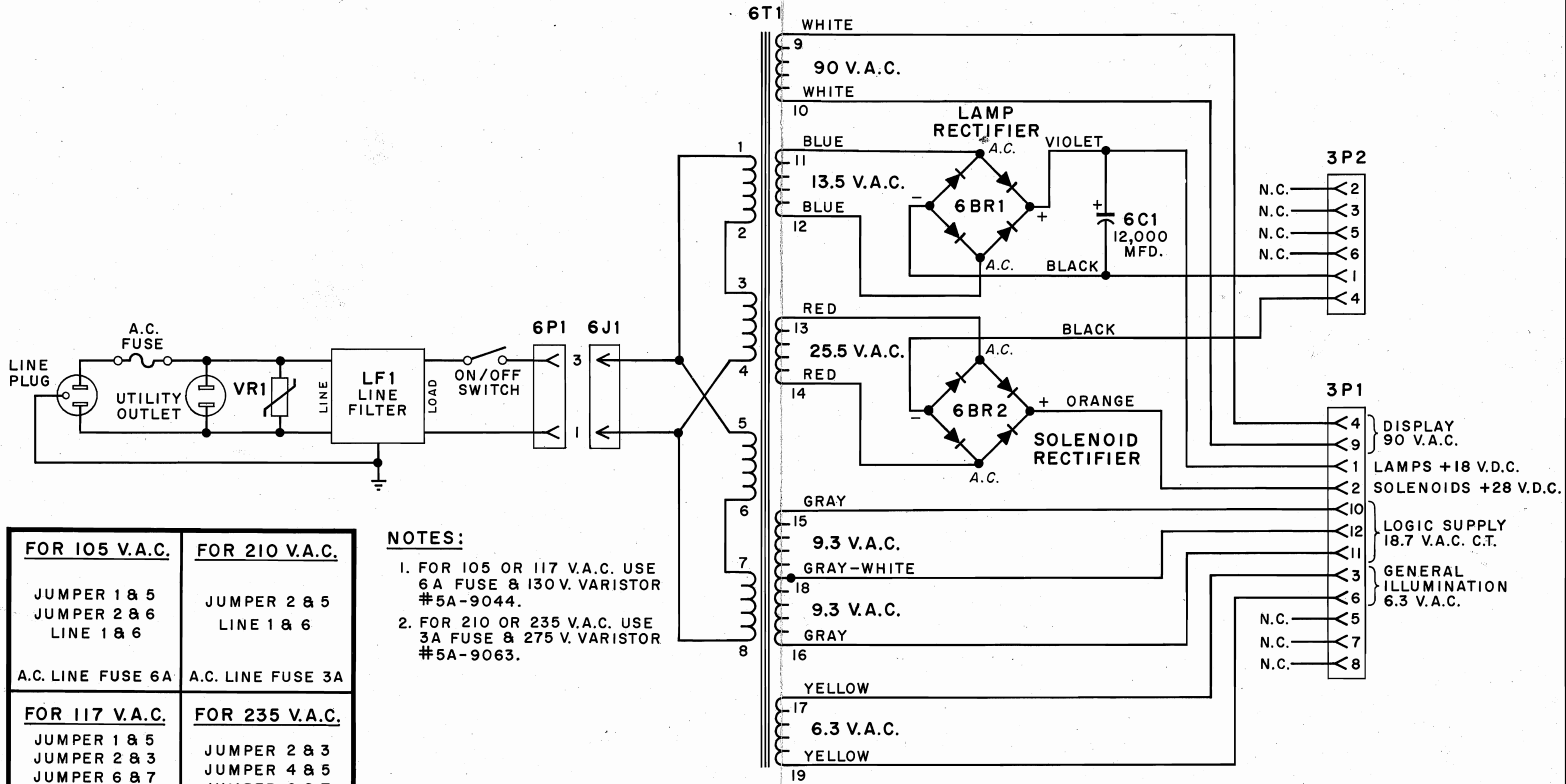
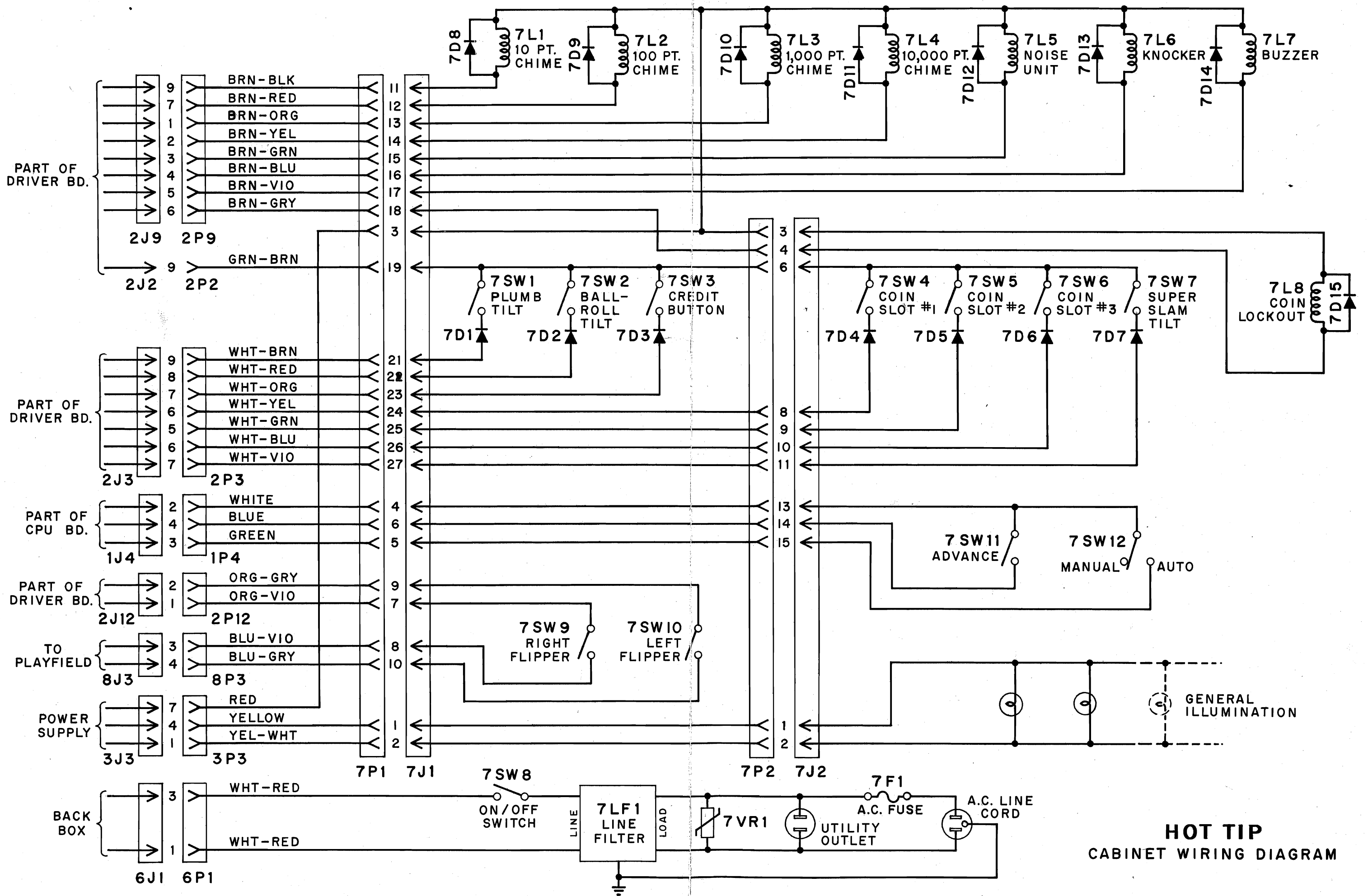


