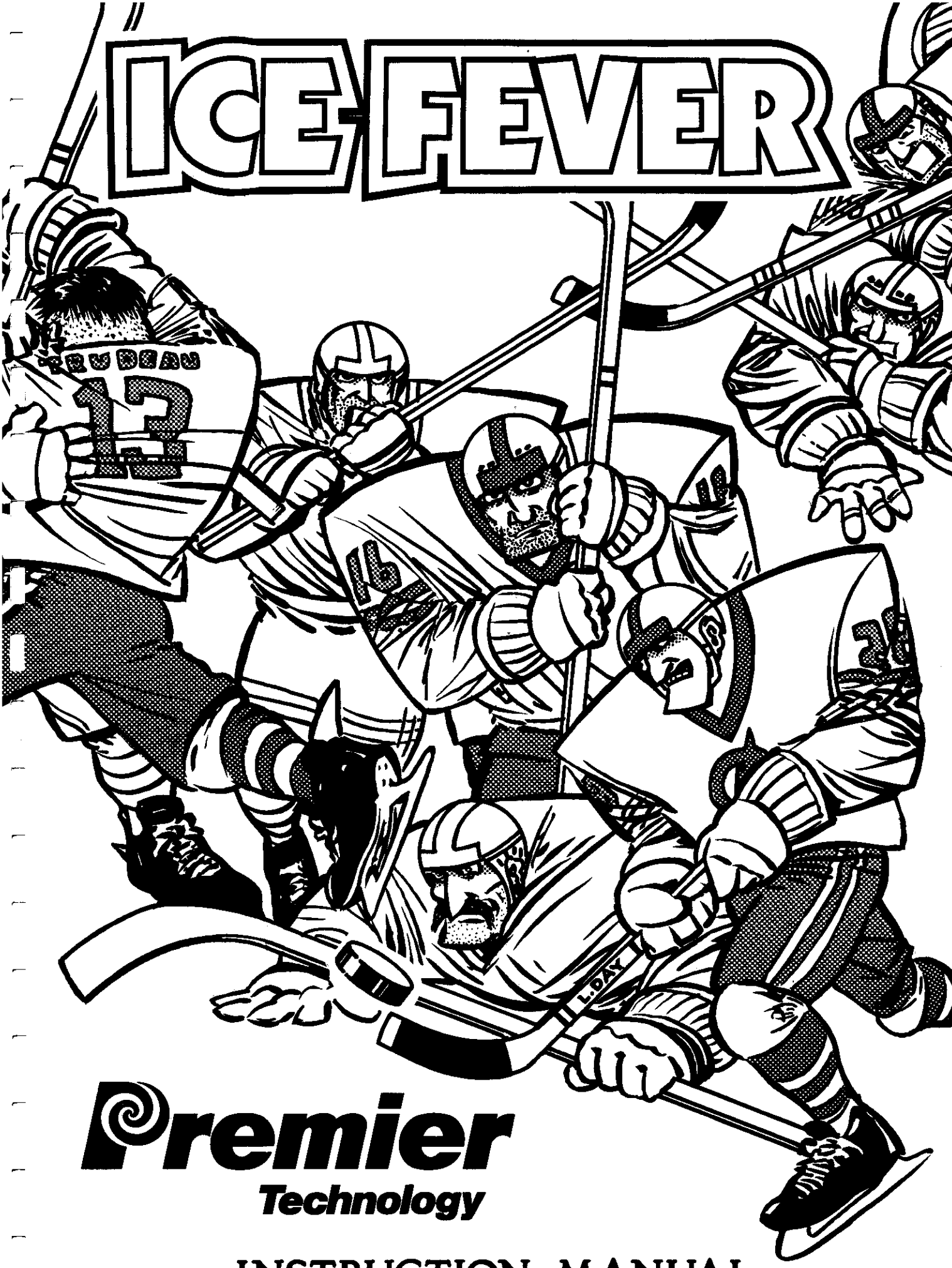
ICE FEVER



Premier
Technology

INSTRUCTION MANUAL

ICE FEVER

(GAME #695)

INSTRUCTION MANUAL

Applicable for all games.

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GAME PROM 695

SOUND PROM 695/S

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SYSTEM 80A

The enhanced System 80 Program, System 80A, will permanently replace System 80 in future games.

System 80A has improved bookkeeping and self test capabilities, permits the use of seven digit displays and allows for greater coin/credit combination flexibility. The control boards' ROM memory chips, U2 and U3, have been reprogrammed for System 80A. They have also been socketed. In doing so, the control board can be used for either system by simply using the appropriate set of ROM memory chips.

The part numbers of each set are as follows:

SYSTEM	U2 PART NO.	U3 PART NO.	SOCKET PART NO.
80	XO-363	XO-362	XO-529
80A	XO-326	XO-327	XO-529

The ROMS are labeled as follows:

SYSTEM	U2	U3
80	R3273-12	R3272-12
80A	XO-326	XO-327

"**WARNING:** This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference."

A-22670

I. INSTALLATION

A. SET-UP

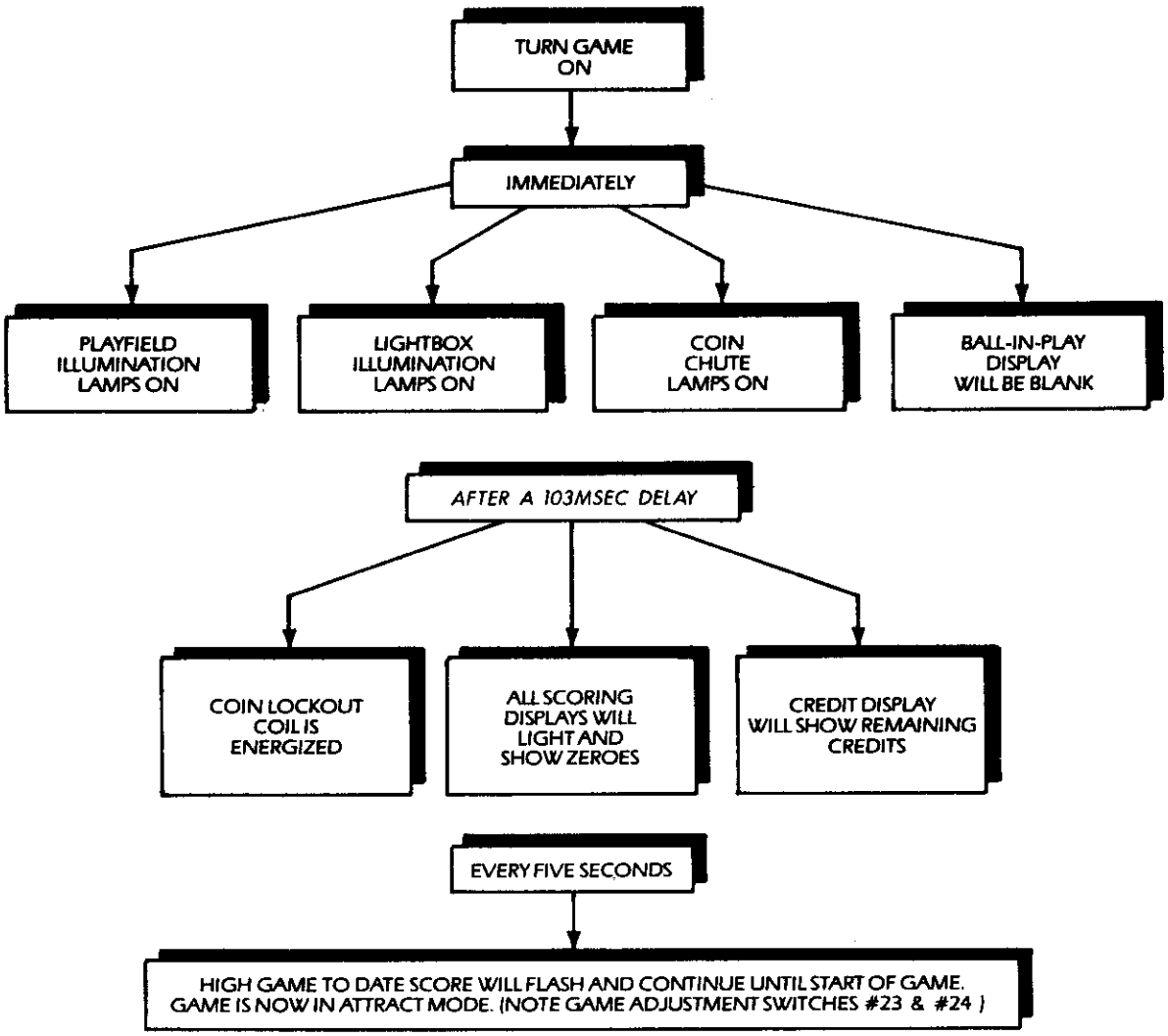
1. Bolt the legs to the cabinet.
2. Lift lightbox into an upright position. Be sure none of the cables are crimped in between the lightbox and cabinet.
3. Engage the snap in the rear of the lightbox to the cabinet.
4. Unlock the lightbox and remove the backglass.
5. Loosen and lower the shipping bracket at the top center of the lightbox insert panel.
6. Lift the insert; then swing it out.
7. Secure the lightbox to the cabinet with the bolts and washers provided.
8. Before re-attaching the backglass to its mount, insert the nylon black ball into the "Puck" kicker guide trough mounted on the insert panel.
9. Open the cabinet door and loosen the front moulding locking arm.
10. Remove the moulding from the playfield.
11. Slide the cabinet glass toward you and remove it.
12. Raise the playboard, slide it forward and rest it on its support.
13. Unravel and straighten out the power line cord located at the rear of the pinball cabinet.
14. Proceed to "B. CHECK-OUT".

B. CHECK-OUT

1. Check that all cables are clea of moving parts.
2. Check for any loose wires.
3. Check switches for loose solde or other foreign matter.
4. Be certain all fuses are firmly seated.
5. Check transformer for any foreign matter across terminals.
6. Be sure that the Transformer Panel power input connector A12J6, corresponds to the supply voltage.
7. Check the setting of the normally open tilt switch on the underside of the playfield. One blade should be free-floati with a weight on the end.
8. Lower the playfield to its normal playing level and insert a "Captive" ball for the "Captive" ball spot target through the hole cut-out in the plastic shield.
9. Reassemble and level the game.
10. The plumb-bob tilt can be adjusted by loosening the wing nut and raising the plumb-bob to increase its sensitivity, or lowering it to decrease its sensitivity.

    The ball-roll tilt can be adju ted by loosening the front scr and raising the tilt bracket t increase sensitivity,or loweri it to decrease its sensitivity
11. With the line cord unplugged, drop a coin into one of the chutes. It should be rejecte
12. Plug the line-cord into a properly grounded 3-wire receptacle ONLY!
13. Refer to Section VI to make al necessary game adjustments.

II. INITIALIZATION



III. GAME OPERATION

A. GAME START

The ball must be in the ball return trough to start a game.

1. Insert coins into coin chute.
   a. Coin chute tune is played.
   b. Total credits are displayed in status display.

2. Press Credit Button to start game.
   a. Credit tune is played.
   b. Total credits displayed decrease by one.

3. All playfield features reset.

4. The first player score display flashes 2 zeros.

5. When the ball is released to the shooter, the playfield-controlled lamps flash.

B. FIRST PLAYER

1. First player's score display flashes two zeros.

2. The other player's displays are now blank.

3. A "1" appears on the ball-in-play display.

4. When the ball enters the outhole, any bonus earned is scored.

C. ADDITIONAL PLAYERS

1. Additional players are indicated by 2 zeros (not flashing) in each corresponding player's display.

2. After the maximum number of players are added, or no more credits remain, the Credit Button has no effect.

3. Additional players can be added anytime the first player's ball is still in play. If the Credit Button is pressed after the first player's first ball has entered the outhole, all players' scores will be erased with the first player's score display showing a flashing zero, indicating a new game only for the first player.

D. EXTRA BALLS

1. When the SHOOT AGAIN lamp is lit, neither the player-up nor the ball-in-play display changes when the ball enters the outhole.

2. Only one extra ball per ball-in-play is given.

E. TILT MODE

1. Tilting the game results in a loss of ball in play.

2. When the game is tilted, all the playfield lamps go off.

3. All accumulated bonus and bonus multipliers are lost.

F. SLAM MODE

1. If the normally closed slam switch (located inside front door) is opened, the entire game is ended for all players.

2. The GAME OVER lamp comes on.

3. The entire switch matrix is inactive for three seconds.

4. All coins will be rejected if dropped into any coin chute during the three-second delay.

5. If the match feature exists (dependent on Switch #26), a replay can be won even if the game is slammed.

6. Game returns to the attract mode.

G. GAME OVER

1. When the last ball enters the outhole, the GAME OVER lamp continually flashes.

2. A random number appears in the ball-in-play display. If this number matches the last two digits in any player's score, a replay (dependent on Switch #27) is awarded.

3. HGTD is periodically flashed in all players' displays. When a score higher than this is acheived, an award (dependent on Switches #23 and #24) is given.

4. All of the rollover drop targets will reset.

HOW TO PLAY ICE FEVER

TOP ROLLOVERS (3)

- SCORE 1000 UNLIT OR WHEN LIT (PURPLE).
- SCORE 5000 AND ADD BONUS WHEN LIT (WHITE).
- COMPLETING TOP ROLLOVERS (I-C-E) LIGHTS A TOP ROLLOVER (PURPLE).
- (5 BALL) COMPLETING TOP ROLLOVERS (I-C-E) LIGHTS TWO TOP ROLLOVERS (PURPLE).
- AWARD EXTRA BALL AND RESET SEQUENCE (I-C-E) WHEN (PURPLE) ROLLOVERS COMPLETED.
- COMPLETING TOP ROLLOVERS (I-C-E) AFTER EXTRA BALL AWARDED SCORES 50,000.

ROLLOVER DROP TARGETS (3)

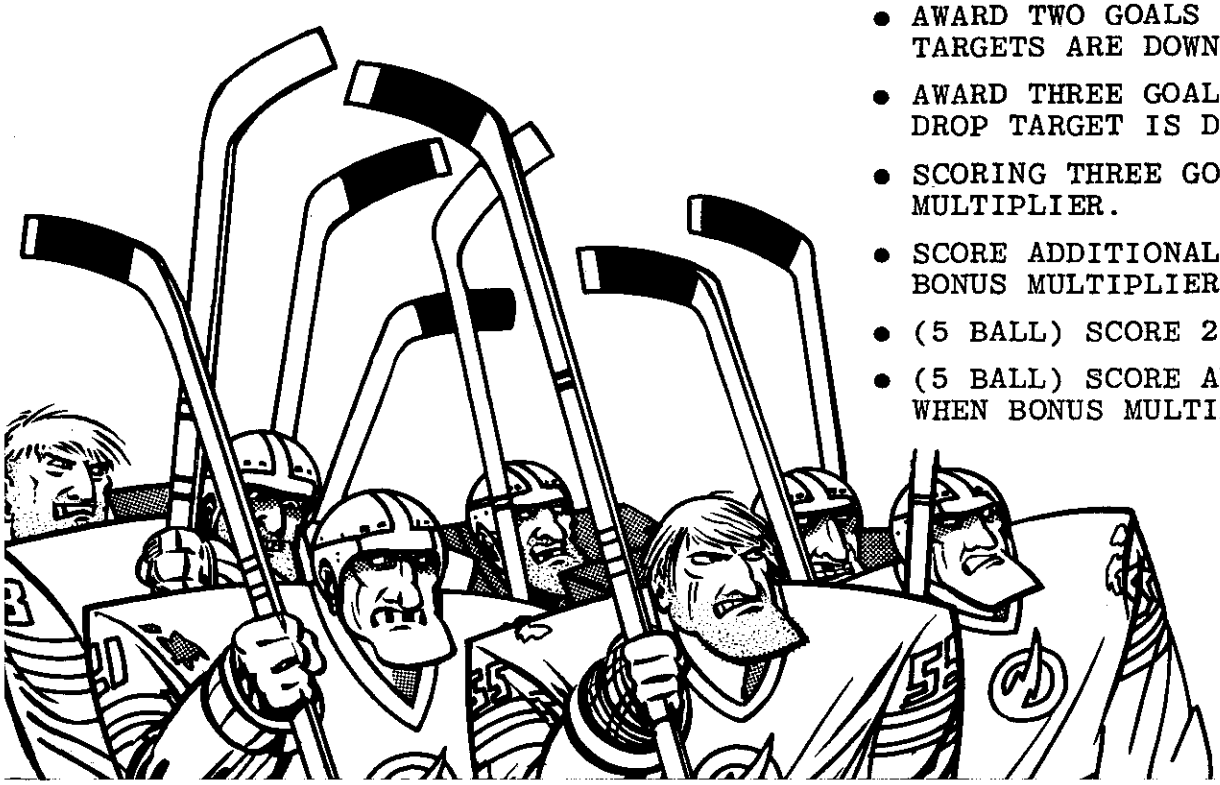
- SCORE 5000
- LIGHT A SPOT TARGET (GOALIE MASK)
- (5 BALL) SCORE 3000.

SPOT TARGETS (4)

- SCORE 1000 AND ADD BONUS.
- START FLASHING WHEN LIT.
- RESET TARGET BANK AND ALL SPOT TARGET LAMPS WHEN FLASHING.
- (5 BALL) SCORE 500.

CAPTIVE TARGET

- SCORE 50,000.
- AWARD ONE GOAL IF ALL THREE DROP TARGETS ARE DOWN.
- AWARD TWO GOALS IF ANY TWO DROP TARGETS ARE DOWN.
- AWARD THREE GOALS IF ANY ONE DROP TARGET IS DOWN.
- SCORING THREE GOALS ADVANCES MULTIPLIER.
- SCORE ADDITIONAL 50,000 WHEN BONUS MULTIPLIER EQUALS 5X.
- (5 BALL) SCORE 25,000.
- (5 BALL) SCORE ADDITIONAL 25,000 WHEN BONUS MULTIPLIER EQUALS 5X.



IV. GAME PLAY AND SCORING

TOP ROLLUNDER

- SCORE 5000.
- ADD A LETTER IN F-E-V-E-R.
- COMPLETING F-E-V-E-R ENABLES SPECIAL.
- AWARD SPECIAL AND RESET F-E-V-E-R WHEN FLASHING.

SPINNER

- SCORE 1000 UNLIT.
- SCORE 10,000 WHEN FLASHING.
- ROTATE TOP ROLLOVER LAMPS (PURPLE) WHEN ENABLED.
- (5 BALL) SCORE 500 UNLIT.

LEFT AND RIGHT RETURN ROLLOVERS

- SCORE 1000 AND TURN OFF SPINNER LAMP UNLIT.
- SCORE 10,000 AND LIGHT SPINNER WHEN LIT.
- ADD BONUS.

LEFT AND RIGHT OUTLANE ROLLOVERS

- SCORE 10,000 AND ADD BONUS.

POP BUMPERS (4)

- SCORE 1000.
- ALTERNATE LEFT AND RIGHT RETURN ROLLOVERS.
- ROTATE SPOT TARGET LAMPS (GOALI MASKS) IF ANY LIT.
- (5 BALL) SCORE 500.

RUBBER SWITCHES (4)

- SCORE 30.
- ALTERNATE LEFT AND RIGHT RETURN ROLLOVERS.
- ROTATE SPOT TARGET LAMPS (GOALI MASKS) IF ANY LIT.

OUTHOLE

- SCORE BONUS VALUE TIMES BONUS MULTIPLIER.
- SCORE 10,000 FOR EACH LIT LETTE IN F-E-V-E-R.
- (5 BALL) SUBTRACT A LETTER IN F-E-V-E-R IF COMPLETED.



V. SOUND

The Sound Board installed in this game has been programmed for sound only.

VI. GAME ADJUSTMENTS

A. CONTROL BOARD SWITCH ADJUSTMENTS

NOTE: The following switch adjustments pertaining to system 80A only. There are 32 switches on the control board which permit adjustment of the game parameters. These switches are contained in four packages of eight switches each, as shown below.

COIN CHUTE COMBINATIONS
SYSTEM 80A

SWITCHES					COIN CHUTE ADJUSTMENTS
S1	S2	S3	S4	S5	Left Coin Chute
S9	S10	S11	S12	S13	Right Coin Chute
S17	S18	S19	S20	S21	Center Coin Chute
					CREDITS/COINS
OFF	OFF	OFF	OFF	OFF	1/1
OFF	OFF	OFF	OFF	ON	2/1
OFF	OFF	OFF	ON	OFF	3/1
OFF	OFF	OFF	ON	ON	4/1
OFF	OFF	ON	OFF	OFF	5/1
OFF	OFF	ON	OFF	ON	6/1
OFF	OFF	ON	ON	OFF	7/1
OFF	OFF	ON	ON	ON	8/1
OFF	ON	OFF	OFF	OFF	9/1
OFF	ON	OFF	OFF	ON	10/1
OFF	ON	OFF	ON	OFF	1/2
OFF	ON	OFF	ON	ON	2/2
OFF	ON	ON	OFF	OFF	3/2
OFF	ON	ON	OFF	ON	4/2
OFF	ON	ON	ON	OFF	5/2
OFF	ON	ON	ON	ON	6/2
ON	OFF	OFF	OFF	OFF	7/2
ON	OFF	OFF	OFF	ON	8/2
ON	OFF	OFF	ON	OFF	9/2
ON	OFF	OFF	ON	ON	10/2
ON	OFF	ON	OFF	OFF	1/3
ON	OFF	ON	OFF	ON	2/3
ON	OFF	ON	ON	OFF	1/4
ON	OFF	ON	ON	ON	3/4
ON	ON	OFF	OFF	OFF	1/5

*All of the above do not give credits until the last coin is inserted.

SWITCHES 6, 7 AND 8 — SPARES

SWITCH 14 — COIN CHUTE 1 & 2CONTROL
ON ..... Same
OFF ..... Separate

SWITCHES 15	16	MAXIMUM CREDITS
OFF	OFF	8
OFF	ON	10
ON	OFF	15
ON	ON	20

SWITCH 22 — PLAYFIELD SPECIAL
ON ..... Extra Ball
OFF ..... Special

SWITCHES 23	24	HIGH GAME TO DATE AWARDS
OFF	OFF	None
OFF	ON	None
ON	OFF	2 Replay
ON	ON	3 Replay

SWITCH 25 — BALLS/GAME
ON 3
OFF 5

SWITCH 26 — MATCH
ON ..... On
OFF ..... Off

SWITCH 27 — REPLAY LIMIT
ON 1
OFF ..... No Limit

SWITCH 28 — NOVELTY
ON ..... Yes
OFF ..... Normal

SWITCH 29 — GAME MODE
ON ..... Extra Ball
OFF ..... Replay

SWITCH 30 — 3RD COIN CHUTE CREDIT CONTROL
ON ..... Add 9
OFF ..... No Effect

SWITCH 31 — BACKGROUND SOUND CONTROL
ON.....High Volume
OFF.....Low Volume

SWITCH 32 — ATTRACT MODE SOUND
ON.....Enabled
OFF.....Disabled

ADDITIONAL COIN CHUTE COMBINATIONS
CREDIT INCENTIVES

ALL OF THE BELOW CANNOT HAVE 9 CREDITS ADDED BASED ON SWITCH 30

SWITCHES					
S1	S2	S3	S4	S5 -	Left Coin Chute
S9	S10	S11	S12	S12 -	Right Coin Chute
S17	S18	S19	S20	S21 -	Center Coin Chute

					COIN/CREDIT GIVEN	COIN/CREDIT GIVEN	COIN/CREDIT GIVEN	COIN/CREDIT GIVEN	COIN/CREDIT GIVEN		TOTAL COIN/ TOTAL CREDI
ON	ON	OFF	OFF	ON	1st/1	2nd/2				=	2/3
ON	ON	OFF	ON	OFF	1st/0	2nd/1	3rd/1	4th/1		=	4/3
ON	ON	OFF	ON	ON	1st/0	2nd/1	3rd/0	4th/2		=	4/3
ON	ON	ON	OFF	OFF	1st/1	2nd/1	3rd/1	4th/2		=	4/5
ON	ON	ON	OFF	ON	1st/1	2nd/2	3rd/1	4th/3		=	4/7
ON	ON	ON	ON	OFF	1st/1	2nd/2	3rd/2	4th/2		=	4/7
ON	ON	ON	ON	ON	1st/0	2nd/0	3rd/1	4th/0	5th/1	=	5/2

VI. GAME ADJUSTMENTS

B. SOUND ADJUSTMENTS

The speaker output is controlled by the potentiometer mounted on the front door.

