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THE PREMIER NAME IN PINBALL

VEGAS™



Premier® Technology

INSTRUCTION MANUAL

VEGAS

(GAME #723)

(2 BALL GAME)

INSTRUCTION MANUAL

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SYSTEM 3 OVERVIEW

System 3 contains many new features which improve game play and reliability. Some of these features are as follows:

1) New lithium battery provides data retention for a minimum of 5 years under normal operation and virtually eliminates battery leakage. Also a low battery warning is given in the displays when the voltage drops to the critical level.
2) New interlocking connector system for improved reliability.
3) Use of High Speed CMOS technology for low power consumption and cooler operation.
4) Improved solenoid driver reliability due to simplified circuitry and the use of Rugged Power MOSFETS.
5) Lamp short protection.
6) Switch matrix input protection.
7) Easy line voltage adjustment on location.
8) Improved bookkeeping functions.
9) Improved display control.
10) Capability for operators to enter their own messages in the attract mode.

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"**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.*"

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. To remove the lightbox backglass and gain servicing access to the electroncis panel and the insert lamp assembly, proceed as follows:

   Unlock the lightbox by turning the key a quarter turn counter-clockwise, the hinged speaker panel grill will swing out toward you.

   The backglass is held in place in the retaining groove at the bottom ledge of the lightbox and the wood retaining tabs on each side. Lift the backglass up about an inch, pull the bottom of the backglass toward you and slide it down past the two wood retaining tabs, carefully set aside.

   Unloosen the two wing nuts on the left side and push the lock slide upwards, this allows the lightbox lamp insert to swing out and gaining access to service the back side and access to the electronics panel.

5. Secure the lightbox to the cabinet with the bolts and washers provided.

   Reverse the aforementioned procedure as the first step to re-assemble the lightbox.

   To replace the backglass, slide the backglass up behind the wood retaining tabs and set down into the bottom retaining groove.

   To secure the backglass, pivot the speaker panel grill towards the back-glass and turn the key clockwise a quarter turn, the lightbox is now locked.

6. Open the cabinet door and loosen the front moulding locking arm.

7. Remove the moulding from the play-field.

8. Slide the cabinet glass toward you and remove it.

9. Raise the playboard, slide it for-ward and rest it on its support.

10. Unravel and straighten out the power line cord located at the rear of the pinball cabinet.

11. Proceed to "B. CHECK-OUT".

B. CHECK-OUT

1. Check that all cables are clear of moving parts.

2. Check for any loose wires.

3. Check switches for loose solder 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 A12J5, 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-floating with a weight on the end.

8. Lower the playfield into the cabinet. Using the leg adjusters, level the playfield and set the pitch. Recommended pitch is 6°.

9. The plumb-bob tilt can be adjusted by loosening the clip and raising the plumb-bob to increase its sensitivity, or lowering it to decrease its sensitivity.

10. Reinstall the cabinet glass, front moulding and the lightbox assembly.

11. Plug the line-cord into a properly grounded 3-wire receptacle ONLY!

12. Refer to Section III to make all necessary game adjustments.

13. CAUTION! If this game has been subjected to extreme cold, allow to warm up to room temperature.

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I. INSTALLATION

C. COIN METER (OPTIONAL)

A +12vdc mechanical coin meter may be installed by the operator to count total coins accepted by the machine. The coin meter leads should be soldered to the lugs on the terminal strip mounted inside the front door on the right side (see Figure 1). If the coin meter is polarized, the positive lead (red) should be attached to the lug that has the cathode (banded) side of the diode attached to it otherwise the leads may be attached in any order.The COIN METER adjustment must be set to on and make sure that the GAME MODE adjustment is not set to either REPLAY + TICKETS or TICKETS ONLY (see Game Adjustments section).