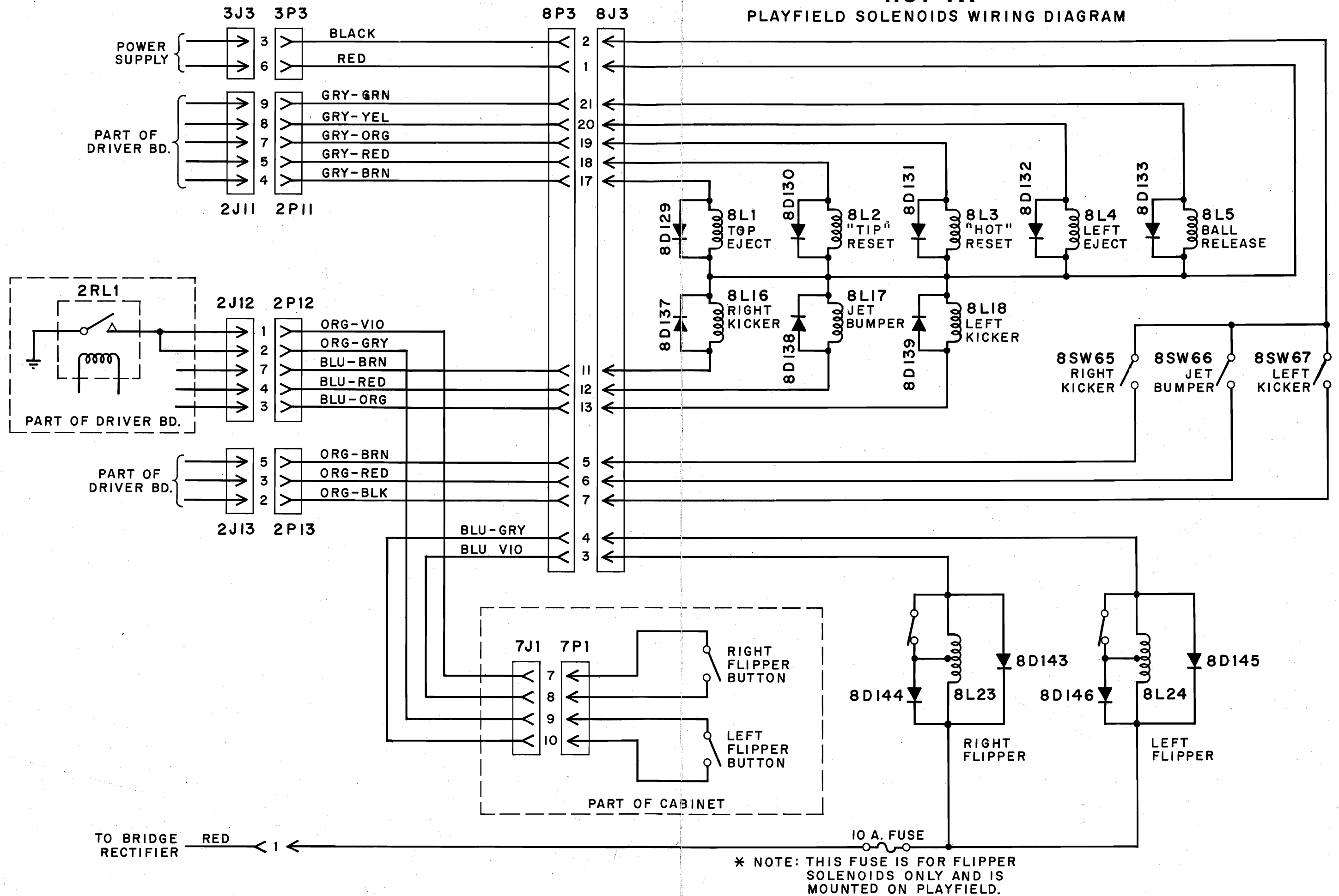


HOT TIP
POWER WIRING



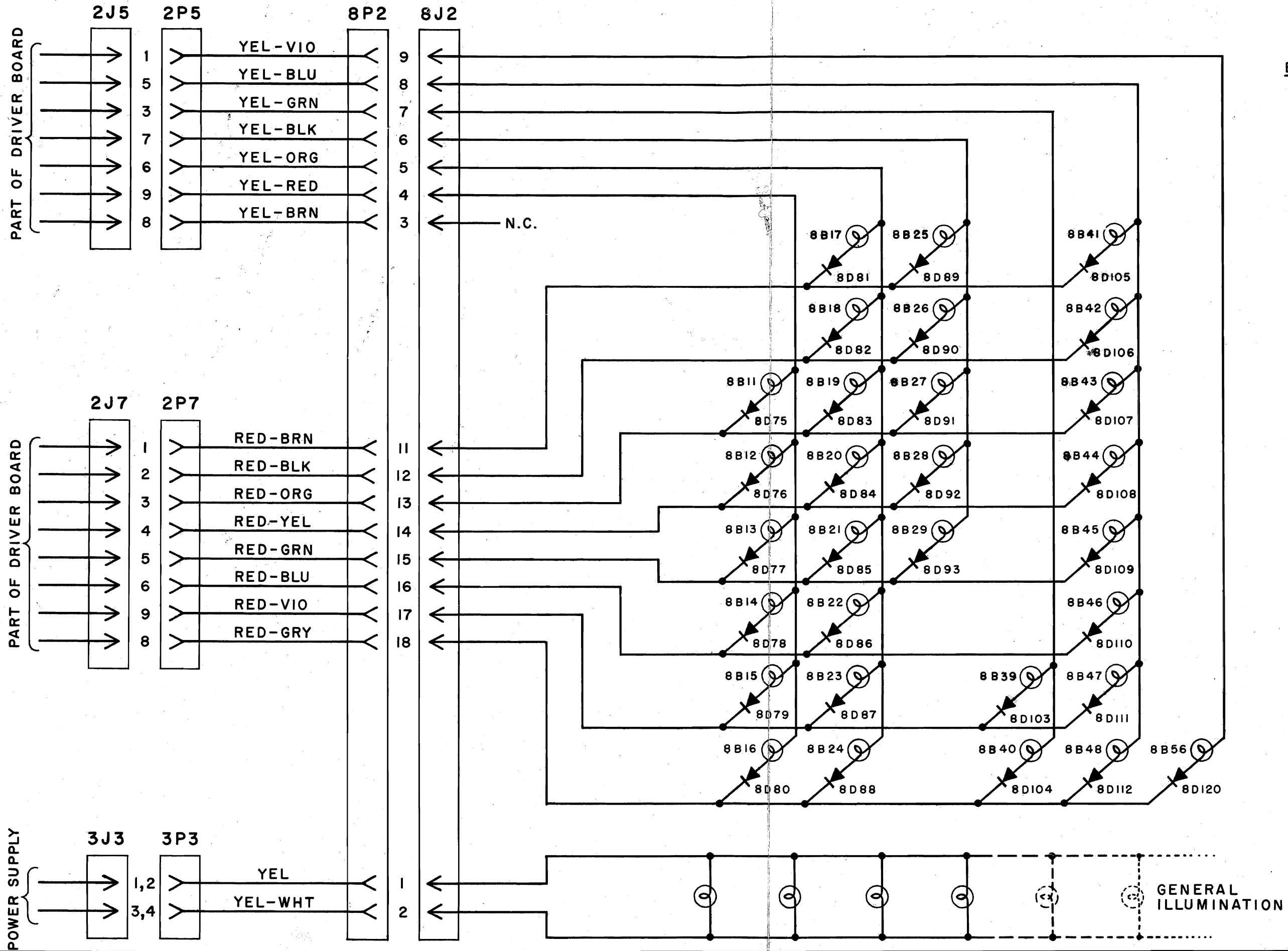
HOT TIP
CABINET WIRING DIAGRAM

HOT TIP PLAYFIELD SOLENOIDS WIRING DIAGRAM



HOT TIP

PLAYFIELD LAMP WIRING DIAGRAM



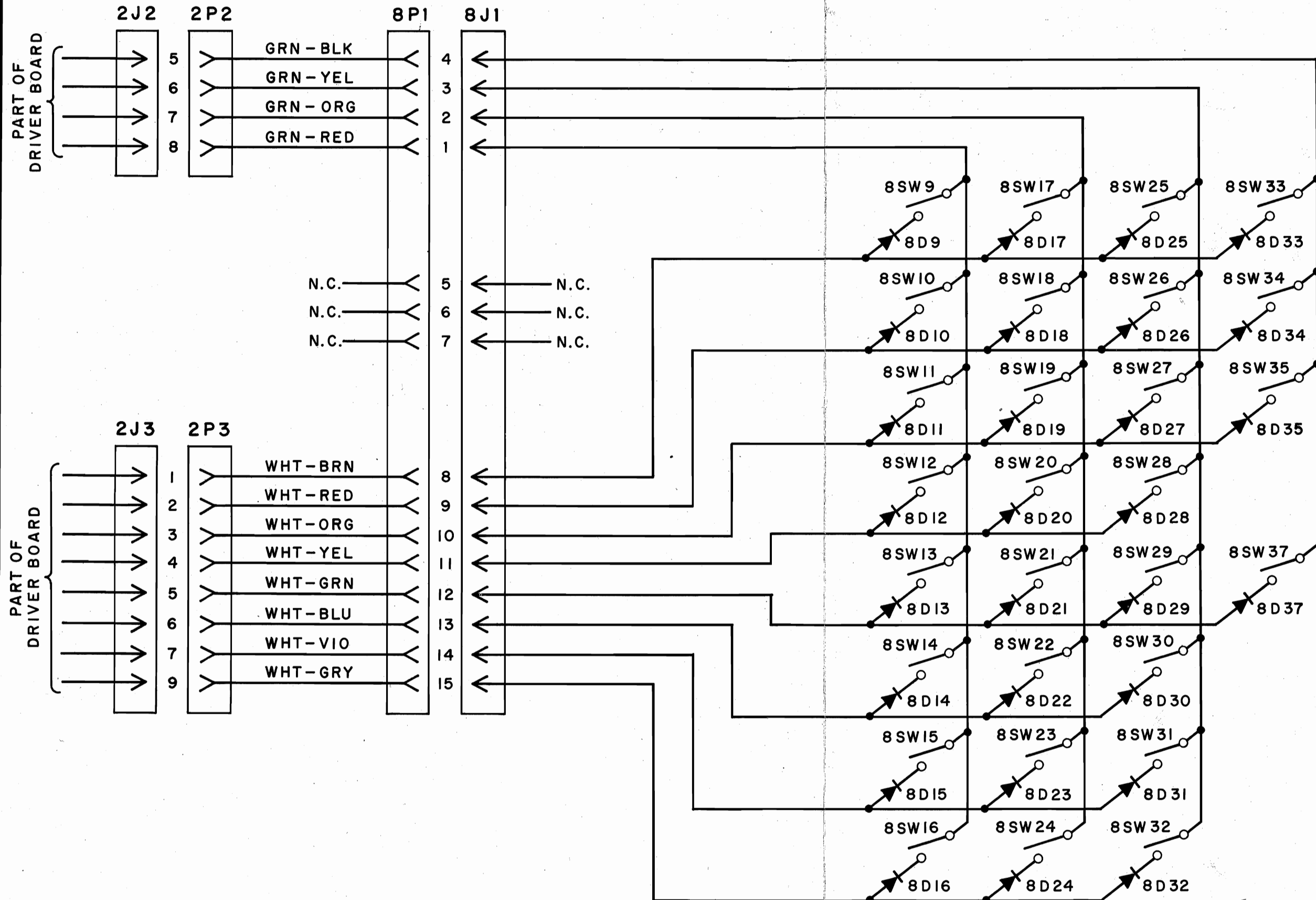
BULB NO.	FUNCTION
11	DOUBLE BONUS
12	#1 HORSESHOE
13	#2 HORSESHOE
14	#3 HORSESHOE
15	CAPTIVE BALL 3000
16	RIGHT SPECIAL
17	SAME PLAYER SHOOT AGAIN
18	LEFT SPECIAL
19	EXTRA BALL
20	SPINNER 100
21	"HOT" 1000
22	"HOT" 100
23	"TIP" 1000
24	"TIP" 100
25	EJECT 1000
26	EJECT LITES CAPTIVE BALL
27	EJECT 500
28	EJECT DOUBLES BONUS
29	EJECT 500
39	10,000
40	1000
41	2000
42	3000
43	4000
44	5000
45	6000
46	7000
47	8000
48	9000
56	CREDITS

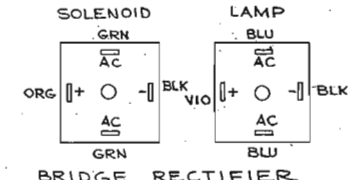
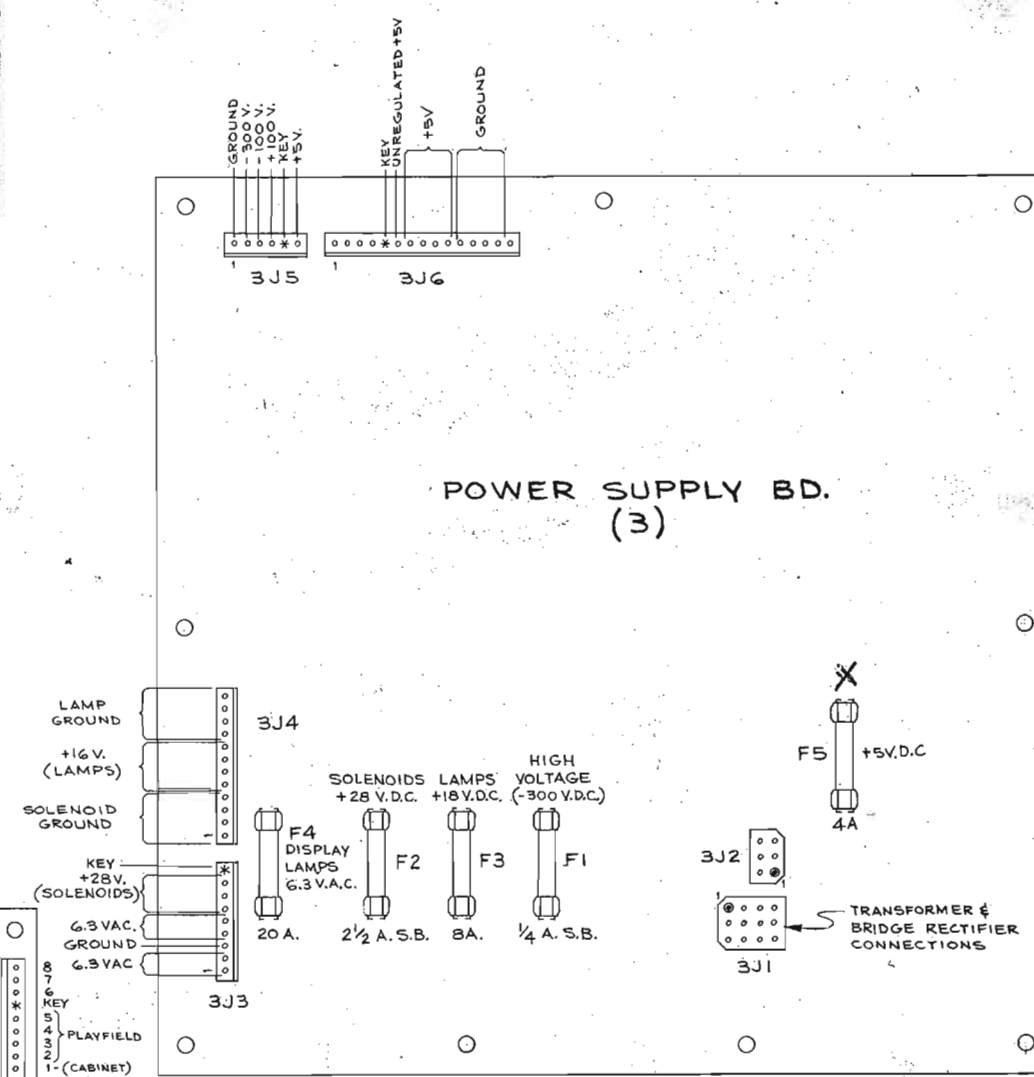
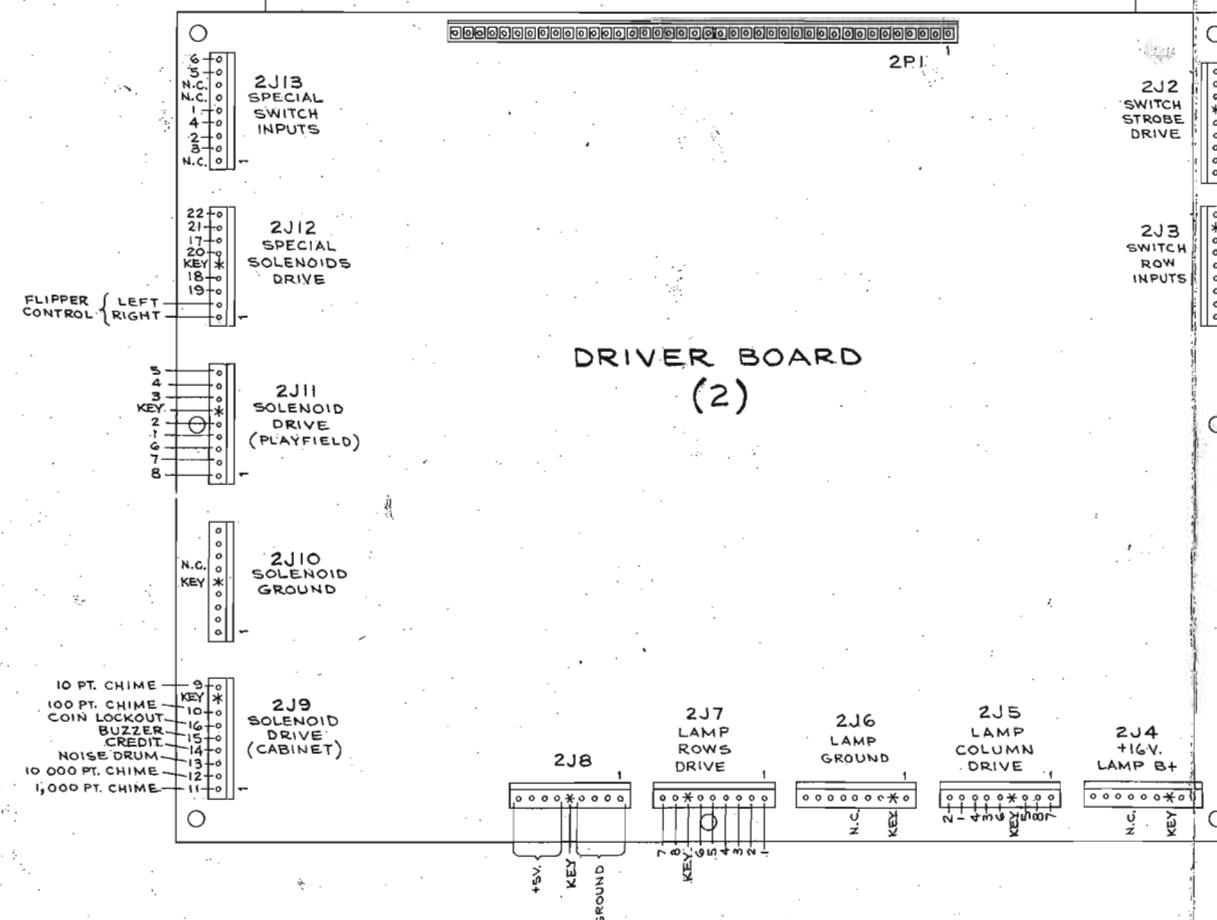
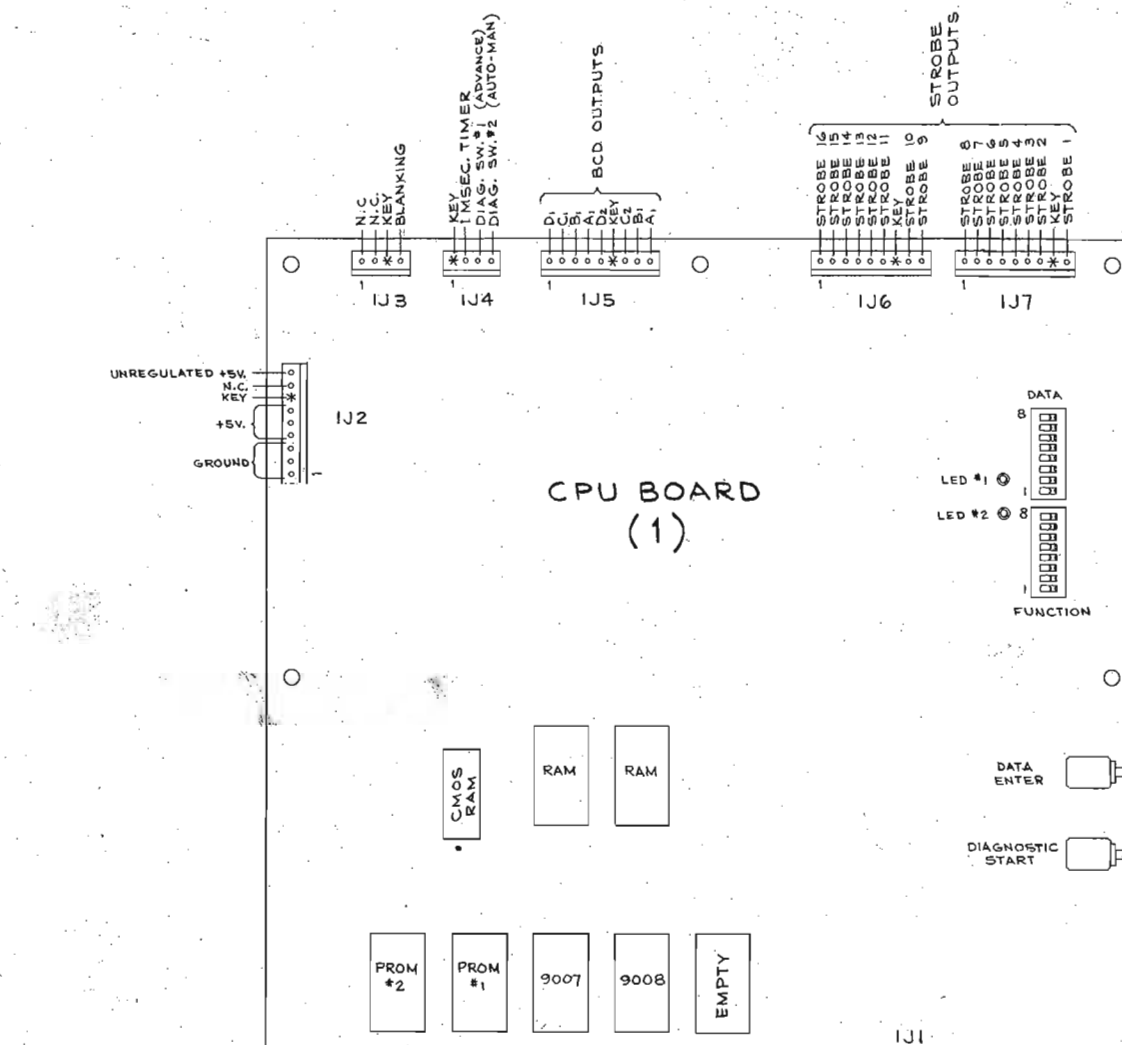
HOT TIP