Turning the potentiometer counter clockwise will decrease the volume. Turning it clockwise will increase the volume.

SWITCH BANK SETTINGS:

SB1-1	SOUND TEST ENABLE
ON	Test Mode (Game Over Tune)
OFF	Normal
SB1-2	NOT USED

By placing switch 1 on the Sound Board to the ON position, the Game Over Tune will continually play for test.

NOTE:
If switch 1 on the Sound Board is left in the ON position, upon power up the Game Over Tune will be the only tune played. Be certain switch 1 is in the OFF position for game play.

C. POST ADJUSTMENTS

The upper and lower posts of the left and right outlanes can be repositioned for liberal/conservative game play. The smalle opening produces a more liberal game play.

VII. BOOKKEEPING AND SELF TEST

The circuitry in this game helps the Operator perform many Bookkeeping and Self/Test functions. These functions are accessed by the Self/Test Switch inside the front door and information is displayed on the player's and credit displays. Bookkeeping is listed in Steps 16 through 20. Section VII A., details the Bookkeeping system, while Section VII B., details the Self/Test operation. The Flow Chart in Section VII D., gives the general order and function of both Bookkeeping and Self/Test steps.

A. BOOKKEEPING SYSTEM 80A

- See Flow Chart for Bookkeeping Assignments.
- Bookkeeping Steps (01-15) are displayed in the credit display and the 3rd and 4th player's score display.
- Information for the particular bookkeeping step displayed will appear in the 1st player's score display.
- All bookkeeping information is checked against itself to insure that it is correct. If any data is invalid or bad, that information will flash while it is displayed.

I. STEPPING THROUGH BOOKKEEPING

1. Press the SELF-TEST button inside the front door.

   Double zeros (00) should appear in the designated bookkeeping step displays.

2. Press the SELF-TEST button again. Step 01 and its information will be displayed.

3. Pressing the SELF-TEST button will increment the bookkeeping step number and appropriate information will be displayed.

NOTE:
If the SELF-TEST button is not pressed within 60 seconds of each step, the game will return to the attract mode.

Pressing the SELF-TEST button afte Step 15 will start the SELF-TEST function (Step 16-20). At this point Bookkeeping cannot be re-entered by pressing the SELF-TEST button. To reenter, turn the game OFF/ON, open the slam switch, or wait 60 seconds. The game will return to the attract mode. Then press the SELF-TEST button.

4. To exit from Bookkeeping at any time:

   a. Wait 60 seconds or
   b. Turn power OFF/ON or
   c. Open slam switch or
   d. Close a tilt switch.

II. HOW TO SET BOOKKEEPING INFORMATION TO ZERO

1. For a Particular Bookkeeping St

   a. Advance Bookkeeping so the step to be zeroed is displayed.

   b. Press the replay button. Notice all zeros will appe in the 1st player's displa

   c. Press the SELF-TEST button This will enter zeros into memory.

   NOTE:
   If the SELF-TEST button is no pressed, the bookkeeping memo will retain its information.

2. Zeroing All Bookkeeping Steps Except #11, 12, 13 and 14.

   (These are the replay level an high game to date scores)

   a. Go to Step #15.

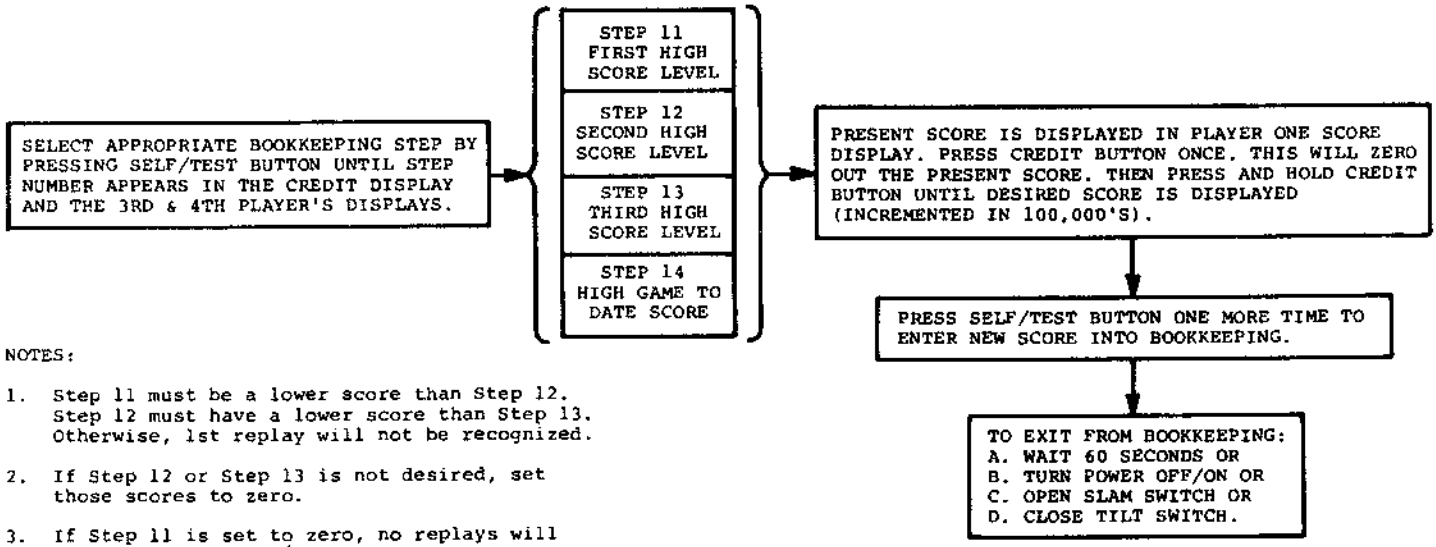
   b. Press the credit button. Step 15 data will zero.

   c. Press the SELF-TEST button

   d. Zeroing is complete.

VII. BOOKKEEPING AND SELF TEST

III. HOW TO RESET HIGH SCORE LEVELS OR HIGH GAME TO DATE SCORES

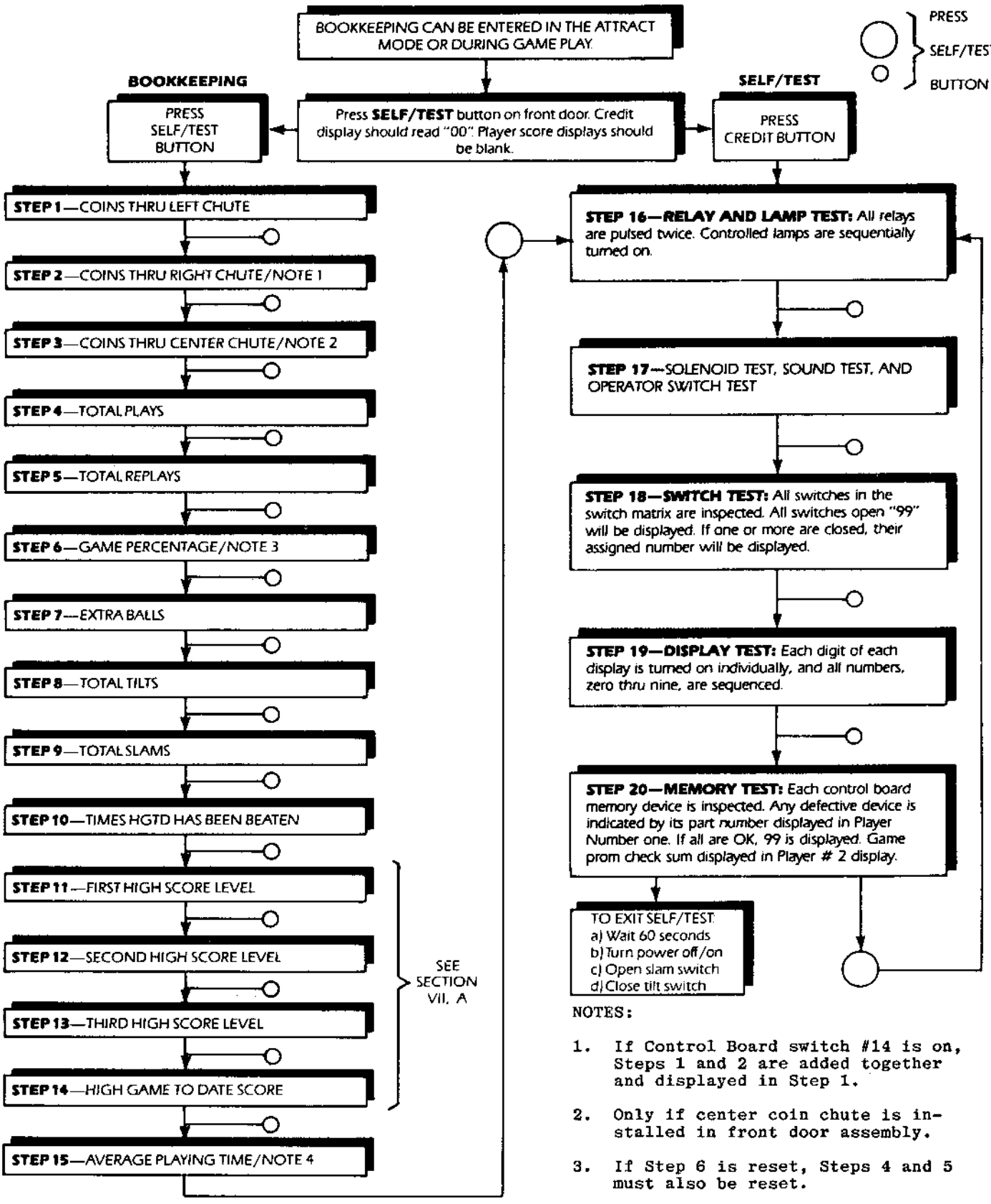


NOTES:

1. Step 11 must be a lower score than Step 12. Step 12 must have a lower score than Step 13. Otherwise, 1st replay will not be recognized.
2. If Step 12 or Step 13 is not desired, set those scores to zero.
3. If Step 11 is set to zero, no replays will be awarded, no matter what the settings are for Step 12 and Step 13.

VII. BOOKKEEPING AND SELF TEST

B. FLOW CHART



NOTES:

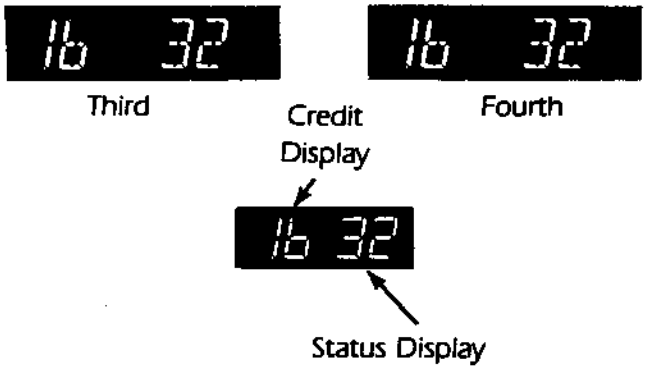
1. If Control Board switch #14 is on, Steps 1 and 2 are added together and displayed in Step 1.
2. Only if center coin chute is installed in front door assembly.
3. If Step 6 is reset, Steps 4 and 5 must also be reset.
4. If step 15 is reset, Steps 1 thru 10 are also reset.

VII. BOOKKEEPING AND SELF TEST

C. SELF/TEST

- Steps 16 through 20 are SELF/TEST or game tests the operator can use for quick troubleshooting.
- All the tests are explained in the flow chart.
- Each test can be repeated by pressing the replay button on the front door.
- If the SELF/TEST button or the replay button is not pressed within 20 seconds after completion of a tests complete cycle, the game will return to the attract mode.

EXAMPLE:

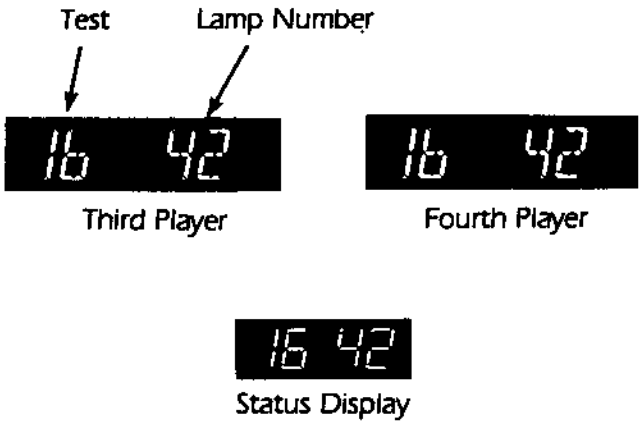


STEP 16—RELAY AND LAMP TEST

a. Relay Test-All relays are pulsed twice in the following order:

		A3 Driver Board Transistor Assignment (See Schematic)
Q (Game Over) Relay	-	A3J3 PIN #$\bar{A}$ Q1
T (Tilt) Relay	-	A3J3 PIN #$\bar{B}$ Q2
Coin Lockout Relay	-	A3J5 PIN #2 Q3

b. Lamp Test-Lamps are sequentially strobed. Lamp assignment numbers appear in the third and fourth player's score display and the status display.



Lamp number (L9, L16, etc.) can be referenced to the Driver Board Schematic where the specific transistor for each lamp can be identified.

To repeat test, push the credit button. To advance to test #17, push the Self/Test Button.

STEP 17—SOLENOID TEST, SOUND TEST, OPERATOR SWITCH TEST.

a. Solenoid Test-Each solenoid on the playfield is sequentially pulsed. The solenoid number displayed identifies which solenoid is being tested. The following chart lists solenoid assignments.

NUMBER DISPLAYED	ASSIGNMENT	A3 DRIVER BOARD TRANSISTOR ASSIGN. SEE SCHEMATIC
Sol.1	Not Used	Q60
Sol.2	Tgt. Bank Reset	Q57/Q58
Sol.3	Not Used	Q54
Sol.4	Not Used	Q55
Sol.5	"PUCK" Kicker	Q61/Q62
Sol.6	Not Used	Q63/Q64
Sol.7	Not Used	Q56
Sol.8	Knocker	Q53
Sol.9	Outhole	Q59

b. Sound Test-Immediately after the solenoid test, the sound enable signals (inputted to the A6 Sound Board) will be tested in the following order:

VII. BOOKKEEPING AND SELF TEST

SOUND ENABLE	NUMBER DISPLAYED	A3 DRIVER BOARD TRANSISTOR ASSIGN. SEE SCHEMATIC	
S16	17 (combination S1 & S16)	A3J2	PIN 9
S8	8	A3J5	PIN 7
S2	2	A3J5	PIN 5
S4	4	A3J5	PIN 1
S1	1	A3J5	PIN 6

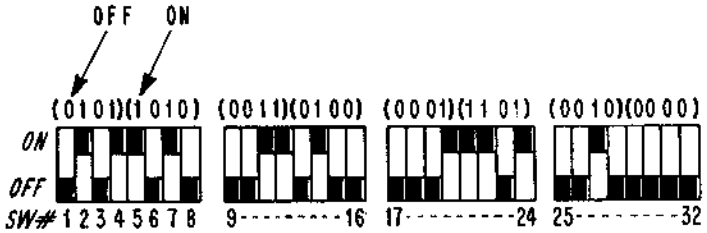
c. The first and second player's score displays show hexadecimal representative of the operator switch positions. Converting hexidecimal to binary will give the switch positions in binary form.

CONVERSION TABLE

0 = OFF 1 = ON

DISPLAYED HEXIDECIMAL		DECIMAL	BINARY
0	0	0	0000
1	1	1	0001
2	2	2	0010
3	3	3	0011
4	4	4	0100
5	5	5	0101
6	6	6	0110
7	7	7	0111
8	8	8	1000
9	9	9	1001
A	R	10	1010
B	J	11	1011
C	L	12	1100
D	S	13	1101
E	E	14	1110
F	BLANK	15	1111

EXAMPLE:



DISPLAYED



First Player Second Player

Checking Switches

1) Switch all odd number switches to the ON position, and all even switches to the OFF position. Display should show:



First Player



Second Player

2) Switch all even numbered switches to the ON position and all odd switches to the OFF position. Display should show:



First Player



Second Player

To repeat test # 17, push the credit button.

To advance to test # 18, push the Self/Test switch.

STEP 18—SWITCH TEST



Third Player



Fourth Player

Credit Display



Status Display

1) All switches open. 99 will be displayed. (Note: The slam switch is not part of the switch test (normally closed).

2) Switch(es) closed. Designated number(s) will be sequentially displayed. The last switch number will remain displayed, unless test is repeated.

VII. BOOKKEEPING AND SELF TEST

STEP 19—DISPLAY TEST: Each digit of each display is individually turned on, and numbers zero through nine are sequenced.

- Test number is not displayed.

> **NOTE:** On the second and fourth player displays only, the least significant digits are strobed first. Then the most significant digits and the remaining digits are sequentially strobed. This is normal operation.

STEP 20—MEMORY TEST - Each control based memory device is checked. If all are good, a 99 will be displayed.

If a memory chip located on the A 1 Control Board is defective, a corresponding number in the following chart will be displayed.

NUMBER DISPLAYED	CHIP ASSIGNMENT/ DESCRIPTION
99	All Memory Good
5 10 1	Z5 Bookkeeping Ram
2332-1	U2 Background Rom
2332-2	U3 Background Rom
6532-1	U4 Ram
6532-2	U5 Ram
6532-3	U6 Ram
27 16*	Prom 1 Game E Prom

Player #2 displays the check sum for the game prom in hexidecimal. Refer to the conversion Table for interpretation.

To repeat test #20, push the credit button. To advance to Step # 16, push the Self/Test button.

* James Bond (658) and later System 80 games up to and including Haunted House will display 764 1-1 for a bad 27 16 game prom.

VIII. OPTIONS

There are no options for this game.

IX. GENERAL INFORMATION

A. PRINTED CIRCUIT BOARDS ARE DESIGNATED AS FOLLOWS:

A1 - Control Board
A2 - Power Supply
A3 - Driver Board
A5 - Status Display
A6 - Sound Board
A7 - Diode Boards
A8 - Pop Bumper Driver Boards
A14- 7-Digit Displays
A24- Reset Board

Printed circuit board connectors will be labeled AX-JX. For example, A3-J4 is the connector J4 on the driver board (A3).

B. WIRE COLORS ARE SHOWN AS NUMBERS:

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Blue
7 Purple
8 Gray
9 White

For example, 688 is a BLUE-GRAY-GRAY striped wire.

C. FUSES

TRANSFORMER PANEL FUSES

F1	Sound/Speech Power Supply (A6)....	12V AC	1/2 Amp
F2	Power Supply (A2).....	10V AC	5 Amp SLO-BLO
F3	Displays	60V AC	1/4 Amp SLO-BLO
F4	Solenoids (+24V DC).....	28V AC	8 Amp SLO-BLO
F5	Controlled Lamps.....	8V AC	10 Amp SLO-BLO
F6	Playboard Illumination.....	6.3V AC	8 Amp SLO-BLO
F7	Lightbox Illumination.....	6.3V AC	10 Amp SLO-BLO
F8	Primary Power.....	115V AC	5 Amp SLO-BLO
		220V AC	2-1/2 Amp SLO-BLO
F20	Line Input.....	115V AC	8 Amp SLO-BLO
		220V AC	4 Amp SLO-BLO

PLAYFIELD FUSES

F9	"PUCK" Kicker.....	2 Amp SLO-BLO
F10	Outhole.....	1 Amp SLO-BLO
F11	Left Pop Bumper.....	2 Amp SLO-BLO
F12	Right Pop Bumper.....	2 Amp SLO-BLO
F13	Center Pop Bumper.....	2 Amp SLO-BLO
F14	Top Pop Bumper.....	2 Amp SLO-BLO

IX. GENERAL INFORMATION

D. COIL CHART

SOLENOID COILS					
PART NUMBER	GENERAL USAGE	RESISTANCE (OHMS)	NUMBER OF TURNS	WIRE GAUGE	WRAPPER COLOR
A-1496	KICKING TARGET KICKING RUBBERS POP BUMPERS	2.95	635	#23	Yellow
A-4893	UP KICKER POP BUMPERS BALL KICKER	2.1	535	#22	Red
A-5194	UP KICKER GONG KICKING TARGETS POP BUMPERS	4.5	780	#24	Blue
A-5195	CONTACT KICKER KNOCKER HOLE KICKER	11.6	1305	#26	White
A-16570	HOLE KICKER, OUTHOLE	15.5	1450	#27	Green
A-17875	FLIPPERS	2.8/40.0	560/1100	#24/31	Yellow
A-17891	5 BANK RESET	3.35	850	#22	White
A-18102	3 BANK RESET, 7 BANK RESET USES 2	9.0	1430	#24	Red
A-18318	4 BANK RESET	6.7	1130	#24	Orange
A-19300	BALL KICKER	7.8	1075	#25	Orange
A-20095	SUPER FLIPPER	1.55/35.5	450/900	#22/31	Red
A-21741	UP KICKER	2.5	575	#23	Orange
RELAY COILS					
A-16890	Q, T, AND COIN LOCKOUT RELAYS	231.0	4000	#35	Orange
A-20558	GATE RELAY	156.0	3400	#34	White
A-18642	MEMORY/ DROP TARGETS	58.0	1590	#33	White

*Coils may vary from game to game. Check game manual for exact coil usage.

