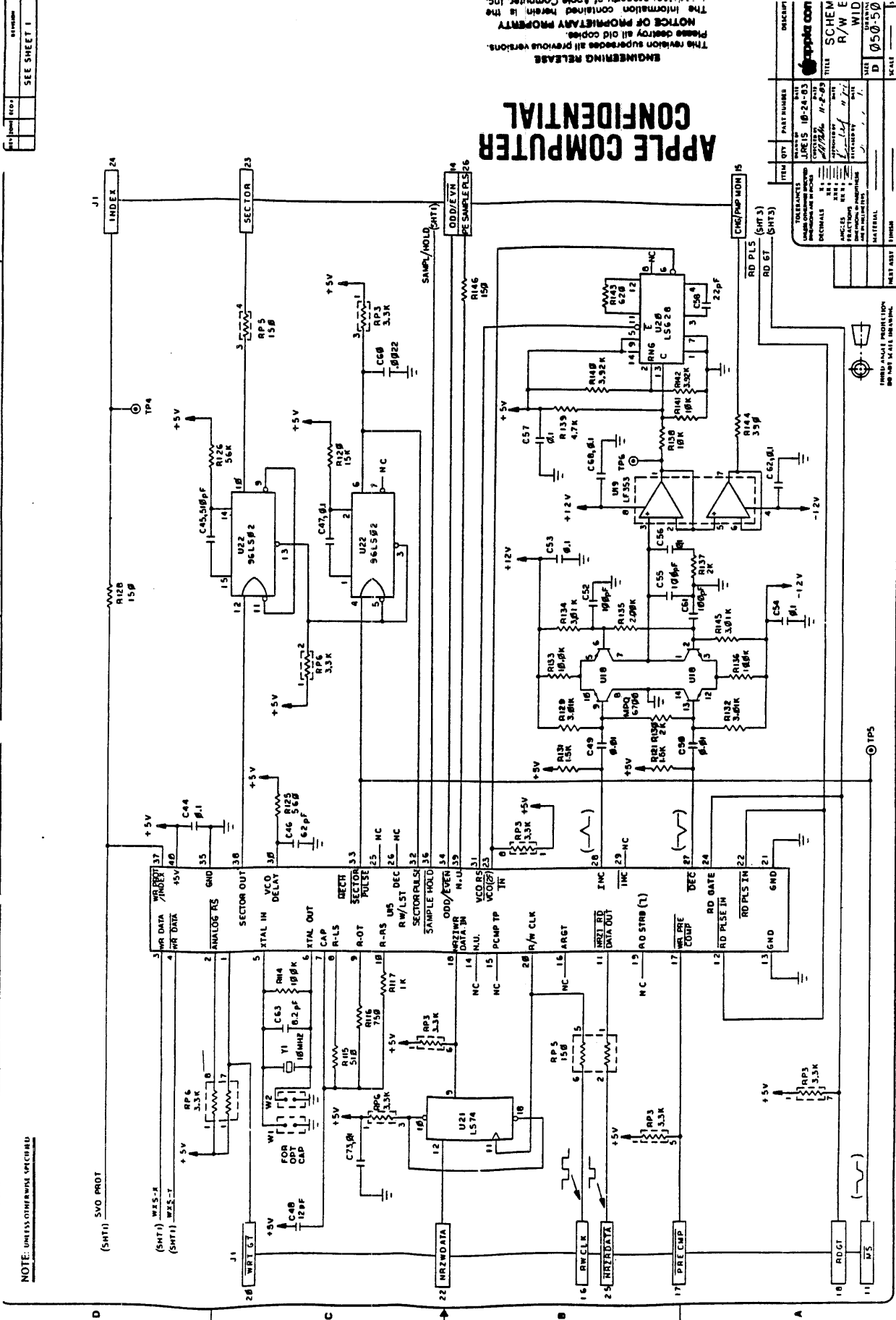
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APPLE COMPUTER

REVISION: 10-24-83
 TITLE: SCHEM R/W E
 DRAWN BY: J. J. WILD
 CHECKED BY: J. J. WILD
 PART NUMBER: J19E15 10-24-83
 DATE: 10-24-83

