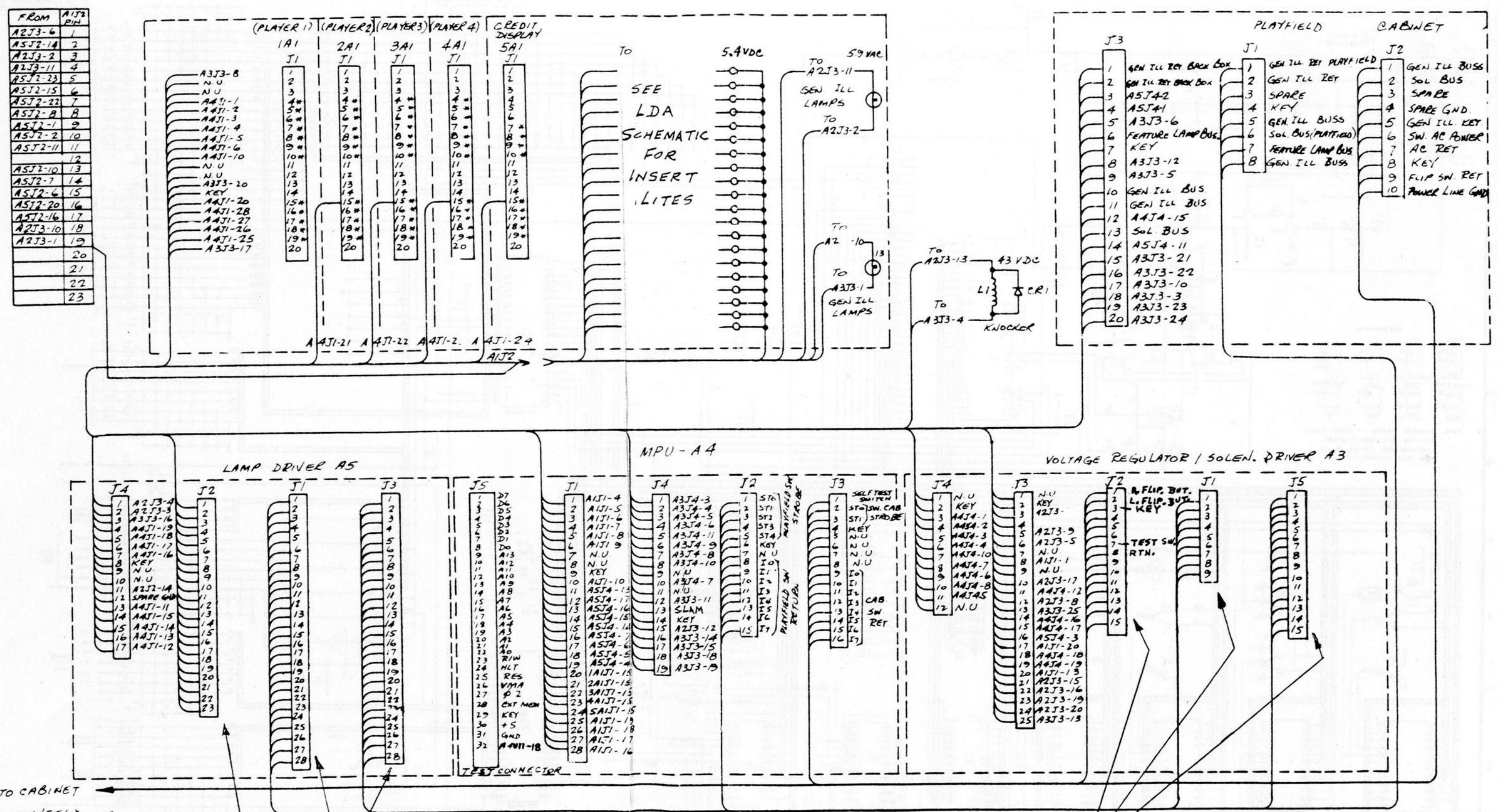


A1 INSERT

A2 TRANSFORMER

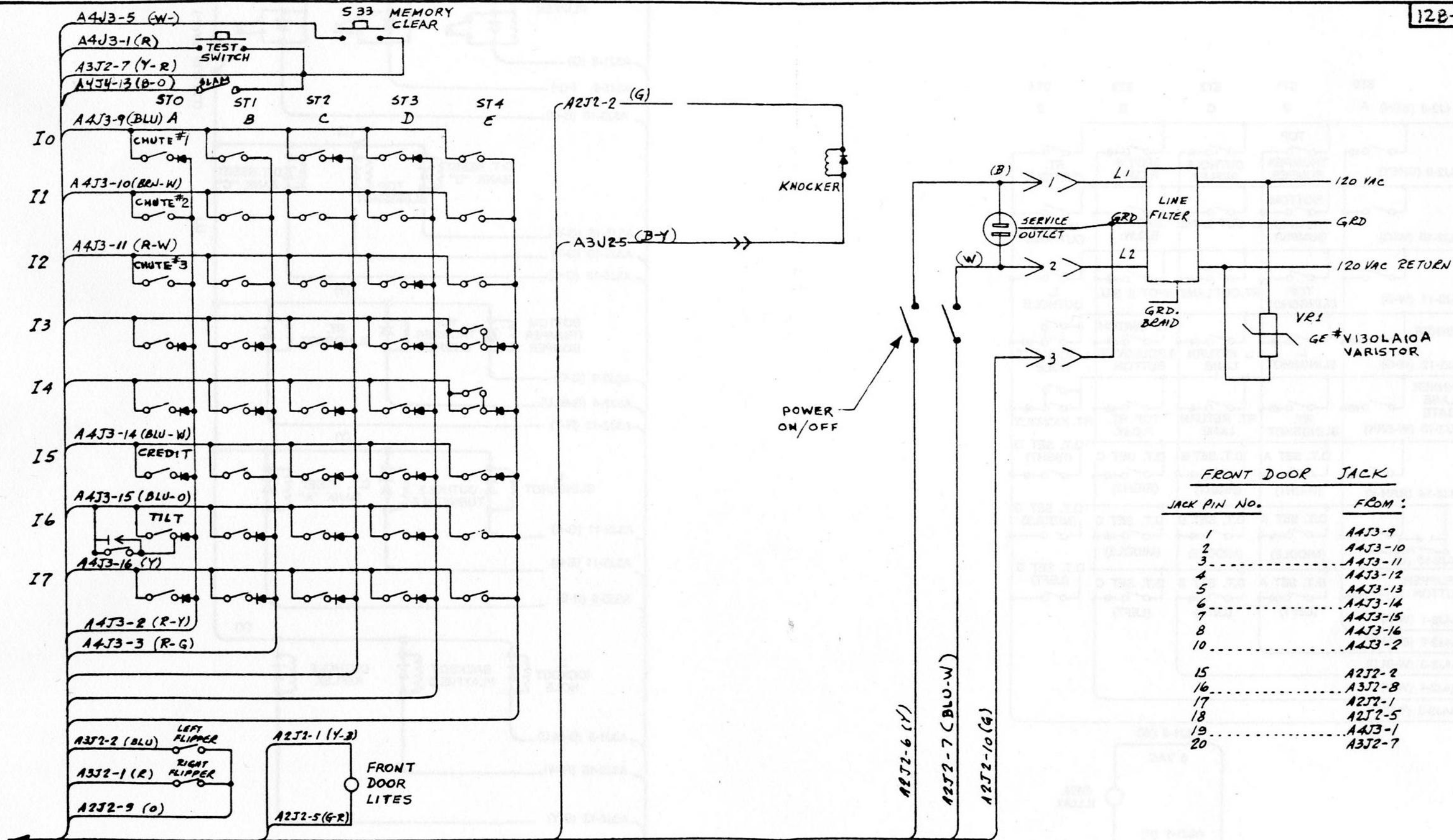


SEE INDIVIDUAL SCHEMATIC DRAWINGS FOR WIRE COLORS.