X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS

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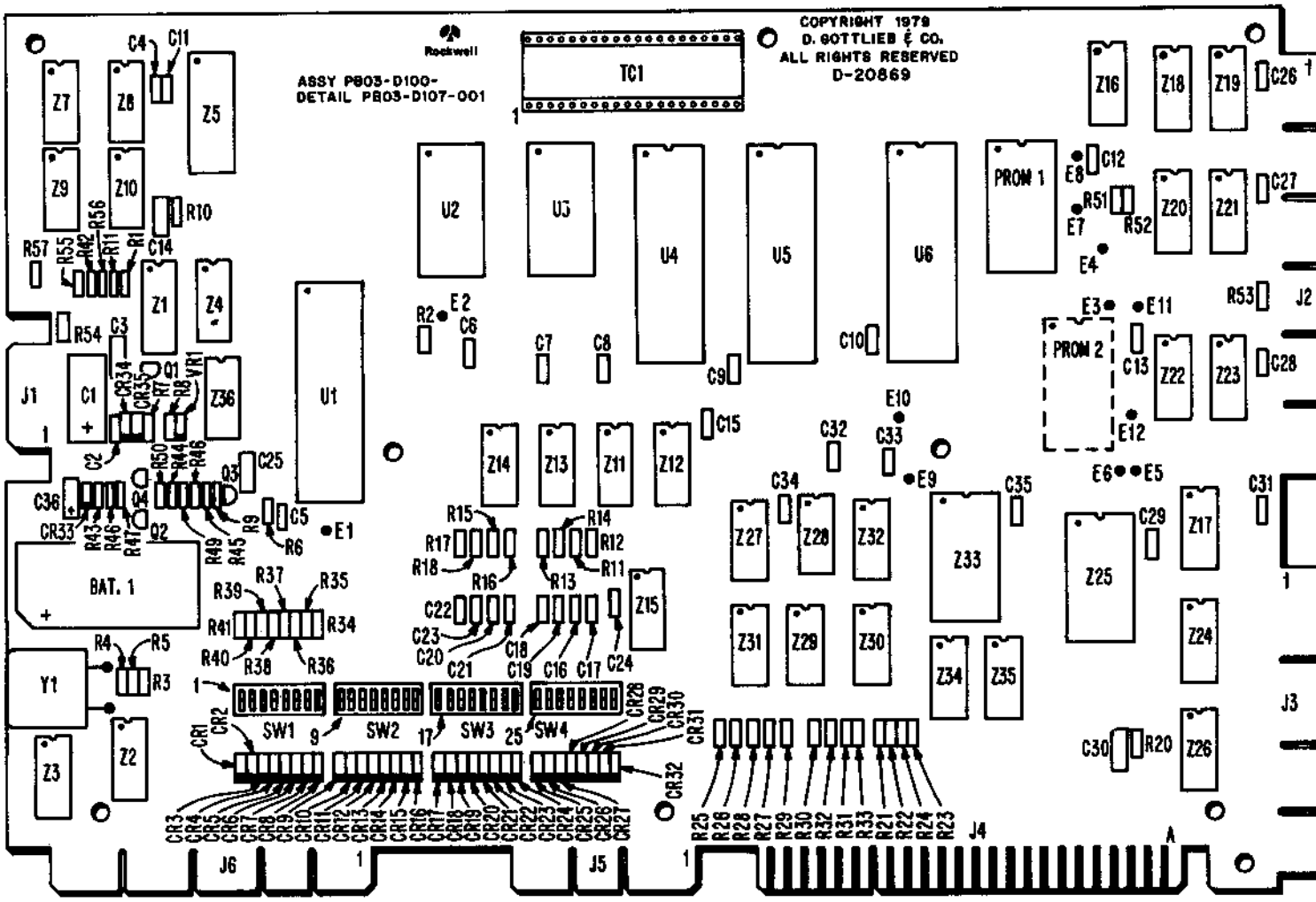
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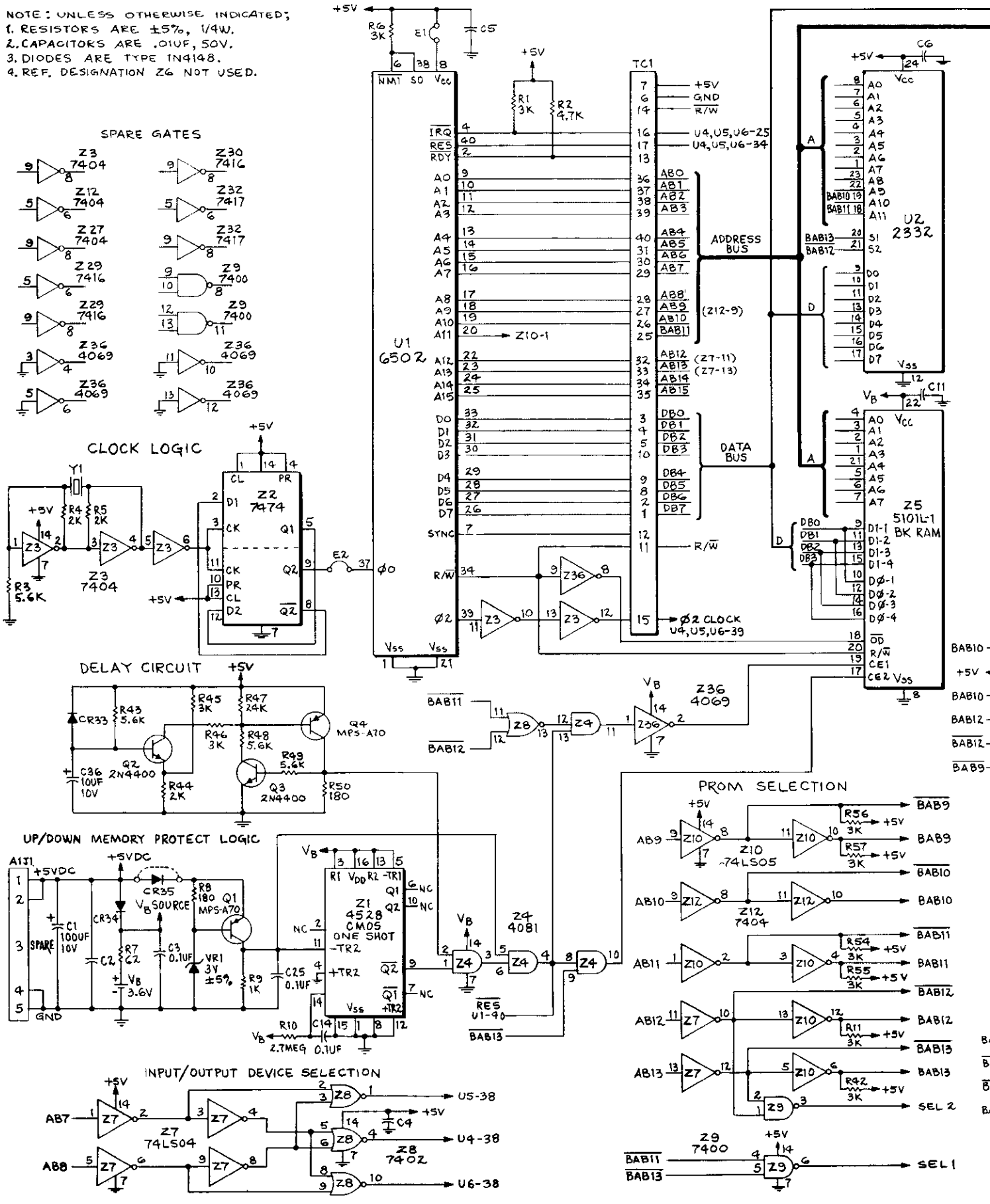
X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS

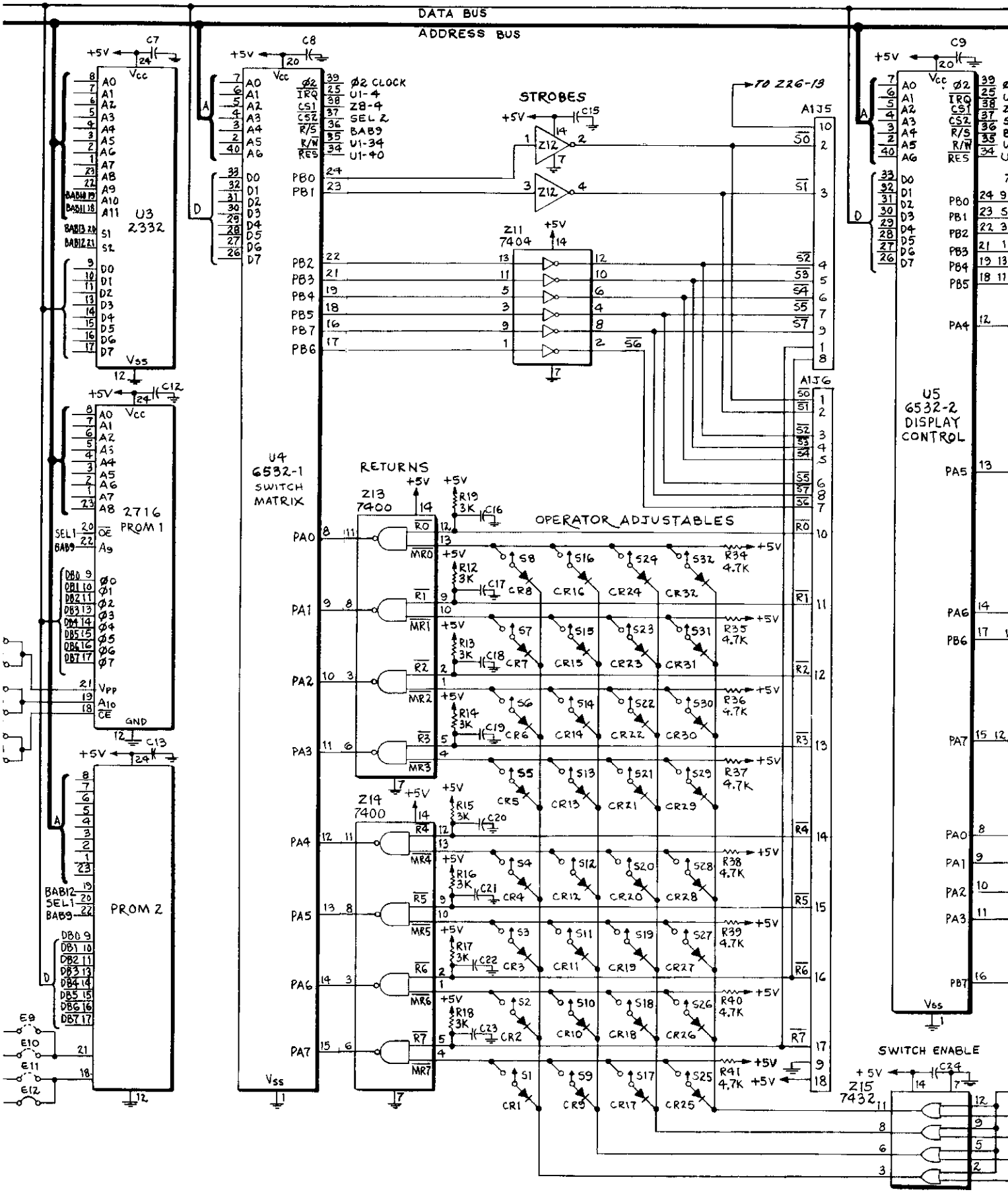
CONTROL BOARD (A1) COMPONENT LOCATION

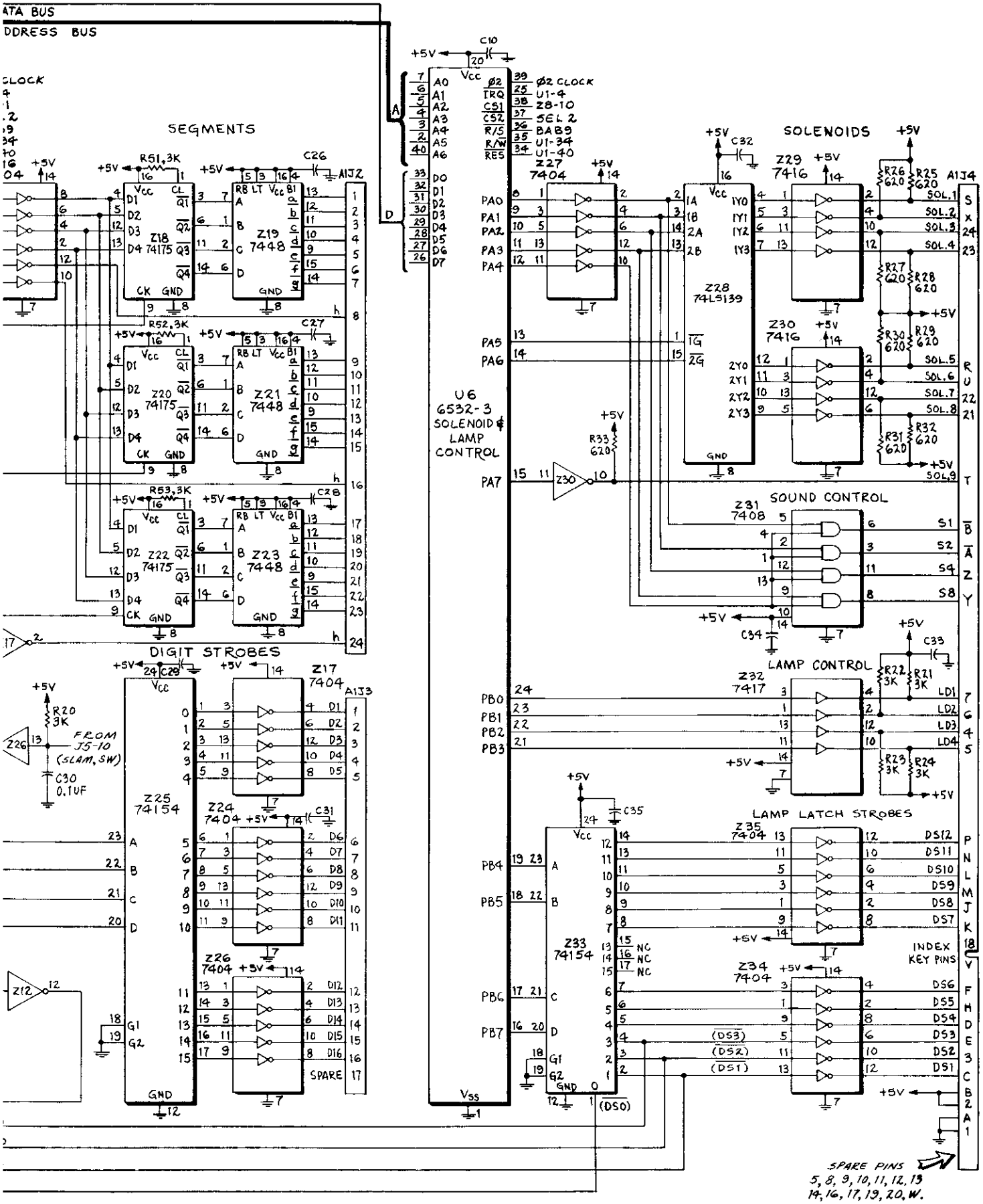


CONTROL BOARD (A1) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	CONTROL BOARD	MA-291
Bat. 1	Battery-3.6V 326R10-002	XO-458
C1	Capacitor, 100 mfd., 10V	XO-211
C2, C4-C13, C15-C24, C26-C29, C31-C35	Capacitor, .01 mfd., 50V	XO-229
C3, C14, C25, C30	Capacitor, 1 mfd., 50V	XO-230
C36	10 mfd., 10V, TNT-AX CAP	XO-209
CR1-CR35	Diode, GP IN4148	XO-261
Q1, Q4	Transistor-PNP MPS-A70	XO-309
Q2, Q3	Transistor, NPN (Motorola) 2N4400	XO-313
R1, R6, R11-R24, R42, R45, R46, R48, R51-R57	Resistor, 3.0K ohm, 5%, ¼W	XO-23
R2, R34-R41	Resistor, 4.7K ohm, 5%, ¼W	XO-7
R3, R43, R49	Resistor, 5.6K ohm, 5%, ¼W	XO-19
R4, R5, R44	Resistor, 2.0K ohm, 5%, ¼W	XO-14
R7	Resistor, 62 ohm, 5%, ¼W	XO-3
R8, R50	Resistor, 180 ohm, 5%, ¼W	XO-24
R9	Resistor, 1K ohm, 5%, ¼W	XO-5
R10	Resistor, 2.7M ohm, 5%, ¼W	XO-13
R25-R33	Resistor, 620 ohm, 5%, ¼W	XO-4
R47	Resistor, 24K ohm, 5%, ¼W	XO-10
SW1-SW4	Dip Switch 1008-692	XO-505
TC1	Socket, 40 Pin 640379-3	XO-530
U1	CPU R6502-13	XO-360
U2	ROM	XO-326
U3	ROM	XO-327
U4, U5, U6	PRIOT R6532-18	XO-361
VR1	Diode-3.0V, 5% IN5225B or IN5987B	XO-269
Y1	Crystal, 3.579545 MHZ	XO-456
Z1	IC-Cmos-Dual 1 Shot SCL4528BE	XO-414
Z2	IC-Dual Flip Flop SN7474N	XO-423
Z3, Z11, Z12, Z16, Z17, Z24, Z26, Z27, Z34, Z35	IC-Hex Inverter SN7404N	XO-402
Z4	IC-Cmos-Quad 2 Input "And" SCL4081BE	XO-401
Z5	IC-Static Ram 5101-L	XO-356
Z7	IC-Hex Inverter SN74LS04N	XO-418
Z8	IC-2 Input "Nor" SN7402N	XO-421
Z9, Z13, Z14	IC-2 Input "Nand" SN7400N	XO-420
Z10	IC-Open Collector Inverter SN74LS05N	XO-411
Z15	IC-2 Input "Or" SN7432N	XO-407
Z18, Z20, Z22	IC-"D" Flip Flop SN74175N	XO-410
Z19, Z21, Z23	IC-4 to 7 Decoder SN7448N	XO-408
Z25, Z33	IC-4-16 Decoder SN74154N	XO-409
Z28	IC-2 to 4 Decoder SN74LS139N	XO-419
Z29, Z30	IC-Hex Inverter—OC/HV SN7416N	XO-405
Z31	IC-2 Input "And" SN7408N	XO-404
Z32	IC-Hex Buffer—OC SN7417N	XO-406
Z36	IC-Cmos SCL4069B	XO-424
	Socket 24 Pin 640361-3	XO-529

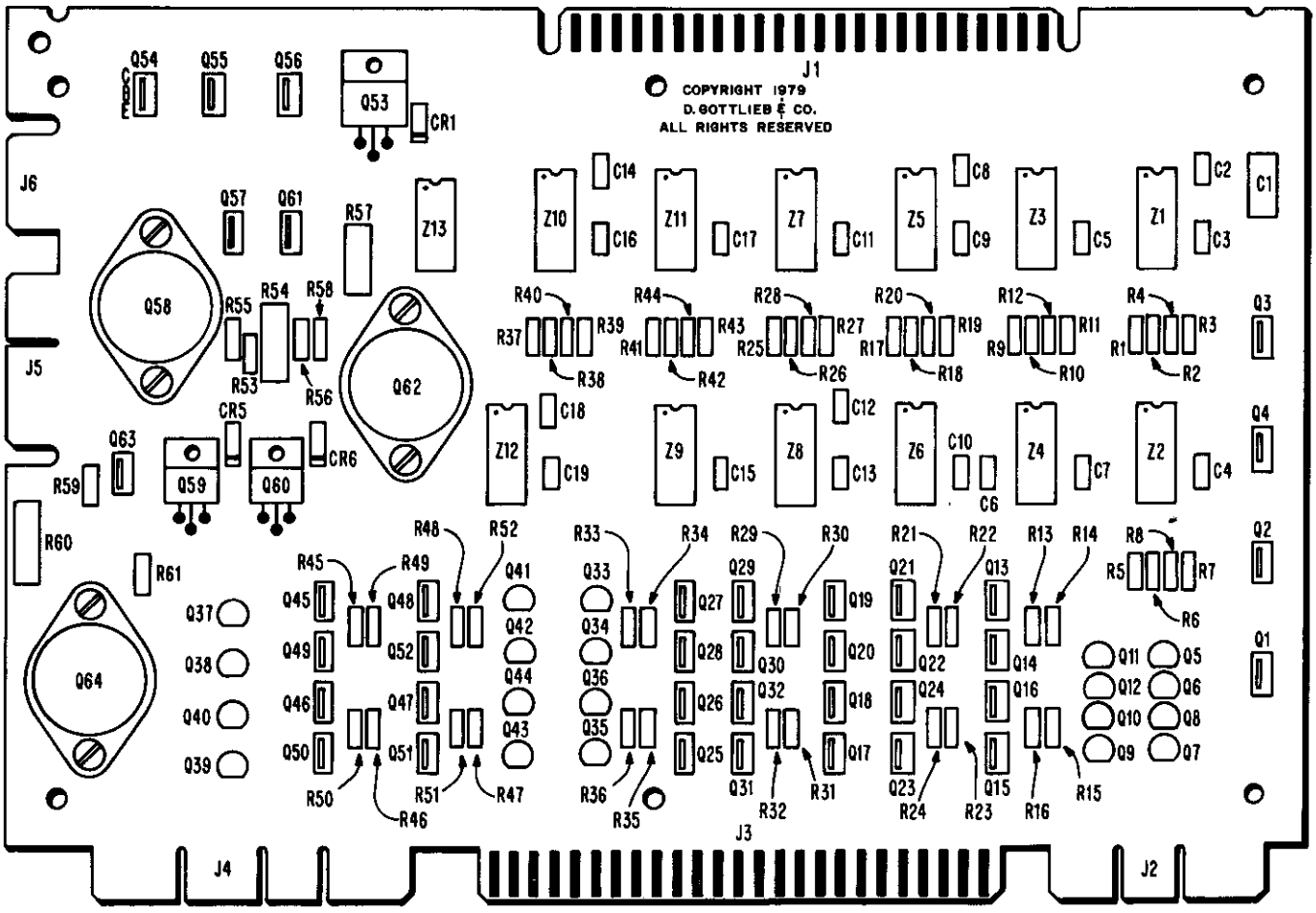

NOTE: UNLESS OTHERWISE INDICATED;
1. RESISTORS ARE ±5%, 1/4W.
2. CAPACITORS ARE .01UF, 50V.
3. DIODES ARE TYPE IN4148.
4. REF. DESIGNATION Z6 NOT USED.
SPARE GATES
Z3 7404
Z12 7404
Z27 7404
Z29 7416
Z29 7416
Z36 4069
Z36 4069
Z30 7416
Z32 7417
Z32 7417
Z9 7400
Z9 7400
Z36 4069
Z36 4069
CLOCK LOGIC
DELAY CIRCUIT
UP/DOWN MEMORY PROTECT LOGIC
INPUT/OUTPUT DEVICE SELECTION
PROM SELECTION
U1 6502
TC1
U2 2332
Z5 5101L-1 BK RAM
ADDRESS BUS
DATA BUS
Z1 4528 CMOS ONE SHOT
Z4 4081
Z7 74LS04
Z8 7402
Z9 7400
Z10 74LS05
Z12 7404
Z36 4069
U5-38
U4-38
U6-38
SEL 2
SEL 1


DATA BUS
ADDRESS BUS
U3
2332
U4
6532-1
SWITCH
MATRIX
U5
6532-2
DISPLAY
CONTROL
2716
PROM 1
PROM 2
STROBES
RETURNS
OPERATOR ADJUSTABLES
SWITCH ENABLE
Ø2 CLOCK
U1-4
Z8-4
SEL 2
BA89
U1-34
U1-40
TO 226-13
Z11
7404
Z12
Z13
7400
Z14
7400
Z15
7432
A1J5
A1J6
+5V
GND
Vcc
Vss
Vpp
CE
OE
R/W
R/S
RES
IRQ
CS1
CS2
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA4
PA5
PA6
PB6
PA7
PA0
PA1
PA2
PA3
PB7
R19 3K
R12 3K
R13 3K
R14 3K
R15 3K
R16 3K
R17 3K
R18 3K
R34 4.7K
R35 4.7K
R36 4.7K
R37 4.7K
R38 4.7K
R39 4.7K
R40 4.7K
R41 4.7K
C7
C8
C9
C12
C13
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
E9
E10
E11
E12



Premier Technology			
TITLE: CONTROL BOARD (A1)			
USED ON			
DRAWN	APPROVED	DATE	E-20916
	BAM	12-20-80	

