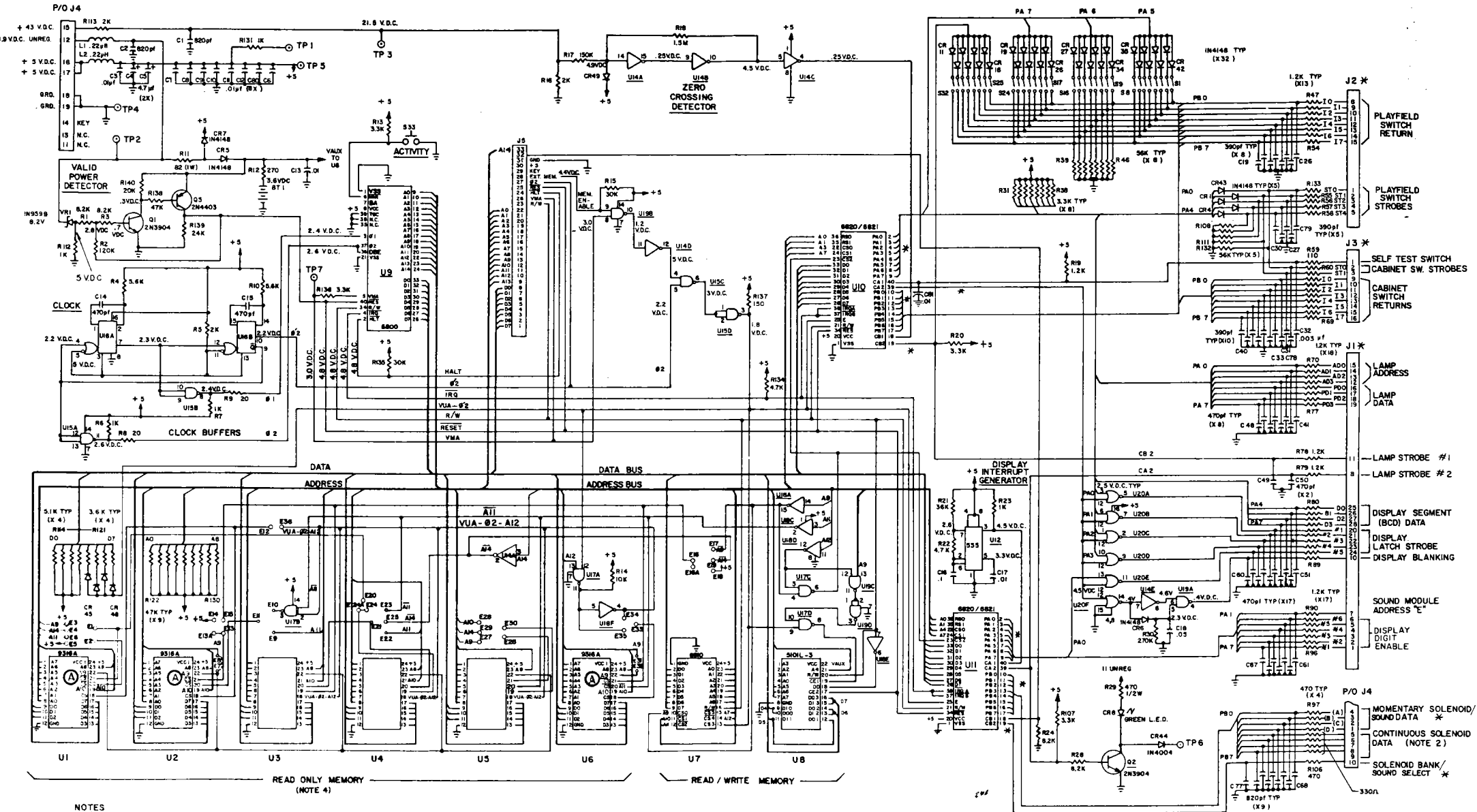


- NOTES:**
1. USE JUMPER A IF INTERNAL RAM IS USED (6802 WITHOUT U10).
  2. " " " B " EXTERNAL " " " (6808/6810, U10).
  3. " " " C " 2K ROM (EPROM) " " " (G1 9316B INTEL 2716 OR EQUIV).
  4. " " " D " 4K " " " (T1 TMS 2532 TMS 4732 OR EQUIV).
  5. U7, R12, R11, R13, C10, C11 NOT USED ON THIS ASSEMBLY.
  6. UNLESS OTHERWISE INDICATED, ALL RESISTOR VALUES ARE IN OHMS, ALL CAPACITOR VALUES ARE IN MMFD'S.
  7. PREFIX ALL REFERENCE DESIGNATIONS WITH A, B.
  8. \* INDICATES 'AID' TEST POINT.

<small>ALL MECHANICAL OPERATIONS AND PROCESSING DATA PERTAINING TO THIS SHEET IS THE PROPERTY OF BALLY MANUFACTURING CORP. CHICAGO, ILLINOIS. IT IS TO BE KEPT IN CONFIDENCE AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF THE COMPANY. THIS SHEET IS LOANED AND MUST NOT BE USED IN ANY MANNER UNLESS AUTHORIZED BY THE COMPANY. THIS SHEET IS TO BE RETURNED TO THE COMPANY AT THE END OF THE LOAN PERIOD.</small>	
<b>Bally MANUFACTURING CORP.</b> 2640 BELMONT AVENUE CHICAGO, ILLINOIS	
REMOVE ALL BURNS TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED FINISHES: 1.00 DIMENSIONS: 1.00 DECIMALS: 2.00 UNLESS OTHERWISE SPECIFIED	DR. BY: <i>[Signature]</i> DATE: 8-25-78 DATE: 8-25-78 CHECKED: <i>[Signature]</i> DATE: 8-25-78 PART CONTROL: <i>[Signature]</i> HARDENING:
NAME: COMPUTER SOUND MODULE AB SCHEMATIC	ASSEMBL. NO. USED: AS-2518-51 SCALE: <i>[Signature]</i> PART NO.: W-1211 c

OPER.	DEPT.	DESCRIPTION	TOOL NO.



NOTES

- \* INDICATES "AID" TEST POINT.
- REMOVE A3J4 BEFORE USING AS AID TEST POINT.
- PREFIX ALL REFERENCE DESIGNATIONS WITH "A4".
- EXACT CHIP COMPLEMENT USED IN SOCKETS U1 THRU U6 CAN VARY FOR DIFFERENT GAMES AND PRODUCTION LOTS. TABLES OF MEMORY CHIPS AND CORRESPONDING JUMPERS FOR DIFFERENT GAMES AVAILABLE FROM BALLY FIELD SERVICE DEPARTMENT.