SEE LDA SCHEMATIC FOR FEATURE LAMP PIN OUTS

SEE SDU SCHEMATIC FOR SOLENOID PIN OUTS.

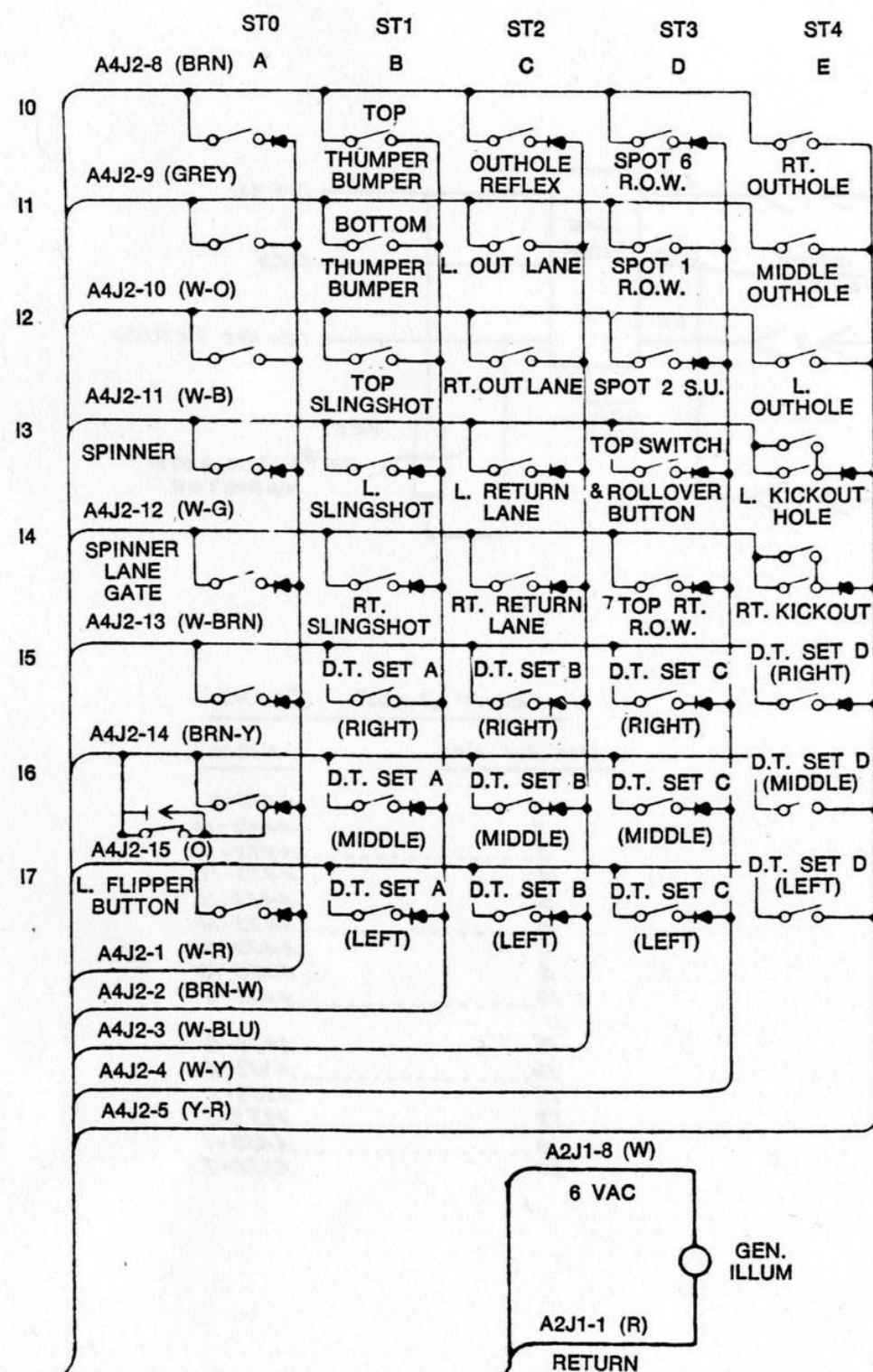
STERN ELECTRONICS INC.		
1725 DIVERSEY BLVD. CHICAGO 60614		
WIRING DIAGRAM		
FOR SOLID STATE		
DRN. CW.	ATE	AMT
MAT	FIN.	APPR.



FRONT DOOR JACK	
JACK PIN No.	FROM:
1	A4J3-9
2	A4J3-10
3	A4J3-11
4	A4J3-12
5	A4J3-13
6	A4J3-14
7	A4J3-15
8	A4J3-16
10	A4J3-2
15	A2J2-2
16	A3J2-8
17	A2J2-1
18	A2J2-5
19	A4J3-1
20	A3J2-7