DRIVER BOARD (A3) COMPONENT LOCATION



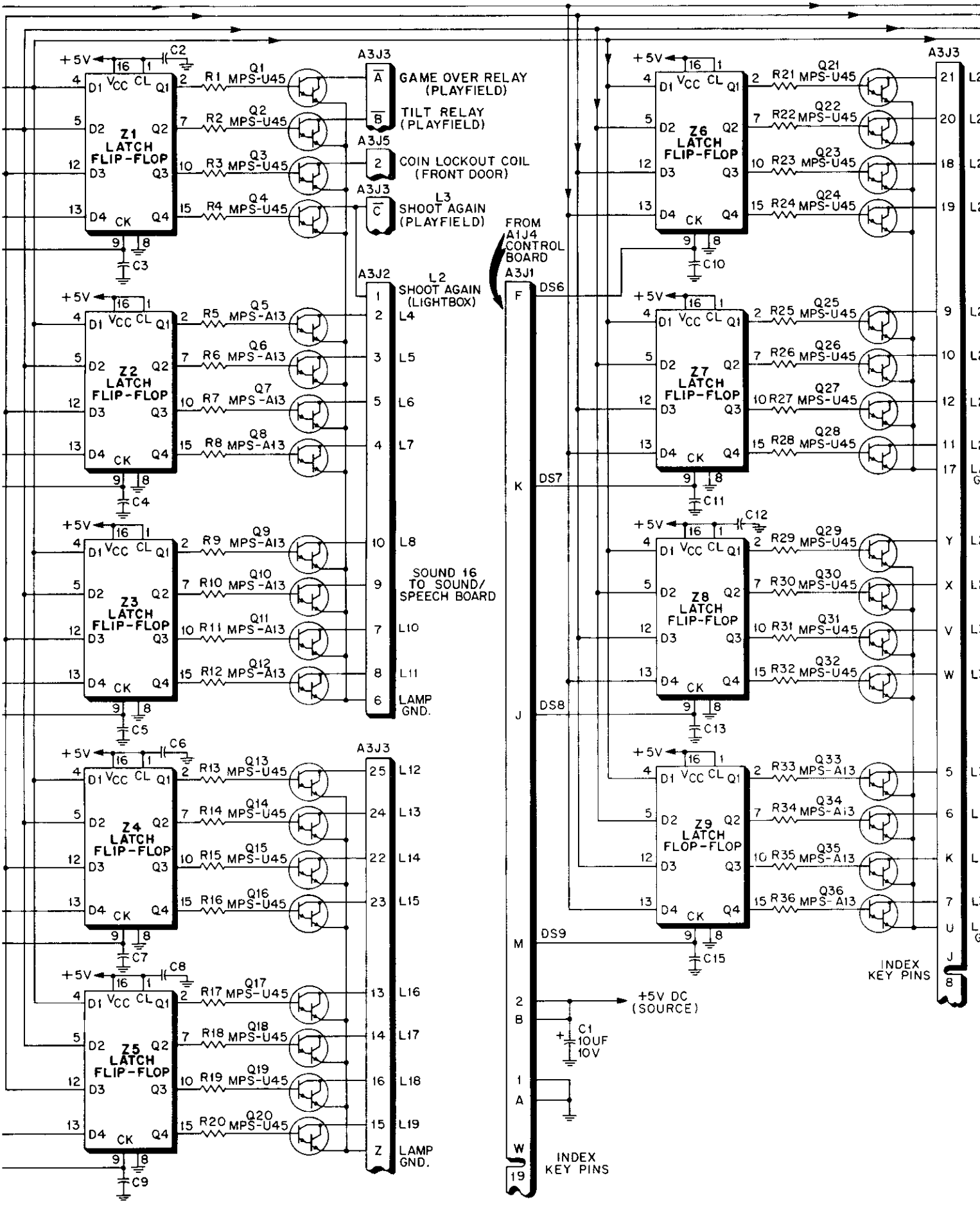
FROM A1J4 CONTRO BOARD
A3J1

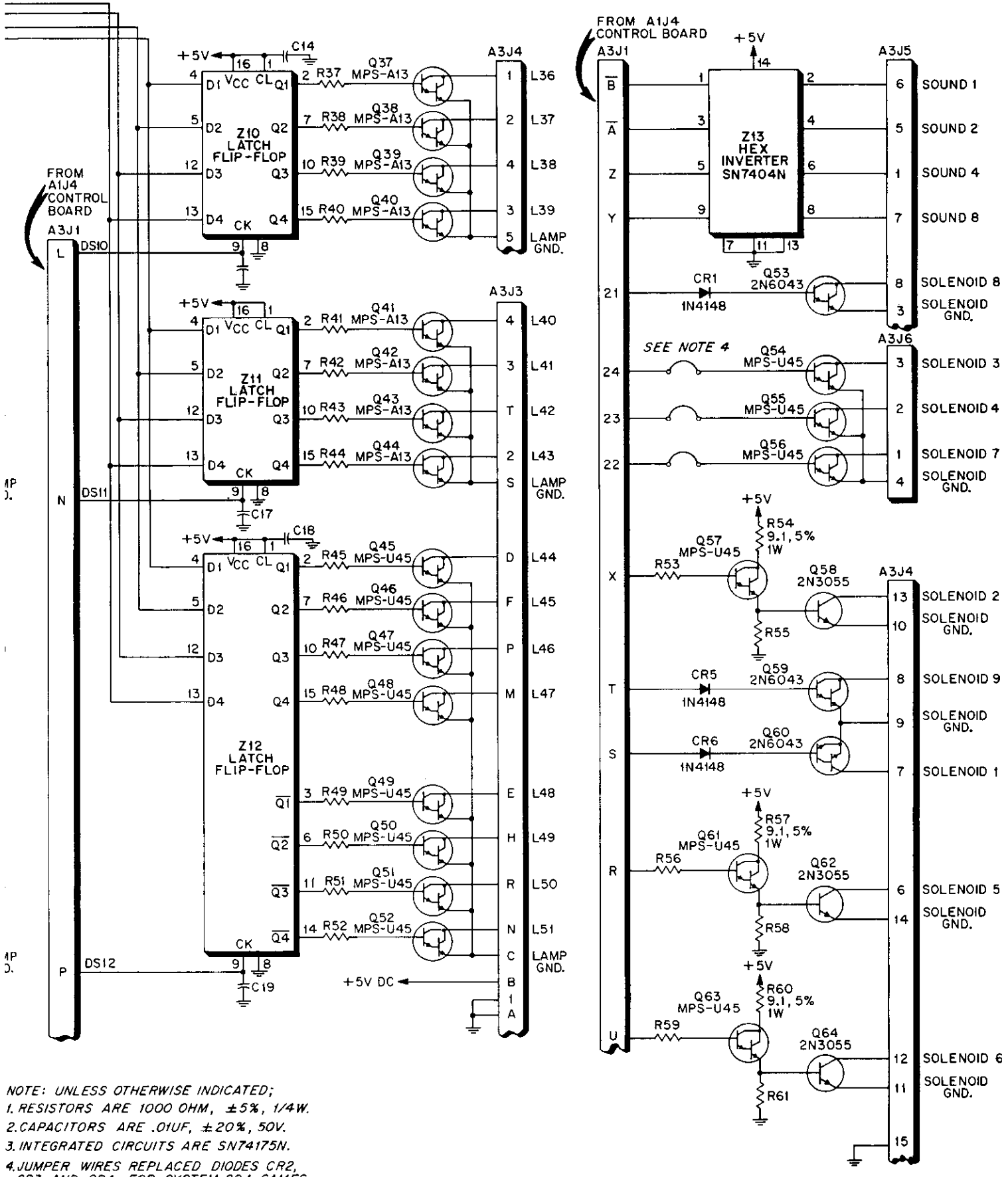
DRIVER BOARD (A3) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	DRIVER BOARD	MA-295
C1	Capacitor, 10 mfd, 10V Tantalum	XO-209
C2-C19	Capacitor, .01 mfd, 50V Ceramic	XO-229
CR1-CR6	Diode—Silicon 1N4148	XO-261
R1-R53, R61, R55, R56, R58, R59	Resistor 10K ohm, 5%, ¼W	XO-5
R54, R57, R60	Resistor, 91 ohm, 5%, 1W	XO-158
Q1-Q4, Q13-Q32, Q45-Q52, Q54-Q57, Q63	Transistor, NPN, Darlington MPS-U45	XO-306
Q5-Q12, Q33-Q44	Transistor, NPN, Darlington MPS-A13	XO-304
Q53, Q59, Q60	Transistor, NPN, Darlington 2N6043	XO-303
Q58, Q62, Q64	Transistor, NPN, 2N3055	XO-301
Z1-Z12	IC-Quad "D" Latch Flip Flop SN74175N	XO-410
Z13	IC-Hex Inverter SN7404N	XO-402
	Insulator-Thermalloy 43-03-4	XO-512

NOTE:

1. *JUMPER WIRES REPLACED DIODES CR2, CR3 AND CR4 FOR SYSTEM 80A GAMES.*
2. *TRANSISTOR TYPES MPS-U45 AND NDS-U45 ARE INTERCHANGEABLE.*


Z1 LATCH FLIP-FLOP
Z2 LATCH FLIP-FLOP
Z3 LATCH FLIP-FLOP
Z4 LATCH FLIP-FLOP
Z5 LATCH FLIP-FLOP
Z6 LATCH FLIP-FLOP
Z7 LATCH FLIP-FLOP
Z8 LATCH FLIP-FLOP
Z9 LATCH FLOP-FLOP
+5V
C1 10UF 10V
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C15
Q1 MPS-U45
Q2 MPS-U45
Q3 MPS-U45
Q4 MPS-U45
Q5 MPS-A13
Q6 MPS-A13
Q7 MPS-A13
Q8 MPS-A13
Q9 MPS-A13
Q10 MPS-A13
Q11 MPS-A13
Q12 MPS-A13
Q13 MPS-U45
Q14 MPS-U45
Q15 MPS-U45
Q16 MPS-U45
Q17 MPS-U45
Q18 MPS-U45
Q19 MPS-U45
Q20 MPS-U45
Q21 MPS-U45
Q22 MPS-U45
Q23 MPS-U45
Q24 MPS-U45
Q25 MPS-U45
Q26 MPS-U45
Q27 MPS-U45
Q28 MPS-U45
Q29 MPS-U45
Q30 MPS-U45
Q31 MPS-U45
Q32 MPS-U45
Q33 MPS-A13
Q34 MPS-A13
Q35 MPS-A13
Q36 MPS-A13
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
A3J3
A3J5
A3J2
A3J1
GAME OVER RELAY (PLAYFIELD)
TILT RELAY (PLAYFIELD)
COIN LOCKOUT COIL (FRONT DOOR)
L3 SHOOT AGAIN (PLAYFIELD)
L2 SHOOT AGAIN (LIGHTBOX)
SOUND 16 TO SOUND/ SPEECH BOARD
LAMP GND.
FROM A1J4 CONTROL BOARD
DS6
DS7
DS8
DS9
+5V DC (SOURCE)
INDEX KEY PINS
INDEX KEY PINS



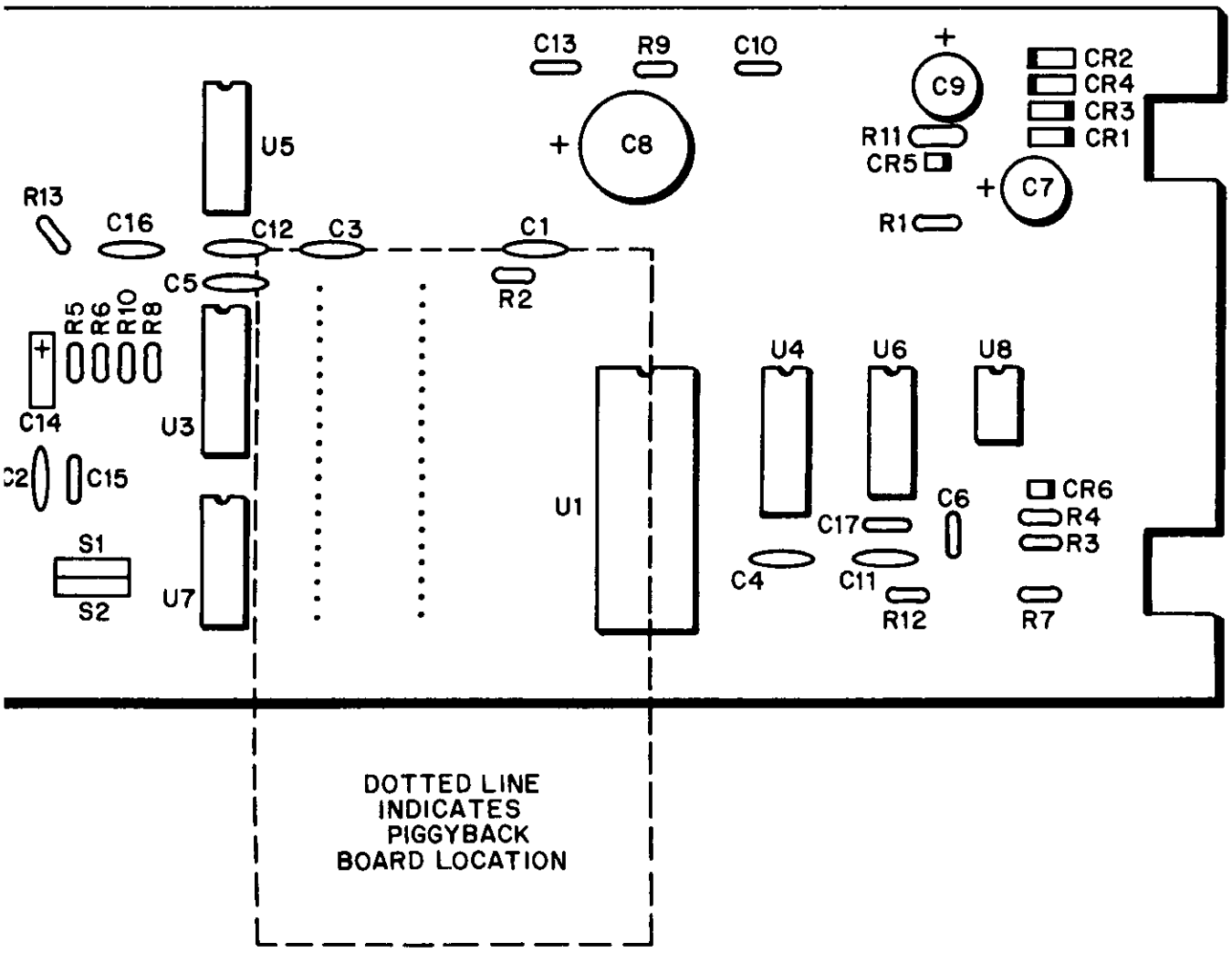
NOTE: UNLESS OTHERWISE INDICATED;

1. *RESISTORS ARE 1000 OHM, ±5%, 1/4W.*
2. *CAPACITORS ARE .01UF, ±20%, 50V.*
3. *INTEGRATED CIRCUITS ARE SN74175N.*
4. *JUMPER WIRES REPLACED DIODES CR2, CR3 AND CR4 FOR SYSTEM 80A GAMES.*
5. *TRANSISTOR TYPES MPS-U45 AND NDS-U45 ARE INTERCHANGEABLE.*

Premier Technology			
TITLE: DRIVER BOARD (A3)			
USED ON			
DRAWN	APPROVED: BAM	DATE: 12-12-80	E-20915

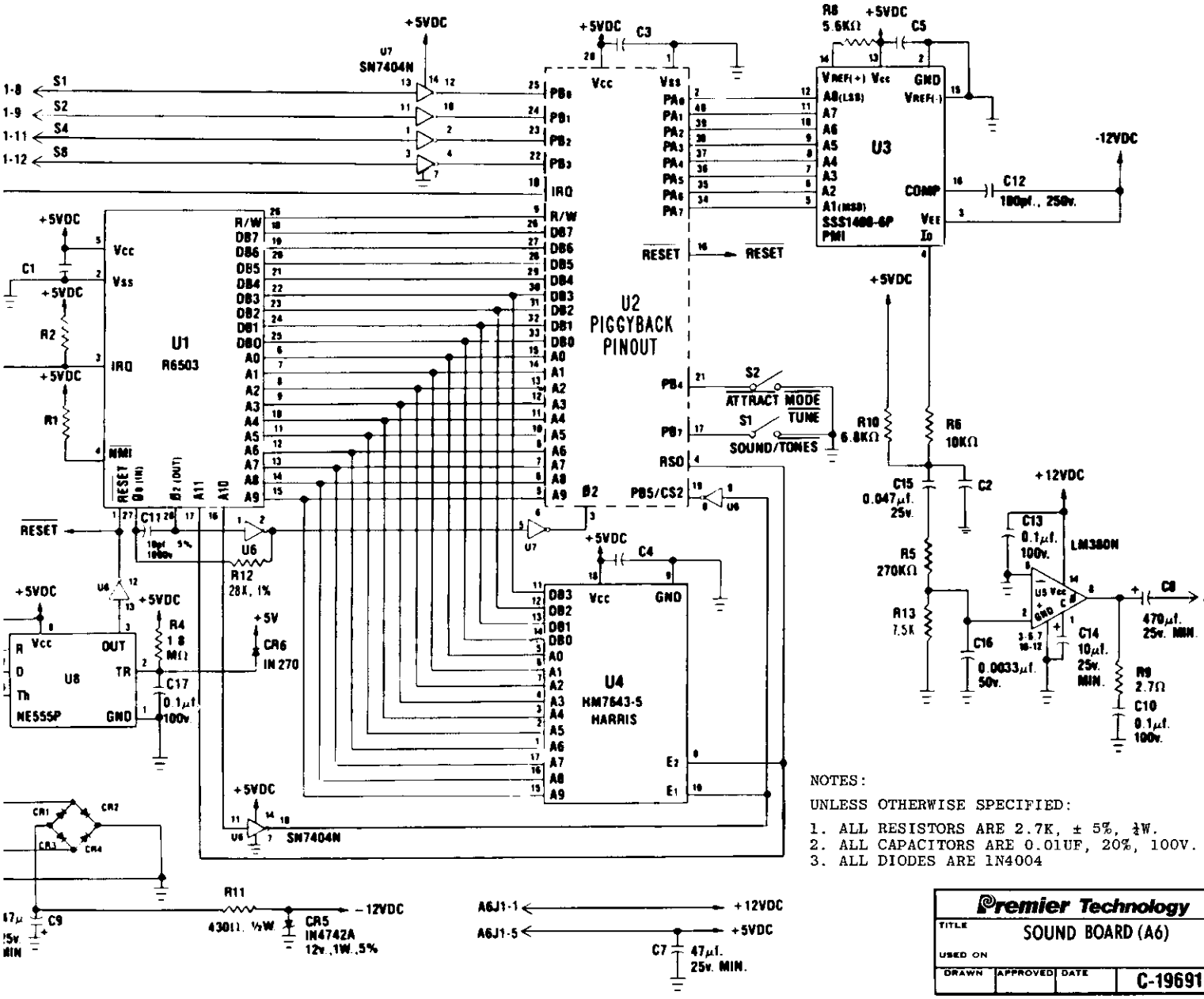
X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS

SOUND BOARD (A6) PARTS LIST



SOUND BOARD (A6) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER	REFERENCE	DESCRIPTION	PART NUMBER
	Sound Board Assembly	MA-490	C8	Capacitor, 470UF, 25V	XO-220
R1, R2, R7	Resistor, 2.7K ohm, 5%, 1/4W	XO-6	C11	Capacitor, 10PF, 1000V, 5%	XO-221
R3	Resistor, 2.7M ohm, 5%, 1/4W	XO-13	C12	Capacitor, 100PF, 250V, 20%	XO-223
R4	Resistor, 1.8M ohm, 5%, 1/4W	XO-12	C14	Capacitor, 10UF, 25V	XO-225
R5	Resistor, 270K ohm, 5%, 1/4W	XO-602	C15	Capacitor, .047UF, 25V, 20%	XO-222
R6	Resistor, 10K ohm, 5%, 1/4W	XO-18	C16	Capacitor, .0033UF, 50V, 20%	XO-224
R8	Resistor, 5.6K ohm, 5%, 1/4W	XO-19	U1	IC, R6503	XO-357
R9	Resistor, 2.7 ohm, 5%, 1/4W	XO-16	U3	IC, 1408-6P	XO-416
R10	Resistor, 6.8K ohm, 5%, 1/4W	XO-8	U4	IC, HM7643-5	PR-51
R11	Resistor, 430 ohm, 5%, 1/2W	XO-54	U5	IC, LM380N	XO-632
R12	Resistor, 28K ohm, 1%, 1/4W	XO-711	U6, U7	IC, SN7404N	XO-402
R13	Resistor, 7.5K ohm, 5%, 1/4W	XO-630	U8	IC, NE555P	XO-631
C1-C5	Capacitor, .01UF, 100V, 20%	XO-202	CR1, CR4	Diode, 1N4004	XO-254
C6, C10, C13, C17	Capacitor, 0.1UF, 100V, 20%	XO-626	CR5	Diode, Zener 12V, 5%, 1W, 1N4742A	XO-257
			CR6	Diode, 1N270	XO-265
C7, C9	Capacitor, 47UF, 25V	XO-219	S1, S2	Switch, DIP	XO-516



NOTES:

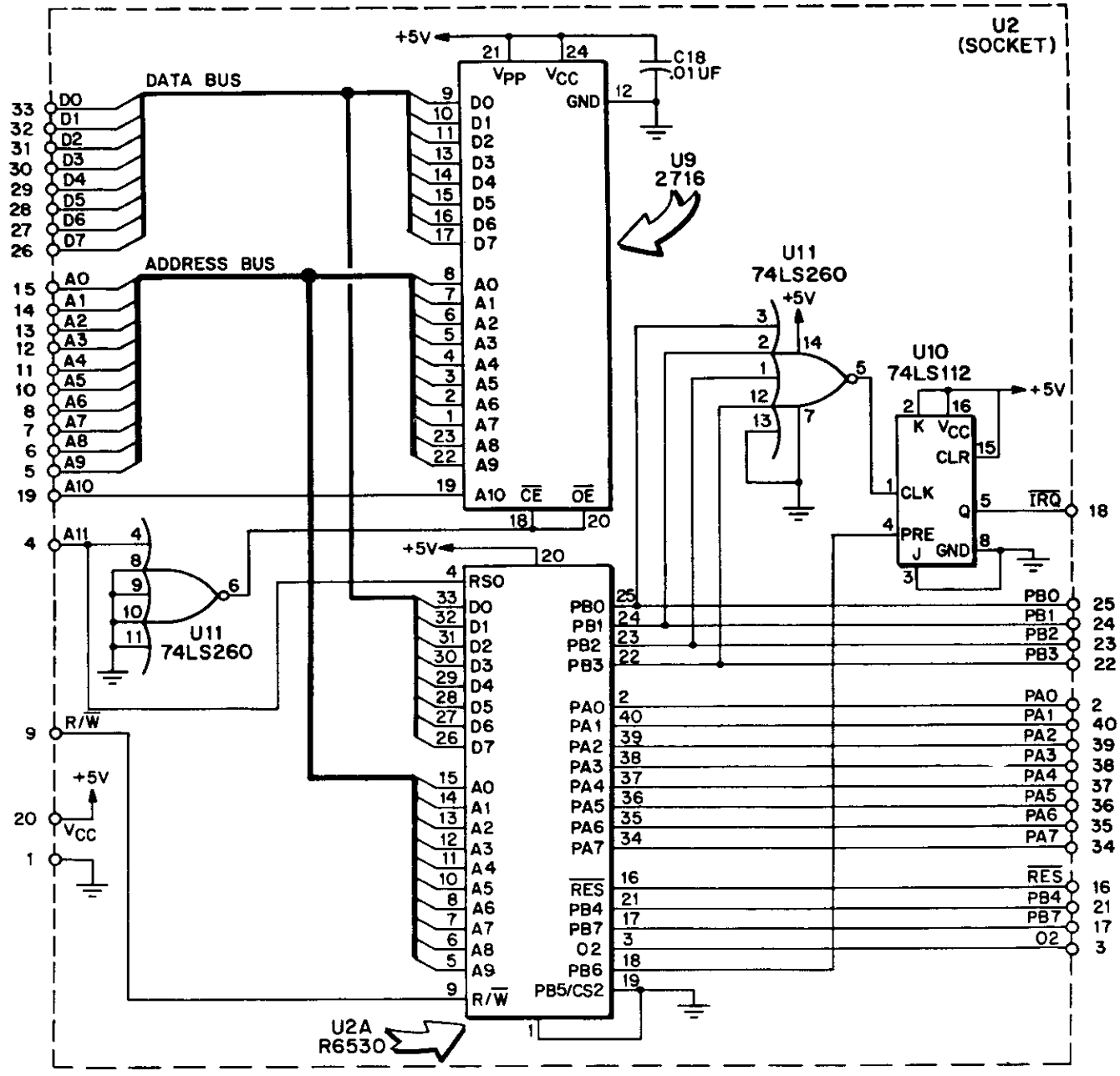
UNLESS OTHERWISE SPECIFIED:

1. ALL RESISTORS ARE 2.7K, ± 5%, ¼W.
2. ALL CAPACITORS ARE 0.01UF, 20%, 100V.
3. ALL DIODES ARE 1N4004

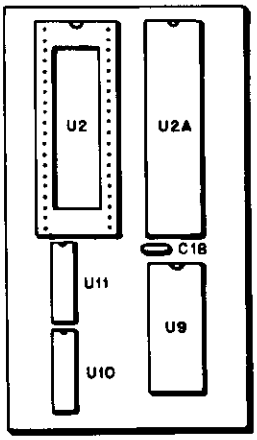
Premier Technology			
TITLE: SOUND BOARD (A6)			
USED ON			
DRAWN	APPROVED	DATE	C-19691

CAUTION

THE SOUND BOARD INSTALLED IN THIS GAME IS NOT INTERCHANGEABLE WITH ANY OTHER SOUND BOARD.