ITEM	QTY	PART NUMBER	DESCRIPTION
U1	1	96LS02	CMOS INVERTER
U2	1	96LS02	CMOS INVERTER
U3	1	96LS02	CMOS INVERTER
U4	1	96LS02	CMOS INVERTER
U5	1	96LS02	CMOS INVERTER
U6	1	96LS02	CMOS INVERTER
U7	1	96LS02	CMOS INVERTER
U8	1	96LS02	CMOS INVERTER
U9	1	96LS02	CMOS INVERTER
U10	1	96LS02	CMOS INVERTER
U11	1	96LS02	CMOS INVERTER
U12	1	96LS02	CMOS INVERTER
U13	1	96LS02	CMOS INVERTER
U14	1	96LS02	CMOS INVERTER
U15	1	96LS02	CMOS INVERTER
U16	1	96LS02	CMOS INVERTER
U17	1	96LS02	CMOS INVERTER
U18	1	96LS02	CMOS INVERTER
U19	1	96LS02	CMOS INVERTER
U20	1	96LS02	CMOS INVERTER
U21	1	96LS02	CMOS INVERTER
U22	1	96LS02	CMOS INVERTER
U23	1	96LS02	CMOS INVERTER
U24	1	96LS02	CMOS INVERTER
U25	1	96LS02	CMOS INVERTER
U26	1	96LS02	CMOS INVERTER
U27	1	96LS02	CMOS INVERTER
U28	1	96LS02	CMOS INVERTER
U29	1	96LS02	CMOS INVERTER
U30	1	96LS02	CMOS INVERTER
U31	1	96LS02	CMOS INVERTER
U32	1	96LS02	CMOS INVERTER
U33	1	96LS02	CMOS INVERTER
U34	1	96LS02	CMOS INVERTER
U35	1	96LS02	CMOS INVERTER
U36	1	96LS02	CMOS INVERTER
U37	1	96LS02	CMOS INVERTER
U38	1	96LS02	CMOS INVERTER
U39	1	96LS02	CMOS INVERTER
U40	1	96LS02	CMOS INVERTER
U41	1	96LS02	CMOS INVERTER
U42	1	96LS02	CMOS INVERTER
U43	1	96LS02	CMOS INVERTER
U44	1	96LS02	CMOS INVERTER
U45	1	96LS02	CMOS INVERTER
U46	1	96LS02	CMOS INVERTER
U47	1	96LS02	CMOS INVERTER
U48	1	96LS02	CMOS INVERTER
U49	1	96LS02	CMOS INVERTER
U50	1	96LS02	CMOS INVERTER

SCALE: 1:1
 SHEET NO: 1
 TOTAL SHEETS: 1
 DRAWING NO: J19E15
 DATE: 10-24-83
 DRAWN BY: J. J. WILD
 CHECKED BY: J. J. WILD

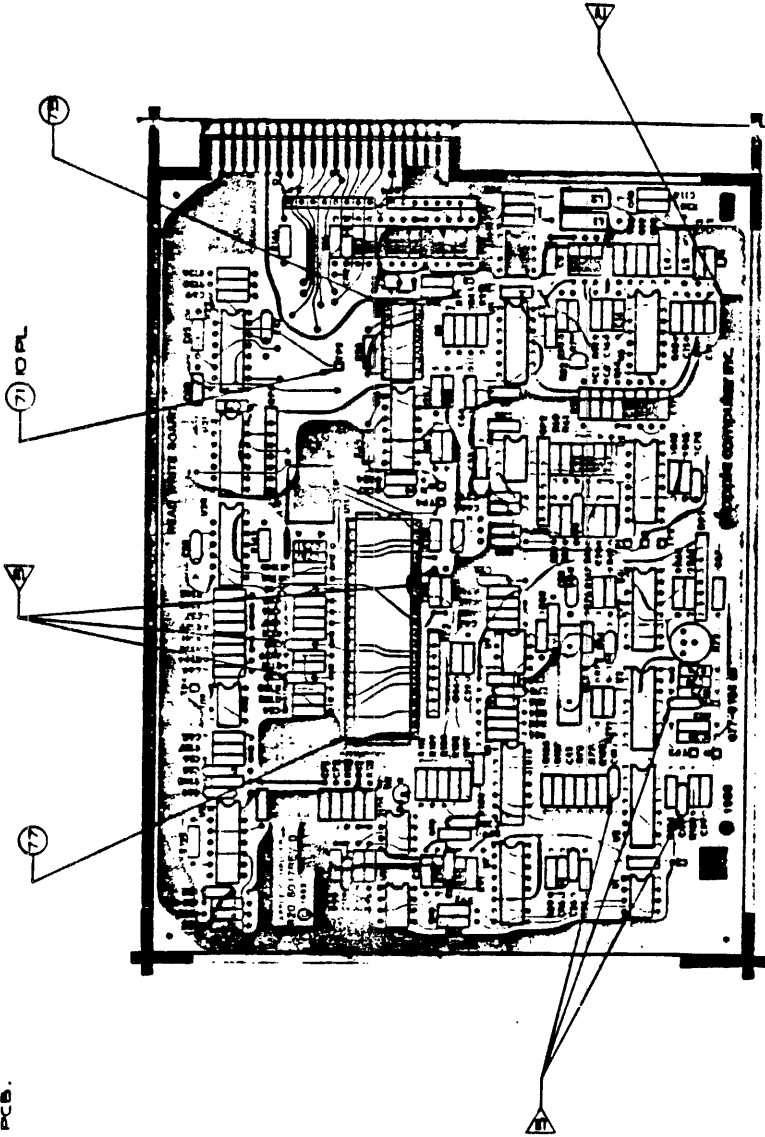


NOTE: UNLESS OTHERWISE SPECIFIED

SEE SHEET 1

NOTE: IN THE OVERLAP SECTION

- 1 REFERENCE SCHEMATIC : 050-8028 .
- 2 STAMP DATE TESTED GOOD .
- 3 CAPACITORS C29 , 40 , 41 , 48 , 49 , 50 ARE TO BE INSERTED NO HIGHER THAN .50 I . 05 INCH ABOVE PCB .