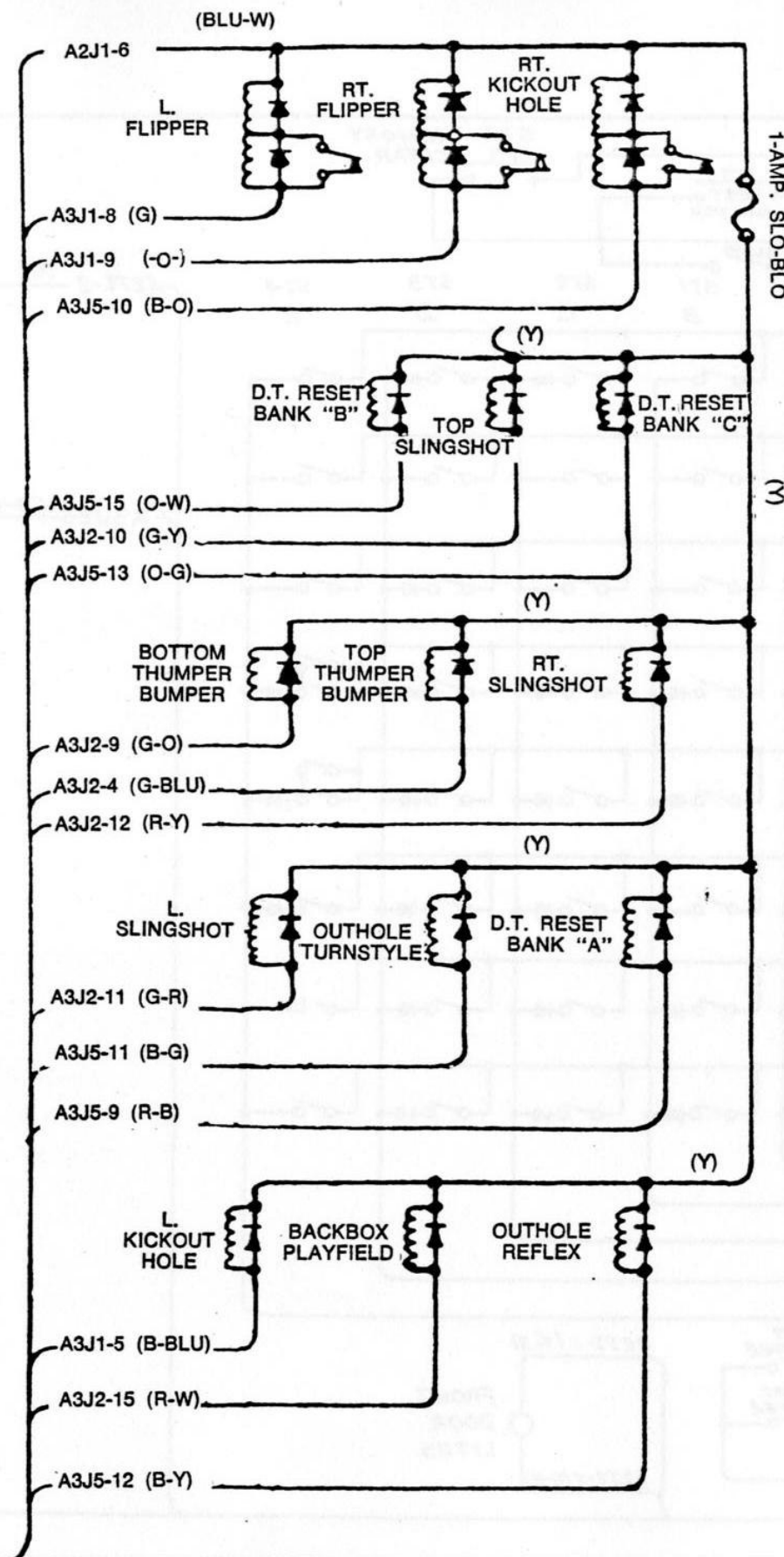
N/U = NOT USED
ALL DIODES ARE IN-4148

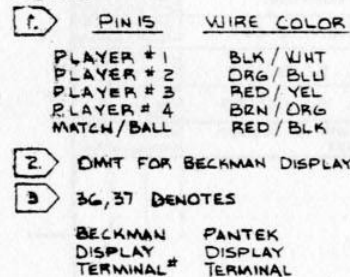
ISSUE	CHANGE	DATE



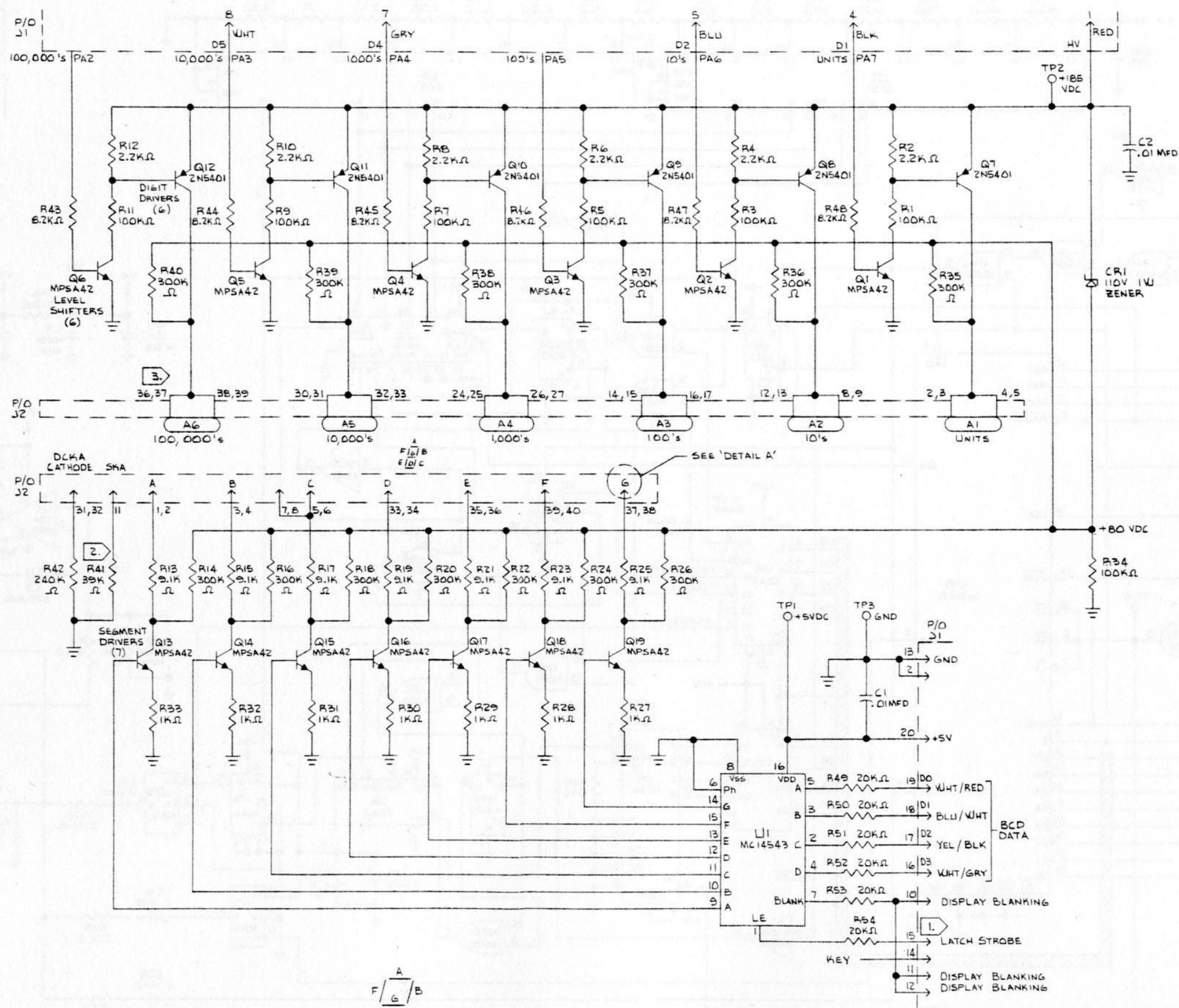
R.O.W.=ROLL OVER WIRE
S.U.=STAND-UP TARGET
D.T.=DROP TARGET

PLAYFIELD
CATACOMB - 147 -





REVISIONS				
SYM	DESCRIPTION	DFT DATE	CHK DATE	APP DATE
A	ISSUED, E.C.R. A-00B	2-5 1968	1-10 1968	2-6 1968
B	DWG. CHG., E.C.R. A-011	2-5 1968	1-10 1968	2-6 1968
C	DWG. CHG. E.I. 00116	1-5 1968	1-10 1968	2-6 1968
D	INSTITUTE NEW RU SYSTEM. E.I. 00685	1-6 1968	1-10 1968	2-6 1968