PIGGYBACK BOARD COMPONENT LOCATION

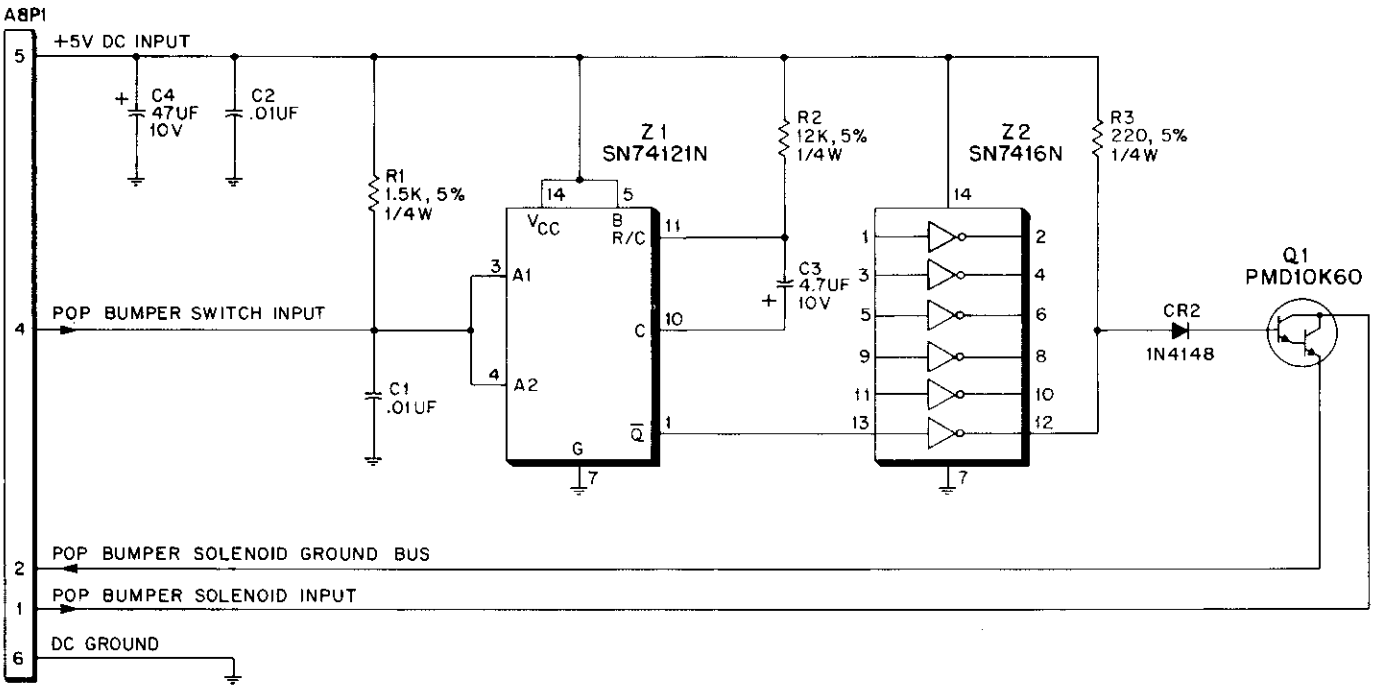


Premier Technology			
TITLE: PIGGYBACK BOARD			
USED ON			
DRAWN	APPROVED	DATE	
		6-MAY-83	

PIGGYBACK BOARD PARTS LIST

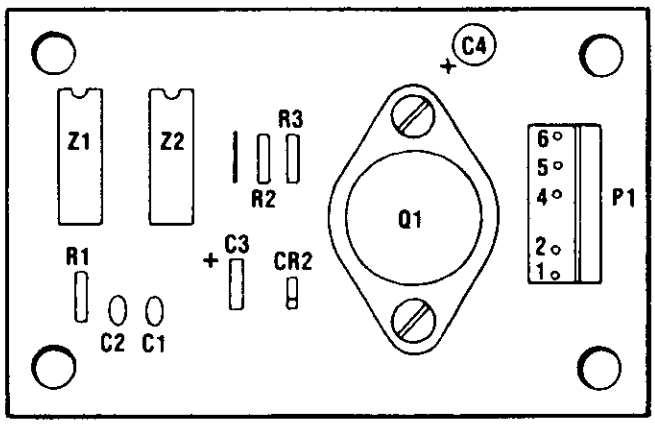
REFERENCE	DESCRIPTION	PART NUMBER
	Piggyback Board Assembly	P/O MA-490
C18	Capacitor, .01UF, 100V, 20%	XO-202
U2A	IC, R6530	XO-359
U9	IC, 2716 EPROM	PR-53
U10	IC, 74LS112	XO-629
U11	IC, 74LS260	XO-93
	Socket, 24 Pin	XO-529
	Socket, 40 Pin Wire Wrap	XO-710

X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS



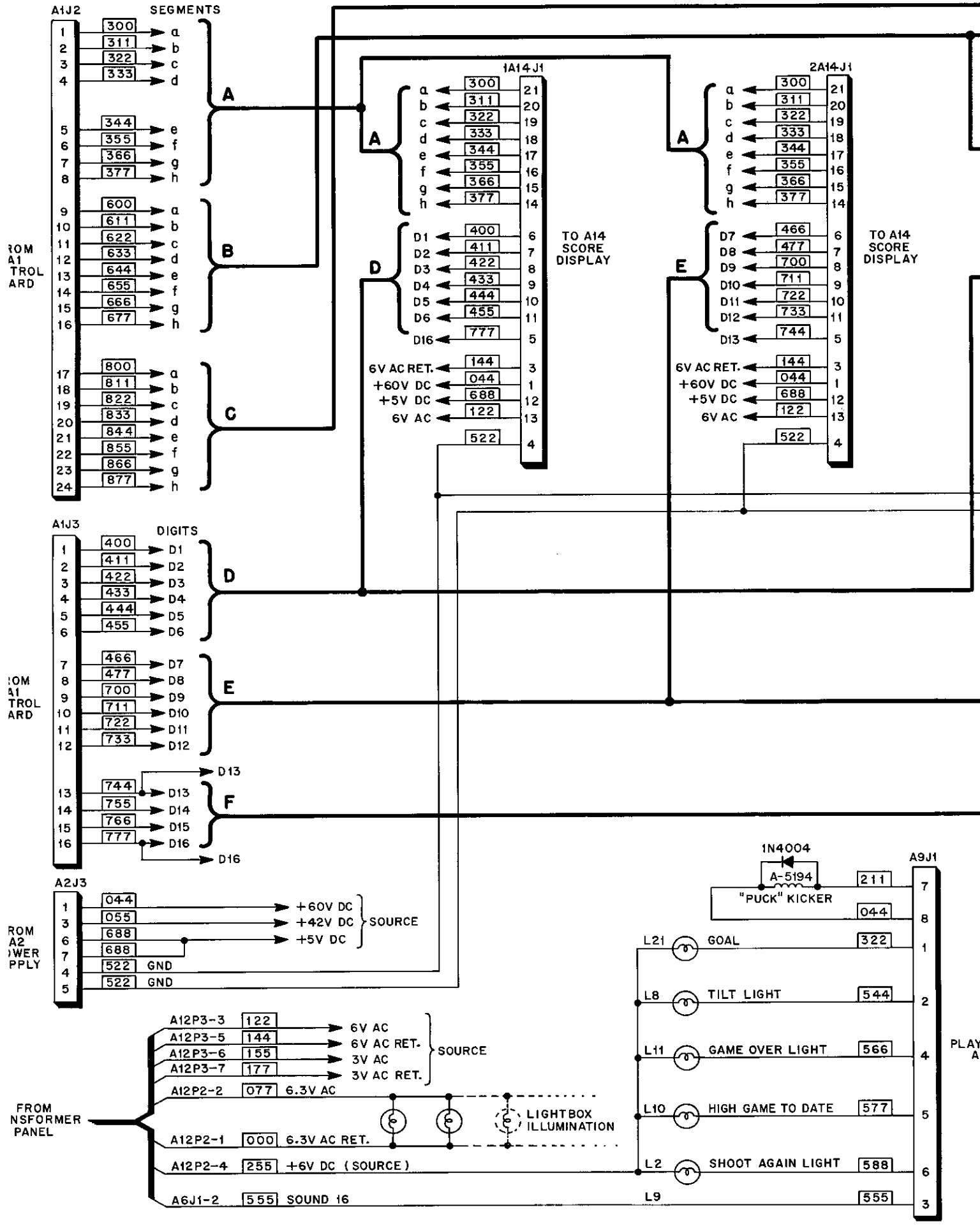
Premier Technology			
TITLE POP BUMPER DRIVER BOARD (A8)			
USED ON			
DRAWN	APPROVED	DATE 10-4-82	D-20923

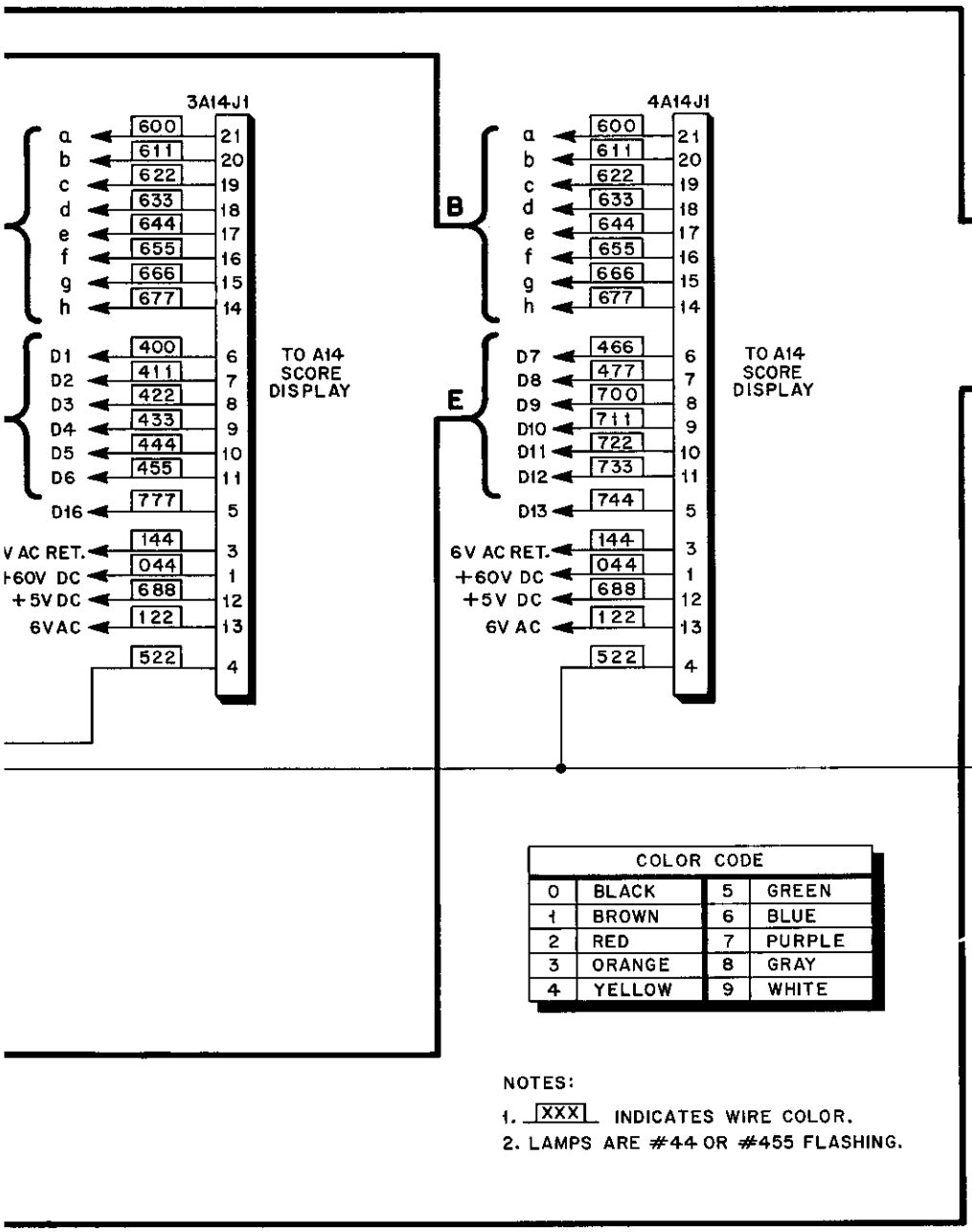
POP BUMPER DRIVER BOARD (A8) COMPONENT LOCATION



POP BUMPER DRIVER BOARD (A8) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	POP BUMPER DRIVER BOARD	A-19741
C1, C2	Capacitor, .01 mfd., 100V	XO-202
C3	Capacitor, 4.7 mfd., 10%, 10V, Tantalum, Axial	XO-226
C4	Capacitor, 47 mfd., 10V	XO-227
CR2	Diode 1N4148	XO-261
P1	Connector 09-65-1061	XO-502
R1	Resistor, 1.5K ohm, 5%, ¼W	XO-20
R2	Resistor, 12K ohm, 5%, ¼W	XO-9
R3	Resistor, 220 ohm, 5% ¼W	XO-21
Q1	Transistor-Lambda PMD10K60	XO-311X
Z1	IC SN74121N	XO-417X
Z2	IC SN7416N	XO-405X

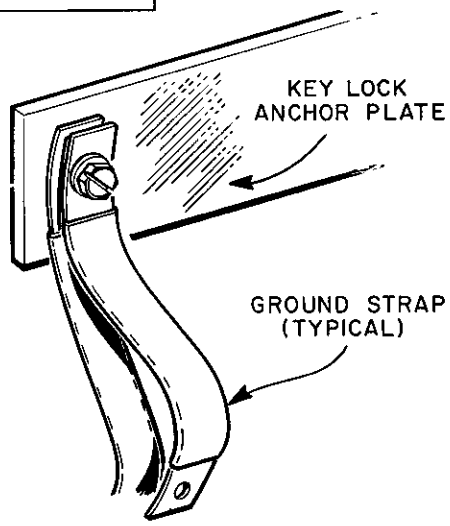

A1J2
SEGMENTS
300 a
311 b
322 c
333 d
344 e
355 f
366 g
377 h
600 a
611 b
622 c
633 d
644 e
655 f
666 g
677 h
800 a
811 b
822 c
833 d
844 e
855 f
866 g
877 h
A
B
C
1A14 J1
2A14-J1
TO A14 SCORE DISPLAY
D1 400
D2 411
D3 422
D4 433
D5 444
D6 455
D16 777
D7 466
D8 477
D9 700
D10 711
D11 722
D12 733
D13 744
6V AC RET. 144
+60V DC 044
+5V DC 688
6V AC 122
522
D
E
A1J3
DIGITS
400 D1
411 D2
422 D3
433 D4
444 D5
455 D6
466 D7
477 D8
700 D9
711 D10
722 D11
733 D12
744 D13
755 D14
766 D15
777 D16
F
A2J3
044 +60V DC
055 +42V DC
688 +5V DC
SOURCE
688
522 GND
522 GND
1N4004
A-5194
"PUCK" KICKER
211
044
A9J1
L21 GOAL 322
L8 TILT LIGHT 544
L11 GAME OVER LIGHT 566
L10 HIGH GAME TO DATE 577
L2 SHOOT AGAIN LIGHT 588
L9 555
A12P3-3 122 6V AC
A12P3-5 144 6V AC RET.
A12P3-6 155 3V AC
A12P3-7 177 3V AC RET.
SOURCE
A12P2-2 077 6.3V AC
A12P2-1 000 6.3V AC RET.
LIGHTBOX ILLUMINATION
A12P2-4 255 +6V DC (SOURCE)
A6J1-2 555 SOUND 16
FROM NSFORMER PANEL

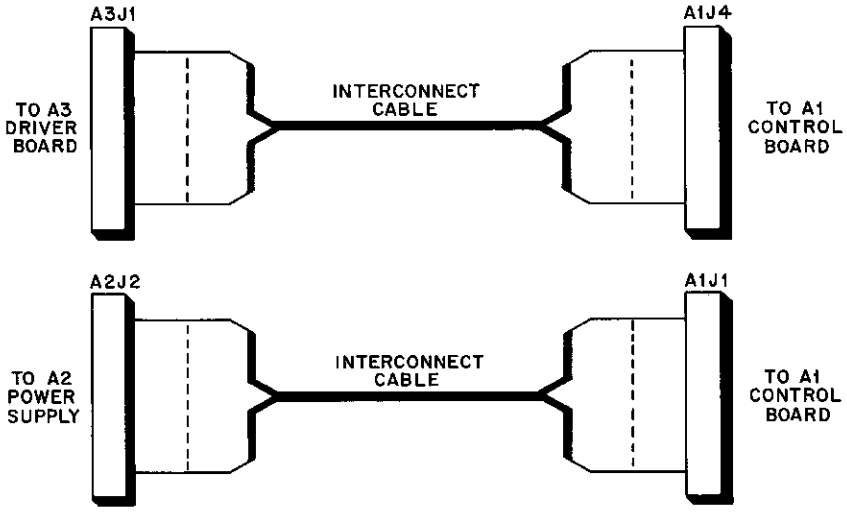


COLOR CODE			
0	BLACK	5	GREEN
1	BROWN	6	BLUE
2	RED	7	PURPLE
3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

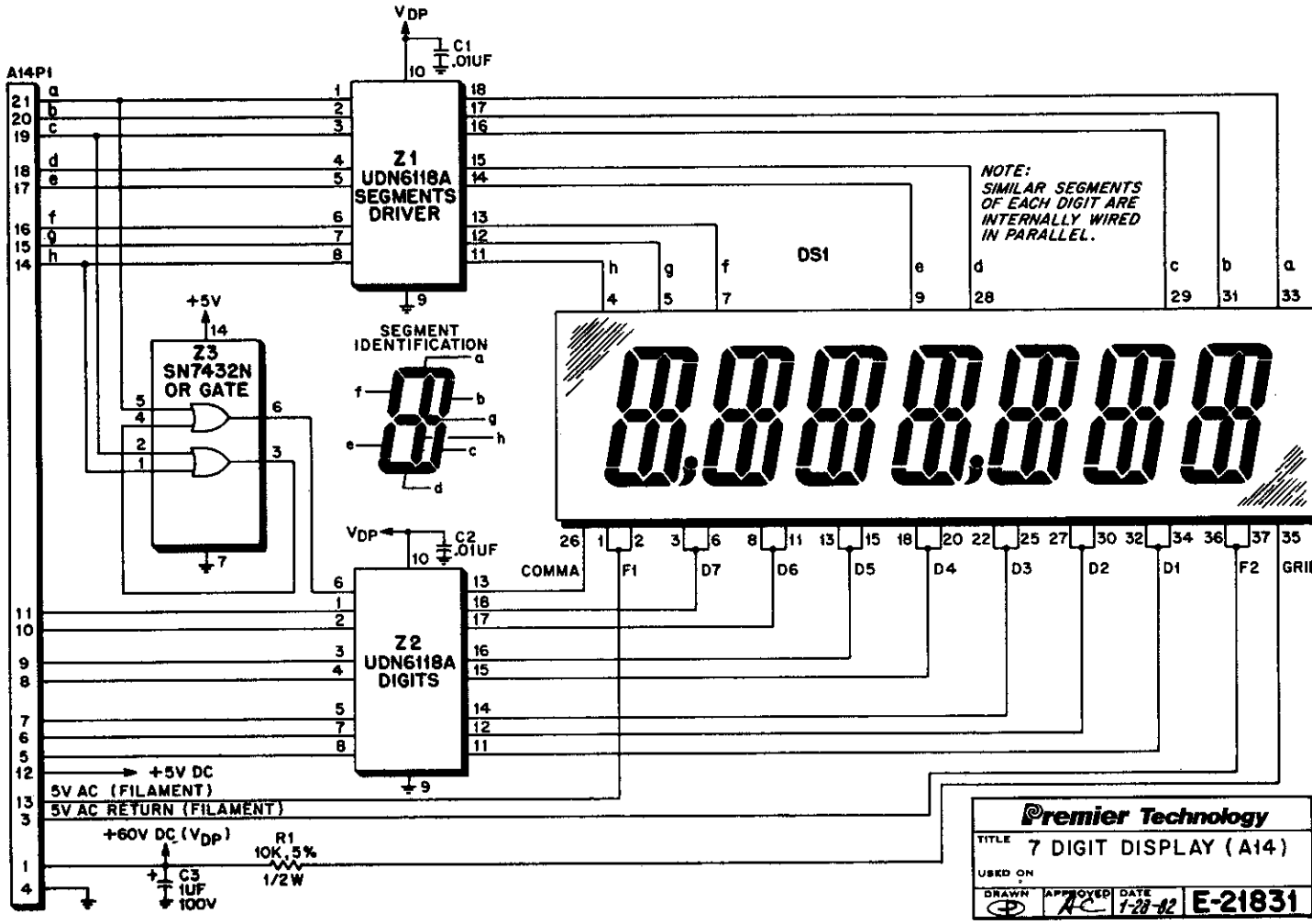
NOTES:

1. [XXX] INDICATES WIRE COLOR.
2. LAMPS ARE #44 OR #455 FLASHING.