PLAYFIELD SWITCH WIRING DIAGRAM

SWITCH NO. FUNCTION

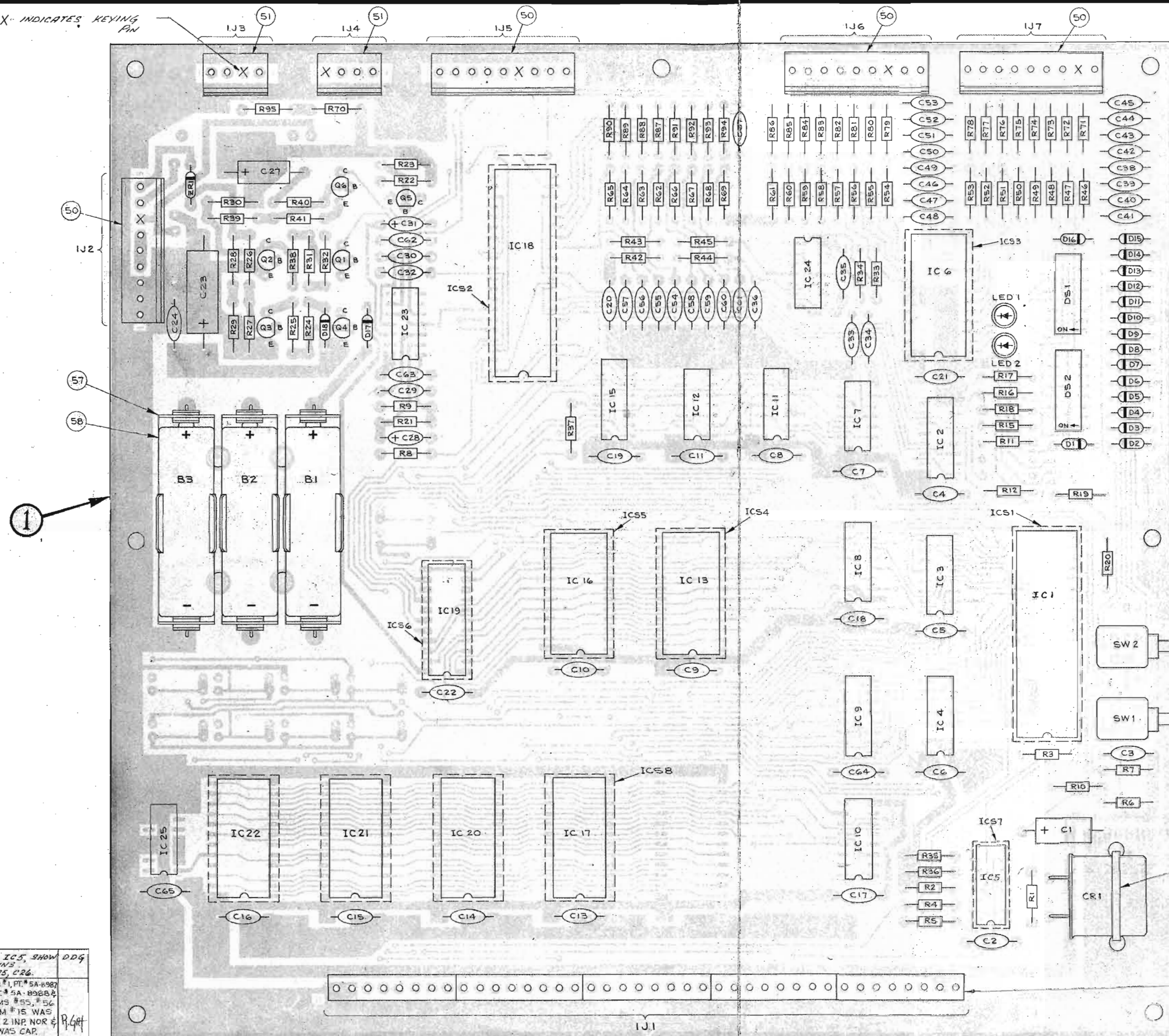
- 9 — BALL RETURN
- 10 — TILT
- 11 — BOTTOM R.R.O. SPECIAL 1000
- 12 — INSIDE BOTTOM R.R.O. 1000
- 13 — RIGHT KICKER 10 PT. SWITCH
- 14 — RIGHT STAND-UP SWITCH 500
- 15 — CAPTIVE BALL R.O. SWITCH
- 16 — CAPTIVE BALL TARGET
- 17 — RIGHT "TIP" TARGET
- 18 — CENTER "TIP" TARGET
- 19 — LEFT "TIP" TARGET
- 20 — TOP ADVANCE BONUS TARGET
- 21 — RIGHT TOP STAND-UP SW. 10
- 22 — TOP EJECT SW.
- 23 — LEFT TOP STAND-UP SW. 10
- 24 — LEFT TOP ROLLOVER SW.
- 25 — RIGHT "HOT" TARGET
- 26 — CENTER "HOT" TARGET
- 27 — LEFT "HOT" TARGET
- 28 — LEFT TOP STAND-UP SW. 10
- 29 — LEFT EJECT SW.
- 30 — SPINNING TARGET SWITCH
- 31 — JET BUMPER SW.
- 32 — LEFT STAND-UP SWITCH 500
- 33 — BOTTOM L.R.O. SPECIAL 1000
- 34 — INSIDE BOTTOM L.R.O. 1000
- 35 — LEFT KICKER 10 PT SWITCH
- 37 — "HOT-TIP" SERIES





BACK BOX CONNECTOR IDENTIFICATION

X INDICATES KEYING PIN



BILL OF MATERIAL

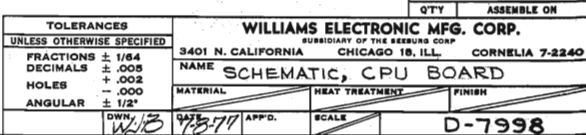
ITEM NO	PART NO.	PART DESIGNATION	DESCRIPTION
1			
2	5A-8990	IC2, IC9, IC10	8T28 QUAD BUFFER/REC'VR.
3	5A-8989	IC3, IC4, IC8	8T97 HEX. TS BUFFER
4	5A-9015	IC21, IC22	PROM 512 X 8 7641/6341
5	5A-9010	IC6	74154 4 TO 16 DECODER
6	5A-9013	IC7	7404 HEX. INVERTER
7	5A-9011	IC11	7410 TRIPLE 3 INP. NAND
8	5A-8973	IC12	7408 QUAD AND
9	5A-9003	IC13, IC16	MC6810 RAM
10	5A-9012	IC15	7442 BCD-DEC DECODER
11	5A-8972	IC18	MC6820 PIA
12	5A-9017	IC19	CMOS RAM 5101
13	5A-9002	IC23	MC3456/556 DUAL TIMER
14	5A-9073	IC24	7400 QUAD 2 INP. NAND
15	5A-	IC25	7402 QUAD 2 INP. NOR
16	5A-9018	DI1	1N5996 ZENER DIODE
17	5A-8919	DI THRU DI8	1N4148 DIODE, SILICON
18	5A-8938	Q1, Q2, Q3, Q6	2N4401 TRANSISTOR
19	5A-9016	Q4, Q5	2N4403 TRANSISTOR, PNP
20	5A-9025	DS1, DS2	8 STN DIP SWITCH
21	5A-9019	LED1, LED2	LED, RED
22	5A-9024	SW1, SW2	SWITCH, SPDT MOMENTARY
23	5A-9020	CR1	CRYSTAL, 3.59 MHZ
24	5A-9009	C1	CAP, TANT, 22 MFD. 10% 10V.
25	5A-8980	C2-C11, C13-C22, C29, C30, C33-C37, C63-C65	CAP, CERAMIC, .01 MFD. 50V.
26	5A-8986	C23	CAP, ELECT, 100 MFD. 10 V.
27	5A-8996	C24	CAP, CERAMIC, .1 MFD. 50V.
28	5A-9023	C27	CAP, TANT, 3.3 MFD. 10 V.
29	5A-9029	C28	CAP, TANT, .1 MFD. 10 V.
30	5A-9031	C31	CAP, TANT, 1 MFD. 25 V.
31	5A-9030	C32	CAP, CERAMIC, .047 MFD. 50V.
32	5A-9065	C38 THRU C62	CAP, CERAMIC, 470 PFD. 50V.
33	5A-8984	R1, R20, R24-R26, R28, R30, R38-R40, R71-R95	RES, FC, 1K 10% 1/4 W.
34	5A-9035	R2	RES, FC, 47K 10% 1/4 W.
35	5A-9040	R3, R4, R5	RES, FC, 33 OHM. 10% 1/4 W.
36	5A-8983	R6-R8, R10, R23	RES, FC, 3.3K 10% 1/4 W.
37	5A-9036	R11, R12	RES, FC, 100 OHM. 10% 1/4 W.
38	5A-8991	R15-R19, R33-R36, R42, R43, R46-R70	RES, FC, 47K 10% 1/4 W.
39	5A-9117	R21	RES, FC, 1.8K 2% 1/4 W.
40	5A-9034	R27, R29, R31, R41	RES, FC, 10K 5% 1/4 W.
41	5A-9032	R9	RES, FC, 12K 2% 1/4 W.
42	5A-9039	R32, R37	RES, FC, 10 OHM. 10% 1/4 W.
43	5A-9083	R44, R45	RES, FC, 470 OHM. 10% 1/4 W.
44	5A-	R22	RES, FC, 33K 5% 1/4 W.
45	5A-8985	ICS1, ICS2	40 PIN IC SOCKET
46	5A-9004	ICS3, ICS4, ICS5	24 PIN IC SOCKET
47	5A-9005	ICS6	22 PIN IC SOCKET
48	5A-9006	ICS7	16 PIN IC SOCKET
49	5A-9026	5-REQ'D.	HEADER 09-64-1083
50	5A-9027	4-REQ'D.	HEADER 09-65-1091
51	5A-9028	2-REQ'D.	HEADER 09-65-1041
52	5A-	1-REQ'D.	TIE WRAP
53	1B-2001-133-1		P.C. BOARD
54	5A-9004	ICS8 (QTY:4)	24 PIN IC SOCKET
55	5A-9008	IC17	ROM 2K X 8 UPPER
56	5A-9007	IC20	ROM 2K X 8 LOWER
57	5A-9021	QTY:1	BATTERY HOLDER #171
58	5A-9022	B1, B2, B3	BATTERY, ALKALINE, 1.5 V.
59	5A-8987	IC-1	MC6800 MPU
60	5A-8988	IC-5	MC6875 CLOCK CHIP