D. TICKET DISPENSER (OPTIONAL)

This machine is equipped to easily interface to the Deltronic Labs #DL-4-S-S ticket dispenser with the outside mounting option. To install the dispenser, first locate the five partially drilled holes on the inside of the cabinet on the right side (see Figure 1). The four "A" holes are for mounting the cabinet with #10 X 1-1/4" carriage bolts. The "B" hole is for cable access to the unit. Drill the "A" holes out from the inside of the cabinet using a 13/64" drill bit. Drill the "B" hole out from the inside of the cabinet using a 1" drill bit. The GAME MODE adjustment is used to set whether to dispense a number of tickets along with each replay awarded (REPLAY + TICKETS) or to dispense a number of tickets in place of each replay awarded (TICKETS ONLY). The TICKETS TO AWARD adjustment is used to set the number of tickets to dispense for each replay awarded (see Game Adjustments section).
NOTE: Make sure that the COIN METER adjustment is set to off when using a ticket dispenser.

E. BILL ACCEPTOR (OPTIONAL)

A bill acceptor can be easily interfaced electrically to this machine. The two unused 522 (green-red-red) and 622 (blue-red-red) center chute switch wires should be attached to the switch output of the bill acceptor (see Cabinet/Lightbox Schematic Diagram). The line voltage outlet located inside the cabinet on the right side can be used for supplying power to the unit. The CENTER CHUTE SETTING adjustment can then be used to set the number of credits to be issued for each bill accepted.

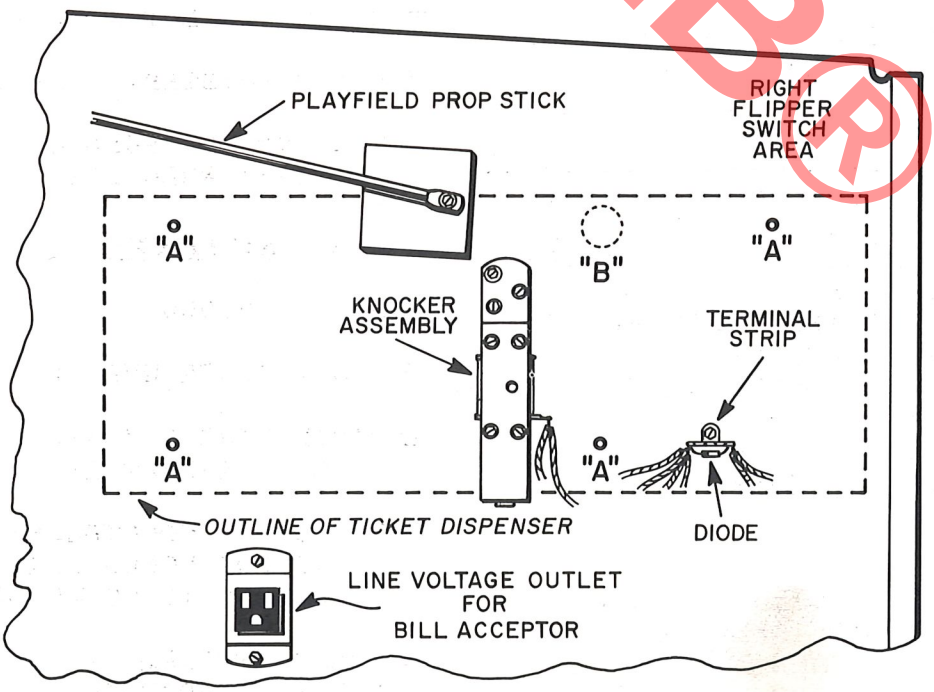


FIGURE 1.