DETAIL A

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RE FACT	MATERIAL	TOLERANCES UNLESS OTHERWISE SPECIFIED	DR J.S.MITH 2/9/79	 UNIVERSAL RESEARCH LABORATORIES INC A STEREN ELECTRONICS COMPANY 2501 UNION LANE ELK GROVE VILLAGE, ILLINOIS 60007	REV
			CHK W.B. 2/13/79		
W-E	FINISH	FRACTIONS 1/16" DECIMALS ANGULAR 2° 15' 2 PLACE 2.000 CONCENTRICITY 1 PLACE 2.000 SURF. TYP. 2 PLACE 2.000	APPD W.B. 2/13/79 APPD	NAME	SCHEMATIC, DISPLAY P.C. BOARD
		ALL MACHINED SURFACES ☒ REMOVE BURRS & SHARP EDGES	SCALE ☐ MODEL DA-100 DO NOT SCALE DRAWING	DWG NO 340-434-S SIZE D	
N-L	ALL DIMENSIONS ARE AFTER PLATING.				REV 0

1.	PIN IS	WIRE COLOR
1	1	RED
2	2	RED
3	3	RED
4	4	RED
5	5	RED
6	6	RED
7	7	RED
8	8	RED
9	9	RED
10	10	RED
11	11	RED
12	12	RED
13	13	RED
14	14	RED
15	15	RED
16	16	RED
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42	42	RED
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90	90	RED
91	91	RED
92	92	RED
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96	96	RED
97	97	RED
98	98	RED
99	99	RED
100	100	RED

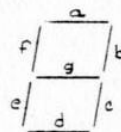
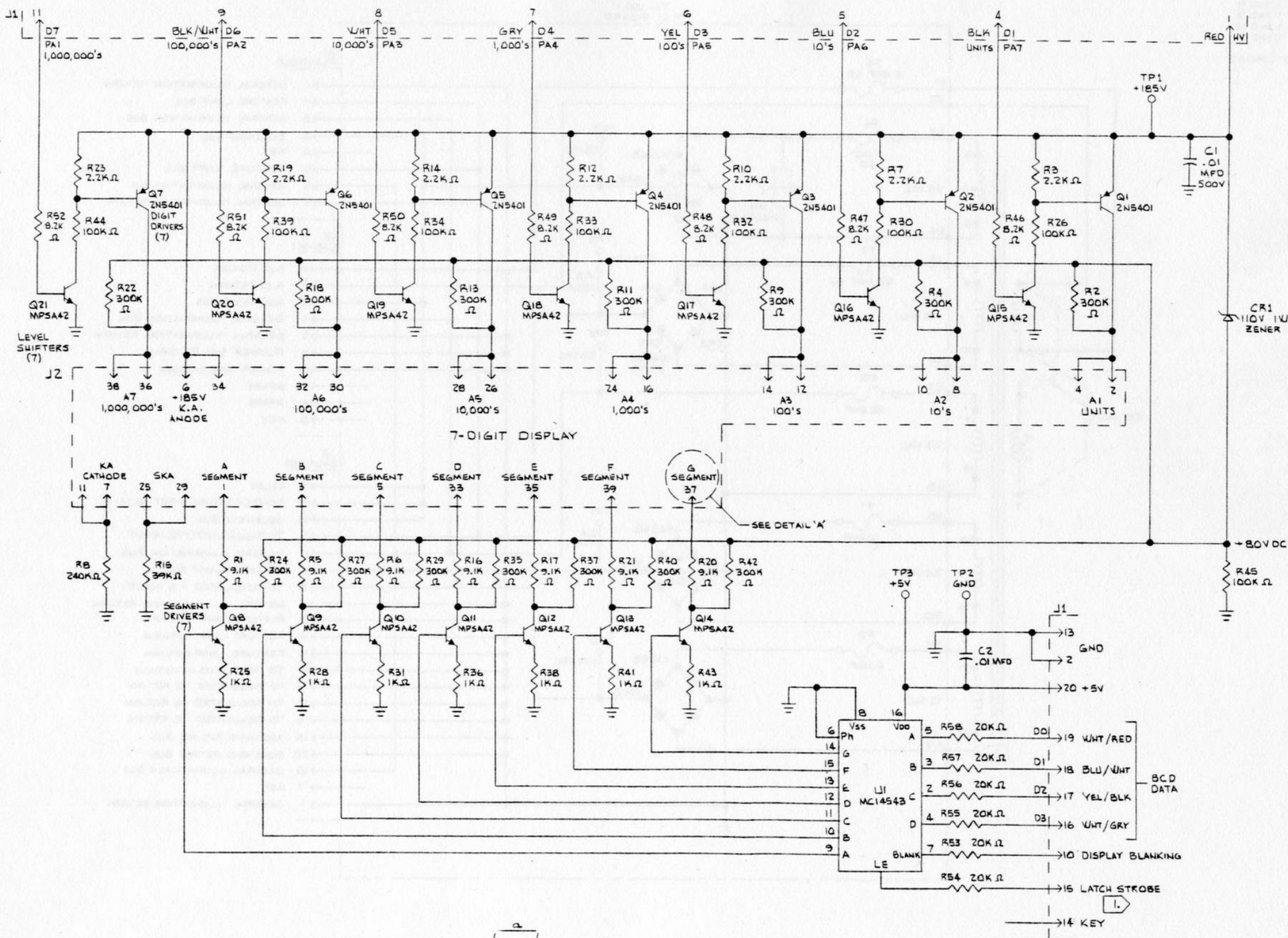
PLAYER # 1	BLK / WHT
PLAYER # 2	ORG / BLU
PLAYER # 3	RED / YEL
PLAYER # 4	BRN / ORG
MATCH / BALL	RED / BLACK

2. LAST 'C' NUMBER USED C2
LAST 'CR' NUMBER USED CR1
LAST 'J' NUMBER USED J2
LAST 'Q' NUMBER USED Q21
LAST 'R' NUMBER USED R58
LAST 'TP' NUMBER USED TP3
LAST 'U' NUMBER USED U1

3. ON P.C. BOARD LEGEND;

NOMENCLATURE DD IS THE ABBREVIATION FOR DIGIT DRIVER.

NOMENCLATURE LS IS THE ABBREVIATION FOR LEVEL SHIFTER.