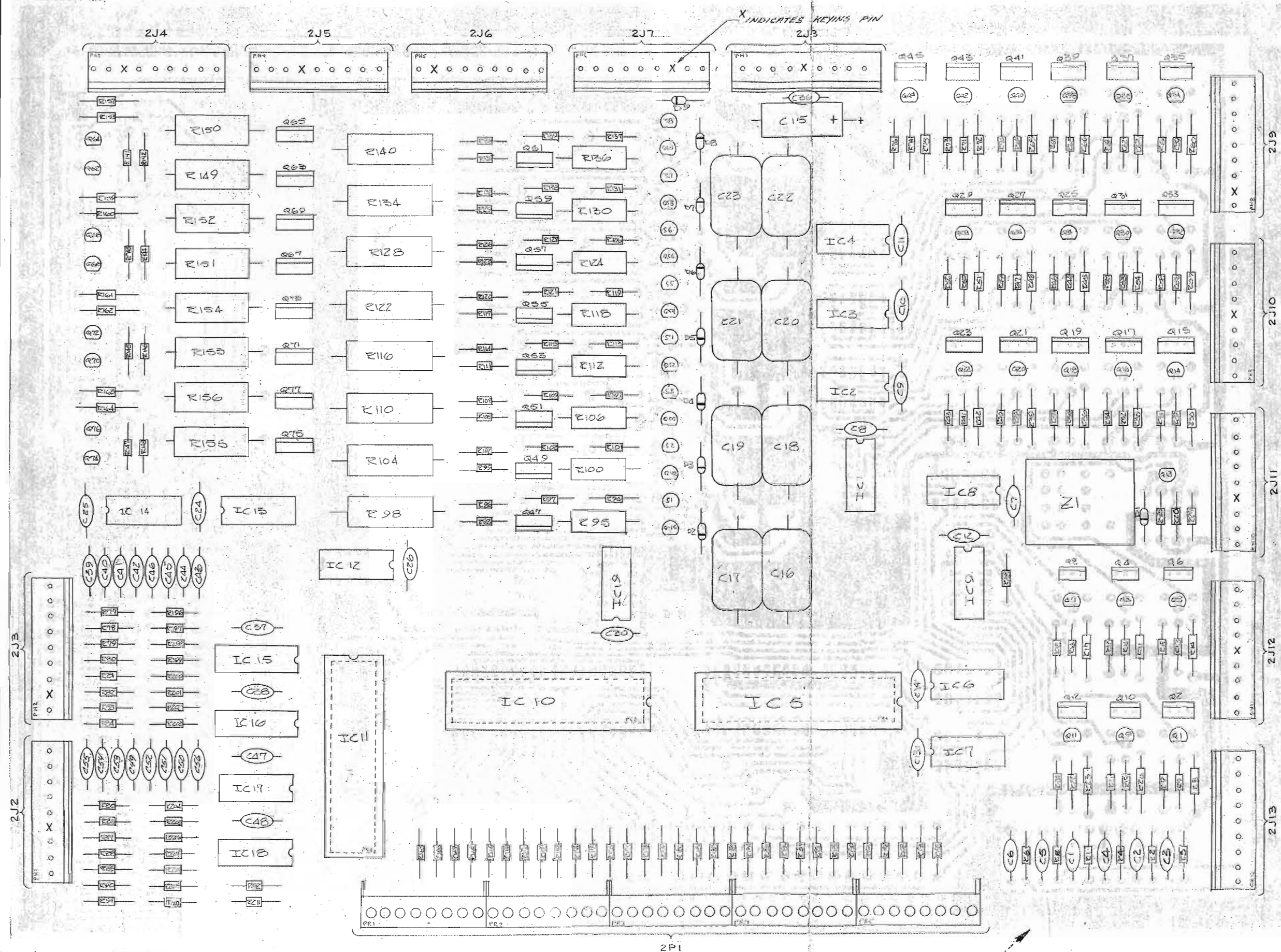
* FOR INFO ONLY NOT PART OF ASSEMBLY

TOLERANCES	UNLESS OTHERWISE SPECIFIED	WILLIAMS ELECTRONIC MFG. CORP.
FRACTIONS	± 1/64	3401 N. CALIFORNIA
DECIMALS	± .005	CHICAGO 18, ILL.
HOLE	± .002	CORNELIA 7-2240
ANGULAR	± 1/2°	NAME C.P.U. ASSEMBLY
		MATERIAL
		HEAT TREATMENT
		FINISH
		DATE 3-16-77
		SCALE 2:1
		D-7998

B	ADD IC1, IC5, SHOW DDG KEYING PINS. REMOVE C25, C26.	DDG
A	DELETED ITEM #1, PT. #5A-8987 & ITEM #1 PT. #5A-8988 & ADDED ITEM #55, #56 & #57. ITEM #15 WAS 7400 QUAD 2 INP NOR & ITEM #30 WAS CAP. TANT. 1 MFD. 25 V. 10-25-77	R.G.H.
REVISION	REVISION	BY

1115 WAS A5, 1125 WAS H5, 1135 WAS G, 1145 WAS F, 1155 WAS E, 1165 WAS C5, 1175 WAS D5, 1185 WAS B5, 1195 WAS A5, 1205 WAS H5, 1215 WAS G, 1225 WAS F, 1235 WAS E, 1245 WAS C5, 1255 WAS D5, 1265 WAS B5, 1275 WAS A5, 1285 WAS H5, 1295 WAS G, 1305 WAS F, 1315 WAS E, 1325 WAS C5, 1335 WAS D5, 1345 WAS B5, 1355 WAS A5, 1365 WAS H5, 1375 WAS G, 1385 WAS F, 1395 WAS E, 1405 WAS C5, 1415 WAS D5, 1425 WAS B5, 1435 WAS A5, 1445 WAS H5, 1455 WAS G, 1465 WAS F, 1475 WAS E, 1485 WAS C5, 1495 WAS D5, 1505 WAS B5, 1515 WAS A5, 1525 WAS H5, 1535 WAS G, 1545 WAS F, 1555 WAS E, 1565 WAS C5, 1575 WAS D5, 1585 WAS B5, 1595 WAS A5, 1605 WAS H5, 1615 WAS G, 1625 WAS F, 1635 WAS E, 1645 WAS C5, 1655 WAS D5, 1665 WAS B5, 1675 WAS A5, 1685 WAS H5, 1695 WAS G, 1705 WAS F, 1715 WAS E, 1725 WAS C5, 1735 WAS D5, 1745 WAS B5, 1755 WAS A5, 1765 WAS H5, 1775 WAS G, 1785 WAS F, 1795 WAS E, 1805 WAS C5, 1815 WAS D5, 1825 WAS B5, 1835 WAS A5, 1845 WAS H5, 1855 WAS G, 1865 WAS F, 1875 WAS E, 1885 WAS C5, 1895 WAS D5, 1905 WAS B5, 1915 WAS A5, 1925 WAS H5, 1935 WAS G, 1945 WAS F, 1955 WAS E, 1965 WAS C5, 1975 WAS D5, 1985 WAS B5, 1995 WAS A5, 2005 WAS H5, 2015 WAS G, 2025 WAS F, 2035 WAS E, 2045 WAS C5, 2055 WAS D5, 2065 WAS B5, 2075 WAS A5, 2085 WAS H5, 2095 WAS G, 2105 WAS F, 2115 WAS E, 2125 WAS C5, 2135 WAS D5, 2145 WAS B5, 2155 WAS A5, 2165 WAS H5, 2175 WAS G, 2185 WAS F, 2195 WAS E, 2205 WAS C5, 2215 WAS D5, 2225 WAS B5, 2235 WAS A5, 2245 WAS H5, 2255 WAS G, 2265 WAS F, 2275 WAS E, 2285 WAS C5, 2295 WAS D5, 2305 WAS B5, 2315 WAS A5, 2325 WAS H5, 2335 WAS G, 2345 WAS F, 2355 WAS E, 2365 WAS C5, 2375 WAS D5, 2385 WAS B5, 2395 WAS A5, 2405 WAS H5, 2415 WAS G, 2425 WAS F, 2435 WAS E, 2445 WAS C5, 2455 WAS D5, 2465 WAS B5, 2475 WAS A5, 2485 WAS H5, 2495 WAS G, 2505 WAS F, 2515 WAS E, 2525 WAS C5, 2535 WAS D5, 2545 WAS B5, 2555 WAS A5, 2565 WAS H5, 2575 WAS G, 2585 WAS F, 2595 WAS E, 2605 WAS C5, 2615 WAS D5, 2625 WAS B5, 2635 WAS A5, 2645 WAS H5, 2655 WAS G, 2665 WAS F, 2675 WAS E, 2685 WAS C5, 2695 WAS D5, 2705 WAS B5, 2715 WAS A5, 2725 WAS H5, 2735 WAS G, 2745 WAS F, 2755 WAS E, 2765 WAS C5, 2775 WAS D5, 2785 WAS B5, 2795 WAS A5, 2805 WAS H5, 2815 WAS G, 2825 WAS F, 2835 WAS E, 2845 WAS C5, 2855 WAS D5, 2865 WAS B5, 2875 WAS A5, 2885 WAS H5, 2895 WAS G, 2905 WAS F, 2915 WAS E, 2925 WAS C5, 2935 WAS D5, 2945 WAS B5, 2955 WAS A5, 2965 WAS H5, 2975 WAS G, 2985 WAS F, 2995 WAS E, 3005 WAS C5, 3015 WAS D5, 3025 WAS B5, 3035 WAS A5, 3045 WAS H5, 3055 WAS G, 3065 WAS F, 3075 WAS E, 3085 WAS C5, 3095 WAS D5, 3105 WAS B5, 3115 WAS A5, 3125 WAS H5, 3135 WAS G, 3145 WAS F, 3155 WAS E, 3165 WAS C5, 3175 WAS D5, 3185 WAS B5, 3195 WAS A5, 3205 WAS H5, 3215 WAS G, 3225 WAS F, 3235 WAS E, 3245 WAS C5, 3255 WAS D5, 3265 WAS B5, 3275 WAS A5, 3285 WAS H5, 3295 WAS G, 3305 WAS F, 3315 WAS E, 3325 WAS C5, 3335 WAS D5, 3345 WAS B5, 3355 WAS A5, 3365 WAS H5, 3375 WAS G, 3385 WAS F, 3395 WAS E, 3405 WAS C5, 3415 WAS D5, 3425 WAS B5, 3435 WAS A5, 3445 WAS H5, 3455 WAS G, 3465 WAS F, 3475 WAS E, 3485 WAS C5, 3495 WAS D5, 3505 WAS B5, 3515 WAS A5, 3525 WAS H5, 3535 WAS G, 3545 WAS F, 3555 WAS E, 3565 WAS C5, 3575 WAS D5, 3585 WAS B5, 3595 WAS A5, 3605 WAS H5, 3615 WAS G, 3625 WAS F, 3635 WAS E, 3645 WAS C5, 3655 WAS D5, 3665 WAS B5, 3675 WAS A5, 3685 WAS H5, 3695 WAS G, 3705 WAS F, 3715 WAS E, 3725 WAS C5, 3735 WAS D5, 3745 WAS B5, 3755 WAS A5, 3765 WAS H5, 3775 WAS G, 3785 WAS F, 3795 WAS E, 3805 WAS C5, 3815 WAS D5, 3825 WAS B5, 3835 WAS A5, 3845 WAS H5, 3855 WAS G, 3865 WAS F, 3875 WAS E, 3885 WAS C5, 3895 WAS D5, 3905 WAS B5, 3915 WAS A5, 3925 WAS H5, 3935 WAS G, 3945 WAS F, 3955 WAS E, 3965 WAS C5, 3975 WAS D5, 3985 WAS B5, 3995 WAS A5, 4005 WAS H5, 4015 WAS G, 4025 WAS F, 4035 WAS E, 4045 WAS C5, 4055 WAS D5, 4065 WAS B5, 4075 WAS A5, 4085 WAS H5, 4095 WAS G, 4105 WAS F, 4115 WAS E, 4125 WAS C5, 4135 WAS D5, 4145 WAS B5, 4155 WAS A5, 4165 WAS H5, 4175 WAS G, 4185 WAS F, 4195 WAS E, 4205 WAS C5, 4215 WAS D5, 4225 WAS B5, 4235 WAS A5, 4245 WAS H5, 4255 WAS G, 4265 WAS F, 4275 WAS E, 4285 WAS C5, 4295 WAS D5, 4305 WAS B5, 4315 WAS A5, 4325 WAS H5, 4335 WAS G, 4345 WAS F, 4355 WAS E, 4365 WAS C5, 4375 WAS D5, 4385 WAS B5, 4395 WAS A5, 4405 WAS H5, 4415 WAS G, 4425 WAS F, 4435 WAS E, 4445 WAS C5, 4455 WAS D5, 4465 WAS B5, 4475 WAS A5, 4485 WAS H5, 4495 WAS G, 4505 WAS F, 4515 WAS E, 4525 WAS C5, 4535 WAS D5, 4545 WAS B5, 4555 WAS A5, 4565 WAS H5, 4575 WAS G, 4585 WAS F, 4595 WAS E, 4605 WAS C5, 4615 WAS D5, 4625 WAS B5, 4635 WAS A5, 4645 WAS H5, 4655 WAS G, 4665 WAS F, 4675 WAS E, 4685 WAS C5, 4695 WAS D5, 4705 WAS B5, 4715 WAS A5, 4725 WAS H5, 4735 WAS G, 4745 WAS F, 4755 WAS E, 4765 WAS C5, 4775 WAS D5, 4785 WAS B5, 4795 WAS A5, 4805 WAS H5, 4815 WAS G, 4825 WAS F, 4835 WAS E, 4845 WAS C5, 4855 WAS D5, 4865 WAS B5, 4875 WAS A5, 4885 WAS H5, 4895 WAS G, 4905 WAS F, 4915 WAS E, 4925 WAS C5, 4935 WAS D5, 4945 WAS B5, 4955 WAS A5, 4965 WAS H5, 4975 WAS G, 4985 WAS F, 4995 WAS E, 5005 WAS C5, 5015 WAS D5, 5025 WAS B5, 5035 WAS A5, 5045 WAS H5, 5055 WAS G, 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ITEM	PART	COMP.	DESCRIPTION	QTY
1	1A-1017	PC	PC DRIVER BOARD	1
2	5A-8948	IC8-IC9	N7402 QUADRUPLE 2 INPUT POSITIVE AND GATE	2
3	5A-8974	IC10-IC11	N7406 HEX INVERTER DRIVER OUTPUT	2
4	5A-8975	IC12-IC13	N7408 QUADRUPLE 2 INPUT POSITIVE AND GATE	2
5	5A-8976	IC14-IC15	MC14049 INVERTING HEX BUFFER	2
6	5A-8977	IC16-IC17	MC14049 INVERTING HEX BUFFER	2
7	5A-8978	IC18	MC14049 INVERTING HEX BUFFER	2
8	5A-8979	Q1-Q2	2N6027 DARLINGTON NPN TRANSISTOR	16
9	5A-8980	Q3-Q4	2N6027 DARLINGTON NPN TRANSISTOR	22
10	5A-8981	Q5-Q6	2N6027 DARLINGTON NPN TRANSISTOR	8
11	5A-8982	Q7-Q8	2N6027 DARLINGTON NPN TRANSISTOR	8
12	5A-8983	Q9-Q10	2N6027 DARLINGTON NPN TRANSISTOR	1
13	5A-8984	Q11-Q12	2N6027 DARLINGTON NPN TRANSISTOR	8
14	5A-8985	Q13-Q14	2N6027 DARLINGTON NPN TRANSISTOR	8
15	5A-8986	Q15-Q16	2N6027 DARLINGTON NPN TRANSISTOR	22
16	5A-8987	Q17-Q18	2N6027 DARLINGTON NPN TRANSISTOR	8
17	5A-8988	Q19-Q20	2N6027 DARLINGTON NPN TRANSISTOR	16
18	5A-8989	Q21-Q22	2N6027 DARLINGTON NPN TRANSISTOR	1
19	5A-8990	Q23-Q24	2N6027 DARLINGTON NPN TRANSISTOR	1
20	5A-8991	Q25-Q26	2N6027 DARLINGTON NPN TRANSISTOR	62
21	5A-8992	Q27-Q28	2N6027 DARLINGTON NPN TRANSISTOR	1
22	5A-8993	Q29-Q30	2N6027 DARLINGTON NPN TRANSISTOR	82
23	5A-8994	Q31-Q32	2N6027 DARLINGTON NPN TRANSISTOR	22
24	5A-8995	Q33-Q34	2N6027 DARLINGTON NPN TRANSISTOR	22
25	5A-8996	Q35-Q36	2N6027 DARLINGTON NPN TRANSISTOR	22
26	5A-8997	Q37-Q38	2N6027 DARLINGTON NPN TRANSISTOR	22
27	5A-8998	Q39-Q40	2N6027 DARLINGTON NPN TRANSISTOR	1
28	5A-8999	Q41-Q42	2N6027 DARLINGTON NPN TRANSISTOR	8
29	5A-9000	Q43-Q44	2N6027 DARLINGTON NPN TRANSISTOR	8
30	5A-9001	Q45-Q46	2N6027 DARLINGTON NPN TRANSISTOR	8
31	5A-9002	Q47-Q48	2N6027 DARLINGTON NPN TRANSISTOR	8
32	5A-9003	Q49-Q50	2N6027 DARLINGTON NPN TRANSISTOR	8
33	5A-9004	Q51-Q52	2N6027 DARLINGTON NPN TRANSISTOR	1
34	5A-9005	Q53-Q54	2N6027 DARLINGTON NPN TRANSISTOR	8
35	5A-9006	Q55-Q56	2N6027 DARLINGTON NPN TRANSISTOR	16
36	5A-9007	Q57-Q58	2N6027 DARLINGTON NPN TRANSISTOR	8
37	5A-9008	Q59-Q60	2N6027 DARLINGTON NPN TRANSISTOR	8