RELATED DRAWING : 677-0104-L

SEE SEPARATE BILL OF MATL. 677-0104

580 REF

MAX COMPONENT CLEARANCE



APPROXIMATE POSITIONING
FOR COMPONENTS

REV	DESCRIPTION
K	REV. 7/25/80 ANL
L	77% OF DRAWING WITH CHANGE
M	BOM CHANGE
N	ONLY

TYPE	QTY	UNIT PRICE	TOTAL PRICE
PCB	1	1.00	1.00
ASSEMBLY	1	1.00	1.00
TOTAL			2.00

Apple Computer Inc.

ASSY. PCB UNTESTED
READY-WRITE BOARD

DATE: 7/25/80

BY: [Signature]

677-0104-L

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 0930
01PMH

STEP

ASSY 677-0105
PLT MODEL

EFF: DATE

SER NO

LOT NO

SEQ(I,C) I SKIP TO ITEM/COMPONENT

TM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
901 353-0319	IC, HIGH SPEED DUA	ME	D	090183	123199	N			4.000	EA	X
902 359-0165	IC, L165 POWER OP	ME	D	090183	123199	N			2.000	EA	
003 359-0291	IC, L291, 5 BIT D.	ME	D	090183	123199	N			1.000	EA	
004 353-0074	IC, TL074 LOW NOISE	ME	D	090183	123199	N			1.000	EA	
005 353-0444	IC, LF444, 4 SECTI	ME	D	090183	123199	N			2.000	EA	
006 359-4250	IC, 4250 PROGRAMMA	ME	D	090183	123199	N			2.000	EA	
007 353-0001	IC, 4-CHANNEL PROGR	ME	D	090183	123199	N			3.000	EA	
008 327-0452	IC, 75452, DUAL PERF	ME	D	090183	123199	N			1.000	EA	
009 353-0005	IC REG. +5V 100MA	ME	D	090183	123199	N			1.000	EA	
010 305-0003	IC, 74LS03	ME	D	090183	123199	N			2.000	EA	
011 305-0123	IC, 74LS123	ME	D	090183	123199	N			1.000	EA	
012 331-0086	IC, 74HC86, QUAD EXC	ME	D	090183	123199	N			1.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 0930
01PMH

STEP

ASSY 677-0105
PLT MODEL

EFF: DATE

SER NO

LOT NO

SEQ(I,C) I SKIP TO ITEM/COMPONENT

ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
014 342-0260	IC, MICRO-P W/ROM C	ME	D	090183	112084	N			1.000	EA	Y
015 372-3904	TRANSISTOR, NPN SW.	ME	D	090183	123199	N			8.000	EA	
016 372-5640	TRANSISTOR, N-CHAN	ME	D	090183	123199	N			1.000	EA	
017 371-4148	DIODE FAST SWITCH	ME	D	090183	123199	N			11.000	EA	
018 371-5236	DIODE ZENER 1N5236	ME	D	090183	123199	N			2.000	EA	
019 371-5233	DIODE ZENER 1N5233	ME	D	090183	123199	N			2.000	EA	
020 101-8100	RES 10 OHM 1/8W 5%	ME	D	090183	123199	N			2.000	EA	
021 101-8101	RES 100 OHM 1/8W 5	ME	D	090183	123199	N			2.000	EA	
022 101-8151	RES 150 OHM 1/8W 5	ME	D	090183	123199	N			1.000	EA	
023 101-8102	RES 1K OHM 1/8W 5%	ME	D	090183	123199	N			6.000	EA	
024 101-8432	RES 4.3K OHM 1/8W	ME	D	090183	123199	N			2.000	EA	
025 101-8472	RES 4.7K OHM 1/8W	ME	D	090183	123199	N			2.000	EA	