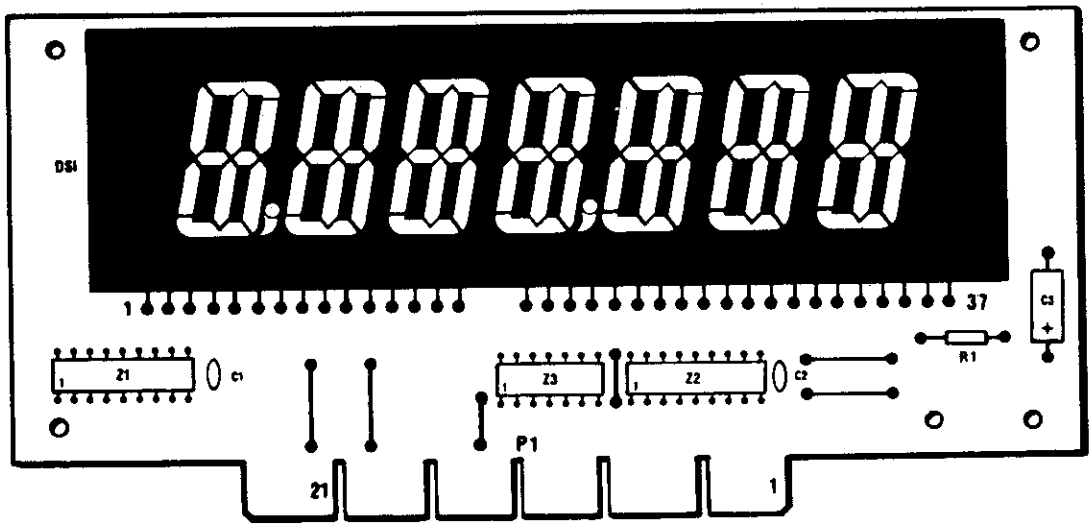




Premier Technology			
TITLE: LIGHTBOX, SCHEMATIC/ WIRING DIAGRAM			
DRAWN	APPROVED R.H.M.	DATE 8JAN85	E-24378

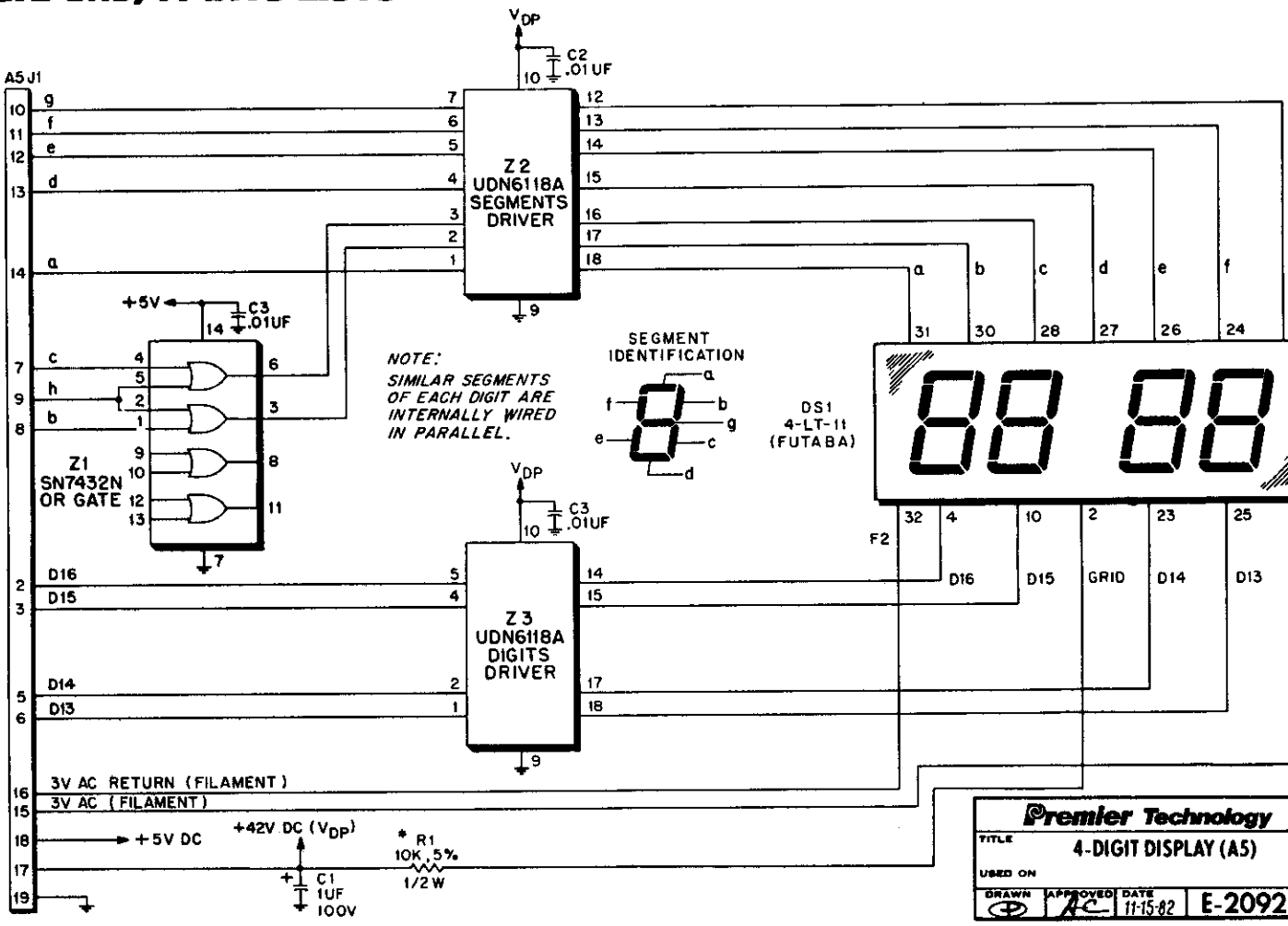


7-DIGIT DISPLAY (A14) COMPONENT LOCATION

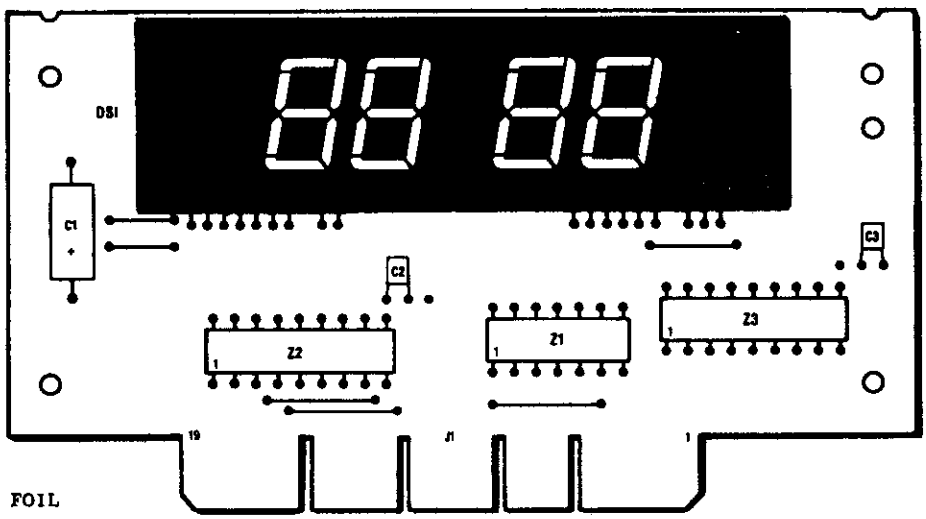


7-DIGIT DISPLAY (A14) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	7 DIGIT DISPLAY	MA-238
C1, C2	Capacitor .01 mfd. 100V Kemet	XO-202
C3	Capacitor 1 mfd 100V Sprague	XO-206
DS1	7 Digit Display Tube - FUTABA	XO-477
R1	Resistor, 10K Ohm, 5%, ½W	XO-62
Z1, Z2	IC-Fluorescent Display Driver-Sprague	XO-415
Z3	IC Quad or Gate	XO-407



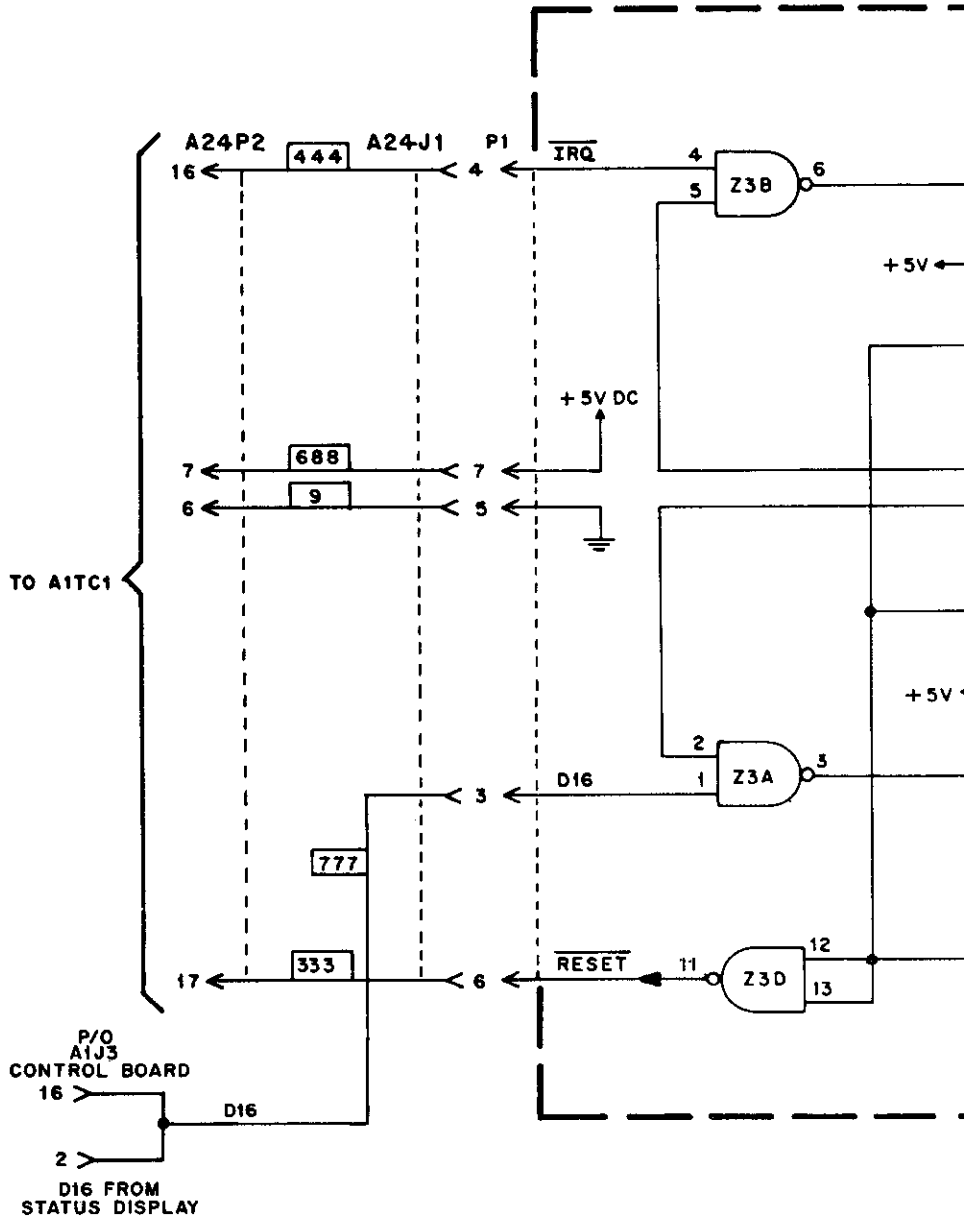
4-DIGIT DISPLAY (A5) COMPONENT LOCATION



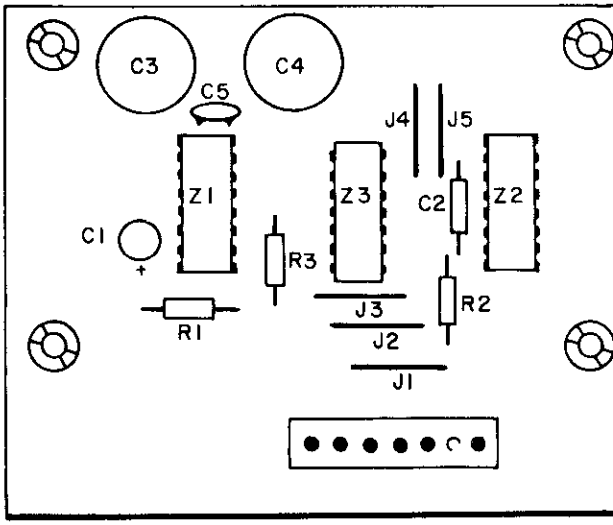
*NOTE:
R1 MOUNTED ON FOIL SIDE OF BOARD.

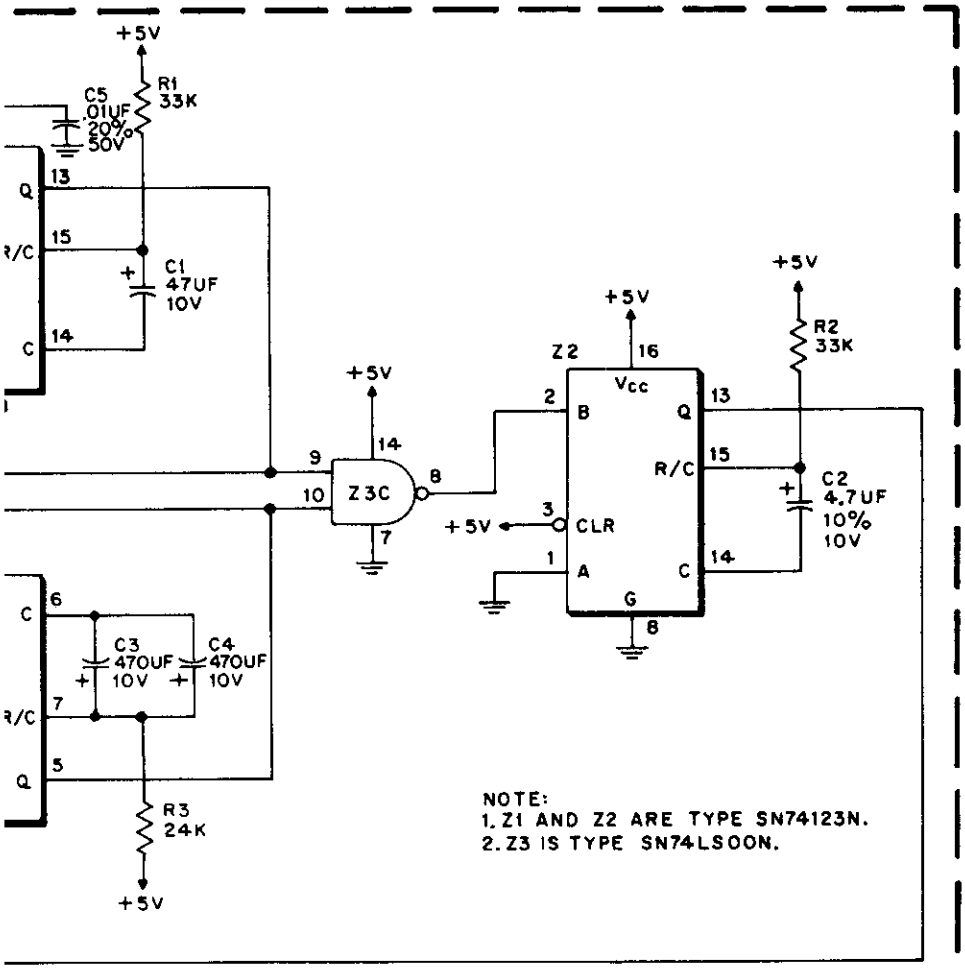
4-DIGIT DISPLAY (A5) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	4 DIGIT DISPLAY	MA-115
C1	Capacitor, 1 mfd., 100V Sprague 1E1400	XO-206
C2, C3	Capacitor, .01 mfd., 100V Kemet C320C103M1R5CA	XO-202
DS1	4-Digit Display Tube-Futaba 4-LT-11	XO-455X
* R1	Resistor, 10K Ohm, 5%, ½W	XO-62
Z1	IC-Quad or Gate—T.I. SN7432N	XO-407
Z2, Z3	IC-Fluorescent Display Driver—Sprague UDN6118A	XO-415



RESET BOARD (A24) COMPONENT LOCATION



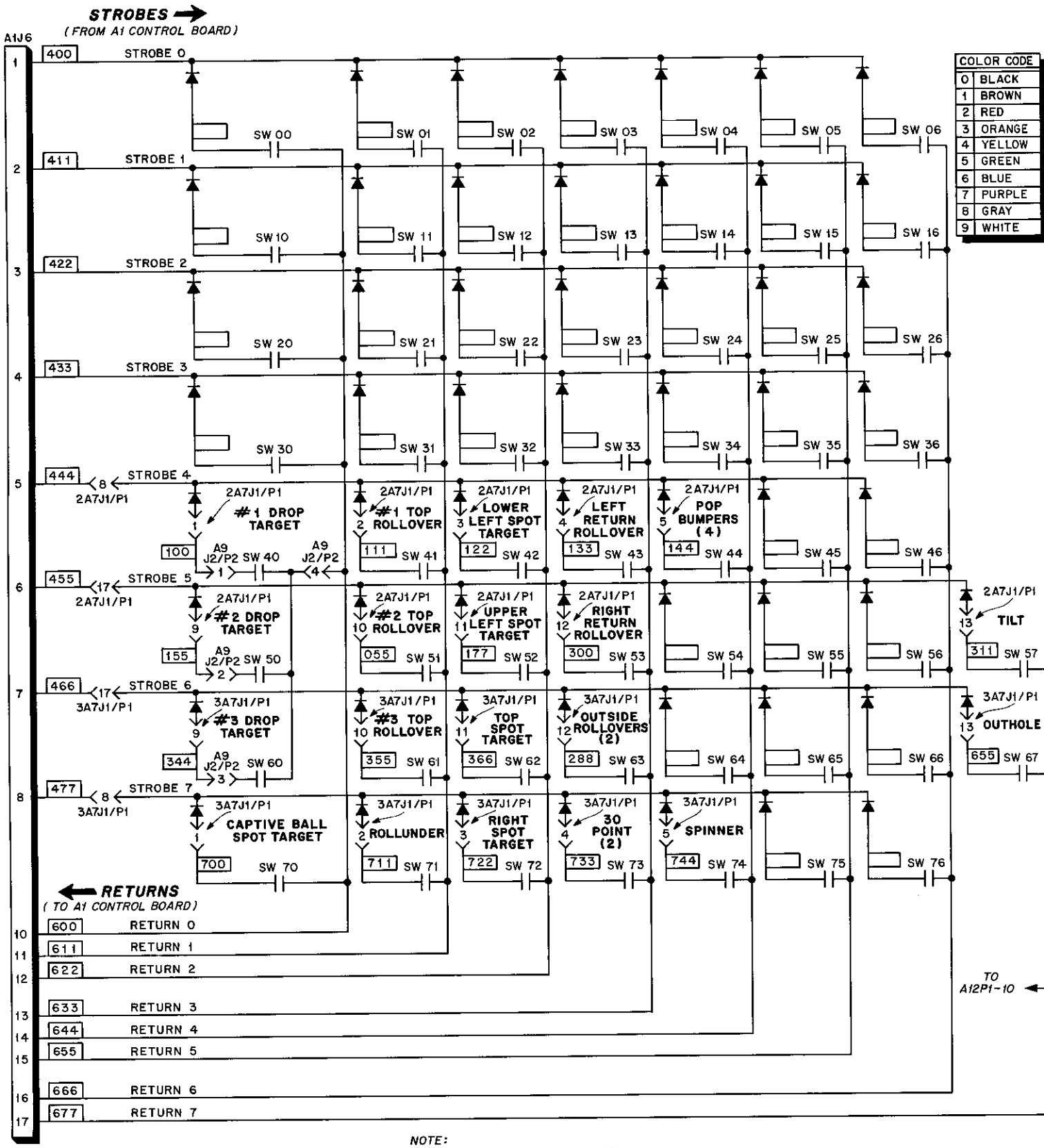


Premier Technology			
TITLE RESET CIRCUIT BOARD			
USED ON			
DRAWN	APPROVED BAM	DATE 4.2.81	C-21063

RESET BOARD (A24) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	RESET BOARD	MA-164
R1, R2	Resistor 33K ohm, 5%, ¼W.	XO-43
R3	Resistor 24K ohm, 5%, ¼W.	XO-10
C1	Capacitor 47 µfd., 10V.	XO-227
C2	Capacitor 4.7 µfd., 10V.	XO-226
C3, C4	Capacitor 470 µfd., 16V	XO-214
C5	Capacitor .01 µfd., 50V.	XO-229
Z1, Z2	IC 74123N	XO-398
Z3	IC 74LS00N	XO-427
	7 Pin Connector	XO-526

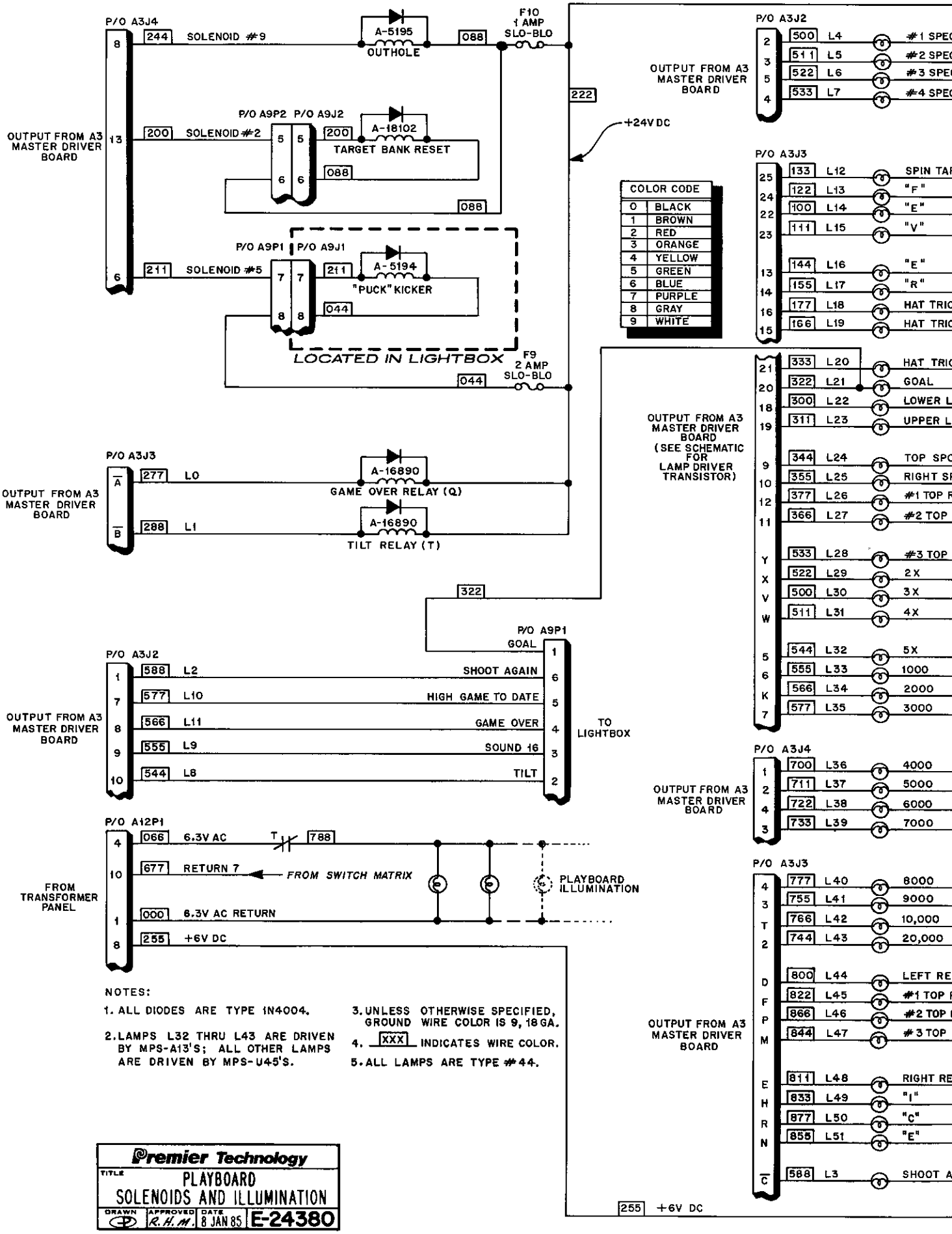
X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS



NOTE:
1. DIODES USED ARE TYPE IN270.
2. DIODE BOARDS 2A7 AND 3A7 PART NO.'S 23888.