TOLERANCES	UNLESS OTHERWISE SPECIFIED	WILLIAMS ELECTRONIC MFG. CORP.	CHICAGO, ILL.	CORNELIA 7-2240
FRACTIONS	± 1/64	NAME	DATE	SCALE
DECIMALS	± .005	MATERIAL	HEAT TREATMENT	FINISH
Holes	± .002	DATE	APPROVED	D-7997
ANGULAR	± 1/2°	DWN.	SCALE	

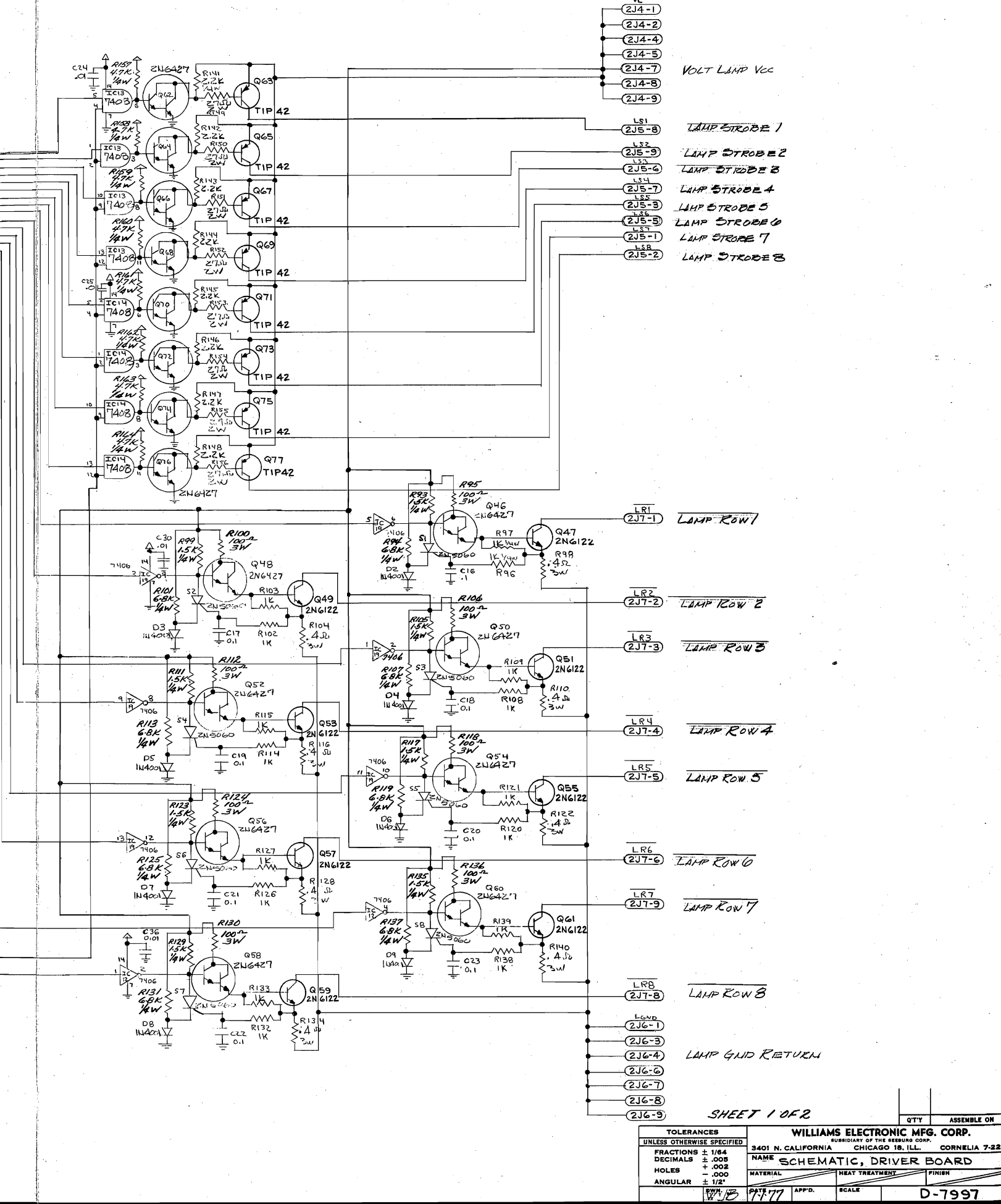
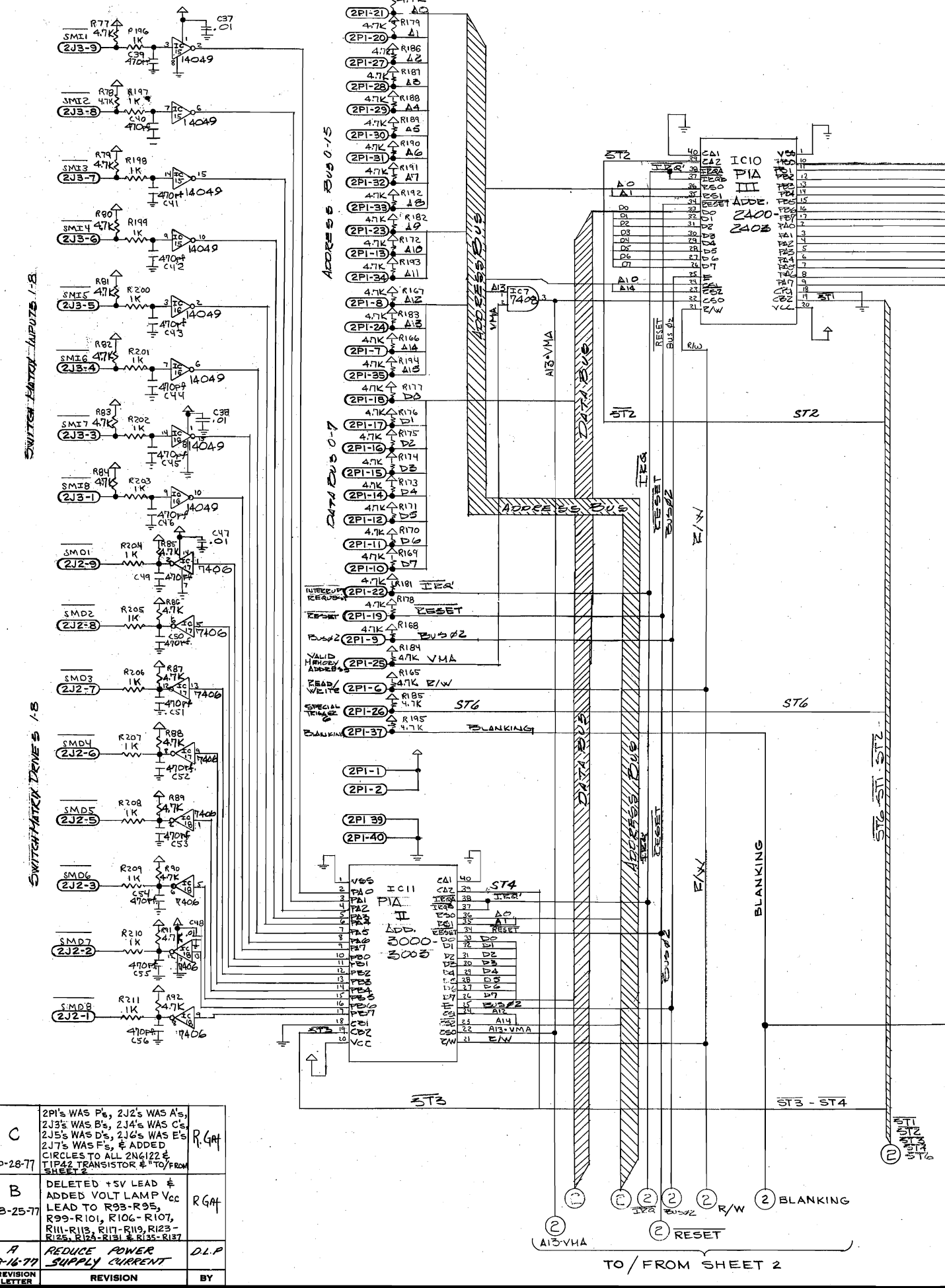
QTY ASSEMBLY ON

DATE 8-16-77

APPROVED

SCALE

D-7997



REVISION	REVISION	BY
C	2PI's WAS P's, 2J2's WAS A's, 2J3's WAS B's, 2J4's WAS C's, 2J5's WAS D's, 2J6's WAS E's, 2J7's WAS F's, & ADDED CIRCLES TO ALL 2N6122 & TIP42 TRANSISTOR & TO/FROM SHEET 2	R.G.H.
B	DELETED +5V LEAD & ADDED VOLT LAMP VCC LEAD TO R93-R95, R99-R101, R106-R107, R111-R113, R117-R119, R123-R125, R129-R131 & R135-R137	R.G.H.
A	REDUCE POWER SUPPLY CURRENT	D.L.P.

TOLERANCES UNLESS OTHERWISE SPECIFIED		WILLIAMS ELECTRONIC MFG. CORP.	
FRACTIONS	± 1/64	3401 N. CALIFORNIA CHICAGO 18, ILL. CORNELIA 7-2240	
DECIMALS	± .005	NAME SCHEMATIC, DRIVER BOARD	
HOLES	± .000	MATERIAL	
ANGULAR	± 1/2°	HEAT TREATMENT	
		FINISH	
		APPD. SCALE	
		D-7997	