EXPLOSION LEVEL : 1

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPL0D1 NEXT KEY :
DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0934
KPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	EFF: DATE	SER NO	LOT NO				E
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM X
051	106-3924	RES 39.2K OHM 1/8W	ME	D	090183	123199	N		4.000	EA
052	106-4024	RES 40.2K OHM 1/8W	ME	D	090183	123199	N		2.000	EA
053	106-4224	RES 42.2K OHM 1/8W	ME	D	090183	123199	N		2.000	EA
054	106-4324	RES 43.2K OHM 1/8W	ME	D	090183	123199	N		2.000	EA
055	106-4994	RES 49.9K OHM 1/8W	ME	D	090183	123199	N		1.000	EA
056	106-5904	RES 59.0K OHM 1/8W	ME	D	090183	123199	N		2.000	EA
057	106-6194	RES 61.9K OHM 1/8W	ME	D	090183	123199	N		1.000	EA
058	106-6494	RES 64.9K OHM 1/8W	ME	D	090183	123199	N		2.000	EA
059	105-0204	RES 1.5 OHM 2W 1%	ME	D	090183	123199	N		1.000	EA
060	109-0008	POT, TRIM, 2K, 20%	ME	D	090183	123199	N		1.000	EA
061	112-0009	RES NETWORK 4 X 1K	ME	D	090183	123199	N		1.000	EA
062	111-0048	RES NETWORK 7 X 5.	ME	D	090183	123199	N		1.000	EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPL0D1 NEXT KEY :
DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0935
EXPL0D1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	EFF: DATE	SER NO	LOT NO				E
ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM X
063	112-0011	RES NETWORK 4 X 10	ME	D	090183	123199	N		13.000	EA
064	130-0214	CAP CER 47 pF 10%	ME	D	090183	123199	N		1.000	EA
065	130-0215	CAP CER 100 pF 20%	ME	D	090183	123199	N		4.000	EA
066	130-0216	CAP CER 560 pF 20%	ME	D	090183	123199	N		1.000	EA
067	130-0116	CAP CER AXIAL 680	ME	D	090183	123199	N		1.000	EA
068	130-0117	CAP CER AXIAL 1500	ME	D	090183	123199	N		2.000	EA
069	130-0118	CAP CER AXIAL 3300	ME	D	090183	123199	N		1.000	EA
070	130-0010	CAP CER AXIAL .001	ME	D	090183	123199	N		3.000	EA
071	130-0011	CAP CER AXIAL .01	ME	D	090183	123199	N		2.000	EA
072	130-0012	CAP CER AXIAL .015	ME	D	090183	123199	N		2.000	EA
073	130-0007	CAP CER AXIAL .1 U	ME	D	110283	123199	N		32.000	EA
074	137-5301	CAP DIP MICA 15 pF	ME	D	090183	123199	N		2.000	EA

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPL0D1 NEXT KEY :
DC700011 MORE **

ABMDISP1
EXPLOD1

CULLINET MANUFACTURING SYSTEM - GAMMA 1.1
PART COMPONENTS EXPL INQ - 1

08/15/85 0936
01PMH STEP

ASSY 677-0105
PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT SER NO LOT NO

EFF: DATE --EFFECTIVITY-- F

ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X
075 120-0018	CAP POLYCARB .027	ME	D	090183	123199	N			1.000	EA	
076 120-0019	CAP POLYCARB .1	UF ME	D	090183	123199	N			2.000	EA	
078 120-0020	CAP POLYCARB .15	U ME	D	090183	123199	N			1.000	EA	
079 120-0021	CAP POLYCARB .18	u ME	D	090183	123199	N			1.000	EA	
080 125-6401	CAP ELECT 220	UF 1 ME	D	090183	110183	N			0.000	EA	
081 125-6702	CAP ELECT 470	UF 1 ME	D	090183	123199	N			2.000	EA	
082 151-6701	INDUCTOR, 470	uH 1 ME	D	090183	123199	N			2.000	EA	
083 197-0026	CRYSTAL, 7.3728	MH ME	D	090183	123199	N			1.000	EA	
084 515-0005	CONN,PIN,SINGLE	ME	D	090183	123199	N			31.000	EA	
085 511-4001	SOCKET, IC 40	PIN ME	D	090183	123199	N			1.000	EA	
086 511-1601	SOCKET, IC 16	PIN ME	D	090183	123199	N			5.000	EA	
087 511-1401	SOCKET, IC 14	PIN ME	D	090183	123199	N			7.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0937
EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0105
PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT SER NO LOT NO

EFF: DATE --EFFECTIVITY-- F

ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X
088 511-0001	SOCKET, IC 8	PIN ME	D	090183	123199	N			2.000	EA	
089 860-0093	STANDOFF, .250	DIAX ME	D	090183	123199	N			2.000	EA	
090 800-5028	REIDENTIFIED AS	69 ME	D	090183	101683	N			0.000	EA	
091 820-5015	PCB,SERVO,WIDGET	ME	D	110283	123199	N			1.000	EA	
092 400-1404	SCR 4-40X1/4	PN HD ME	D	090183	110183	N			0.000	EA	
093 860-0263	SPACER, HEX 4-40	X ME	D	090183	110183	N			0.000	EA	
094 699-5007	SHIELD,SERVO BD.,W	ME	D	090183	110183	N			0.000	EA	
095 130-0106	CAP CER AXIAL 470	ME	D	110283	123199	N			1.000	EA	
096 101-8332	RES 3.3K OHM 1/8W	ME	D	110283	123199	N			1.000	EA	
097 860-0090	STANDOFF, .250	DIA ME	D	110283	123199	N			3.000	EA	
098 101-4330	RES 33 OHM 1/4W 5%	ME	D	110283	123199	N			1.000	EA	
099 125-6402	CAP ELECT 220	UF 1 ME	D	110283	123199	N			3.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 <0938it >>
EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