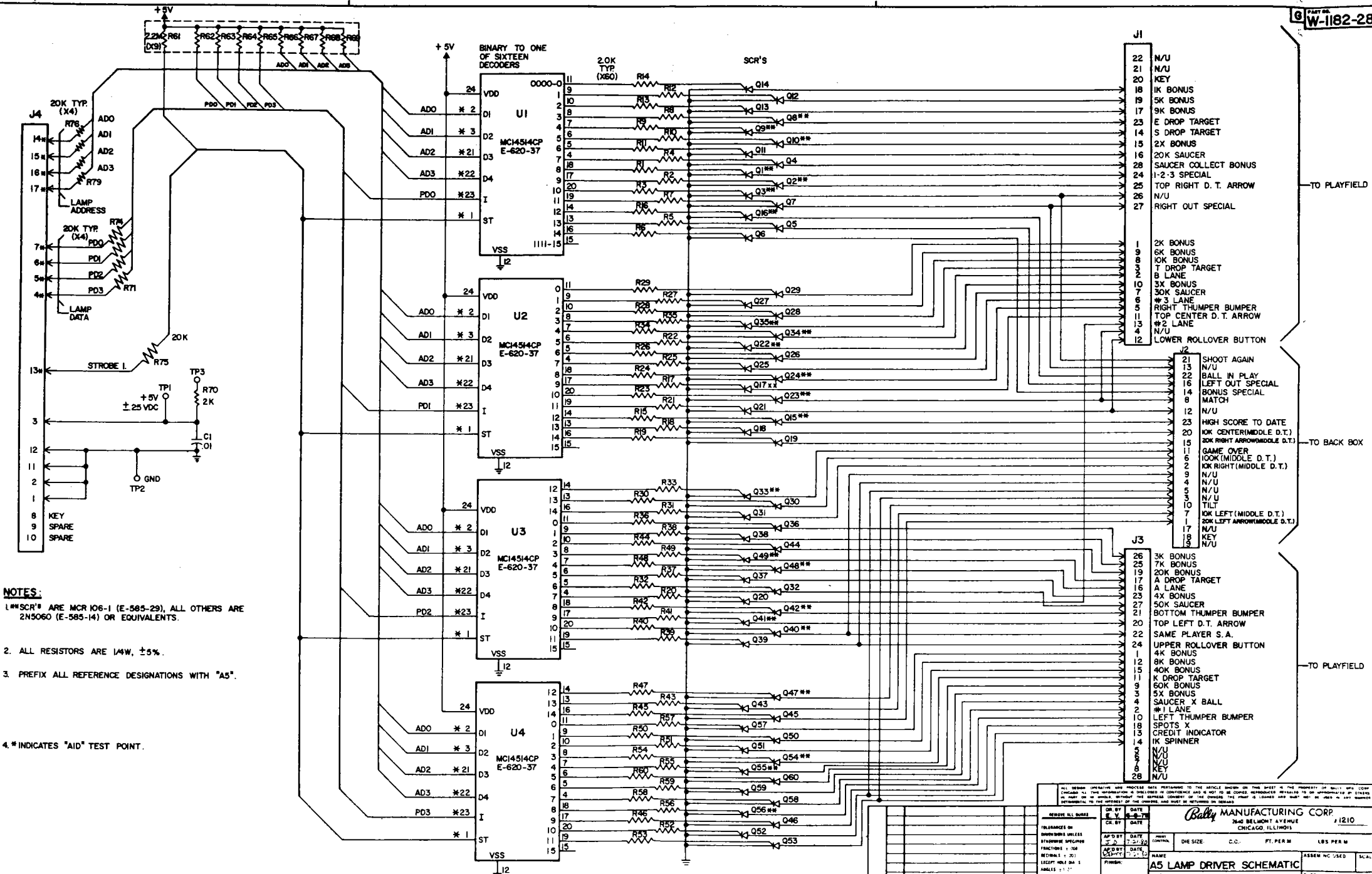
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REMOVE ALL BUBBS		DATE		BY	
TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS: 1/64		DECIMALS: 0.005	
DIMENSIONS UNLESS OTHERWISE SPECIFIED		FRACTIONS: 1/64		DECIMALS: 0.005	
NO NET SCALE DRAWING		DATE		BY	

Bally MANUFACTURING CORP.  
2640 BELMONT AVENUE  
CHICAGO, ILLINOIS 60618

M.P.U. CONTROL BOARD SCHEMATIC

W-1181-3c



- NOTES:**
1. \*SCR\* ARE MCR 106-1 (E-585-29), ALL OTHERS ARE 2N5060 (E-585-14) OR EQUIVALENTS.
  2. ALL RESISTORS ARE 1/4W, ±5%.
  3. PREFIX ALL REFERENCE DESIGNATIONS WITH "AS".
  4. \*INDICATES "AID" TEST POINT.

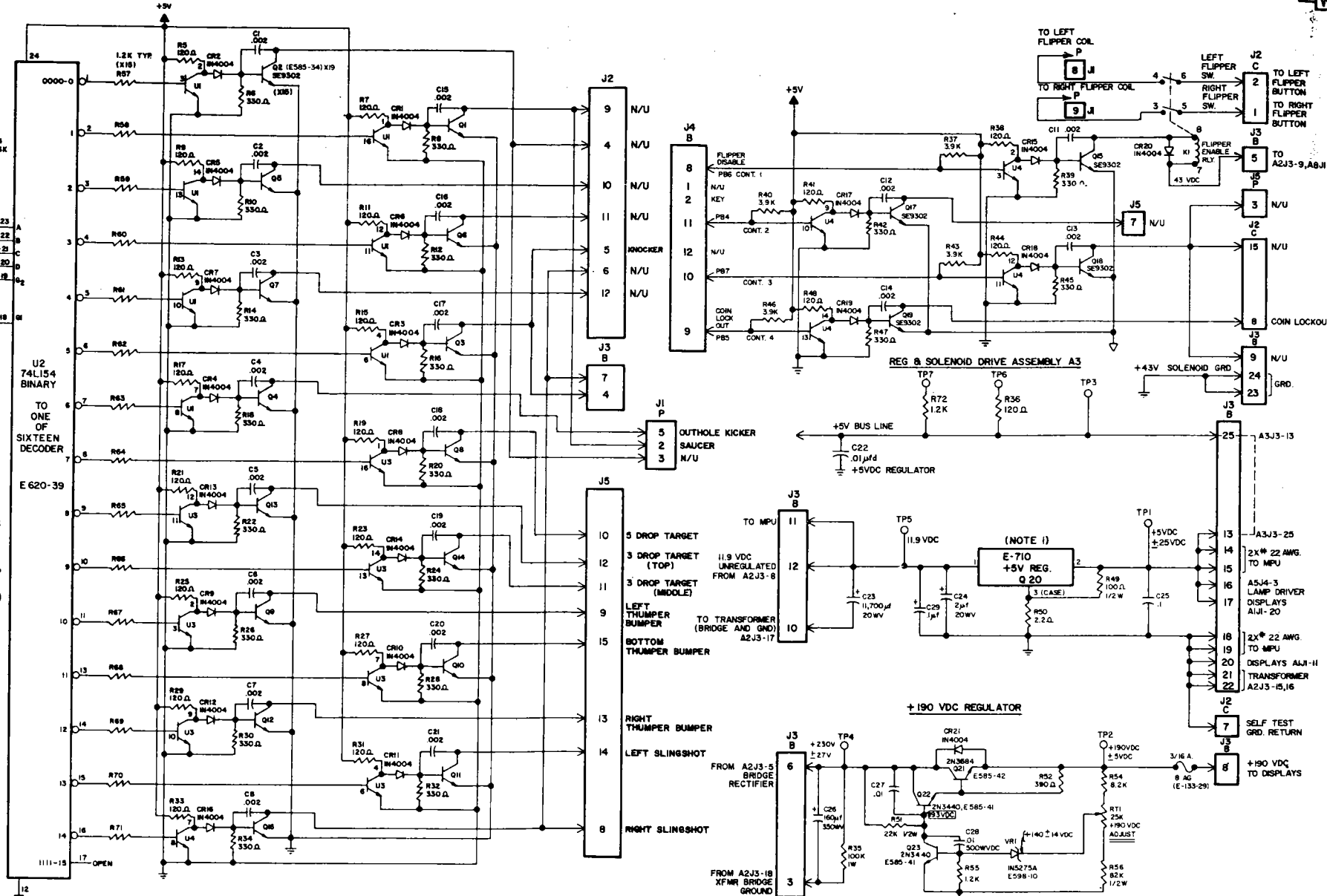
REVISION ALL BONUS		DR. BY	DATE	Bally MANUFACTURING CORP.	
TOLERANCES UNLESS OTHERWISE SPECIFIED		CHK. BY	DATE	340 BELMONT AVENUE CHICAGO, ILLINOIS #1210	
FRACTIONS 1/32		APP'D BY	DATE	NAME	
DECIMALS 1/100		CHK'D BY	DATE	MATERIAL	
SHEET NO. 1 OF 1		DRAWING:		ASSEMBLY NO. USED	
SCALE 1:1		NO. LET. CHANGE DATE BY		SKATE BALL	
DO NOT SCALE DRAWING		HARDENING:		PART NO. W-1182-28c	

OPEN	DEPT.	DESCRIPTION	TOOL NO.