SOLENOID 1 DRIVE

SOLENOID 2 DRIVE

SOLENOID 3 DRIVE

SOLENOID 4 DRIVE

SOLENOID 5 DRIVE

SOLENOID 6 DRIVE

SOLENOID 7 DRIVE

SOLENOID 8 DRIVE

SOLENOID 9 DRIVE

SOLENOID 10 DRIVE

SOLENOID 11 DRIVE

SOLENOID 12 DRIVE

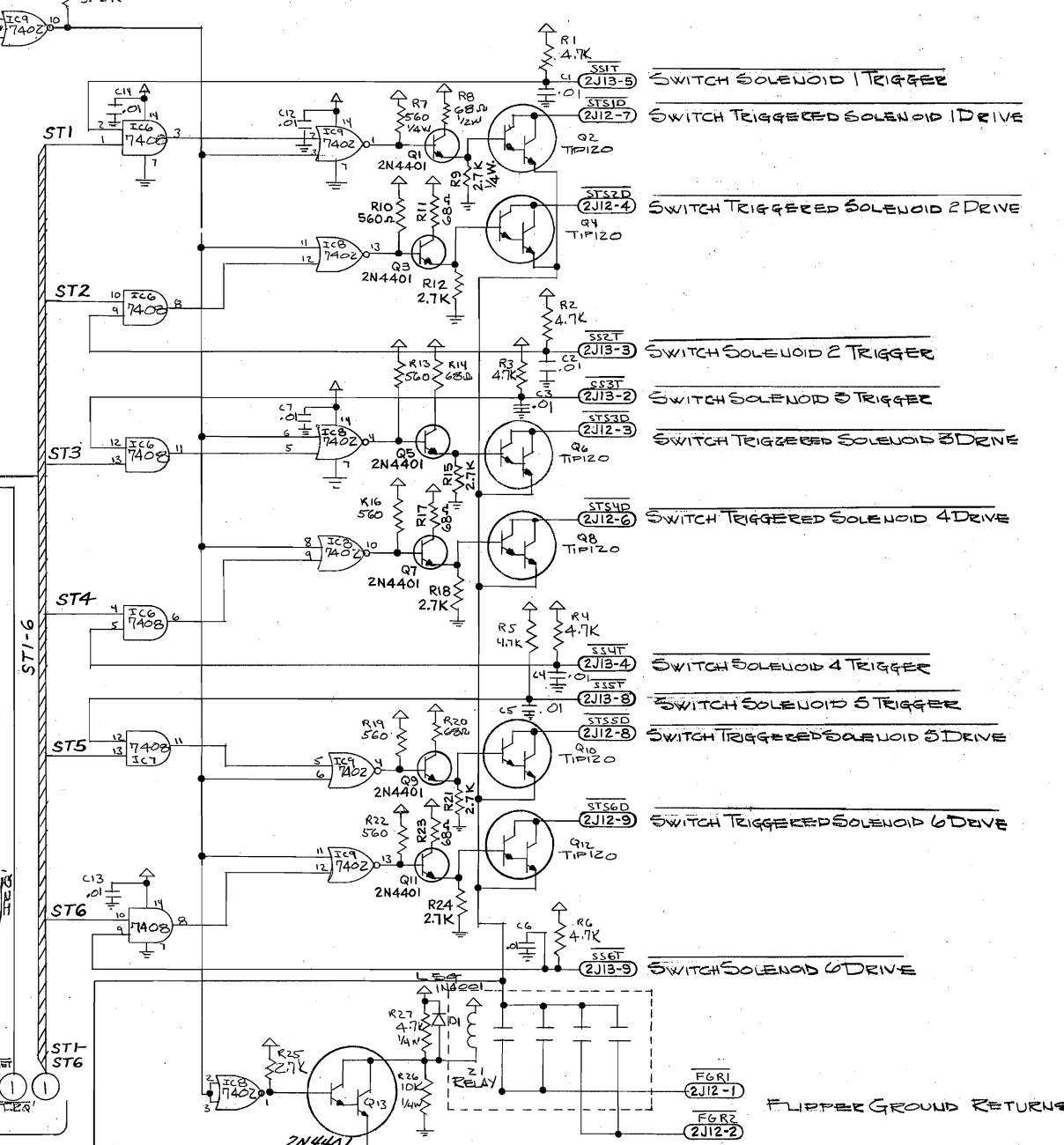
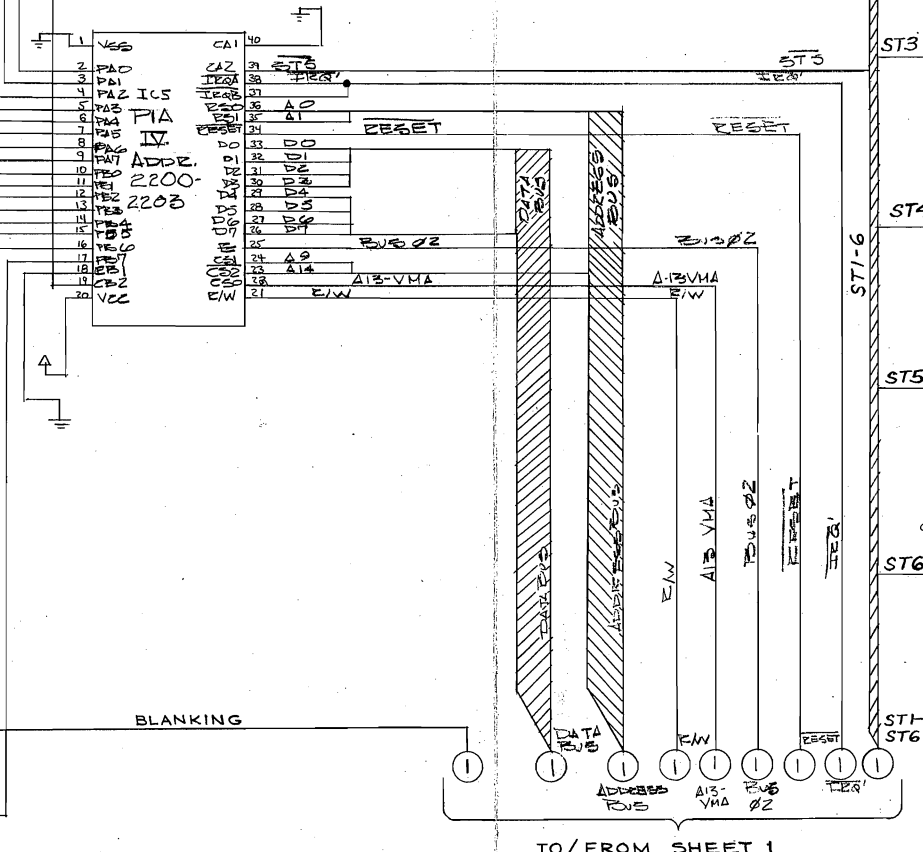
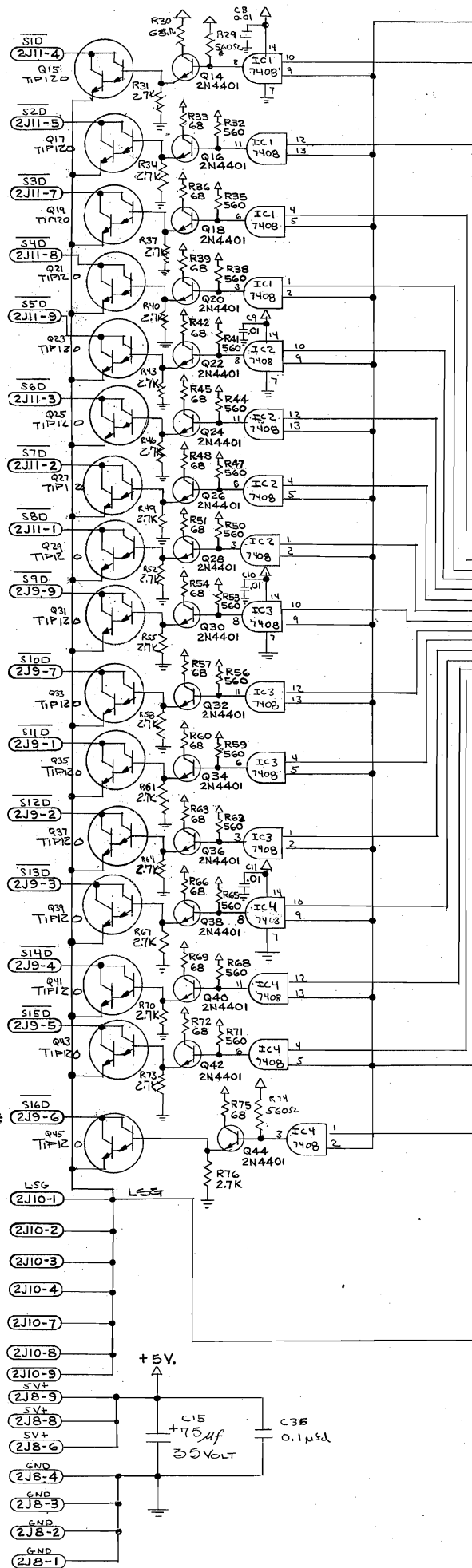
SOLENOID 13 DRIVE

SOLENOID 14 DRIVE

SOLENOID 15 DRIVE

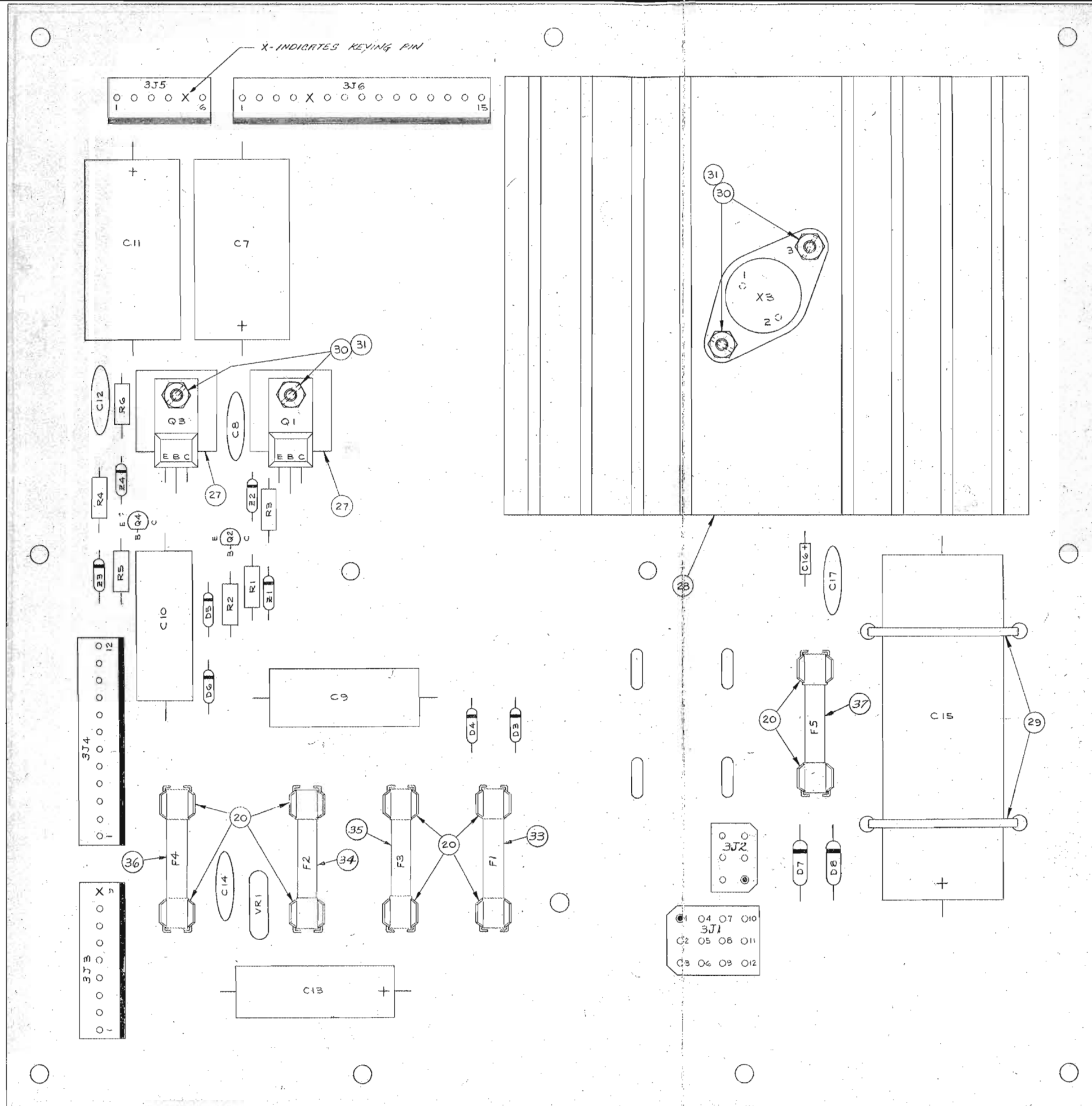
CUTOFFOUT SOLENOID DRIVE

LAMP & SOLENOID GROUND

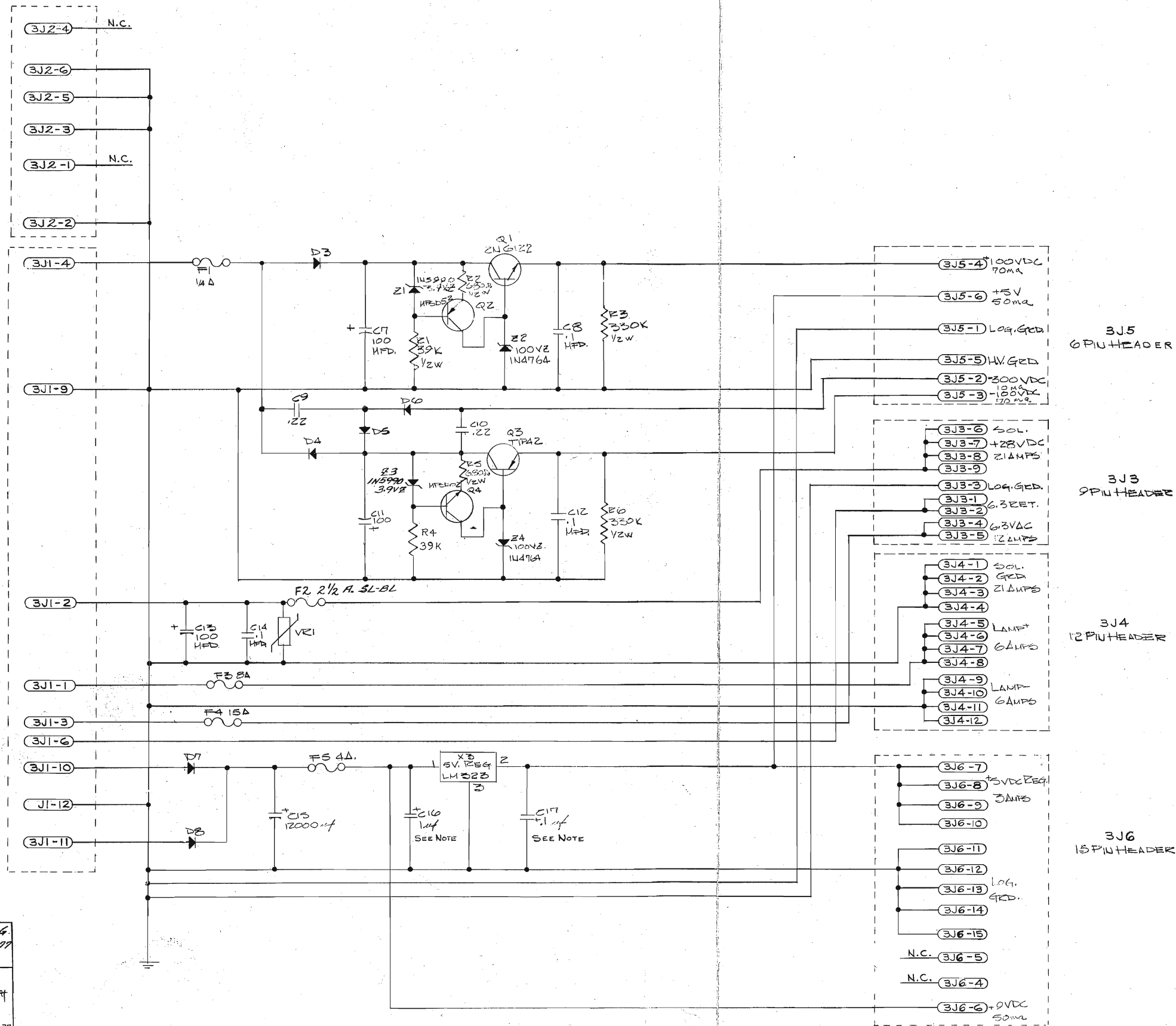


B	2J8's WAS G's, 2J9's WAS H's, 2J10's WAS J's, 2J11 WAS K's, 2J12 WAS L's 2J13 WAS M's & ADDED TO/ FROM SHEET 1 & CIRCLES TO ALL 2N4401 TRANSISTORS	10-28-77	BY
A	REVISION "A"		
REVISION LETTER	REVISION	DATE	BY

SHEET 2 OF 2			
TOLERANCES UNLESS OTHERWISE SPECIFIED			
FRACTIONS	± 1/64	WILLIAMS ELECTRONIC MFG. CORP.	
DECIMALS	± .005	SUBSIDIARY OF THE TREMCO CORP.	
HOLES	± .002	3401 N. CALIFORNIA CHICAGO 18, ILL. CORNELIA 7-2240	
ANGULAR	± 1/2°	NAME SCHEMATIC, DRIVER BOARD	
MATERIAL		HEAT TREATMENT	FINISH
DATE 1-5-77		SCALE	D-7997