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II. GAME PLAY AND SCORING



HOW TO PLAY

#1 – #3 TOP RIGHT SPOT TARGETS

- SCORE 50,000 WHEN TARGET IS FLASHING IN A FEATURE.
- SCORE 5,000 IN ANY FEATURE WHEN TARGET IS NOT FLASHING.
- COMPLETING ALL 3 TARGETS IN COUNTDOWN BONUS FEATURE COLLECTS COUNTDOWN BONUS.
- COMPLETING ALL 3 TARGETS IN 3 STARS FEATURE WHEN THE 3 TARGETS WERE FLASHING AWARDS EITHER 'DOUBLE YOUR SCORE' OR 2 EXTRA BALLS.
- HITTING CENTER SPOT TARGET WHEN IN 3 STARS FEATURE WHEN ONLY THE CENTER TARGET IS FLASHING LIGHTS EXTRA BALL OR AWARDS 1,000,000.
- HITTING CENTER SPOT TARGET WHEN LIT FOR '100X' SCORES ADDITIONAL 100 TIMES TARGET VALUE.
- SPOT CARD IN CASINO WHEEL WHEN TARGET IS HIT WHEN 'SPOT-A-CARD' LAMP IS LIT AND SCORE 1,000 - 11,000. HITTING '*' TARGET LIGHTS HOLE FOR 300,000 AND SCORES 30,000. HITTING 'JOKER' ADDS 1 JOKER. HITTING '7' FLASHES LUCKY 7 LAMP AT HOLE FOR ADDING A 7 TO BACKGLASS LUCKY 7's.
- COMPLETING 5 CARDS IN A ROW LIGHTS EXTRA BALL LAMP(S) (SEE ADJUSTMENTS).
- COMPLETING ALL 13 CARDS IN THE CASINO WHEEL AWARDS SPECIAL(S). SPECIALS AWARDED SAME AS THAT AWARDED FOR HIGH GAME TO DATE.
- HITTING 'Q' WHEN QUEEN SPECIAL LAMP IS FLASHING AWARDS A SPECIAL (SEE ADJUSTMENTS.
- SPIN THE CARDS ON THE SPOT TARGETS WHEN SPIN LAMP IS LIT.

HOLE

- SCORE 25,000.
- IF SELECT-A-FEATURE LAMP IS OFF AND 'SPOT-A-CARD' LAMP IS ON, SPIN THE CARDS ON THE TOP RIGHT SPOT TARGETS.
- IF LUCKY 7 LAMP IS LIT, ADD A '7' TO LUCKY 7's IN BACKGLASS. COMPLETING ALL 7's IN BACKGLASS LIGHTS 'QUEEN SPECIAL' LAMP FOR REST OF BALL.
- IF '*' LAMP IS LIT, SCORE 300,000.
- ENTER 'SELECT-A-FEATURE' WHEN LIT.
- AWARD 'MYSTERY' VALUE WHEN LIT.
- RECEIVE ONE PULL ON THE 'SLOT MACHINE' WHEN LIT.

JOKER ROLLOVER

- SCORE 25,000.
- ADD 1 JOKER WHEN LIT.
- COMPLETING 3 JOKERS LIGHTS 'SELECT-A-FEATURE' LAMP.
- IF 'BOOST COUNTDOWN' LAMP IS LIT IN COUNTDOWN BONUS FEATURE, THEN ADD 2,000,000 TO COUNTDOWN BONUS.
- AWARD SPECIAL IF 'SPECIAL' LAMP IS LIT (SEE ADJUSTMENTS).

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II. GAME PLAY AND SCORING

TOP LEFT SPOT TARGET, CENTER SPOT TARGET AND #1 - #3 RIGHT SIDE SPOT TARGETS

- SCORE 50,000 WHEN TARGET IS FLASHING IN A FEATURE.
- SCORE 5,000 IN ANY FEATURE WHEN TARGET IS NOT FLASHING.
- IF IN 3 STARS FEATURE AND #2 RIGHT SIDE SPOT TARGET IS FLASHING, HITTING THAT TARGET AWARDS 1,000,000 OR LIGHTS EXTRA BALL.
- IF IN 3 STARS FEATURE AND TOP LEFT SPOT TARGET, CENTER SPOT TARGET AND #1 AND #3 RIGHT SIDE SPOT TARGETS ARE ALL HIT, THEN AWARD 2 EXTRA BALLS OR 'DOUBLE YOUR SCORE'.
- COMPLETING ALL FLASHING TARGETS WHEN NOT IN A FEATURE RESETS THE SEQUENCE (SEE ADJUSTMENTS) AND ADDS A LETTER TO V-E-G-A-S. COMPLETING V-E-G-A-S (SEE ADJUSTMENTS) AWARDS CASHIER FEATURE.
- SCORE 20,000 (3-BALL) OR 10,000 (5-BALL) IF NOT IN A FEATURE.