TO PLAYFIELD

TO BACK BOX

TO PLAYFIELD



- NOTES:**
- E-710, LAMBDA-LAS 1405 NATIONAL -LM 323 K FAIRCHILD 78H05KC
  - J1-KK156-9 PIN KEY PIN 7  
J2-KK156-15 PIN KEY PIN 3  
J3-KK100-25 PIN KEY PIN 2  
J4-KK100-12 PIN KEY PIN 2  
J5-KK156-15 PIN KEY PIN 6
  - PREFIX ALL REFERENCE DESIGNATIONS WITH "A3".
  - "U1", "4", "3" PINS 5 AND 15 ARE GROUNDED.
  - VOLTAGES SHOWN ARE FOR A GAME-UP CONDITION.
  - "U1", "U3" AND "U4" ARE CA-3081(E68)
  - \* INDICATES 'AID' TEST POINT.

- CONNECTOR CODE**
- C → ROUTE TO CABINET CONN
  - B → ROUTE TO BLACK BOX CONN
  - P → ROUTE TO PLAYFIELD CONN
- LAST NUMBER USED**
- R72 N/U C9, C10
  - Q23 N/U Q20
  - CR21
  - VR1

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS.

**Bally MANUFACTURING CORP.**  
3640 BELMONT AVENUE  
CHICAGO, ILLINOIS 60618

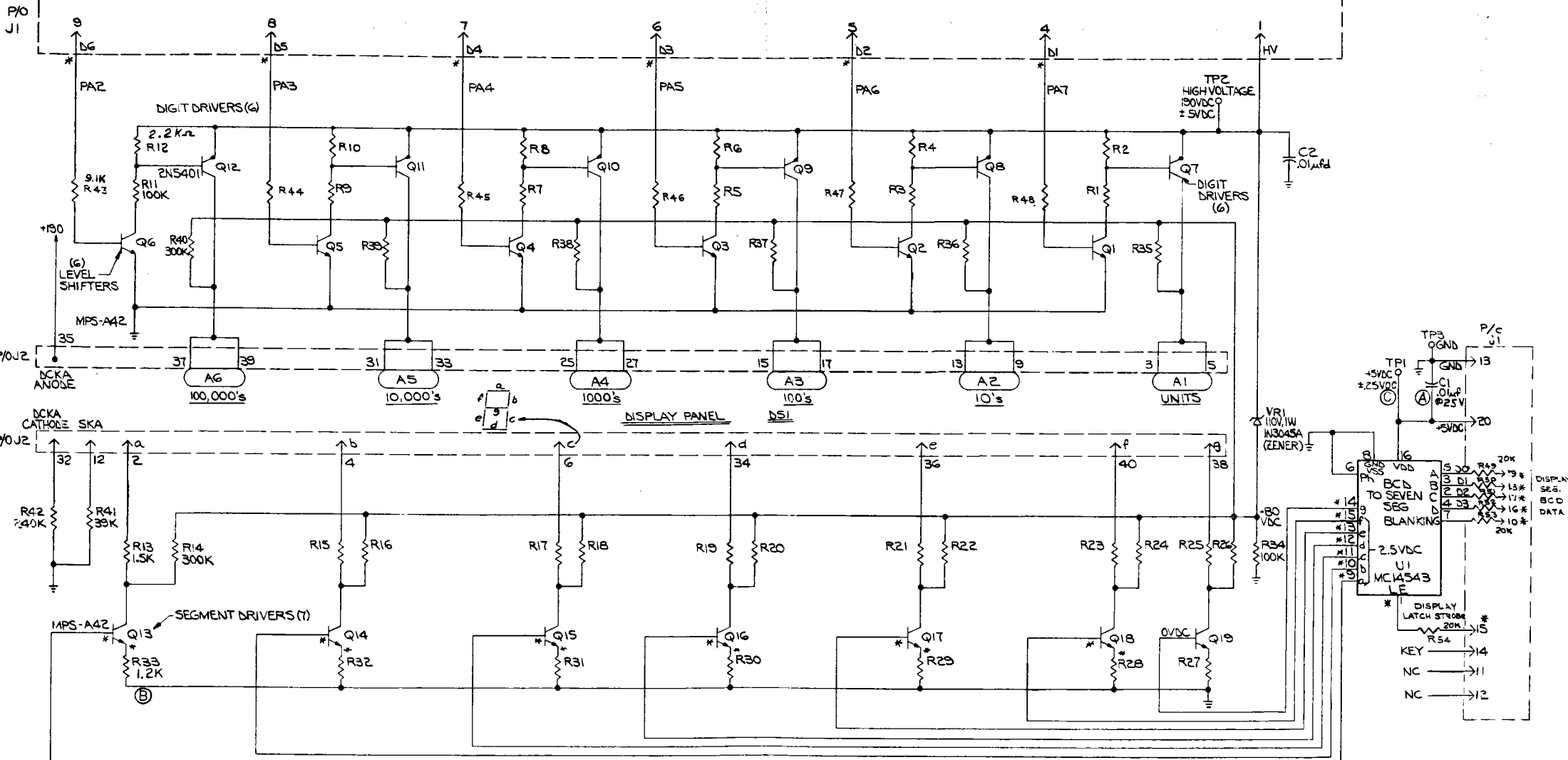
DATE: 12/22/68  
DRAWN BY: [ ]  
CHECKED BY: [ ]  
APPROVED BY: [ ]

NAME: SOLENOID DRIVER VOLTAGE REGULATOR SCHEMATIC  
MATERIAL: SKATE BALL  
PART NO: W-1183-27c

OPER.	DEPT.	DESCRIPTION	TOOL NO.

NO.	LET.	CHANGE	DATE	BY

DISPLAY DIGIT ENABLE



- NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL RESISTORS ARE ±5%, 1/4W.
  2. PREFIX ALL REFERENCE DESIG. WITH ASSEMBLY REFERENCE DESIG. "A1"
  3. \* INDICATES 'AID' TEST POINT.