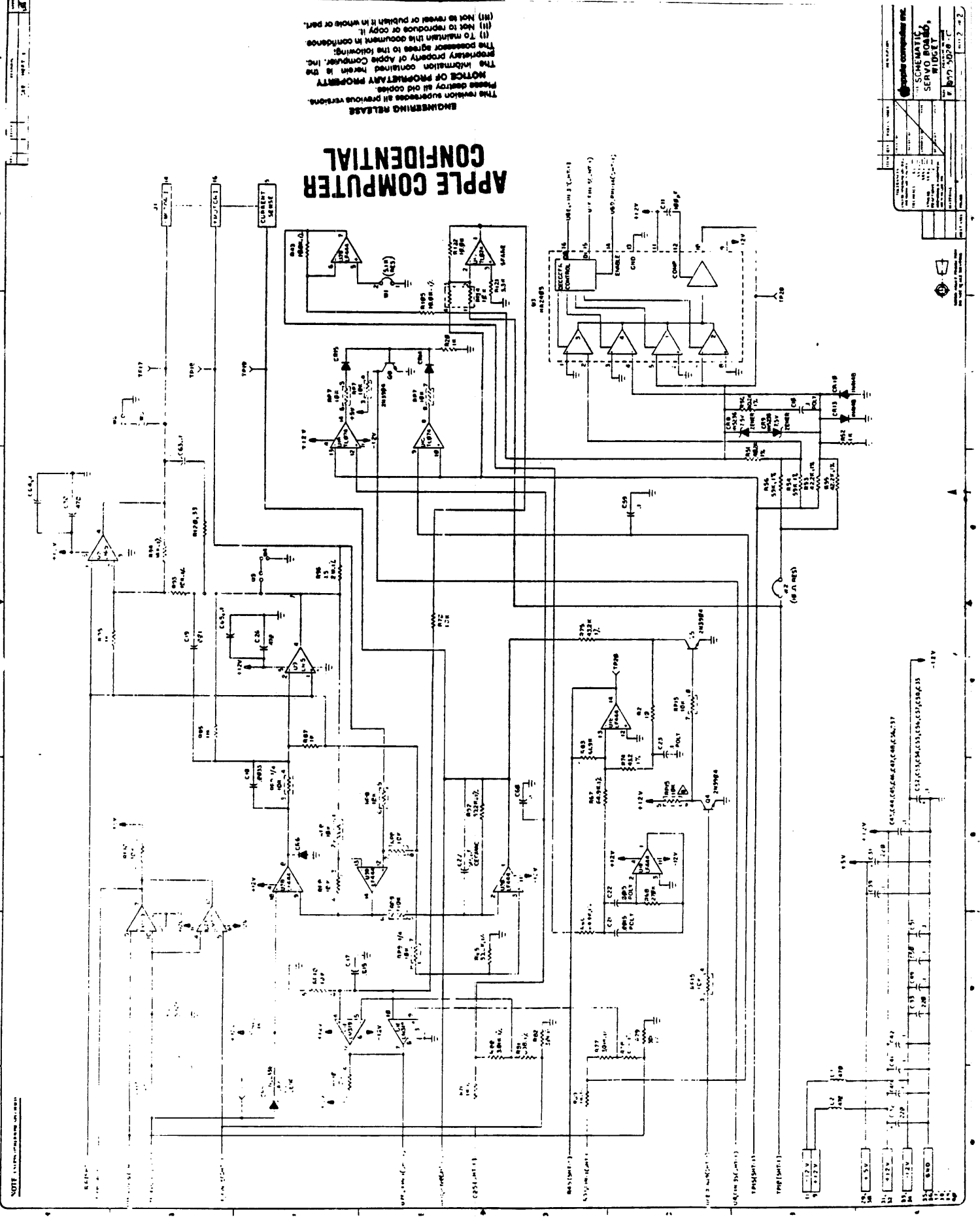
ASSY 677-0105
PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT SER NO LOT NO

EFF: DATE --EFFECTIVITY-- F

ITM COMPONENT	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	X
100 341-0302	IC,Z8 SERVO,MASKED	ME	D	112184	123199	N			1.000	EA	
099 050-5026	SCHEMATIC,SERVO	BD. ME	D	090183	123199	N			0.000	EA	

APPLE COMPUTER

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NOTE: 1. ALL COMPONENTS ARE TO BE MOUNTED ON THE REVERSE SIDE OF THE BOARD.

Apple Computer, Inc.
 SCHEMATIC
 SERVO BOARD,
 WIDGET
 7-77-5002
 REV. 2-78



ASSY 677-0108

EFF: DATE

SER NO

LOT NO

LT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	MOD	TYP	FROM	THRU	Q	QTY PER ASSY	UOM	X
TM	COMPONENT	ABBREVIATED	DESCRIPTION								
001	337-8603		IC SOCKET MICROPRO	ME	D	100383	123199	N	1.000	EA	
002	341-0268		REIDENTIFIED, SEE	ME	D	100383	123199	N	1.000	EA	
003	341-0264		IC, GA CONTROL	ME	D	100383	123199	N	1.000	EA	
004	341-0262		IC, GATE ARRAY ECC	ME	D	100383	123199	N	1.000	EA	
005	333-6116		IC, RAM, STATIC 2Kx8	ME	D	100383	123199	N	1.000	EA	
006	341-0289		IC, ROM/EPROM, CUSTO	ME	D	100383	123199	N	1.000	EA	
007	305-0000		IC, 74LS00N	ME	D	100383	123199	N	1.000	EA	
008	305-0009		IC, 74LS09	ME	D	100383	123199	N	1.000	EA	
009	305-0032		IC, 74LS32	ME	D	100383	123199	N	2.000	EA	
010	305-0259		IC, 74LS259	ME	D	100383	123199	N	1.000	EA	
011	297-0240		IC, 74HCT240, OCTAL	ME	D	100383	123199	N	1.000	EA	
012	378-0003		LED, GREEN	ME	D	100383	123199	N	1.000	EA	
EXPLOSION LEVEL : 1											

NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE

**

ASSY 677-0108

EFF: DATE

SER NO

LOT NO

PLT	MODEL	SEQ(I,C) I	SKIP TO ITEM/COMPONENT	MOD	TYP	FROM	THRU	Q	QTY PER ASSY	UOM	X
TM	COMPONENT	ABBREVIATED	DESCRIPTION								
013	375-0050		DIODE, ARRAY, 7 PIN,	ME	D	100383	123199	N	3.000	EA	
014	111-0017		RES NETWORK 9 X 3.	ME	D	100383	123199	N	3.000	EA	
015	112-0015		RES NETWORK 4 X 10	ME	D	100383	123199	N	5.000	EA	
016	137-5301		CAP DIP MICA 15 pF	ME	D	100383	053184	N	0.000	EA	
017	130-0007		CAP CER AXIAL .1 U	ME	D	100383	123199	N	14.000	EA	
018	127-0005		CAP TANT 22 uF 20%	ME	D	100383	123199	N	1.000	EA	
019	515-0185		CONN, HDR, STR, SHRD,	ME	D	100383	123199	N	1.000	EA	
020	840-0421		STANDOFF, RND THRU	ME	D	100383	123199	N	4.000	EA	
021	511-1401		SOCKET, IC 14 PIN	ME	D	100383	123199	N	4.000	EA	
022	511-1601		SOCKET, IC 16 PIN	ME	D	100383	123199	N	3.000	EA	
023	511-2001		SOCKET, IC 20 PIN	ME	D	100383	123199	N	1.000	EA	
024	511-2401		SOCKET, IC 24 PIN	ME	D	100383	123199	N	1.000	EA	
EXPLOSION LEVEL : 1											

NEXT RESPONSE : EXPL0D1 NEXT KEY :
 DC700011 MORE

**

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0913
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0108 EFF: DATE SER NO LOT NO
 PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT

TM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
5 511-2801		SOCKET, IC 28 PIN	ME	D	100383	123199	N					
026 511-4001		SOCKET, IC 40 PIN	ME	D	100383	123199	N			1.000	EA	
027 511-6805		SOCKET, LEADLESS CH	ME	D	100383	123199	N			1.000	EA	
028 515-0005		CONN, PIN, SINGLE	ME	D	100383	123199	N			1.000	EA	
029 197-0026		CRYSTAL, 7.3728 MH	ME	D	100383	123199	N			9.000	EA	
030 946-0000		TAPE, FOAM, DOUBLE	ME	D	100383	123199	N			1.000	EA	
031 400-1208		SCR 2-56X1/2 PN HD	ME	D	100383	123199	N			0.000	RL	
032 835-0152		NUT/WASHER ASSY, (ME	D	100383	123199	N			2.000	EA	
033 101-4332		RES 3.3K OHM 1/4W	ME	D	100383	123199	N			2.000	EA	
034 101-4241		RES 240 OHM 1/4W 5	ME	D	100383	123199	N			4.000	EA	
035 515-0046		CONN, HDR, RT ANG, 8P	ME	D	041384	123199	N			2.000	EA	
036 515-0111		CONN, HDR, RT ANG, 13	ME	D	100383	123199	N			1.000	EA	

EXPLOSION LEVEL : 1

NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0914
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0108 EFF: DATE SER NO LOT NO
 PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
037 101-4102		RES 1K OHM 1/4W 5%	ME	D	100383	123199	N			1.000	EA	
038 101-4512		RES 5.1K OHM 1/4W	ME	D	100383	123199	N			1.000	EA	
039 305-0157		IC, 74LS157	ME	D	100383	123199	N			1.000	EA	
040 515-0160		CONN, HDR, RT ANG, 2P	ME	D	100383	123199	N			1.000	EA	
041 515-0053		CONN, HDR, STR, 2P	ME	D	100383	123199	N			1.000	EA	
042 130-0209		CAP CER 330 pF 5%	ME	D	100383	123199	N			1.000	EA	
043 820-5016		PCB, LISA WIDGET CO	ME	D	100383	123199	N			1.000	EA	
044 305-0240		IC, 74LS240	ME	D	041384	123199	N			0.000	EA	
045 515-0151		CONN, HDR, RT ANG, 8P	ME	D	010101	041284	N			0.000	EA	
046 130-0129		CAP CER AXIAL 8.2	ME	D	060184	123199	N			2.000	EA	
047 515-0370		CONN, HDR, STR, UNSHR	ME	D	060184	123199	N			1.000	EA	
048 137-6101		CAP DIP MICA 100 p	ME	D	090584	123199	N			1.000	EA	