DETAIL 'A'

[illegible]

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MATERIAL

FINISH

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONS ± TYP	DECIMALS
ANGULAR ± 1° 0'	± 0.005
CONCENTRICITY ±	± 0.005
± 0.01 T.I.A.	± 0.002

ALL MACHINED SURFACES ✓

	MATERIAL
--	----------

TOLERANCES UNLESS	DR. 1 5/16 1 1/2 1 3/4
-------------------	------------------------

TOLERANCES UNLESS
OTHERWISE SPECIFIED

12/5/77

FRACTIONS: 1/64	DECIMALS	2.5.2.16 12 K 1
ANGULAR: 1/2°	2 PLACE: .010	
CONCENTRICITY	3 PLACE: .001	

CONCENTRITY	2 PLACE : .005	APPROX
005 T.L.R.	4 PLACE : .0005	12/5/17

SCALE	MODEL
-------	-------

ALL MACHINED SURFACES ✓	—	DA-300
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REMOVE BURRS & SHARP EDGES	DO NOT SCALE DRAWING
----------------------------	----------------------

6	
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1

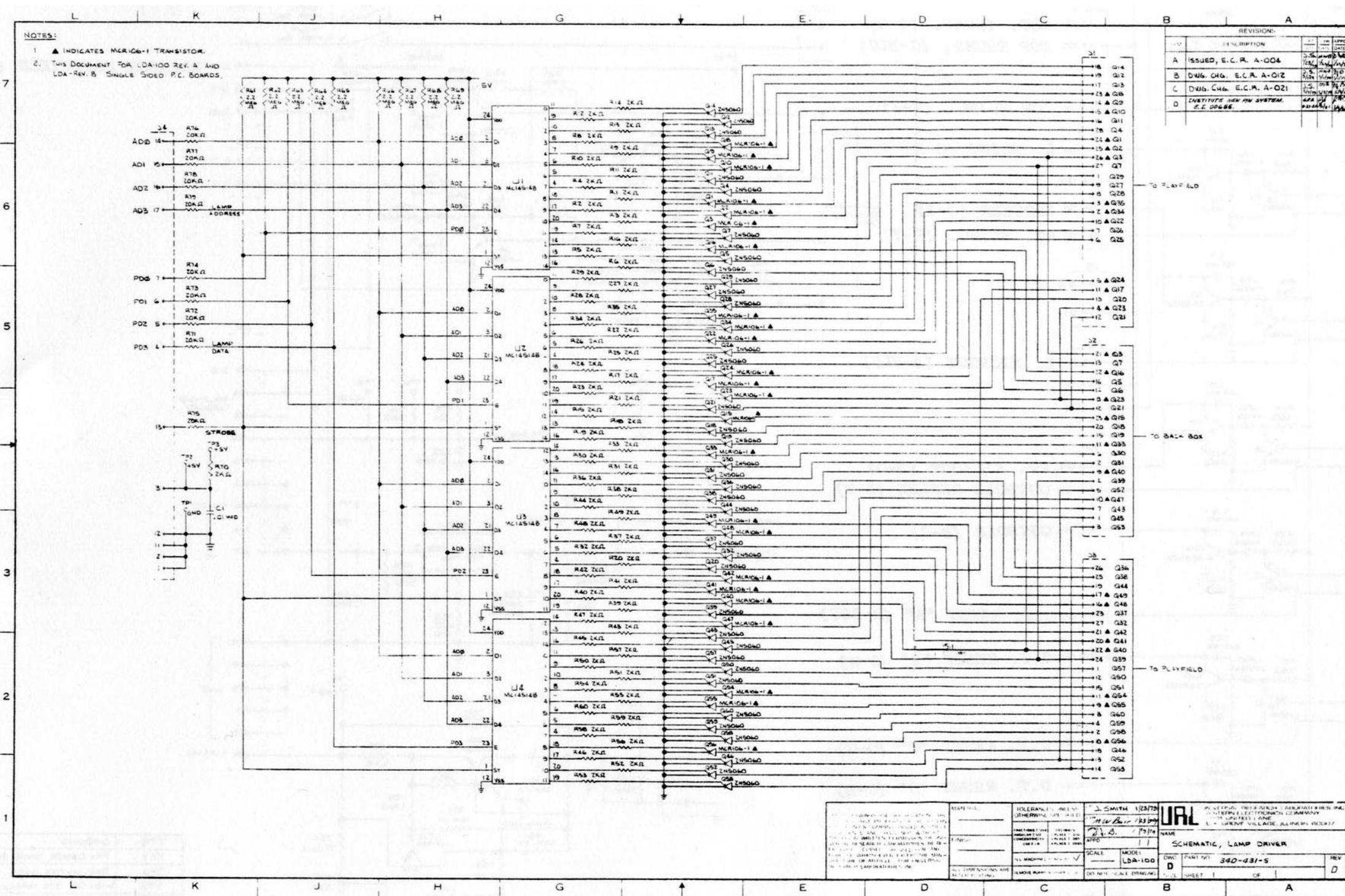
URL UNIVERSAL RESEARCH LABORATORIES INC.
A STERN ELECTRONICS COMPANY
2501 UNITED LANE
ELK GROVE VILLAGE, ILLINOIS 60007

NAME
SCHEMATIC, 7-DIGIT DISPLAY P.C. BOARD

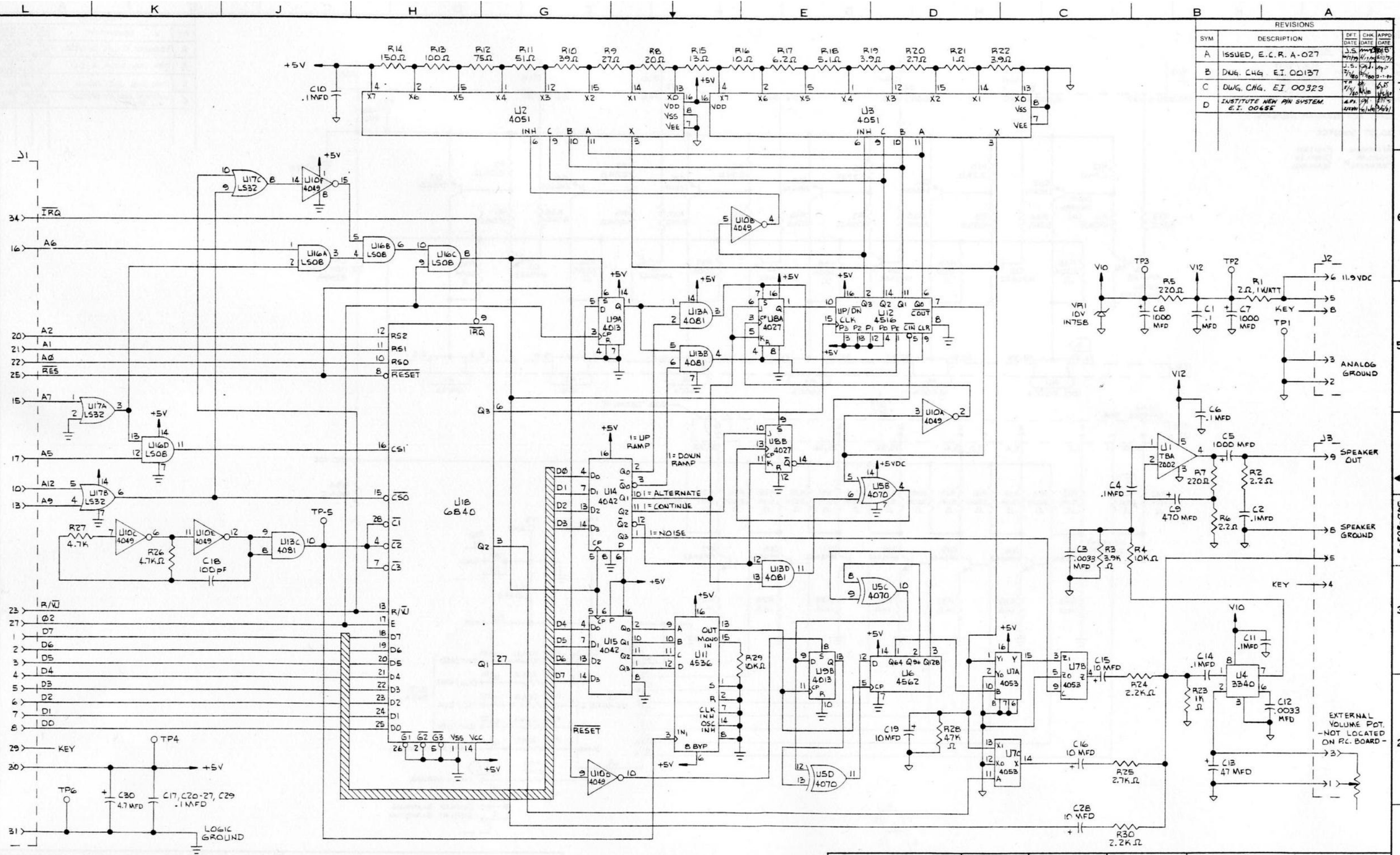
DWG D	PART NO. 340-645-S	REV.
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SIZE	SHEET	1	OF	1	C
------	-------	---	----	---	---