DIE SIZE — C.C. — FT. PER M — LBS. PER M —

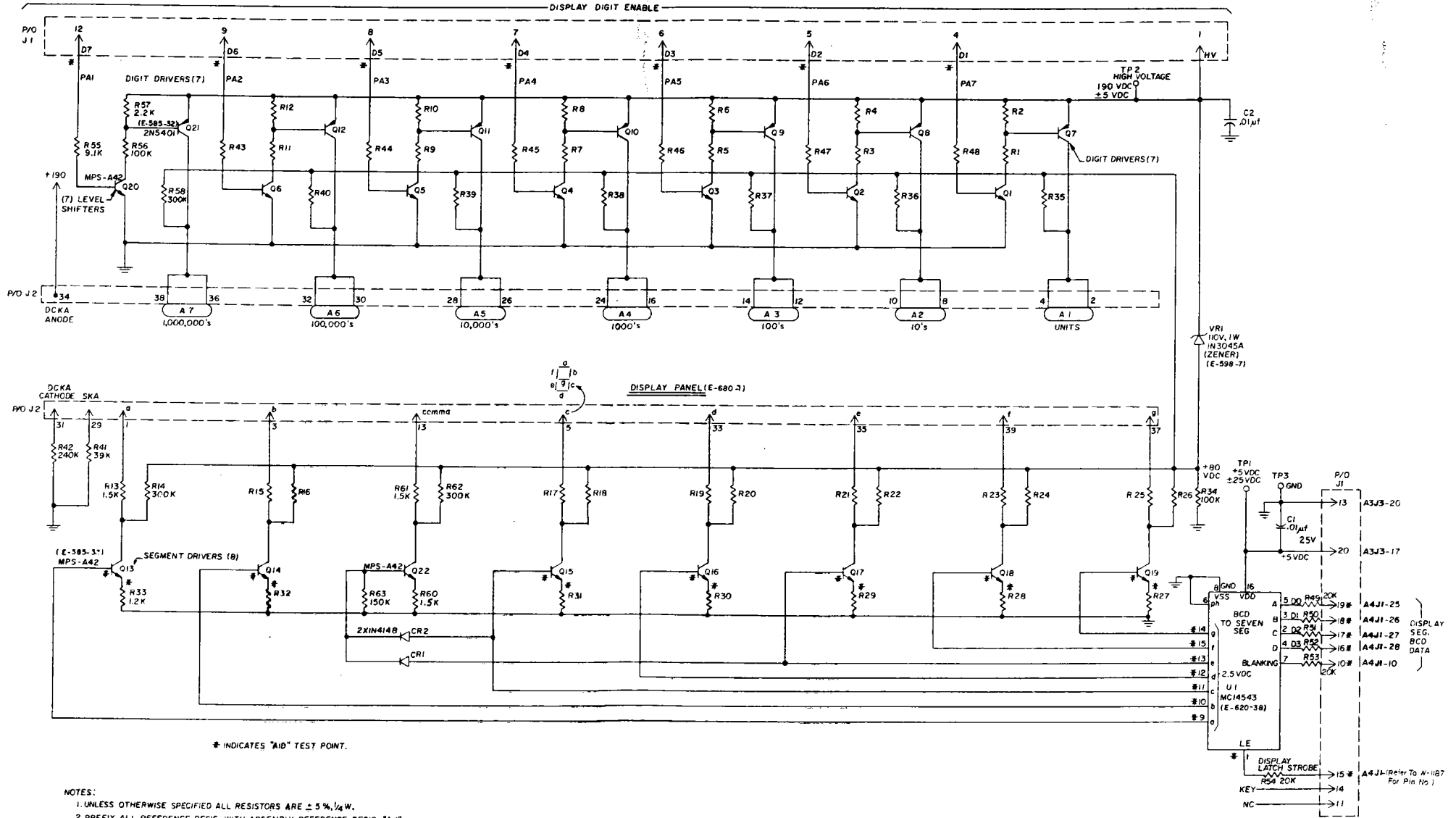
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**Bally MANUFACTURING CORP.** 2640 BELMONT AVENUE, CHICAGO, ILLINOIS 60615

6 DIGIT DISPLAY BOARD SCHEMATIC

NO.	LET.	CHANGE	DATE	BY	CR.
3	C	WAS VAC	5/20/68	JD	
2	B	WAS 1K	3/28/68	FD	
1	A	WAS 500V	4/27/67	SD	

OPER.	DEPT.	DESCRIPTION	TOOL NO.

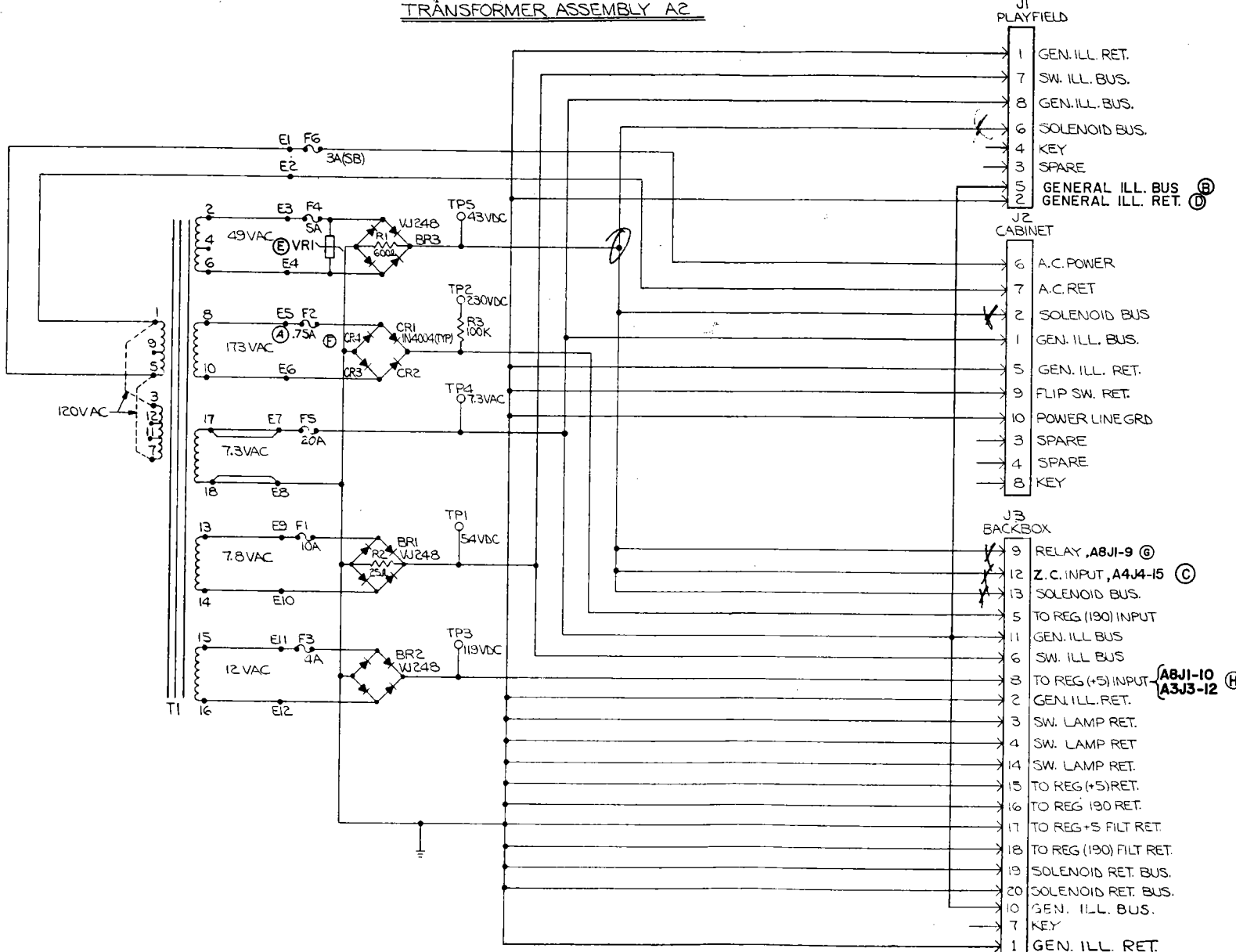


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REVISED ALL NUMS TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED FRACTIONS - 1/32 DECIMALS - .001 EXCEPT HOLE DIA 1 HOLE DIA $\pm .01$	DATE: 6-28-60 DESIGNED BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature] DATE: [Signature]
BALLY MANUFACTURING CORP. 2640 BELMONT AVENUE CHICAGO, ILLINOIS	DIE SIZE: C.C. FT. PER M. LBS. PER M. NAME: 7 DIGIT DISPLAY BOARD SCHEMATIC "A1" ASSEMBLY NO: 45-2518-58 PART NO: W-1184-2C

OPER.	DEPT.	DESCRIPTION	TOOL NO.