EXPLOSION LEVEL : 1

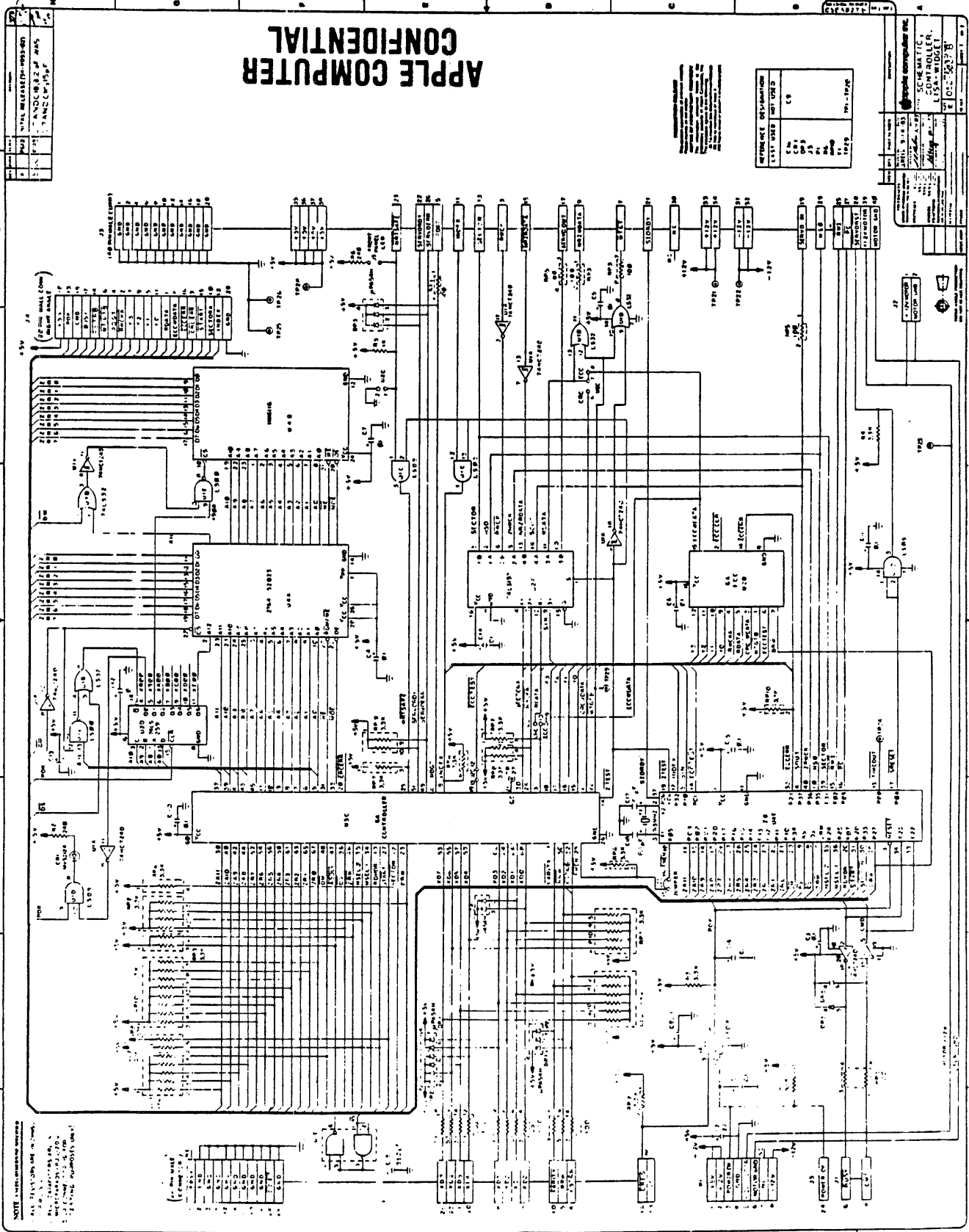
NEXT RESPONSE : EXPLOD1 NEXT KEY :
 DC700011 MORE **

ABMDISP1 CULLINET MANUFACTURING SYSTEM - GAMMA 1.1 08/15/85 0915
 EXPLOD1 PART COMPONENTS EXPL INQ - 1 01PMH STEP

ASSY 677-0108 EFF: DATE SER NO LOT NO
 PLT MODEL SEQ(I,C) I SKIP TO ITEM/COMPONENT

ITM COMPONENT	ABBREVIATED	DESCRIPTION	MOD	TYP	FROM	THRU	Q	QTY	PER	ASSY	UOM	E
999 050-5027		SCHEMATIC, LISA WID	ME	D	100383	123199	N			0.000	EA	