B | A



DESCRIPTION	WIRE COLOR	JACK LDA NO	PIN NO	TRANSISTOR	IC NO	PIN CODE
DROP TARGET BANK "A" LAMP	O-R	J1	18	Q14	U1	11 0000
DROP TARGET BANK "B" LAMP	R-Y	J1	1	Q29	U2	11 0000
DROP TARGET BANK "C" LAMP	GREY	J3	26	Q36	U3	11 0000
DROP TARGET BANK "D" LAMP	GREY-Y	J3	1	Q57	U4	11 0000
SPOT 1 LAMP	BLU-Y	J1	9	Q27	U2	9 0001
SPOT 2 LAMP	BLU-R	J3	25	Q38	U3	9 0001
SPOT 3 LAMP	BLU-W	J3	12	Q50	U4	9 0001
BONUS GREEN 14	B-G	J1	17	Q13	U1	10 0010
BONUS BLUE 9	G-W	J1	8	Q28	U2	10 0010
BONUS AMBER 1	BRN-BLU	J3	19	Q44	U3	10 0010
BONUS RED 6	W-B	J3	15	Q51	U4	10 0010
DROP TARGET BANK "A" GREEN 14	BLU-W	J1	23	Q8	U1	8 0011
DROP TARGET BANK "A" BLUE 9	R-G	J1	3	Q35	U2	8 0011
DROP TARGET BANK "A" AMBER 1	Y-BLU	J3	17	Q49	U3	8 0011
DROP TARGET BANK "A" RED 6	-W-	J3	11	Q54	U4	8 0011
BONUS GREEN 3	GREY-O	J1	14	Q9	U1	7 0100
BONUS BLUE 8	GREY	J1	2	Q34	U2	7 0100
BONUS AMBER 16	O-BLU	J3	16	Q48	U3	7 0100
BONUS RED 11	O-B	J3	9	Q55	U4	7 0100
DROP TARGET BANK "B" GREEN 3	GREY-Y	J1	15	Q10	U1	6 0101
DROP TARGET BANK "B" BLUE 8	GREY-BLU	J1	10	Q22	U2	6 0101
DROP TARGET BANK "B" AMBER 16	GREY-W	J3	23	Q37	U3	6 0101
DROP TARGET BANK "B" RED 11	W-BLU	J3	3	Q60	U4	6 0101
BONUS GREEN 15	-B-	J1	16	Q11	U1	5 0110
BONUS BLUE 12	Y-G	J1	7	Q26	U2	5 0110
BONUS AMBER 4	O-W	J3	27	Q32	U3	5 0110
BONUS RED 7	R-W	J3	4	Q59	U4	5 0110
DROP TARGET BANK "C" GREEN 15	B-W	J1	28	Q4	U1	4 0111
DROP TARGET BANK "C" BLUE 12	BRN-R	J1	6	Q25	U2	4 0111
DROP TARGET BANK "C" AMBER 4	W-BLU	J1	13	Q20	U3	4 0111
DROP TARGET BANK "C" RED 7	BLU-O	J3	2	Q58	U4	4 0111
BONUS GREEN 2	BRN-BLU	J1	24	Q1	U1	18 1000
BONUS BLUE 5	PUR-W	J1	5	Q24	U2	18 1000
BONUS AMBER 13	G-B	J3	21	Q42	U3	18 1000
BONUS RED 10	GREY-B	J3	10	Q56	U4	18 1000
DROP TARGET BANK "D" GREEN 2	B-BLU	J1	25	Q2	U1	17 1001
DROP TARGET BANK "D" BLUE 5	B-O	J1	11	Q17	U2	17 1001
DROP TARGET BANK "D" AMBER 13	W-O	J3	20	Q41	U3	17 1001
DROP TARGET BANK "D" RED 10	R-BLU	J3	18	Q46	U4	17 1001
SHOOT AGAIN	GREY-R	J1	26	Q3	U1	20 1010
MULTIPLIER 2X	B-R	J2	8	Q23	U2	20 1010
MULTIPLIER 3X	W-R	J2	9	Q40	U3	20 1010
MULTIPLIER 4X	B-Y	J2	5	Q52	U4	20 1010
MULTIPLIER 5X	GREY-G	J2	13	Q7	U1	19 1011
SPINNER LANE EXTRA BALL LAMP	R-W	J2	12	Q21	U2	19 1011
SPINNER LANE SPECIAL LAMP	PUR-B	J2	4	Q39	U3	19 1011
SUPER BONUS	B-W	J2	3	Q53	U4	19 1011
HIGH SCORE TO DATE	GREY-O	J2	22	Q16	U1	14 1100
GAME OVER	GREY-W	J2	11	Q33	U3	14 1100
TILT	GREY-BLU	J2	10	Q47	U4	14 1100
LEFT RETURN LANE	-B-	J2	16	Q5	U1	13 1101
RIGHT RETURN LANE	-O-	J2	20	Q18	U2	13 1101
LEFT OUT LANE	-Y-	J2	6	Q30	U3	13 1101
RIGHT OUT LANE	BLU-W	J2	7	Q43	U4	13 1101
SPINNER 1000 POINT LAMP TOP	BRN-R	J2	14	Q6	U1	16 1110
SPINNER 1000 POINT LAMP MIDDLE	O-BLU	J2	15	Q19	U2	16 1110
SPINNER 1000 POINT LAMP BOTTOM	G-O	J2	2	Q31	U3	16 1110
MATCH	GREY-W	J2	1	Q45	U4	16 1110