NO.	LET.	CHANGE	DATE	BY

TRANSFORMER ASSEMBLY A2



NOTES:  
 1. WIRE A.C. POWER AND TERMINALS PER TABLE 1.  
 2. VOLTAGES SHOWN ARE FOR GAME IN POWER-UP CONDITION.  
 3. PREFIX ALL REFERENCE DESIGNATIONS WITH A2.

- J1 PLAYFIELD
  - 1 GEN. ILL. RET.
  - 7 SW. ILL. BUS.
  - 8 GEN. ILL. BUS.
  - 6 SOLENOID BUS.
  - 4 KEY
  - 3 SPARE
  - 5 GENERAL ILL. BUS (B)
  - 2 GENERAL ILL. RET. (D)
- J2 CABINET
  - 6 A.C. POWER
  - 7 A.C. RET
  - 2 SOLENOID BUS
  - 1 GEN. ILL. BUS.
  - 5 GEN. ILL. RET.
  - 9 FLIP SW. RET.
  - 10 POWER LINE GRD
  - 3 SPARE
  - 4 SPARE
  - 8 KEY
- J3 BACKBOX
  - 9 RELAY ,A8J1-9 (C)
  - 12 Z. C. INPUT ,A4J4-15 (C)
  - 13 SOLENOID BUS.
  - 5 TO REG (190) INPUT
  - 11 GEN. ILL BUS
  - 6 SW. ILL BUS
  - 3 TO REG (+5) INPUT (A8J1-10 (H) A3J3-12 (H))
  - 2 GEN. ILL. RET.
  - 3 SW. LAMP RET.
  - 4 SW. LAMP RET
  - 14 SW. LAMP RET.
  - 15 TO REG (+5) RET.
  - 16 TO REG 190 RET.
  - 17 TO REG +5 FILT RET.
  - 18 TO REG (190) FILT RET.
  - 19 SOLENOID RET. BUS.
  - 20 SOLENOID RET. BUS.
  - 10 GEN. ILL. BUS.
  - 7 KEY
  - 1 GEN. ILL. RET.

TABLE 1  
POWER LINE CONNECTIONS

LINE VOLTAGE VRMS A.C.	STRAP TERMINALS	APPLY POWER TO TERMINALS
115	1T03 AND 9T011	1 AND 9
120	1T03 AND 5T07	1 AND 5
220	3T05	1 AND 12
240	3T05	1 AND 7

DIE SIZE — C.C. — FT. PER M — LBS. PER M —

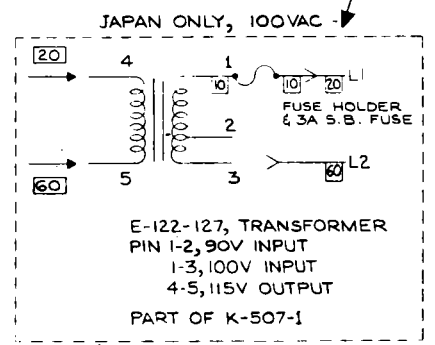
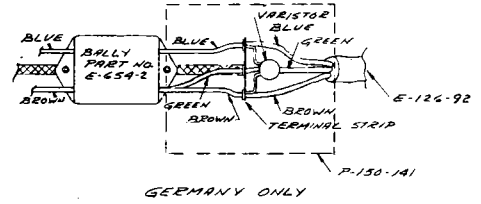
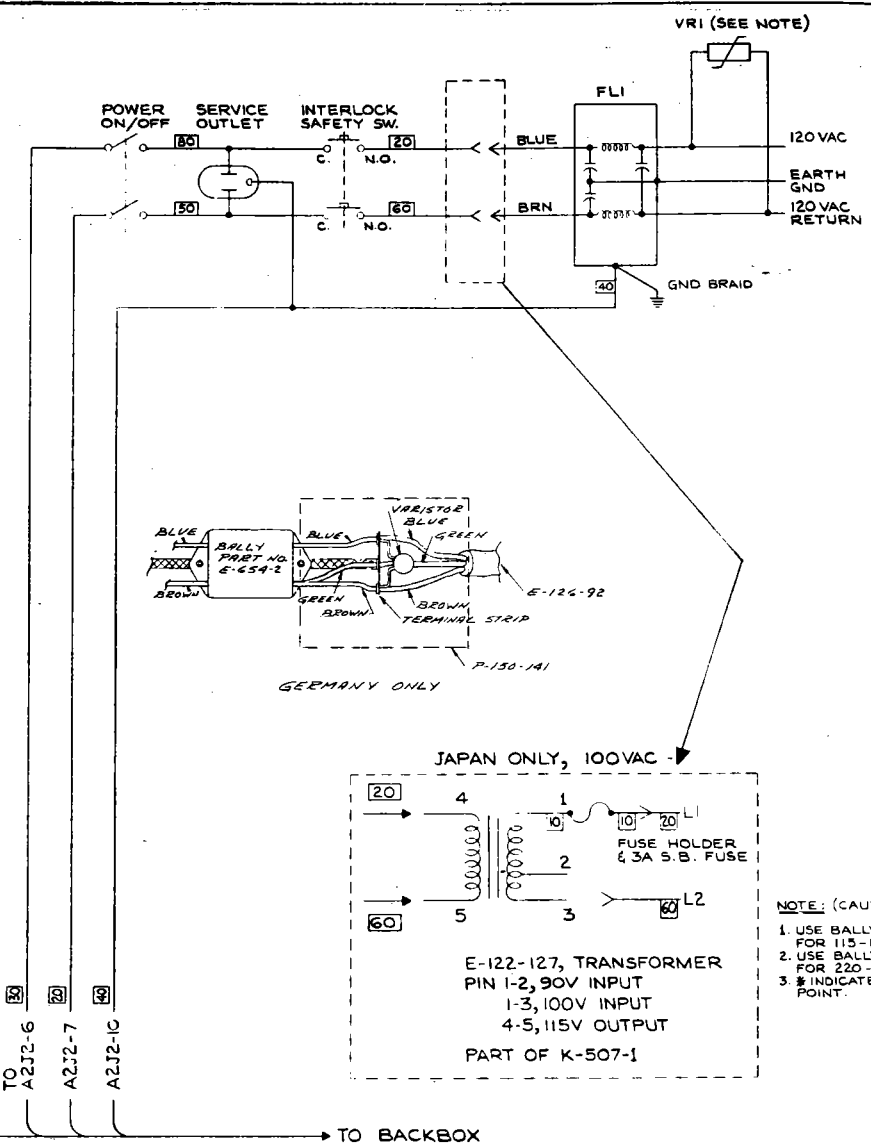
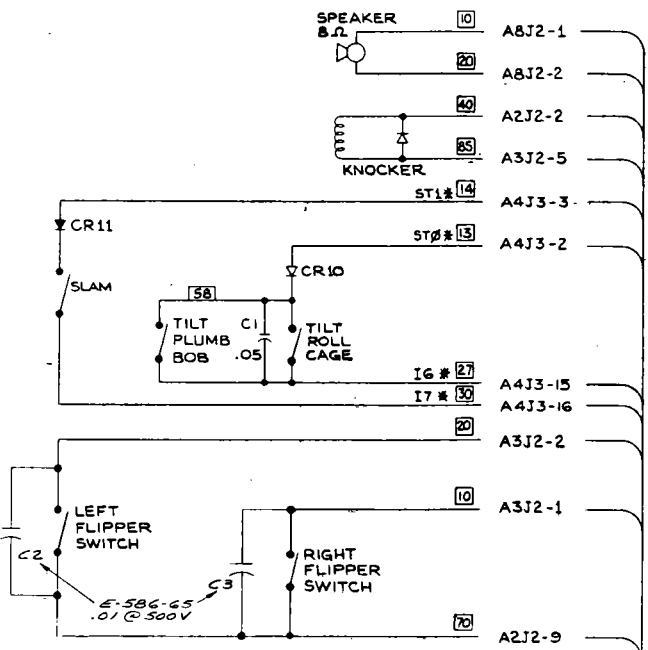
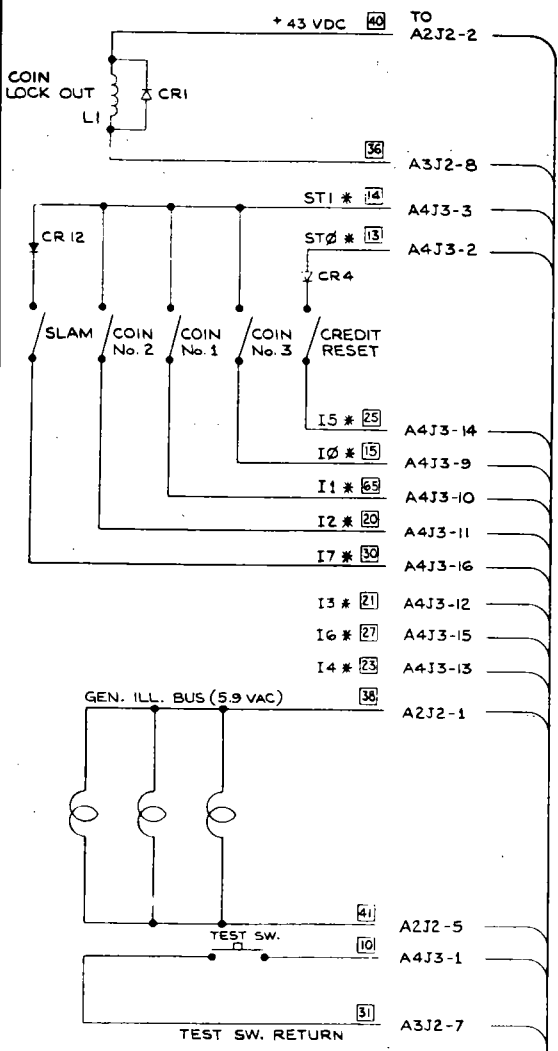
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REV	DATE	BY	CHKD
5	0-179	E.V.	...
4	0-270	E.V.	...
3	1-678	...	...
2	11-27	...	...
1	...	...	...