Premier Technology			
TITLE	SWITCH MATRIX		
USED ON	GAME #695		
DRAWN	APPROVED R.H.M.	DATE 8JAN85	E-24379

PLAYBOARD "CONTROLLED" SOLENOIDS AND ILLUMINATION

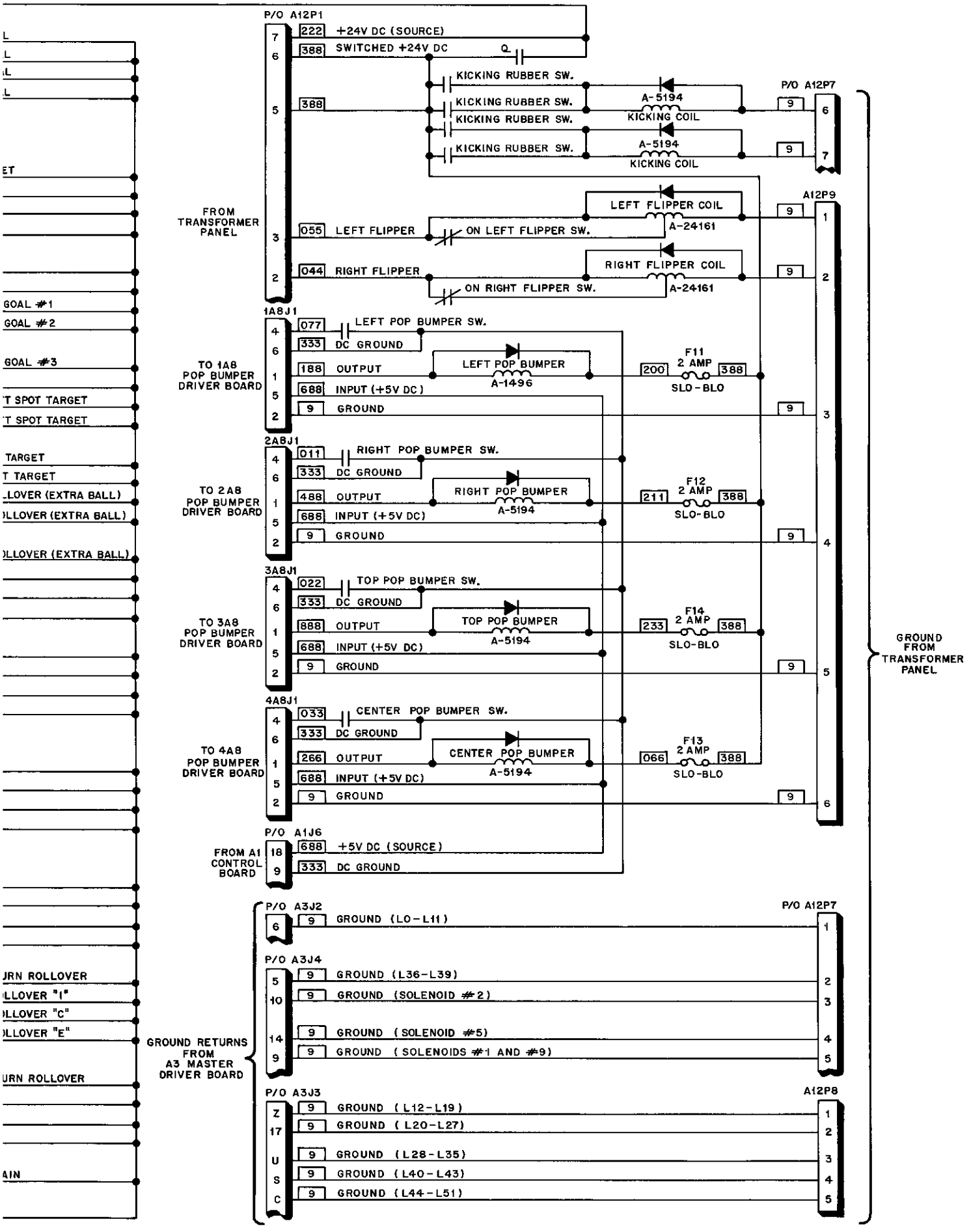


NOTES:

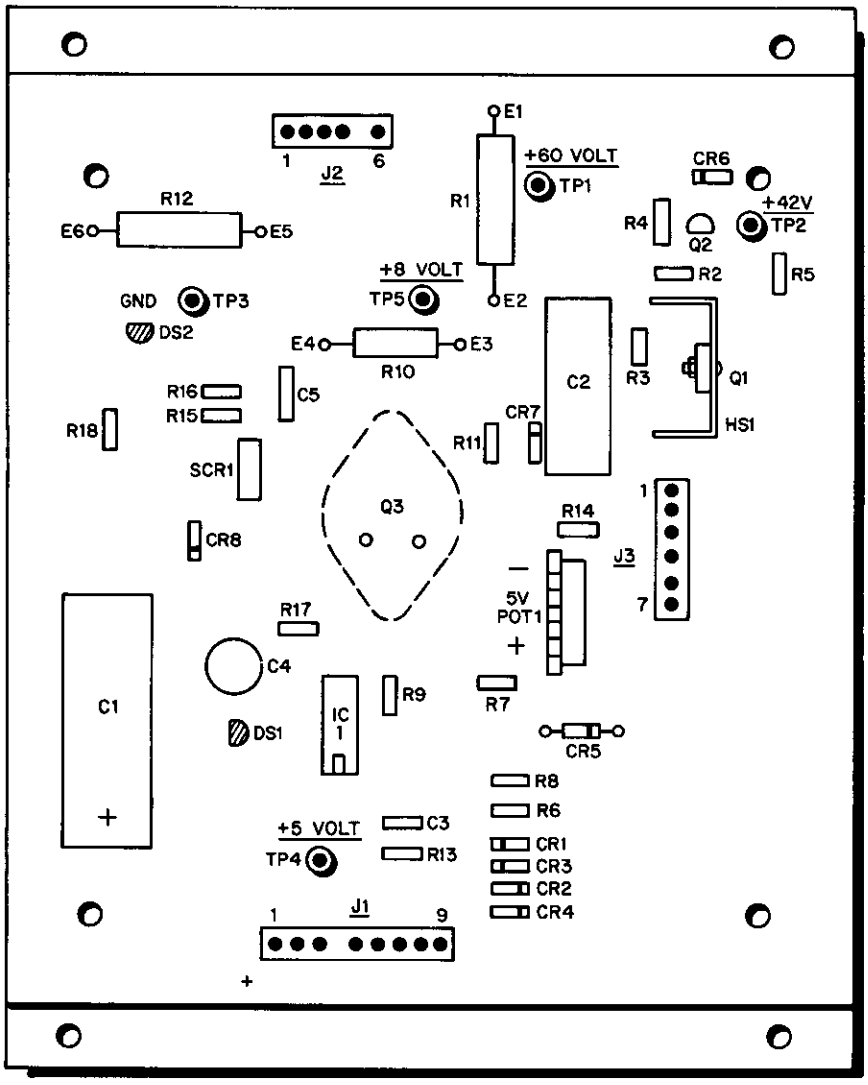
1. ALL DIODES ARE TYPE 1N4004.
2. LAMPS L32 THRU L43 ARE DRIVEN BY MPS-A13'S; ALL OTHER LAMPS ARE DRIVEN BY MPS-U45'S.
3. UNLESS OTHERWISE SPECIFIED, GROUND WIRE COLOR IS 9, 18 GA.
4. XXX INDICATES WIRE COLOR.
5. ALL LAMPS ARE TYPE #44.

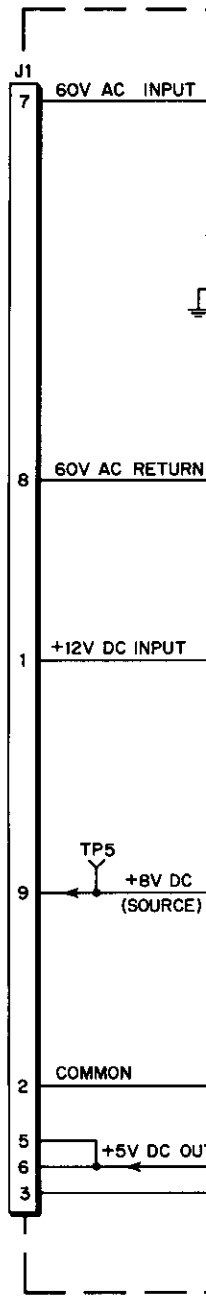
Premier Technology			
TITLE: PLAYBOARD SOLENOIDS AND ILLUMINATION			
DRAWN	APPROVED	DATE	E-24380
CD	R.H.M.	8 JAN 85	

PLAYBOARD "NON-CONTROLLED" SOLENOIDS AND ILLUMINATION



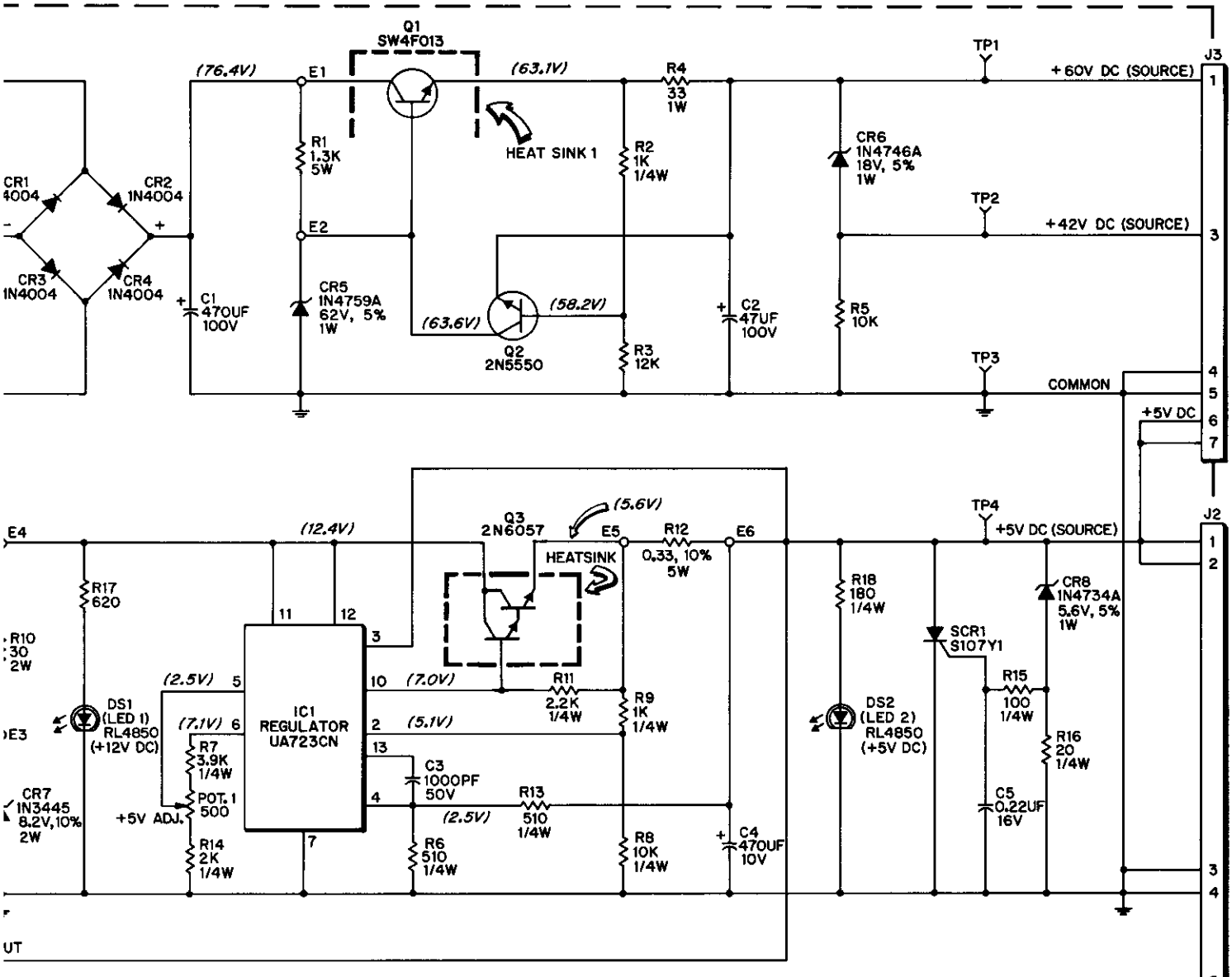
POWER SUPPLY (A2) COMPONENT LOCATION





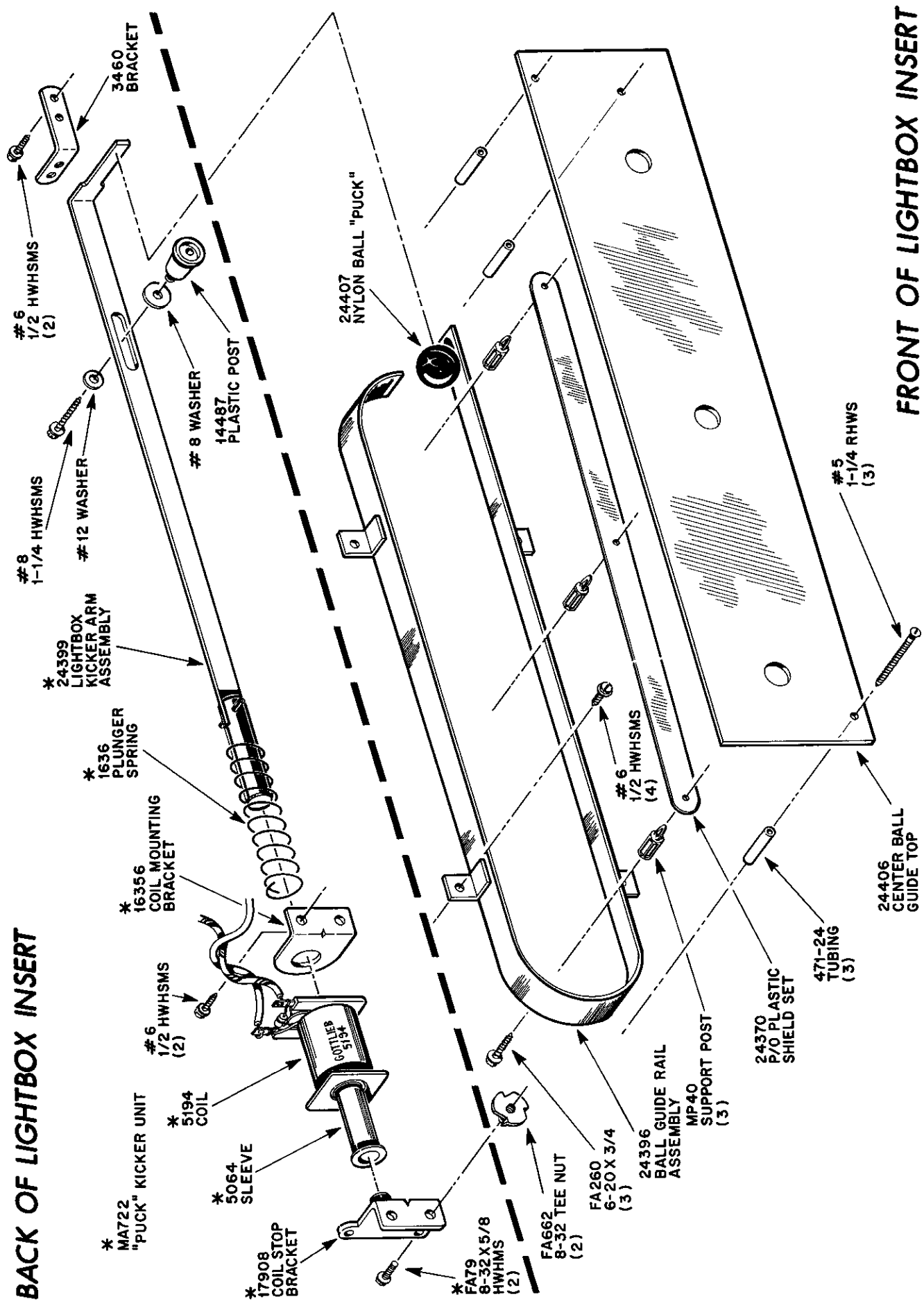
POWER SUPPLY (A2) PARTS LIST

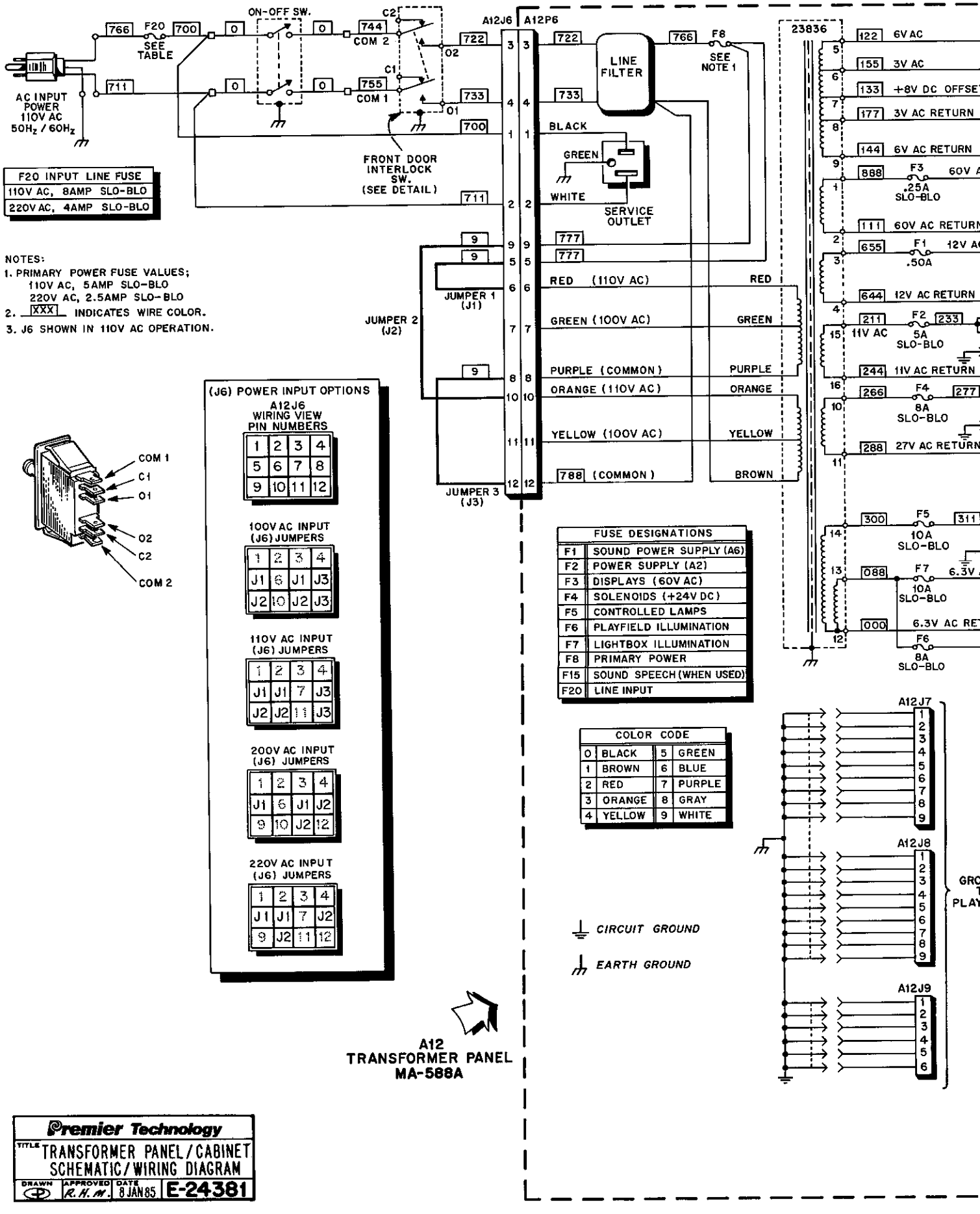
REFERENCE	DESCRIPTION	PART NUMBER
	POWER SUPPLY BOARD	MA-114
C1	Capacitor, 470 mfd., 100V	XO-233
C2	Capacitor, 47 mfd., 100V	XO-231
C3	Capacitor, 1000 Picofarad, 50V	XO-232
C4	Capacitor, 470 mfd., 10V	XO-279
C5	Capacitor, .2 mfd., +80%, -20%, 16V	XO-205
CR1-CR4	Diode 1N4004	XO-254
CR5	Diode Zener, 62V, 5%, 1W 1N4759A	XO-267
CR6	Diode Zener, 18V, 5%, 1W 1N4746A	XO-258
CR7	Diode Zener, 8.2V, 10%, 2W 1N3445	XO-266
CR8	Diode Zener, 5.6V, 5%, 1W 1N4734A	XO-255
DS1, DS2	Diode, Light Emitting CM4-22	XO-268
IC1	IC-14 Pin Dip UA723CN	XO-422
J1	Connector, 9 Pin, Molex	XO-527
J2	Connector, 6 Pin, Molex	XO-525
J3	Connector, 7 Pin, Molex	XO-526
POT1	Potentiometer, 500 ohm, CTS 115R501A	XO-112
Q1	Transistor, NPN, SW4F013	XO-307
Q2	Transistor, NPN, 2N5550	XO-314
Q3	Transistor, Darlington, 2N6057	XO-311
R1	Resistor, 1.3K ohm, 10%, 5W	XO-156
R2, R9	Resistor, 1K ohm, 5%, ¼W	XO-5
R3	Resistor, 12K ohm, 5%, ½W	XO-63
R4	Resistor, 33 ohm, 5%, 1W	XO-159
R5	Resistor, 10K ohm, 5%, ½W	XO-62
R6, R13	Resistor, 510 ohm, 5%, ¼W	XO-25
R7	Resistor, 3.9K ohm, 5%, ¼W	XO-39
R8	Resistor, 10K ohm, 5%, ¼W	XO-18
R10	Resistor, 30 ohm, 5%, 2W	XO-155
R11	Resistor, 2.2K ohm, 5%, ¼W	XO-27
R12	Resistor, .33 ohm, 10%, 5W (wirewound)	XO-154
R14	Resistor, 2K ohm, 5%, ¼W	XO-14
R15	Resistor, 100 ohm, 5%, ¼W	XO-28
R16	Resistor, 20 ohm, 5%, ¼W	XO-29
R17	Resistor, 620 ohm, 5%, ½W	XO-66
R18	Resistor, 180 ohm, 5%, ¼W	XO-24
SCR1	Silicon Controlled Rectifier S107Y1	XO-451
	Eyelet G52-3	XO-524
	Heat Sink	XO-126
	Insulator, INS-3	XO-522
	Insulator, DM 111	XO-523
	Spacer — 6-32 Thread x 5/32	XO-518
	Spacer — 6-32 Thread x ⅛	XO-519



NOTE: UNLESS OTHERWISE SPECIFIED;
1. RESISTORS ARE ±5%, 1/2W.
2. VOLTAGES ARE DC WITH RESPECT TO CIRCUIT GROUND.
3. ALL VOLTAGES ARE AT NOMINAL LINE VOLTAGE(115V AC).

Premier Technology			
TITLE: POWER SUPPLY (A2)			
USED ON			
DRAWN	APPROVED	DATE	E-20922
	BAM	2-3-81	


BACK OF LIGHTBOX INSERT
FRONT OF LIGHTBOX INSERT
3460 BRACKET
#6 1/2 HWHSMS (2)
#8 1-1/4 HWHSMS
#12 WASHER
#8 WASHER
14487 PLASTIC POST
24407 NYLON BALL "PUCK"
#5 1-1/4 RHWS (3)
*24399 LIGHTBOX KICKER ARM ASSEMBLY
*1636 PLUNGER SPRING
*16356 COIL MOUNTING BRACKET
#6 1/2 HWHSMS (4)
#6 1/2 HWHSMS (2)
*5194 COIL
COTTLER 5194
*5064 SLEEVE
*MA722 "PUCK" KICKER UNIT
*17908 COIL STOP BRACKET
*FA79 8-32 X 5/8 HWHMS (2)
FA662 8-32 TEE NUT (2)
FA260 6-20 X 3/4 (3)
24396 BALL GUIDE RAIL ASSEMBLY
MP40 SUPPORT POST (3)
24370 P/O PLASTIC SHIELD SET
471-24 TUBING (3)
24406 CENTER BALL GUIDE TOP



NOTES:
1. PRIMARY POWER FUSE VALUES;
   110V AC, 5AMP SLO-BLO
   220V AC, 2.5AMP SLO-BLO
2. [XXX] INDICATES WIRE COLOR.
3. J6 SHOWN IN 110V AC OPERATION.