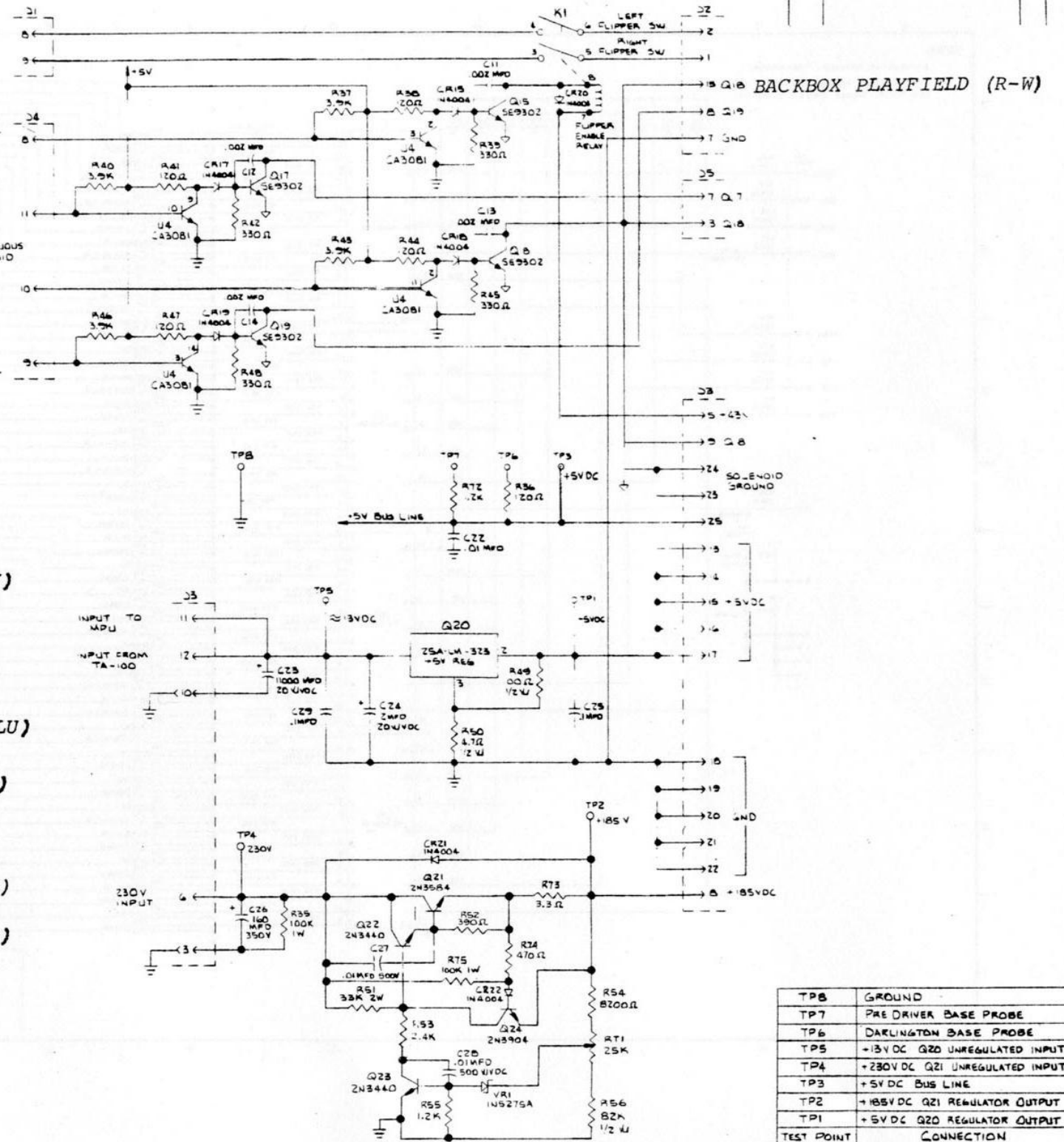
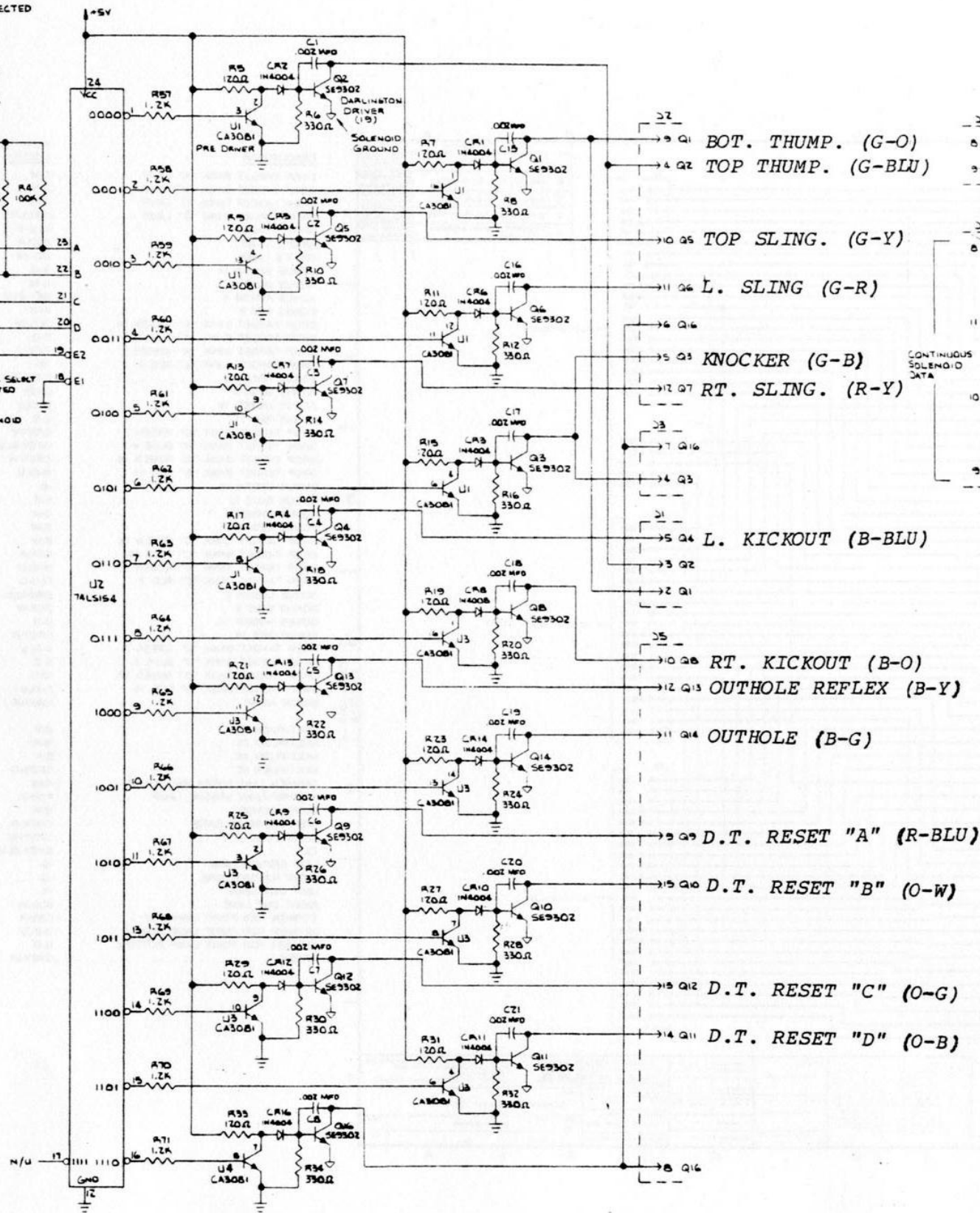