TOP RIGHT (EXTRA BALL) ROLLOVER

- SCORE 10,000 - 70,000 AS LIT. ADVANCE SEQUENCE IF NOT IN A FEATURE (SEE ADJUSTMENTS).
- SCORE 50,000 AND AWARD AN EXTRA BALL IF EXTRA BALL LAMP IS FLASHING.
- SCORE 30,000 WHEN NOT LIT.

CASHIER SPOT TARGET

- SCORE 30,000 IF NOT IN ANY FEATURE.
- SCORE 50,000 IF IN 3 STARS FEATURE AND TARGET IS FLASHING.
- IN IN 3 STARS FEATURE AND TARGET IS FLASHING, AWARD 2 EXTRA BALLS OR 'DOUBLE YOUR SCORE'.
- SCORE 5,000 IN ANY FEATURE WHEN TARGET IS NOT FLASHING.
- SCORE 1,000,000 - 8,000,000 IF IN CASHIER FEATURE. INCREASE SCORE VALUE FOR CASHIER TARGET (SEE ADJUSTMENTS).

TOP SHOOTER LANE ROLLOVER-LOOP SHOT

- IF IN 3 STARS FEATURE AND LOOP LAMPS ARE FLASHING, AWARD 1,000,000 OR LIGHT EXTRA BALL.
- SCORE VALUE OF LOOP LAMPS IF NOT IN A FEATURE. IF NO LAMPS ARE LIT, THEN SCORE 10. ALL SCORING IS TIMES THE MULTIPLIER. ADVANCE THE SCORING VALUE SEQUENCE (SEE ADJUSTMENTS).
- SCORE 5,000 WHEN IN ANY FEATURE AND LOOP LAMPS ARE NOT FLASHING.
- AWARD EXTRA BALL IF FLASHING.

DROP TARGETS (5)

- SCORE 10,000.
- SCORE 50,000 WHEN BANK IS COMPLETED. RESET DROP TARGET BANK. ADVANCE MULTIPLIER IF LIT. LIGHT 'MYSTERY' IF LIT.

LEFT AND RIGHT OUTLANES

- SCORE 100,000 (3-BALL) OR 50,000 (5-BALL).
- FOR RIGHT OUTLANE ONLY, AWARD INSURANCE IF LIT (SEE INSURANCE FEATURE).

POP BUMPERS

- SCORE 5,000 (3-BALL) OR 3,000 (5-BALL).
- TOGGLE 'SPIN' LAMP IF NOT IN A FEATURE.

KICKING RUBBER SWITCHES

- SCORE 30.
- TOGGLE 'SPIN' LAMP IF NOT IN A FEATURE.

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II. GAME PLAY AND SCORING

DROP TARGET RUBBER SWITCH

- SCORE 10.

TOP LEFT STAR ROLLOVER

- SCORE 30.
- SINGLE STEP THE CARDS ON THE TOP RIGHT SPOT TARGETS IF LIT.

TOP RIGHT STAR ROLLOVER

- SCORE 30.

LEFT AND RIGHT RETURN STAR ROLLOVERS

- SCORE 30.
- LIGHT 'SPIN' LAMP IF NOT IN A FEATURE.

RIGHT SIDE ROLLOVER

- SCORE 30.
- ENABLE 'INSURANCE' FEATURE FOR 1.5 SECONDS.

OUTHOLE

- COLLECT 100,000 (3-BALL) OR 30,000 (5-BALL) FOR EACH LETTER LIT IN V-E-G-A-S.

ADDITIONAL FEATURES

INSURANCE FEATURE

* PLAYER RECEIVES A NEW BALL IN THE SHOOTER LANE FOR CONTINUED PLAY WHEN INSURANCE FEATURE IS ACTIVATED BY BALL DRAINING THROUGH RIGHT OUTLANE WHEN LIT.