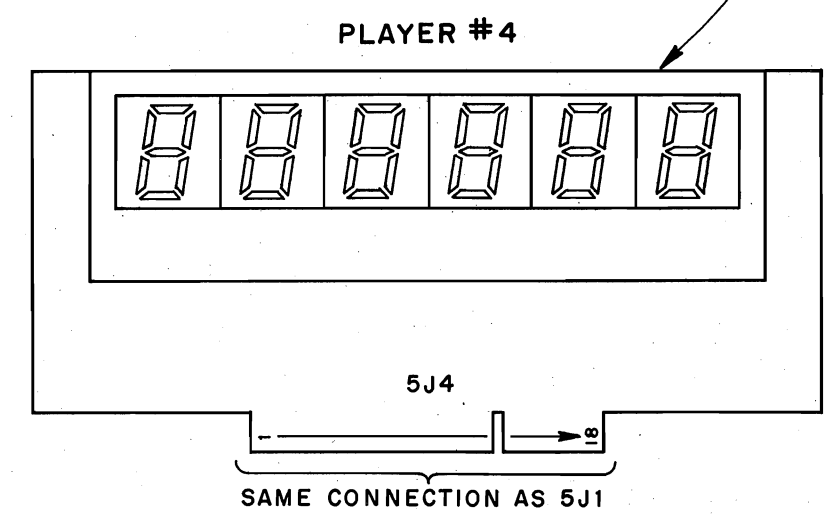
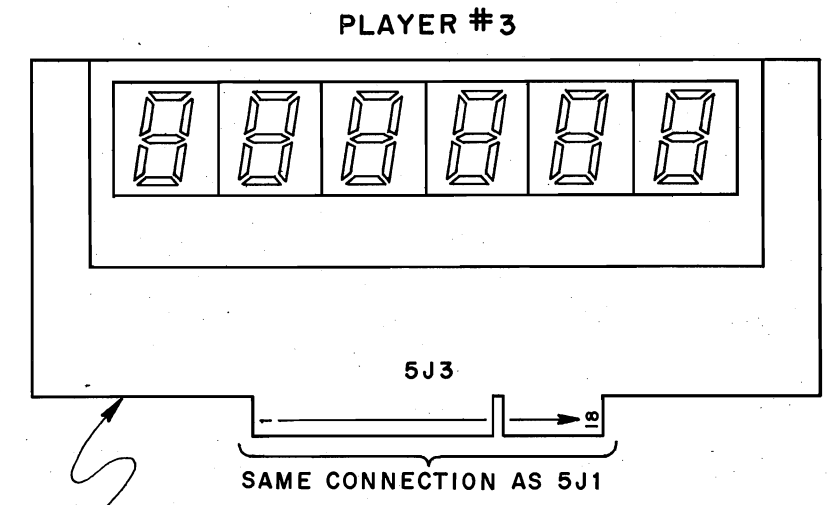
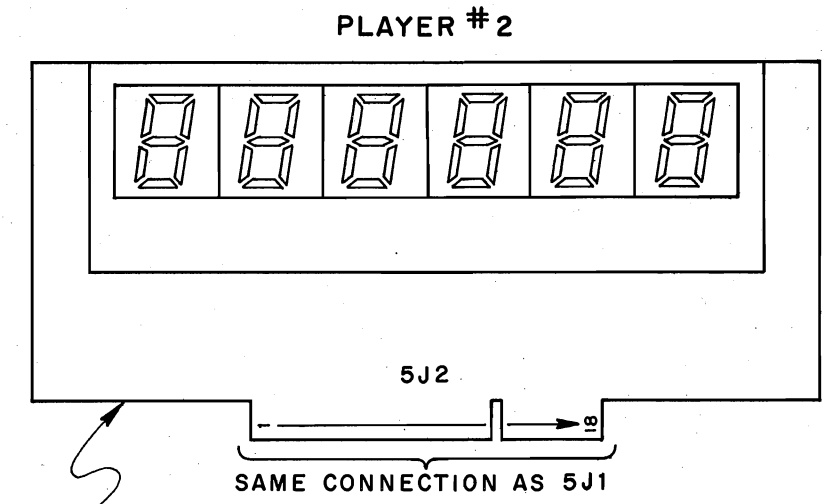
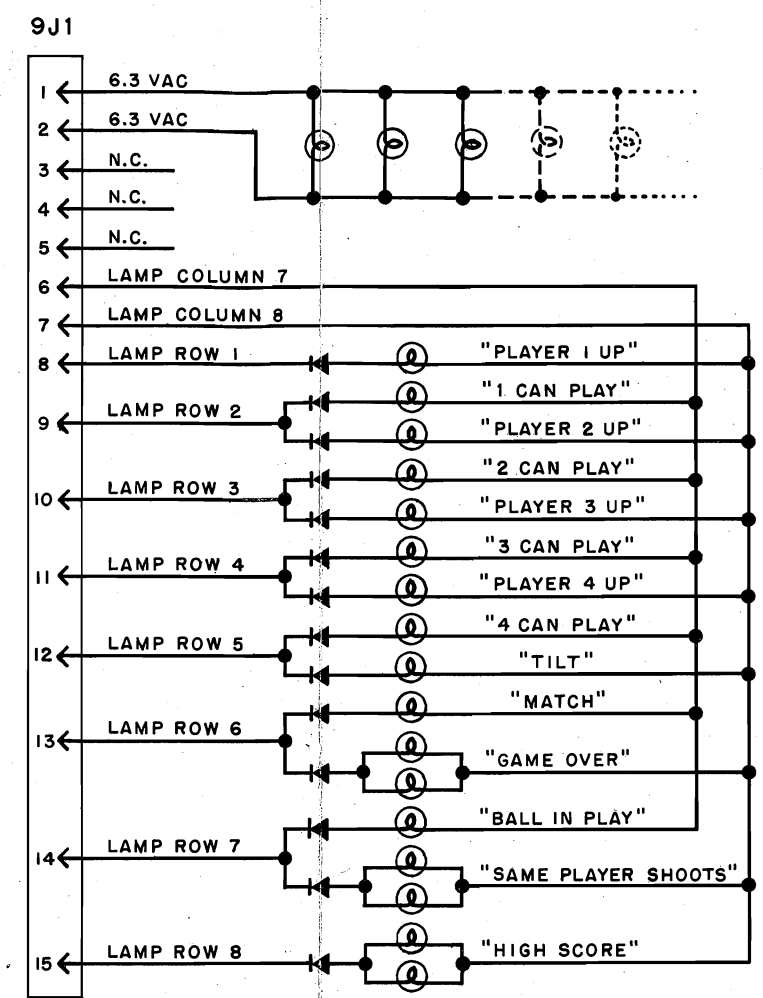
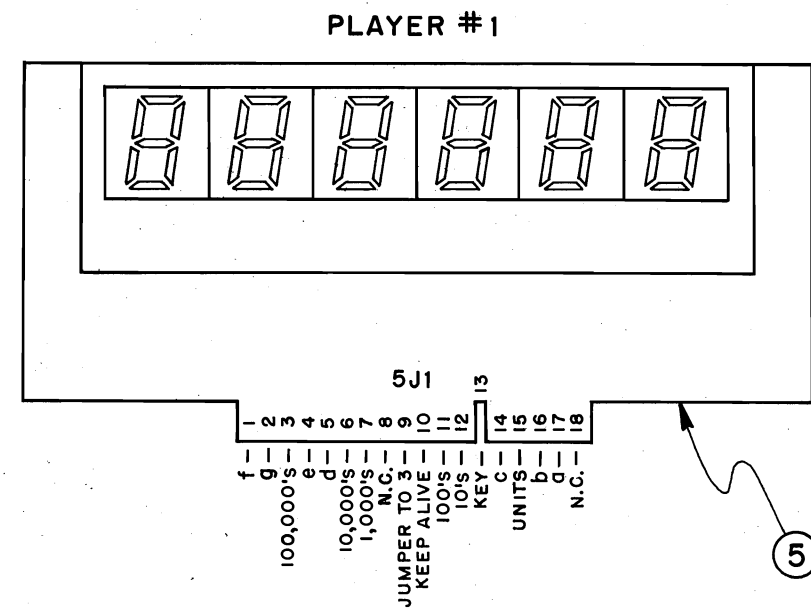
		QTY		ASSEMBLE ON	
TOLERANCES		WILLIAMS ELECTRONIC MFG. CORP.			
UNLESS OTHERWISE SPECIFIED		SUBSIDIARY OF THE KEEBURG CORP.			
FRACTIONS ± 1/64		3401 N. CALIFORNIA		CHICAGO 18, ILL.	
DECIMALS ± .005		NAME		POWER SUPPLY ASSEMBLY	
HOLE ± .002		MATERIAL		HEAT TREATMENT	
HOLES ± .000				FINISH	
ANGULAR ± 1/2°		DATE		SCALE	
DWG. D.P.G.		B-15-77		2:1	
				D-7999	



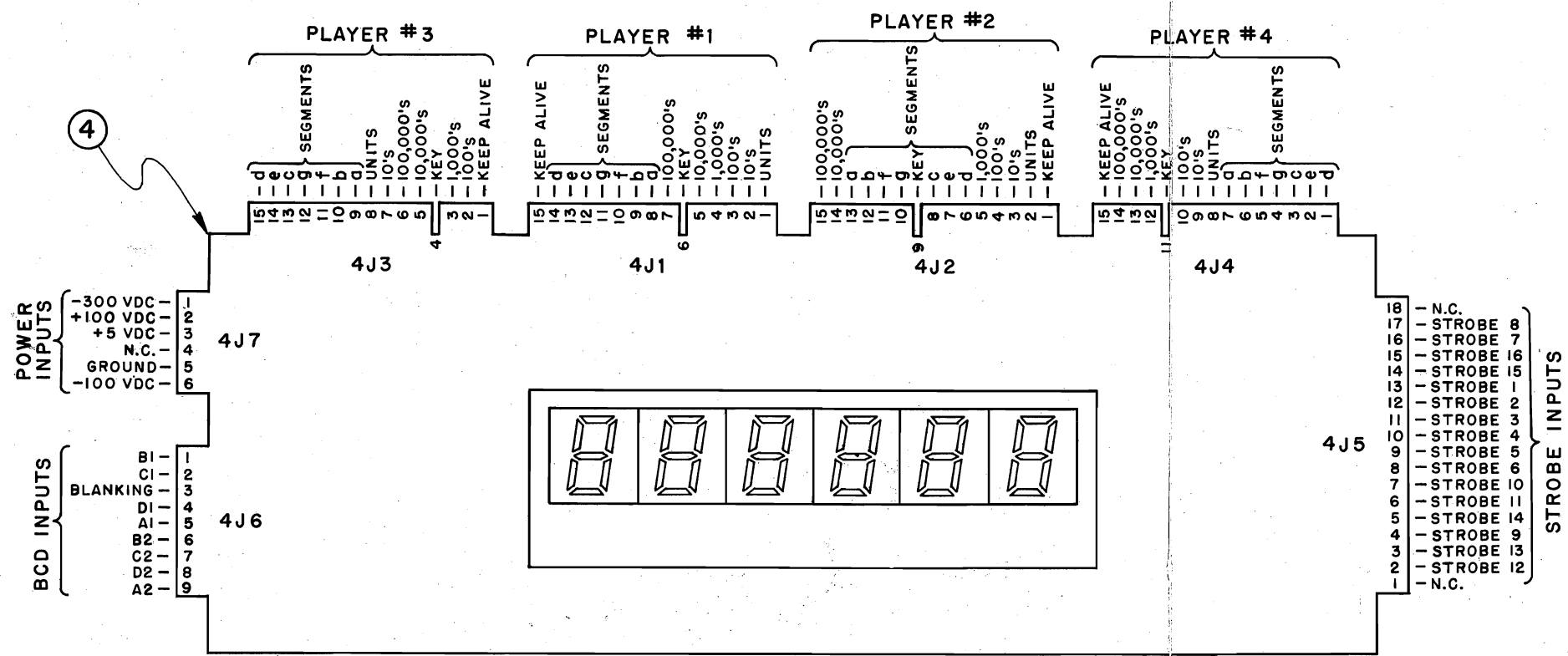
NOTE
1. C-16 AND C-17 MUST BE LOCATED AS CLOSE TO REGULATOR AS POSSIBLE.