F20 INPUT LINE FUSE
110V AC, 8AMP SLO-BLO
220V AC, 4AMP SLO-BLO

(J6) POWER INPUT OPTIONS

A12J6 WIRING VIEW PIN NUMBERS

1	2	3	4
5	6	7	8
9	10	11	12

100V AC INPUT (J6) JUMPERS

1	2	3	4
J1	6	J1	J3
J2	10	J2	J3

110V AC INPUT (J6) JUMPERS

1	2	3	4
J1	J1	7	J3
J2	J2	11	J3

200V AC INPUT (J6) JUMPERS

1	2	3	4
J1	6	J1	J2
9	10	J2	12

220V AC INPUT (J6) JUMPERS

1	2	3	4
J1	J1	7	J2
9	J2	11	12

FUSE DESIGNATIONS	
F1	SOUND POWER SUPPLY (A6)
F2	POWER SUPPLY (A2)
F3	DISPLAYS (60V AC)
F4	SOLENOIDS (+24V DC)
F5	CONTROLLED LAMPS
F6	PLAYFIELD ILLUMINATION
F7	LIGHTBOX ILLUMINATION
F8	PRIMARY POWER
F15	SOUND SPEECH (WHEN USED)
F20	LINE INPUT

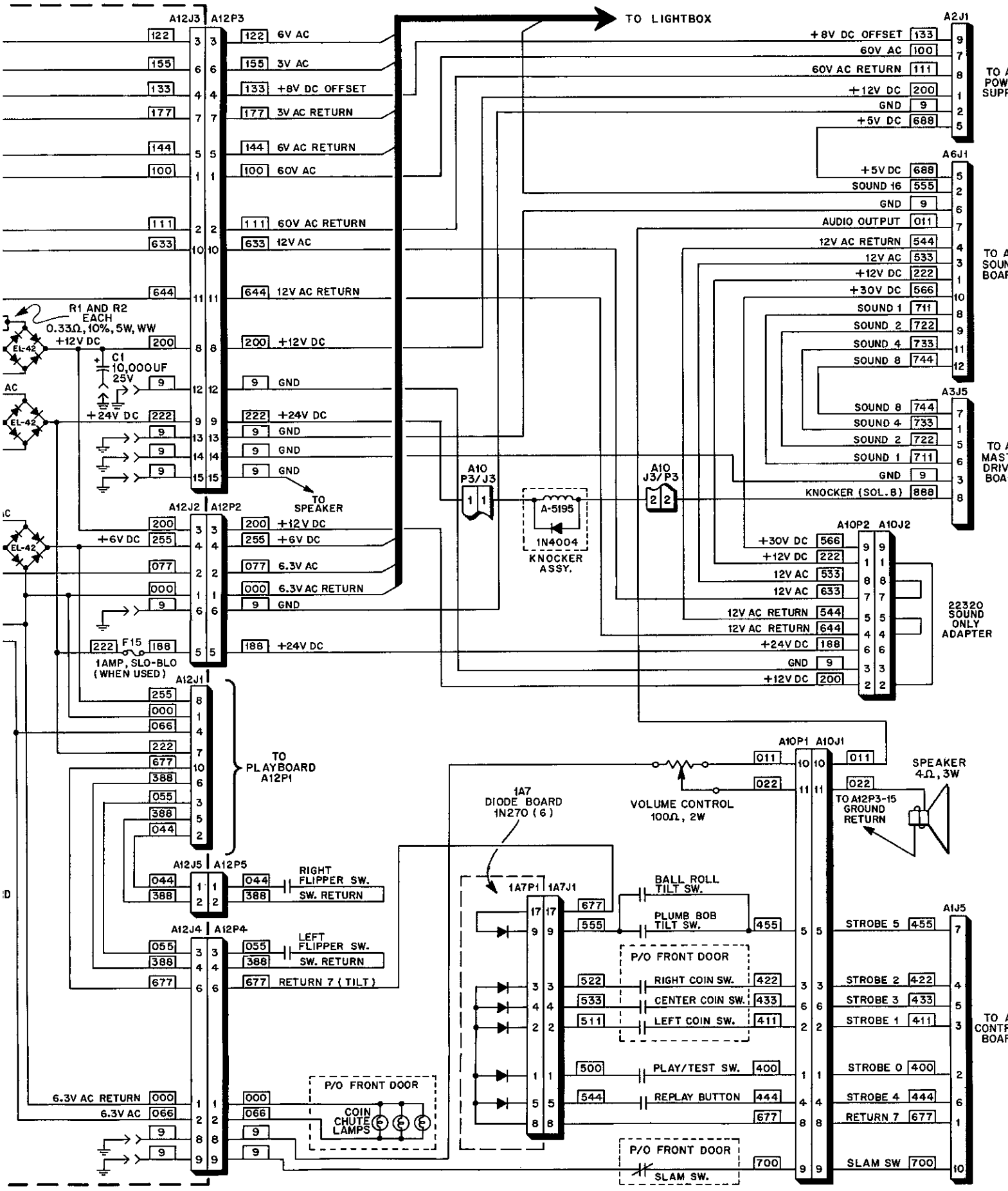
COLOR CODE			
0	BLACK	5	GREEN
1	BROWN	6	BLUE
2	RED	7	PURPLE
3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

A12
TRANSFORMER PANEL
MA-588A

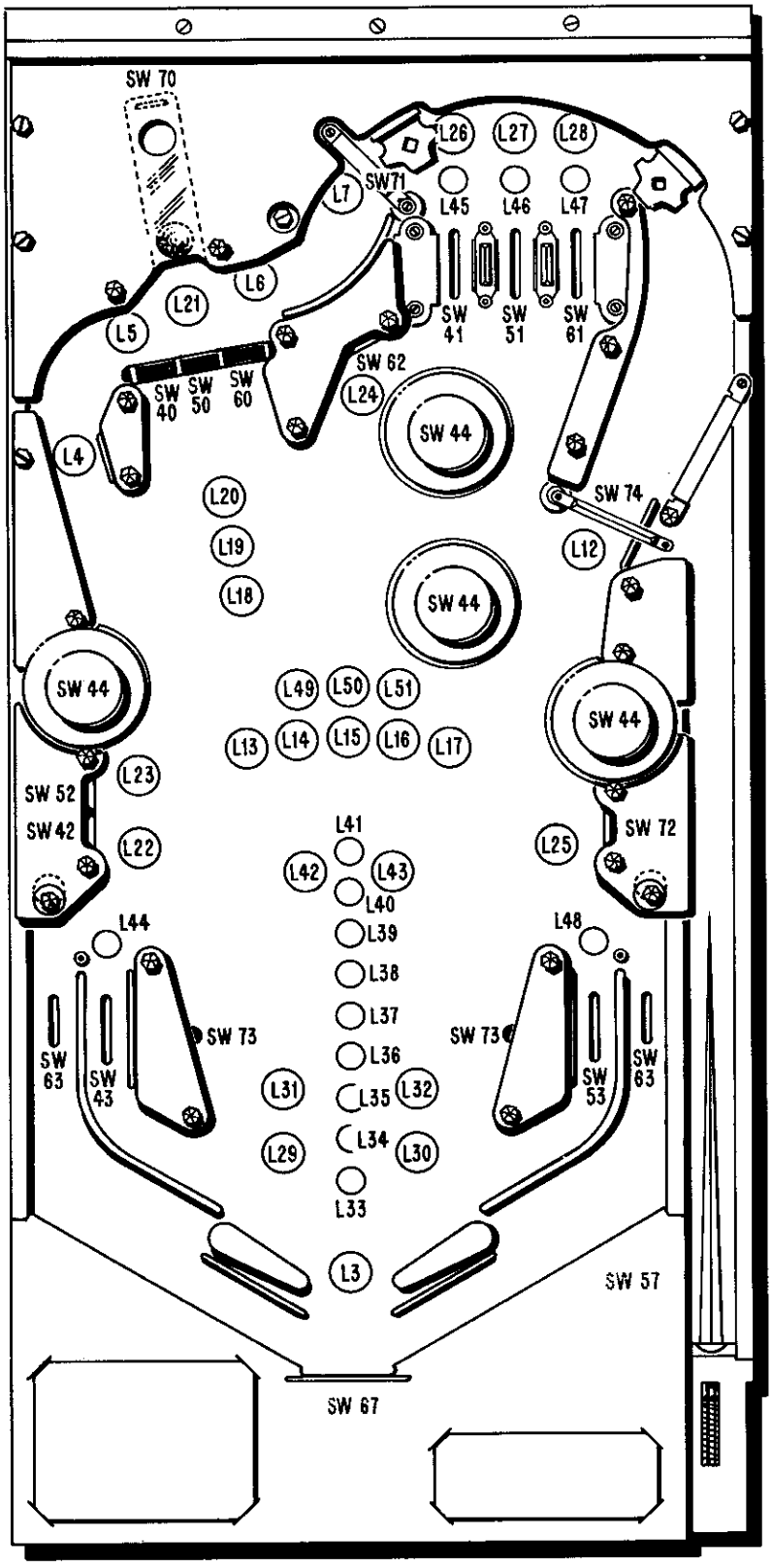
Premier Technology

TITLE TRANSFORMER PANEL / CABINET SCHEMATIC / WIRING DIAGRAM

DRAWN	APPROVED	DATE	
	R.H.M.	8 JAN 85	E-24381


A12J3 A12P3
122 6V AC
155 3V AC
133 +8V DC OFFSET
177 3V AC RETURN
144 6V AC RETURN
100 60V AC
111 60V AC RETURN
633 12V AC
644 12V AC RETURN
200 +12V DC
9 GND
222 +24V DC
9 GND
9 GND
9 GND
TO SPEAKER
R1 AND R2 EACH 0.33Ω, 10%, 5W, WW
+12V DC
C1 10,000UF 25V
+24V DC
AC
EL-42
A12J2 A12P2
200 +12V DC
+6V DC 255 +6V DC
077 6.3V AC
000 6.3V AC RETURN
9 GND
222 F15 188 +24V DC
1AMP, SLO-BLO (WHEN USED)
A12J1
255
000
066
222
677
388
055
388
044
TO PLAYBOARD A12P1
A12J5 A12P5
044 RIGHT FLIPPER SW.
388 SW. RETURN
A12J4 A12P4
055 LEFT FLIPPER SW.
388 SW. RETURN
677 RETURN 7 (TILT)
6.3V AC RETURN 000
6.3V AC 066
9
9
P/O FRONT DOOR
COIN CHUTE LAMPS
TO LIGHTBOX
A10 P3/J3
A-5195
1N4004
KNOCKER ASSY.
A10 J3/P3
A2J1
+8V DC OFFSET 133
60V AC 100
60V AC RETURN 111
+12V DC 200
GND 9
+5V DC 688
TO A POWE SUPP
A6J1
+5V DC 688
SOUND 16 555
GND 9
AUDIO OUTPUT 011
12V AC RETURN 544
12V AC 533
+12V DC 222
+30V DC 566
SOUND 1 711
SOUND 2 722
SOUND 4 733
SOUND 8 744
TO A SOUN BOAR
A3J5
SOUND 8 744
SOUND 4 733
SOUND 2 722
SOUND 1 711
GND 9
KNOCKER (SOL.8) 888
TO A MAST DRIVE BOAR
A10P2 A10J2
+30V DC 566
+12V DC 222
12V AC 533
12V AC 633
12V AC RETURN 544
12V AC RETURN 644
+24V DC 188
GND 9
+12V DC 200
22320 SOUND ONLY ADAPTER
A10P1 A10J1
011
022
VOLUME CONTROL 100Ω, 2W
SPEAKER 4Ω, 3W
TO A12P3-15 GROUND RETURN
1A7 DIODE BOARD 1N270 (6)
1A7P1 1A7J1
677
555
BALL ROLL TILT SW.
PLUMB BOB TILT SW.
455
P/O FRONT DOOR
522 RIGHT COIN SW. 422
533 CENTER COIN SW. 433
511 LEFT COIN SW. 411
500 PLAY/TEST SW. 400
544 REPLAY BUTTON 444
677
P/O FRONT DOOR
SLAM SW.
700
A1J5
STROBE 5 455
STROBE 2 422
STROBE 3 433
STROBE 1 411
STROBE 0 400
STROBE 4 444
RETURN 7 677
SLAM SW 700
TO A CONTR BOAR

X. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS



PLAYBOARD SWITCH AND LAMP ASSIGNMENTS

LAMP NO.	LAMP ASSIGNMENT
L3	Shoot Again
L4	#1 Special
L5	#2 Special
L6	#3 Special
L7	#4 Special
L12	Spin Target
L13	"I"
L14	"E"
L15	"V"
L16	"E"
L17	"R"
L18	Hat Trick Goal #1
L19	Hat Trick Goal #2
L20	Hat Trick Goal #3
L21	Goal
L22	Lower Left Spot Target
L23	Upper Left Spot Target
L24	Top Spot Target
L25	Right Spot Target
L26	#1 Top Rollover (Extra Ball)
L27	#2 Top Rollover (Extra Ball)
L28	#3 Top Rollover (Extra Ball)
L29	2X
L30	3X
L31	4X
L32	5X
L33	1000
L34	2000
L35	3000
L36	4000
L37	5000
L38	6000
L39	7000
L40	8000
L41	9000
L42	10,000
L43	20,000
L44	Left Return Rollover
L45	#1 Top Rollover "I"
L46	#2 Top Rollover "C"
L47	#3 Top Rollover "E"
L48	Right Return Rollover
L49	"I"
L50	"C"
L51	"E"

SWITCH MATRIX NUMBER	SWITCH ASSIGNMENT	PART NO.
SW 40	#1 Drop Target	18093
SW 41	#1 Top Rollover	18892
SW 42	Lower Left Spot Target	20867
SW 43	Left Return Rollover	18892
SW 44	Pop Bumper (4), (With Bracket)	21352
SW 50	#2 Drop Target	18094
SW 51	#2 Top Rollover	18892
SW 52	Upper Left Spot Target	20867
SW 53	Right Return Rollover	18892
SW 57	Tilt (With Bracket)	9141
SW 60	#3 Drop Target	18095
SW 61	#3 Top Rollover	18892
SW 62	Top Spot Target	20867
SW 63	Outside Rollovers (2)	18892
SW 67	Outhole	18688
SW 70	Captive Ball Spot Target	20867
SW 71	Rollunder	22672
SW 72	Right Spot Target	20867
SW 73	30 Point (2)	
	Contact Kicker and Bracket (4)	22224
	Contact Kicker (2)	18808
SW 74	Spinner	19353

XI. PARTS INFORMATION

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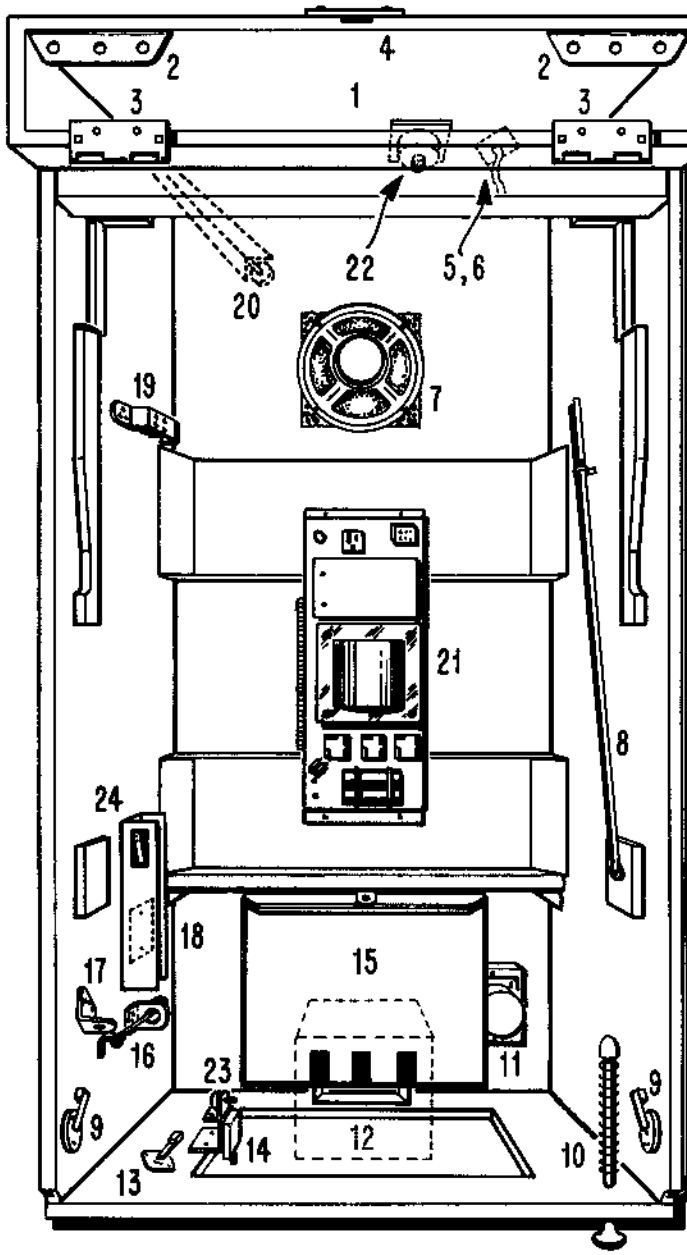
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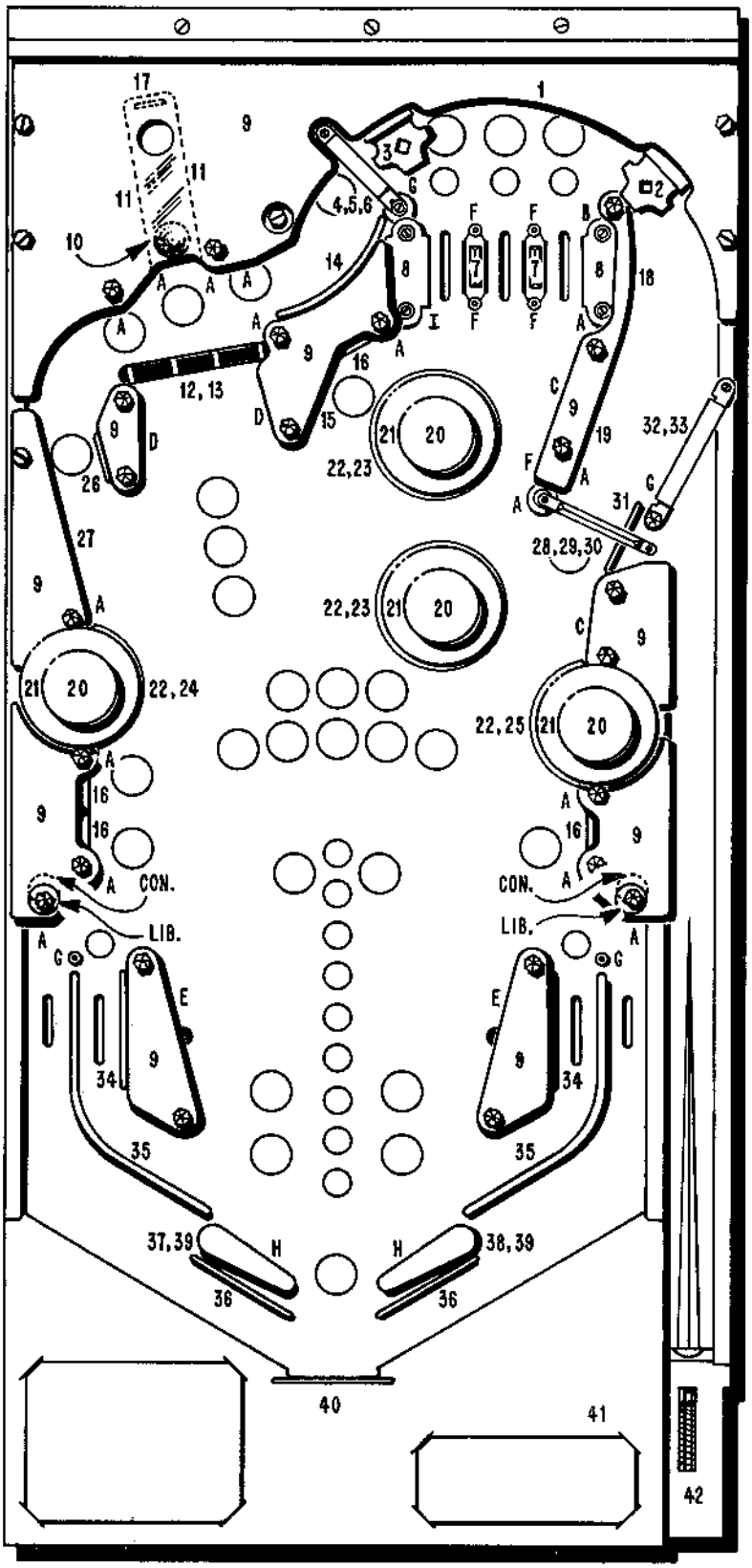
XI. PARTS INFORMATION

CABINET PARTS

ITEM	DESCRIPTION	PART NO.
1.	Cabinet (Specify Game)	19916
2.	Lightbox Mounting Bracket (2)	22734
3.	Butt Hinge, (Shown For Reference Only, P/O Lightbox Assy.) (2)	
4.	Latch Bar	22733
	Latch Assembly (P/O Lightbox)	21969
5.	Cable Assembly, Domestic (High Voltage)	MA-589
6.	Line Cord (Domestic)	23365
	Line Cord Cover Plate	21955
7.	Speaker, 4 Ohm, 3W	EL-83
	Speaker Guard	20931
8.	Prop Stick, Playfield	23940
9.	Flipper Switch Assembly (2)	17838
10.	Ball Shooter Assembly	8835
11.	Switch, On/Off	23799
	Switch Plate	18769
	Switch Housing	15163
12.	Front Door Assembly (Universal)	MA-661
	Cable Assembly	MA-660
	Slam Switch	FD-12
	6V DC Lamp, Wedge Base	FD-2
	Frame, Door	FD-13
	Three Chute Door	24160
	Black Button Bezel	FD-14
	Entry/Reject Button	FD-15
	Button Spring	FD-16
	Reject Flap	FD-17
	Clamp, Frame	FD-18
	Flat Lock and Cam Assembly	FD-19
	Base Plate with Pivot and Stud	FD-20
	Microswitch Bracket	FD-21
	Clear Plastic Cover for Microswitch	FD-22
	Coin Microswitch with Wire	FD-23
	Lampholder	FD-24
	Black Reject Bezel	FD-26
13.	Replay Switch Assembly	18092
14.	Interlock Switch Assembly	24148
	Switch	EL-66
	Switch Cover	21888
15.	Cashbox	24152
	Cover	24153
	Dividers	24146
	Locator	24151
	Lockeye Assembly	23878
16.	Plumb Bob Tilt Switch Assembly	
	Strike Plate	358
	Carbon, Tilt Bob	MH-30
	Rod, Tilt	357
17.	Locator Bracket	18578
18.	Diode Assembly	24142
	Diode, 1N270 (6)	XO-265
19.	Knocker Assembly	MA-12
20.	Cabinet Leg (4)	4337
	Leg Bolt (8)	3775
	3" Leg Adjuster (4)	MH-21
21.	Transformer Panel Assembly	MA-588A
	Bridge Rectifier (3)	EL-42
	Cable Assembly (Secondary)	MA-596
	Capacitor, 10,000UF, 25V	XO-830
	Filter, Line	EL-50
	Fuse Block (7 Pos.)	EL-11
	Fuse Cover (7 Pos.)	23805
	Fuse Holder (F8)	EL-78
	Fuses	
	F1, .50 Amp	EL-28
	F2, 5 Amp, SLO-BLO	EL-8
	F3, .25 Amp, SLO-BLO	EL-5
	F4, 8 Amp, SLO-BLO	EL-26
	F5,10 Amp SLO-BLO	EL-36
	F6, 8 Amp SLO-BLO	EL-26
	F7,10 Amp SLO-BLO	EL-36
	F8, 5 Amp, SLO-BLO (110V AC)	EL-8
	F8, 2.5 Amp, SLO-BLO (220V AC)	EL-21
	Ground Bus Connector (3)	23833
	Outlet, Service	18133
	Resistor, 0.33 Ohm, 10% 5W, Wire-Wound (2)	XO-154
	Transformer	23836
22.	Fuse Holder	EL-78
	F20, 8 Amp, SLO-BLO (110V AC)	EL-26
	F20, 4 Amp, SLO-BLO (220V AC)	EL-33
23.	Mounting Bracket	24149
	Control, Volume, 100 Ohm, 2W	XO-199
	Switch, PLAY/TEST	EL-57
24.	Ball Roll Tilt	
	Housing and Switch Assembly	24394
	Switch	24393



XI. PARTS INFORMATION



PLAYBOARD PARTS

RUBBER RINGS

ITEM	DESCRIPTION	PART NO.
A	5/16" (16)	10217
B	1/2"	10218
C	1" (2)	10219
D	1-1/2" (2)	10220
E	2-1/2" (2)	10222
F	Mini-Post (5)	15705
G	Mini-Post (4)	14793
H	Flipper, (Red) (2)	13151
I	2"	10221

PARTS LIST

ITEM	DESCRIPTION	PART NO
1.	Arch Rod Rail	24369
2.	Arch Gate Assembly	19645
3.	Arch Rebound Assembly	19646
4.	Rollunder Shield	4869
5.	Rollunder Spring	14236
6.	Rollunder Gate Wireform	22118
7.	Rollover Guide, (Red) (2)	15647D
8.	Guide Rail 2-1/8", (Red) (2)	9395U
9.	Plastic Shield Set	24370
10.	Steel Ball	21864
11.	Ball Guide Rail (2)	13833
12.	Rollover Target Bank (3 Position)	MA712
13.	Target Decals	
	Left Target	24402
	Center Target	24403
	Right Target	24404
14.	Ball Guide Rail	20582
15.	Ball Guide Rail	18070
16.	Spot Target, (Yellow) (4)	9374T
17.	Spot Target, (Red)	9374U
18.	Ball Guide Rail	8514
19.	Ball Guide Rail	17106
20.	Pop Bumper Cap, (White) with Design (4)	24400
21.	Pop Bumper Body, (White) (4)	10435Z
22.	Pop Bumper Skirt, (White) (4)	10433Z
23.	Pop Bumper Trim Platter (2)	8246
24.	Pop Bumper Trim Platter	24310
25.	Pop Bumper Trim Platter	24311
26.	Ball Guide Rail	17650
27.	Flat Rail	24368
28.	Swinging Target Shield	14043
29.	Swinging Target Assembly	20388
30.	Swinging Target Switch Rod	20406
31.	Ball Guide Rail	4831
32.	Rollunder Shield	1673
33.	Rollunder Wireform	1674
34.	Ball Guide Rail (2)	4832
35.	Ball Guide Rail (2)	23833
36.	Ball Snubber Rail (2)	13798
37.	Flipper Unit (Left)	MA656
38.	Flipper Unit (Right)	MA710
39.	Flipper, (White) (2)	13150
40.	Cardholder	13647
41.	Ball Return Unit	21622
42.	Ball Shooter Gauge	9767
	Plastic Support Post (2)	20635P
	1" Plastic Post (37)	11561P
	1-3/16" Plastic Post	11562P

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