BALLY MANUFACTURING CORP.  
 3648 BELMONT AVENUE  
 CHICAGO, ILLINOIS 60642  
 FEB 21 1977  
 1074 -E  
 SCALE 1/2" = 1"

NAME: POWER TRANSFORMER MODULE SCHEMATIC  
 ASSEMBLY NO. 1185-1c  
 PART NO. W-1185-1c

OPER. DEPT.	DESCRIPTION	TOOL NO.



NOTE: (CAUTION)  
 1. USE BALLY PART No. E-714 FOR 115-120 VAC.  
 2. USE BALLY PART No. E-713 FOR 220-240 VAC.  
 3. \* INDICATES AID TEST POINT.

J1

TO	J1 PIN	TO	J1 PIN
A4J3-9	1	A4J3-3	11
A4J3-10	2	A2J2-2	15
A4J3-11	3	A3J2-8	16
A4J3-12	4	A2J2-1	17
A4J3-13	5	A2J2-5	18
A4J3-14	6	A4J3-1	19
A4J3-15	7	A3J2-7	20
A4J3-16	8		
A4J3-2	10		

DOOR PLUG

A7 CABINET ASS'Y. WIRING  
 NOTE: -DIODES ARE IN4004, (E-587-6)

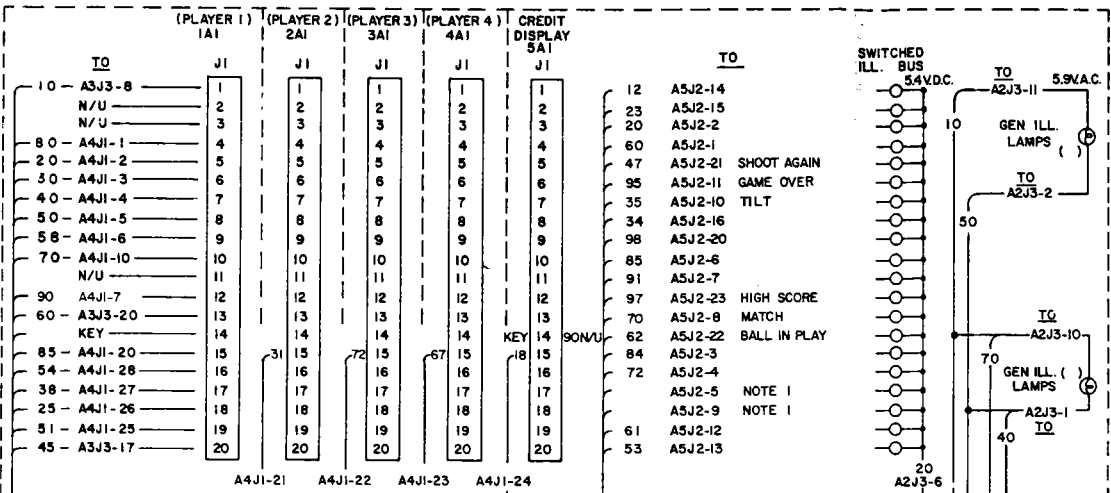
REMOVE ALL BURRS CHECK FOR CLEARANCE FINISH CHANGE DATE	DATE 2/28/60 J.D. C.S.	WALTER MANUFACTURING CORP 2840 BELMONT AVENUE CHICAGO, ILLINOIS	PART NO 1187 ASSEMBLY WIRING DIAGRAM ELECTRONIC PART NO W-1186-E
---	---------------------------------	---	--



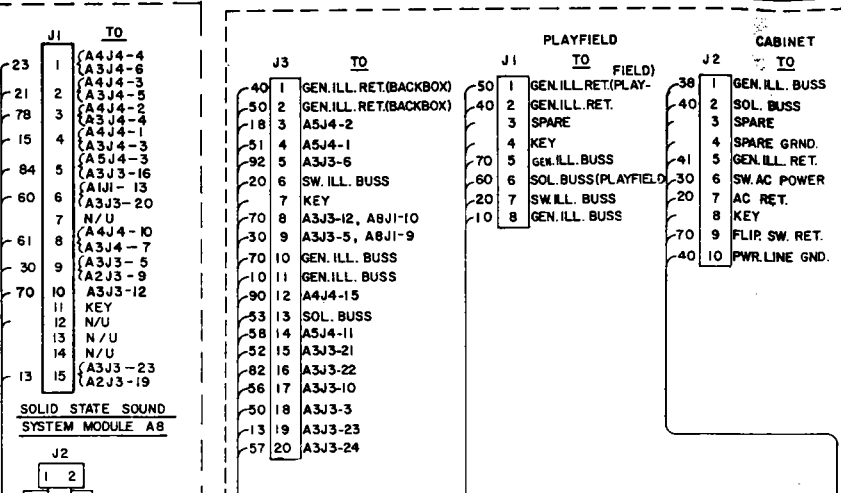
TABLE A AIJ2

Table A AIJ2 listing connections between FROM, PIN, and WIRE numbers.