D	3J5 WAS 3J2, 3J6 WAS 3J5, 3J7 WAS 3J6 AND CHANGED F2 FROM 10A TO 2 1/2 A SL-BL	D.D.G. 11-18-77
C	3J1 WAS J1'S, 3J2 WAS J2'S, 3J3 WAS J3'S, 3J4 WAS J4'S, 3J5 WAS J5'S, 3J6 WAS J6'S & DELETED C1-500uf, C2-100uf, C3-1uf, C4-500uf, C5-100uf, C6-1uf, D1, D2, F6-3/4A, F7-3/4A, MC1812 & MC7905	R.G. 10-28-77
B	IN J6, *4 WAS *3, *6 WAS *1, *5 WAS *2, *3 WAS *4, *1 WAS *6, *2 WAS *5 & IN J3 *2 WAS *12 & *5 WAS *15	R.G. 9-14-77
8-17-77	IDENTIFY PROTO SECT	DRP
REVISION LETTER	REVISION	BY

TOLERANCES UNLESS OTHERWISE SPECIFIED		WILLIAMS ELECTRONIC MFG. CORP. SUBSIDIARY OF THE SECURCO CORP.		
FRACTIONS	± 1/64	3401 N. CALIFORNIA	CHICAGO 18, ILL.	CORNELIA 7-2240
DECIMALS	± .005	NAME SCHEMATIC, POWER SUPPLY BOARD		
HOLES	± .002	MATERIAL	HEAT TREATMENT	FINISH
ANGULAR	± 1/2°	DATE	APP'D.	SCALE
		W.B. 11-14-77		D-7999



HOT TIP
INSERT BOARD WIRING



MASTER DISPLAY P.C. BOARD

NOTES:

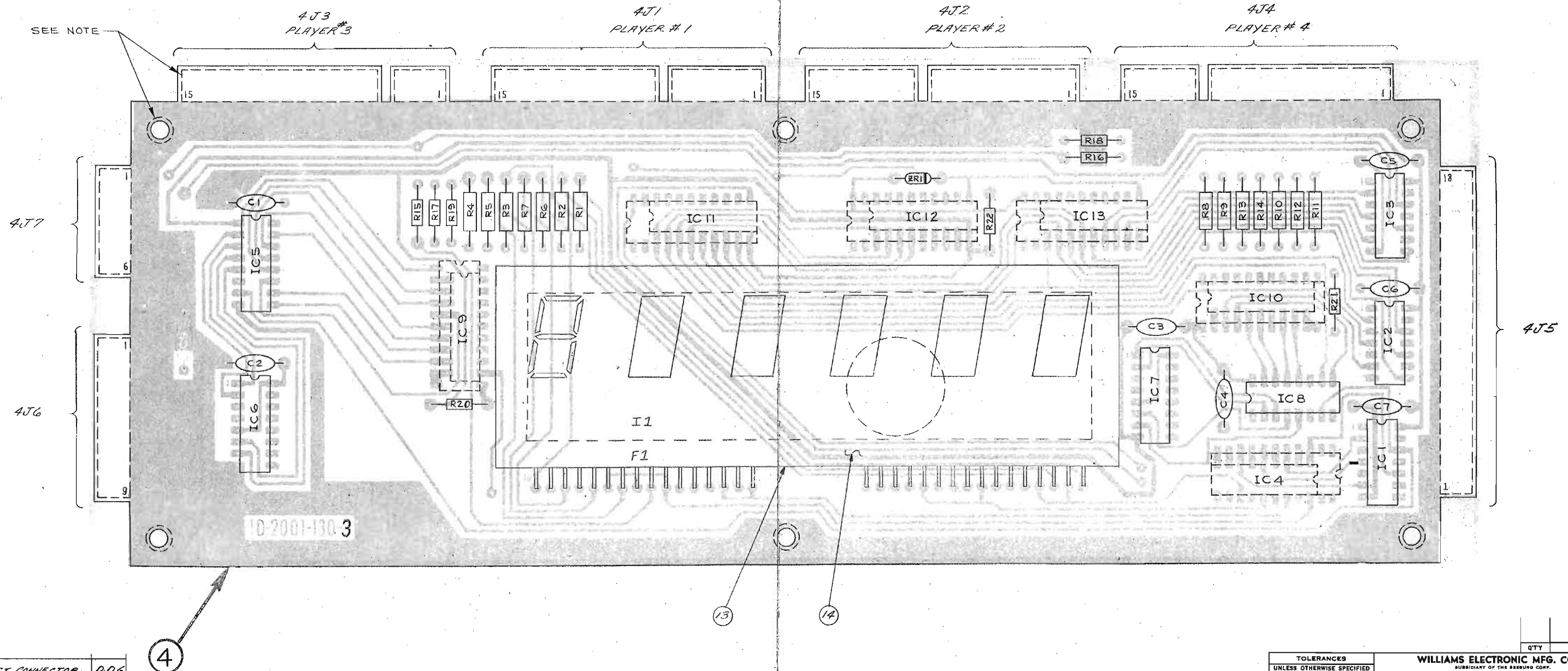
DASHED LINES DENOTE EDGE CONNECTORS AND MOUNTING HOLES TO BE PROTECTED DURING SOLDERING.

*-USE EITHER ITEM #3 (IC5 & IC8) OR ITEM #4 (IC6 & IC7).

**FOR CAPACITORS C1 THRU C4, USE EITHER C1 AND C4 WITH IC5 & IC8 OR C2 AND C3 WITH IC6 & IC7.

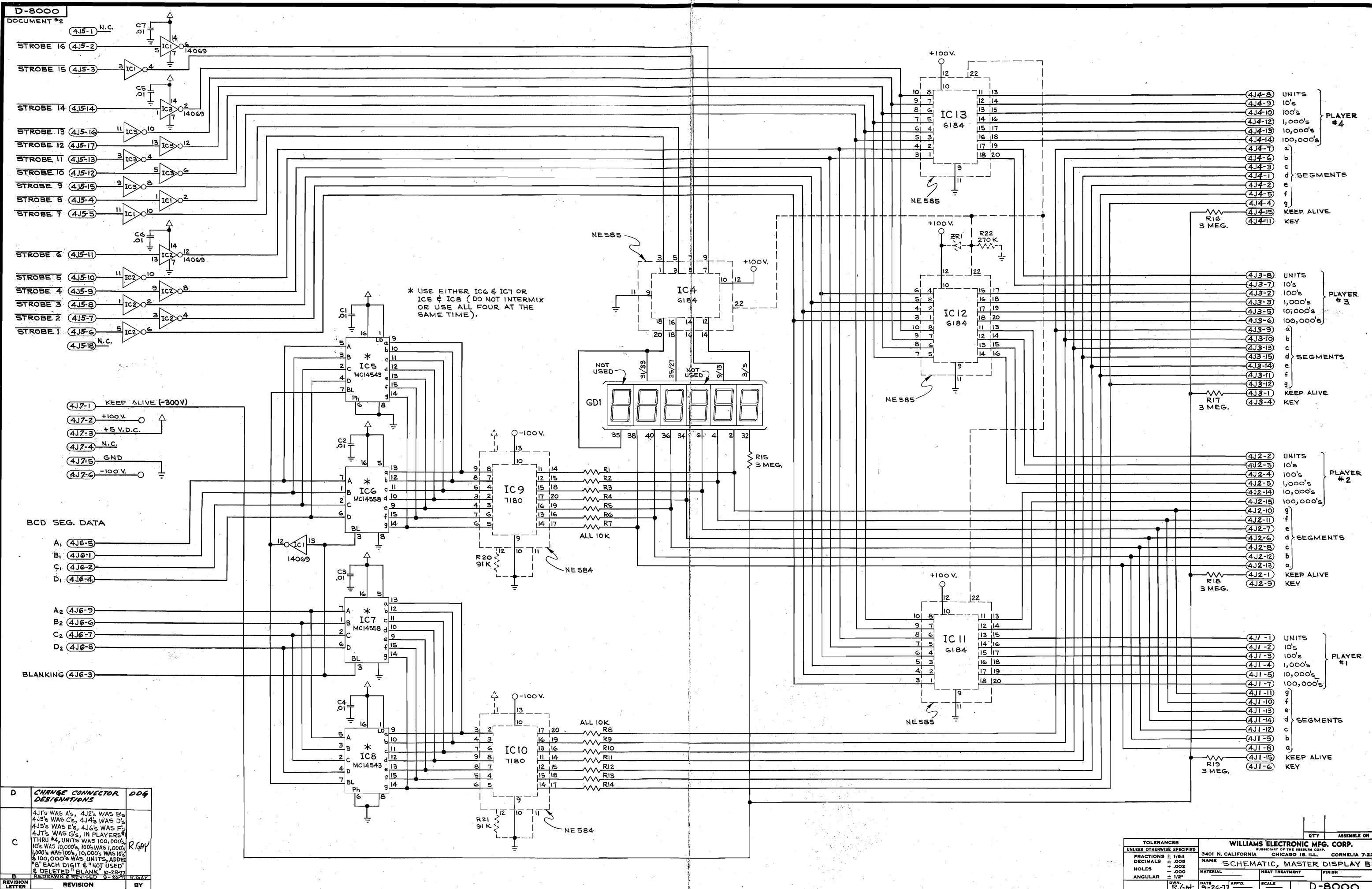
BILL OF MATERIAL

ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION
1	1D-2001-130	PC1	MASTER DISPLAY P.C. BOARD.
2	5A-8971	IC1, IC2, IC3	MC14069 HEX. INVERTER
* 3	5A-8970	IC5, IC8	MC14543 BCD TO SEVEN SEGMENT LATCH/DECODER/DRIVER
* 4		IC6, IC7	MC14558 BCD TO SEVEN SEGMENT DECODER
5	5A-8969	IC9, IC10	UDN-7180 OR NE584 GAS DISCHARGE DISPLAY SEGMENT DRIVERS
6	5A-8968	IC4, IC11, IC12, IC13	UDN-6184 OR NE585 GAS DISCHARGE DISPLAY DIGIT DRIVERS
7	5A-8981	R1 THRU R14	RES., FC., 10 K OHM. $\pm 10\%$ $\frac{1}{2}$ W.
8	5A-8982	R15 THRU R19	RES., FC., 3 MEG OHM. $\pm 10\%$ $\frac{1}{4}$ W.
9	5A-9119	R20, R21	RES., FC., 91 K OHM. $\pm 10\%$ $\frac{1}{4}$ W.
10	5A-9120	R22	RES., FC., 270 K OHM. $\pm 10\%$ $\frac{1}{4}$ W.
11	5A-9118	ZR1	IN6000 ZENER DIODE 10V-57%
** 12	5A-8980	C1 THRU C7	CAP., CERAMIC, .01 MFD. $\pm 80\%$ -20%
13	5A-8966	I1	6 DIGIT DISPLAY
14	23A-6534	F1	DISPLAY MTG. ADHESIVE FORM



TOLERANCES UNLESS OTHERWISE SPECIFIED		WILLIAMS ELECTRONIC MFG. CORP. SUBSIDIARY OF THE SREBORG CORP. 3401 N. CALIFORNIA CHICAGO 18, ILL. CORNELIA 7-2240	
FRACTIONS: $\pm 1/64$	NAME	MASTER DISPLAY ASSEMBLY	
DECIMALS: $\pm .005$	MATERIAL	HEAT TREATMENT	FINISH
HOLES: $\pm .002$	DATE	9-27-77	SCALE
ANGULAR: $\pm 1/2^\circ$	APP'D.	2:1	D-8000
DOWN: R.G.H.			

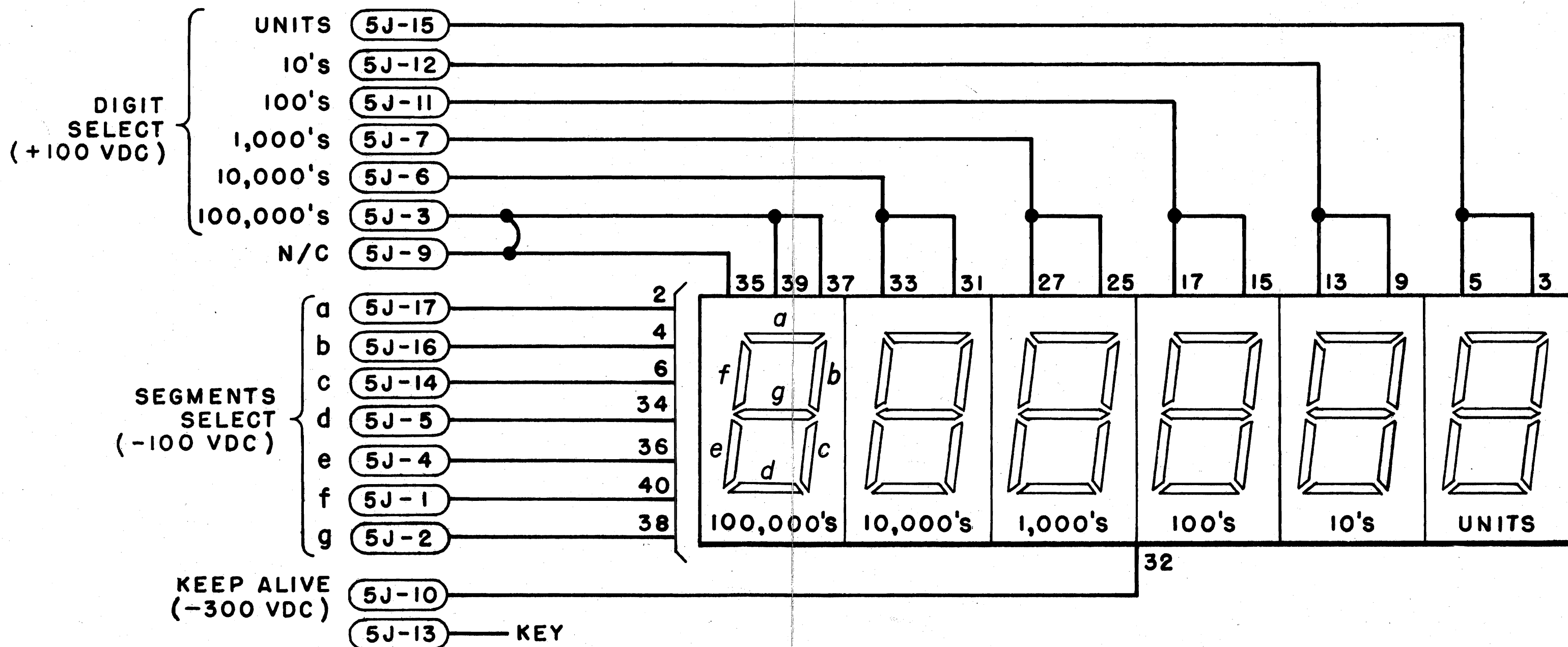
A	CORRECT CONNECTOR DESIGNATIONS, ADD: DISPLAY AND FORM TAPE TO B/M	D.D.G.
REVISION LETTER	REVISION	BY



D	CHANGE CONNECTOR DESIGNATIONS	DDG
C	4J1's WAS A's, 4J2's WAS B's, 4J3's WAS C's, 4J4's WAS D's, 4J5's WAS E's, 4J6's WAS F's, 4J7's WAS G's, IN PLAYERS 1 THRU 4, UNITS WAS 100,000's, 10's WAS 10,000's, 100's WAS 1,000's, 1000's WAS 100's, 10,000's WAS 10's & 100,000's WAS UNITS, ADDS "8" EACH DIGIT & "NOT USED" & DELETED "BLANK" 10-28-77	R.GAY
B	REDRAWN & REVISED 9-26-77	R.GAY
REVISION LETTER	REVISION	BY

TOLERANCES UNLESS OTHERWISE SPECIFIED		WILLIAMS ELECTRONIC MFG. CORP. SUBSIDIARY OF THE RESURG MFG. CORP. 3401 N. CALIFORNIA CHICAGO 18, ILL. CORNELIA 7-2240	
FRACTIONS	± 1/64	NAME	SCHEMATIC, MASTER DISPLAY BD.
DECIMALS	± .005	MATERIAL	
HOLES	± .002	HEAT TREATMENT	
ANGULAR	± 1/2°	FINISH	
DATE	9-26-77	SCALE	D-8000

SLAVE DISPLAY BOARD



C-8019

DOCUMENT #1

BILL OF MATERIAL

ITEM	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D.
1	5A-8966	I1	6 DIGIT DISPLAY	1
2	23A-6534	F1	DISPLAY MTG. ADHESIVE FOAM	1
3	ID-2001-132		SLAVE DISPLAY P.C. BOARD	1