REVISIONS			
SYM	DESCRIPTION	DFT DATE	APPD DATE
A	ISSUED, E.C.R. A-027	J.S. 11/11/79	
B	DWG. CHG. E.I. 00137	J.S. 11/11/79	
C	DWG. CHG. E.I. 00323	J.S. 11/11/79	
D	INSTITUTE NEW PIN SYSTEM. E.I. 00655	J.S. 11/11/79	

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FINISH	ALL DIMENSIONS ARE AFTER PLATING.	REMOVE BURRS & SHARP EDGES	DO NOT SCALE DRAWING	CHK. J.D.Z. 6/16/79	
SCALE	MODEL	SIZE	SHEET	APPD. J.S. 6/13/79	
5B-300		D	1	NAME	
SCHEMATIC, ELECTRONIC SOUNDS					REV
DWG. PART NO. 34D-605-S					D

NOTES:

1. K46100 IS AN APPROVED ALTERNATE PART FOR TRANSISTORS Q1-Q15.
2. PIN 15 OF U1, U3, U4 IS EMITTER CONNECTED TO GROUND.
3. THE TAB ON SE9302 IS CONNECTED TO THE COLLECTOR OF THE TRANSISTOR.
4. LAST 'R' NUMBER USED R75
LAST 'C' NUMBER USED C29
LAST 'K' NUMBER USED K22
LAST 'U' NUMBER USED U4
LAST 'Q' NUMBER USED Q24



REVISIONS		DATE	BY	APP'D
A	ISSUED, E.C.R. A-009	3/5/79	J.S.	
B	DRUG CHG E.I. 00110	3/5/79	J.S.	
C	INSTITUTE NEW PU SYSTEM E.I. 00455	3/5/79	J.S.	

BACKBOX PLAYFIELD (R-W)

TP8	GROUND
TP7	PRE DRIVER BASE PROBE
TP6	DARLINGTON BASE PROBE
TP5	+13VDC Q20 UNREGULATED INPUT
TP4	+230VDC Q21 UNREGULATED INPUT
TP3	+5VDC BUS LINE
TP2	+13VDC Q21 REGULATOR OUTPUT
TP1	+5VDC Q20 REGULATOR OUTPUT
TEST POINT	CONNECTION

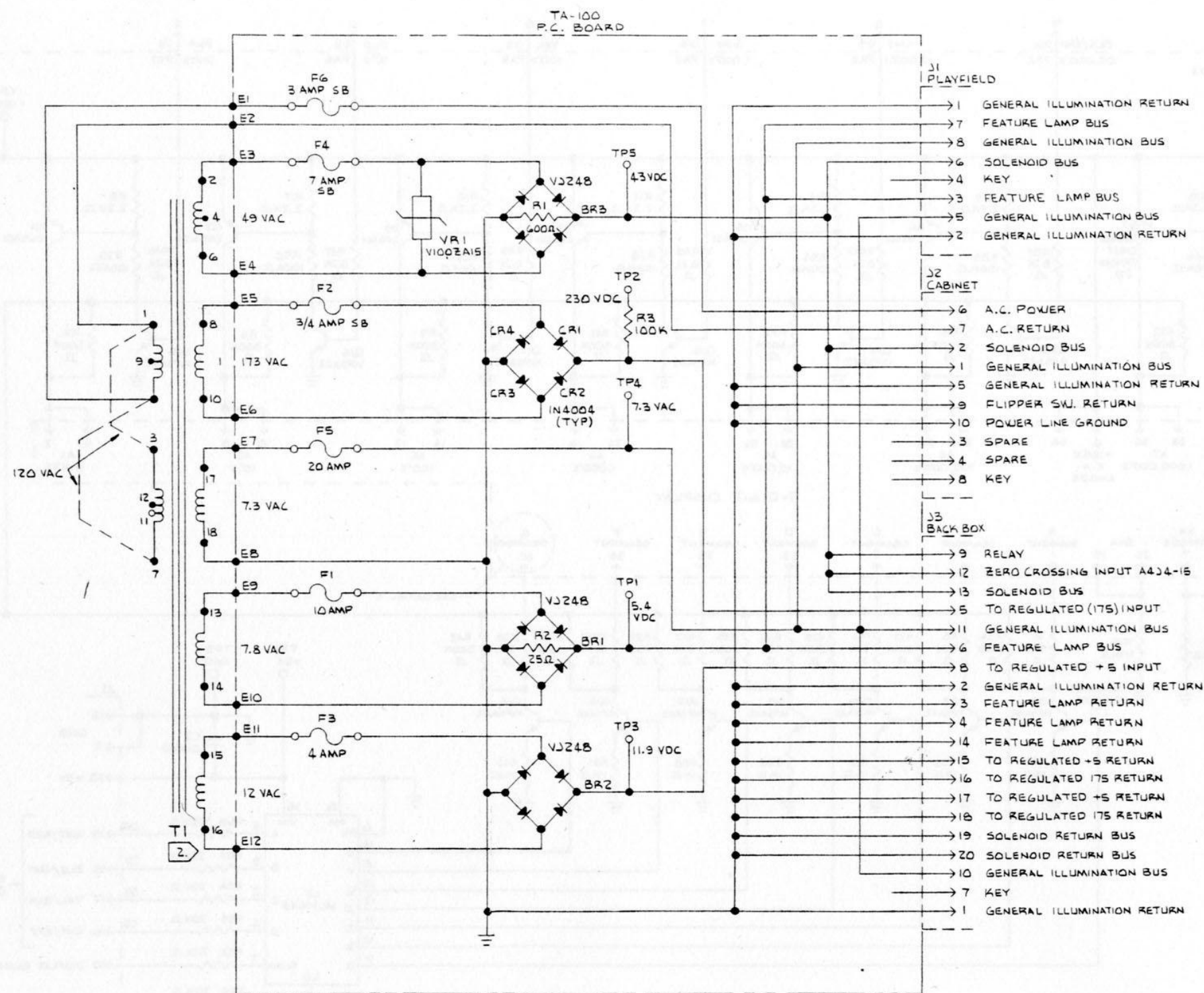
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NOTES:

1. POWER LINE CONNECTIONS:

AC LINE VOLTAGE	STRAP TERMINALS	APPLY POWER TO TERMINALS
115	1 TO 3 AND 9 TO 11	1 AND 9
120	1 TO 3 AND 5 TO 7	1 AND 5
220	3 TO 5	1 AND 12
240	3 TO 5	1 AND 7

2. T1 IS NOT LOCATED ON PRINTED CIRCUIT BOARD.



REVISIONS				
SYM	DESCRIPTION	DATE	CHK	APPRO
B	ISSUED, E.C.R. A-015	3/5/79	J.S.	J.S.
C	ADDED JUMPER BETWEEN J1 PIN 3 & 7 E.I. 00164	3/5/79	J.S.	J.S.
D	F4 WAS 5 AMP, CHANGED TO 7 AMP PER E.I. 00164	3/5/79	J.S.	J.S.
E	INSTITUTE NEW PIN SYSTEM E.I. 00655	3/5/79	J.S.	J.S.

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