AI INSERT

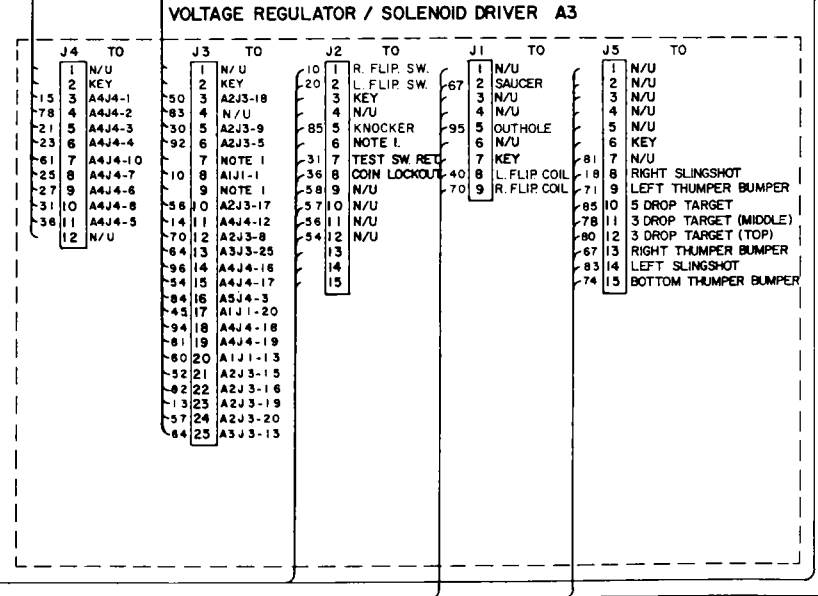
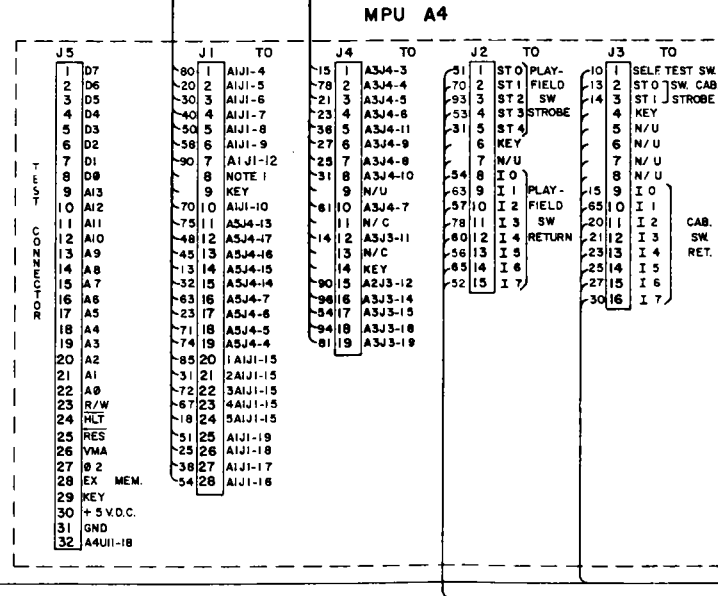
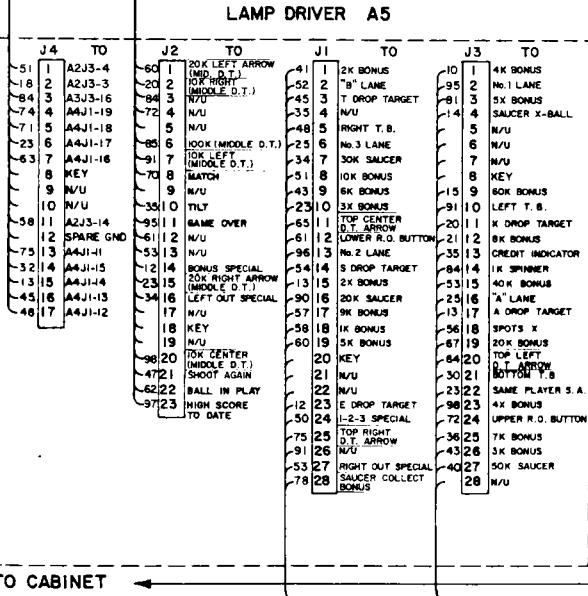


A2 TRANSFORMER



INSERT TO BACK CAB. PLUG

AIJ2 SEE TABLE A TO PLAY FIELD (W-1192-23)