APPLE COMPUTER

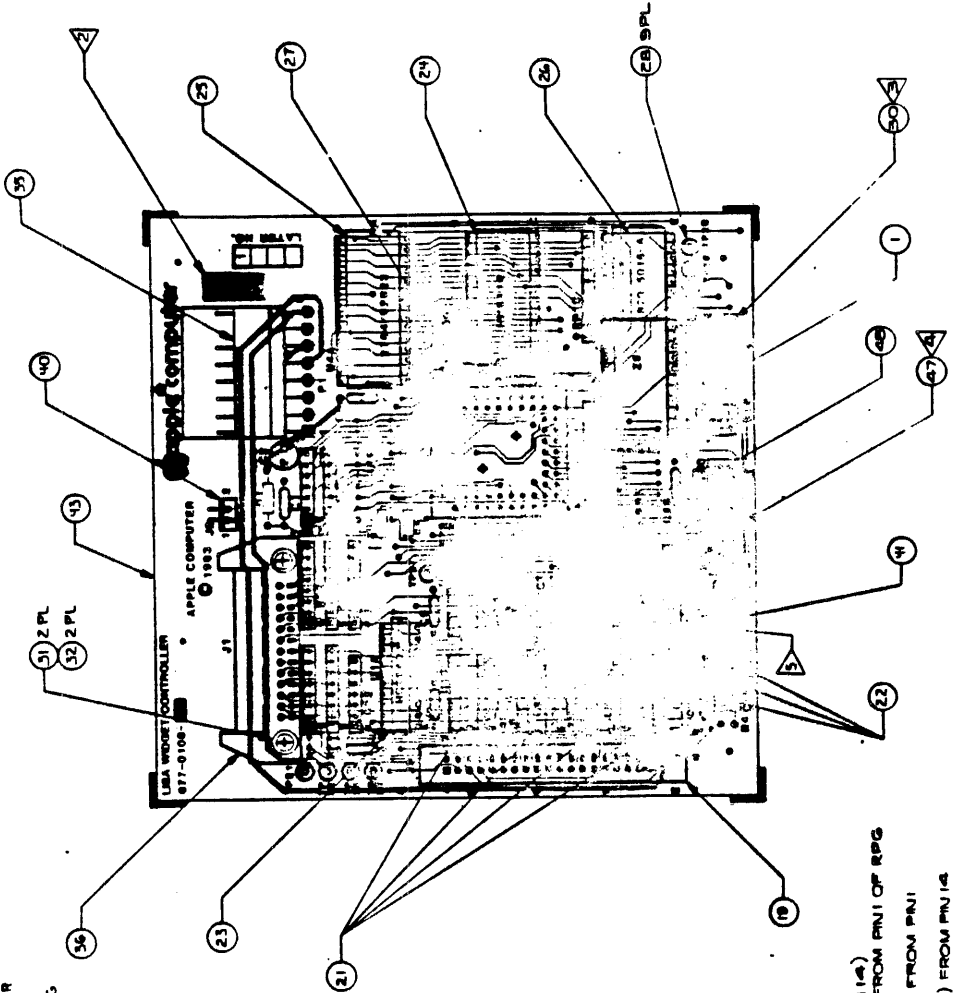


REV	DATE	DESCRIPTION
1	10/15/78	INITIAL RELEASE
2	11/15/78	REVISION 1
3	12/15/78	REVISION 2
4	01/15/79	REVISION 3
5	02/15/79	REVISION 4
6	03/15/79	REVISION 5
7	04/15/79	REVISION 6
8	05/15/79	REVISION 7
9	06/15/79	REVISION 8
10	07/15/79	REVISION 9
11	08/15/79	REVISION 10
12	09/15/79	REVISION 11
13	10/15/79	REVISION 12
14	11/15/79	REVISION 13
15	12/15/79	REVISION 14
16	01/15/80	REVISION 15
17	02/15/80	REVISION 16
18	03/15/80	REVISION 17
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293	02/15/03	REVISION 292
294</		



11. UNIFORM OVERVIEW DRAWING

1. REFERENCE SCHEMATIC: 050-5027-A
2. STAMP DATE TEST GOOD.
3. MOUNT ITEM 30 (FOAM TAPE) UNDER ITEM 29 (VI, CRYSTAL).
4. ITEM 47 (50 PIN HEADER) IS FOR TESTING PURPOSES ONLY.
5. C9 TO REMAIN OPEN (CAPACITOR NOT REQD).



- NETWORK INSTRUCTIONS:**
1. REMOVE RFG & RPT (11-007, ITM 14)
 2. ADD 5K RES. (01-4332, ITM 53) FROM PIN1 OF RFG TO PIN2 OF RPT, REF DES R7
 3. ADD 5K RES. (01-4332, ITM 53) FROM PIN1 TO PIN3 OF RPT, REF DES R8
 4. ADD 100PF CAP. (57-6101, ITM 48) FROM PIN14 TO PIN20 OF J4, REF DES. C80

W.	ADL.
34	ADDED
44	REPAIR/TKTH
38	ADDED U20 (11
50	ADDED R7 & R8
50	(ITM 53)
	REMOVED RFG &
	RPT

UNIFORM DRAWING
 THIS DRAWING IS A SUMMARY OF THE
 INFORMATION CONTAINED IN THE
 ORIGINAL DRAWING. IT IS NOT TO BE
 USED AS A BASIS FOR FABRICATION.
 IT IS THE RESPONSIBILITY OF THE
 USER TO OBTAIN THE ORIGINAL
 DRAWING FOR FABRICATION.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	11-007	RESISTOR
2	1	01-4332	RESISTOR
3	1	01-4332	RESISTOR
4	1	57-6101	CAPACITOR

Apple Computer
 THIS ASSY. P.C.B. UNITS
 CONTROLLER.
 WIDGET/LISF
 D 6/7-0108-C
 MAKE NONE PART 1 0