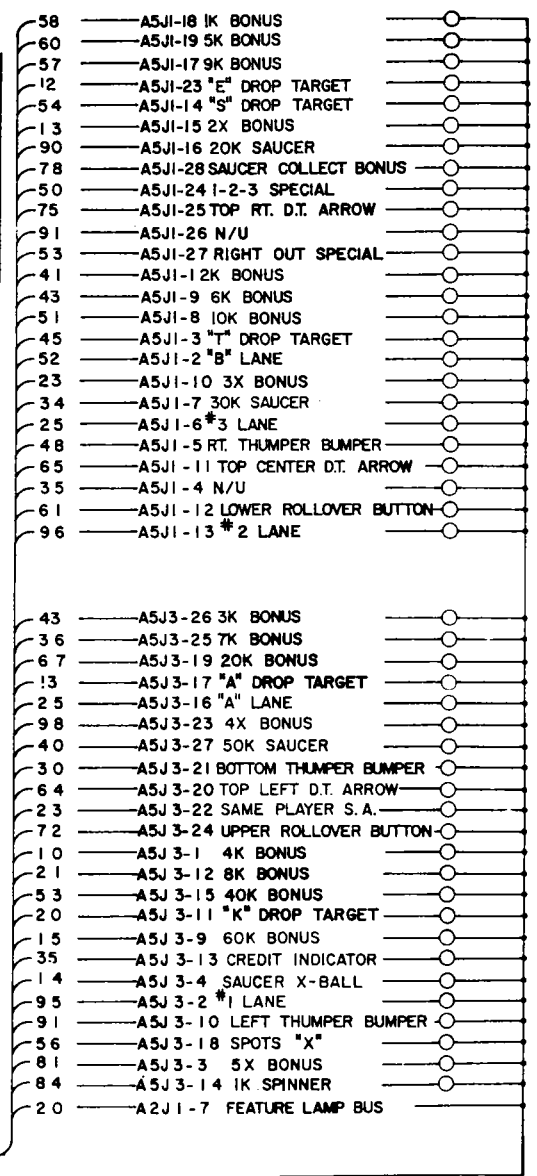
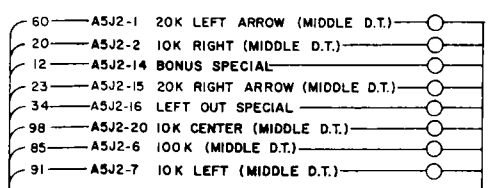
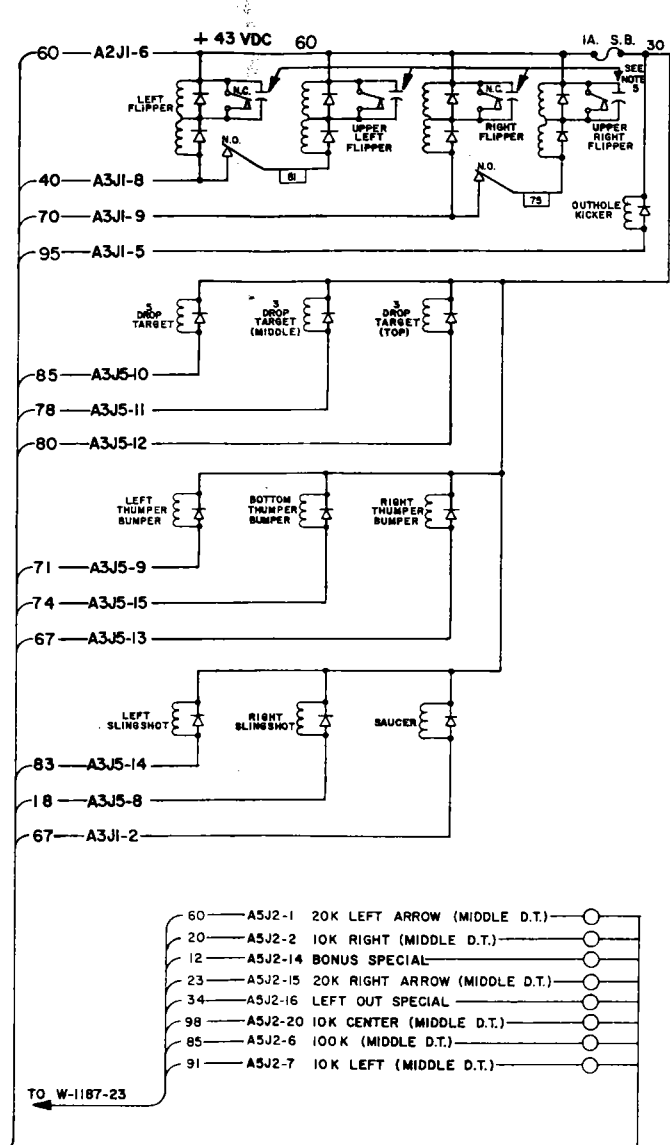
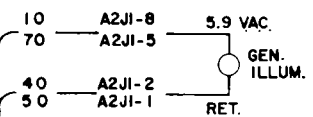
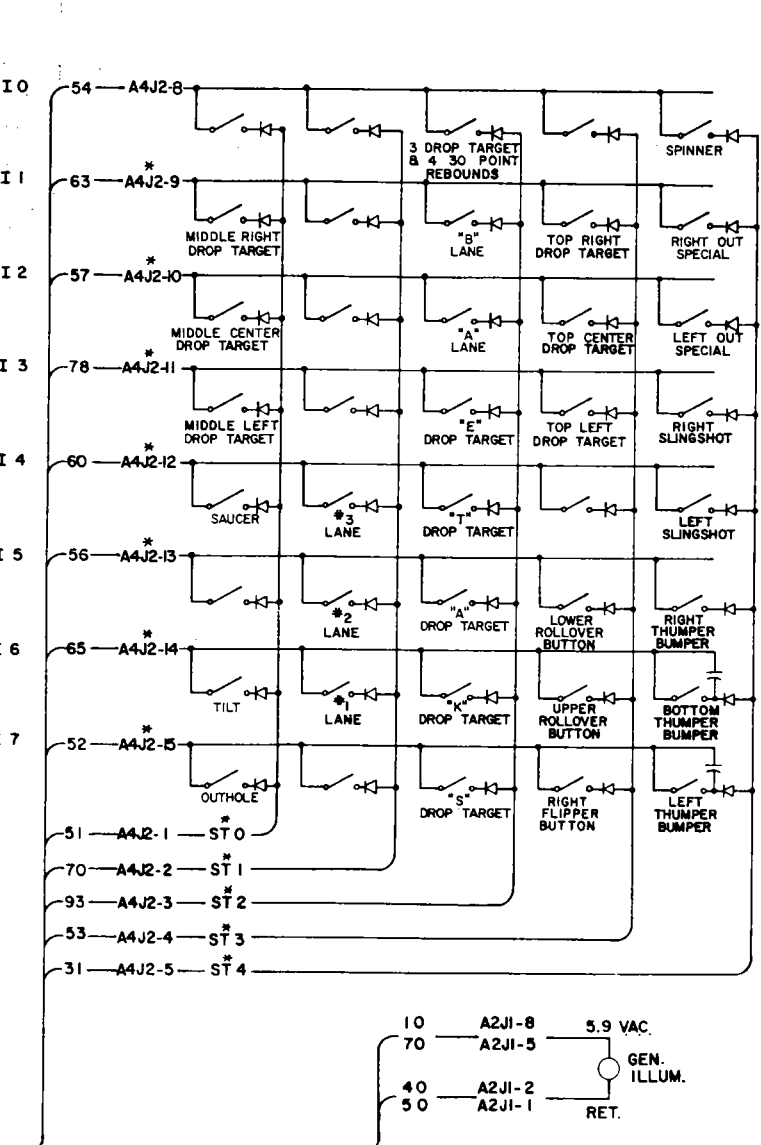


- NOTES: 1. THESE PINS ARE RESERVED FOR FUTURE USE. 2. WIRE COLORS ARE SHOWN FOR ALL CONNECTOR PINS... 3. \* INDICATES AID TEST POINT.

TABLE "B" showing connections between FROM, TO, and WIRE numbers.

WIRE COLOR CODE table listing colors for 1-RED, 2-BLUE, 3-YELLOW, 4-GREEN, 5-WHITE, 6-BROWN, 7-ORANGE, 8-BLACK, 9-GRAY, and 0-NO TRACE.

Manufacturer's form including fields for DATE, TIME, MATERIAL, and SKATE BALL, along with a signature line and date.



5.4 VDC

PLAYFIELD A6

NOTES

- INDICATES NOT USED
- N/U - NOT USED ON PLAYFIELD
- \* INDICATES AID TEST POINT
- COIL DIODES ARE IN4004 (E-587-6) SWITCH DIODES ARE IN 4148 (E-587-14)  
ALL CAPACITORS ARE .05 MFD. (E-586-80)
- GERMANY ONLY - CAPACITOR .01 MFD. @ 500V. (E-586-65)

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REMOVE ALL WORK TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS: 1/64 DECIMALS: .001 ANGLES: °	DR. BY DATE CL. BY DATE MFD. BY DATE CHECKED BY DATE FINISH:	Bally MANUFACTURING CORP. 2640 BELMONT AVENUE CHICAGO, ILLINOIS #210
DO NOT SCALE DRAWING	MATERIAL: SKATE BALL	PART NO: W-1192-23c