SLOT MACHINE FEATURE

* PLAYER IS GIVEN ONE PULL ON THE SLOT MACHINE. THE SCORE RECEIVED IS DEPENDENT UPON WHERE THE SLOT MACHINE REELS STOP AS SIMULATED ON THE DISPLAY. THE TABLE BELOW DESCRIBES THE SCORE VALUES.

7	7	7	= COLLECT SUPER JACKPOT. AWARD 0 - 3 SPECIALS. SPECIALS AWARDED SAME AS THAT AWARDED FOR HIGH GAME TO DATE.
ALL 3 SAME			= COLLECT JACKPOT
BAR(S)	BAR(S)	BAR(S)	= 500,000
ANY			= 500,000
ANY	ANY		= 250,000
ANY OTHER COMBINATION			= 50,000

MULTIBALL FEATURE

* ALL PLAYFIELD SCORING IS DOUBLED IN MULTIBALL.

HIGH ROLLER FEATURE

* SCORE IS INCREASINGLY AWARDED FOR CONSECUTIVE TIMES AROUND THE LOOP. HITTING A SWITCH NOT WITHIN THE LOOP STARTS THE SEQUENCE OVER AGAIN. SCORE RECEIVED IS A BASE VALUE TIMES THE MULTIPLIER (SEE ADJUSTMENTS).

CASHIER FEATURE

* CASHIER FEATURE IS ENTERED BY COMPLETING V-E-G-A-S (SEE ADJUSTMENTS).
* WHEN IN CASHIER FEATURE, HITTING CASHIER TARGET AWARDS DISPLAYED SCORE AND INCREASES DISPLAYED SCORE BY 2,000,000 (3-BALL) OR 1,000,000 (5-BALL).

3 STARS FEATURE

* STARS ARE LIT DURING SELECT-A-FEATURE OR MYSTERY.

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* COMPLETING 3 STARS ON THE BACKGLASS AWARDS THIS FEATURE. THE PLAYER HAS THE CHOICE BETWEEN HARD AND EASY MODES AS WELL AS BETWEEN DIFFERENT AWARDS FOR COMPLETING THE OBJECTIVE. THE AWARDS IN THE HARD MODE ARE 'DOUBLE YOUR SCORE' OR AWARD 2 EXTRA BALLS. THE AWARDS IN THE EASY MODE ARE LIGHT EXTRA BALL OR SCORE 1,000,000.

* THE EASY MODE WILL FLASH EITHER THE MIDDLE TOP RIGHT SPOT TARGET OR THE LOOP LAMPS OR THE #2 RIGHT SIDE SPOT TARGET FOR COMPLETION.

* THE HARD MODE WILL FLASH EITHER ALL 3 TOP RIGHT SPOT TARGETS,THE CASHIER TARGET OR THE TOP LEFT SPOT, THE CENTER SPOT AND THE #1 AND #3 RIGHT SIDE SPOT TARGETS FOR COMPLETION.

MYSTERY FEATURE

* IN THE MYSTERY FEATURE AN AWARD IS RANDOMLY SELECTED AND THEN AWARDED TO THE PLAYER.

SELECT-A-FEATURE

* IN SELECT-A-FEATURE THE PLAYER SELECTS AN AWARD WHICH IS THEN GIVEN TO THE PLAYER.

CATCH-UP FEATURE

* IF A PLAYER IS AWARDED CATCH-UP, HIS SCORE BECOMES IMMEDIATELY EQUAL TO THE NEXT HIGHEST SCORE OF THE PLAYERS IN THE GAME. IF HE IS ALREADY THE HIGHEST SCORE, THEN HE IS AWARDED 1,000,000.

SUPER JACKPOT

* RESETS TO 20,000,000 WHEN THE GAME IS TURNED ON. THE SUPER JACKPOT INCREASES BY 200,000 EVERY TIME A NEW GAME IS STARTED. SUPER JACKPOT IS COLLECTED BY GETTING THREE 7's ON THE SLOT MACHINE. PLAYER IS ALLOWED TO ENTER HIS INITIALS INTO THE GAME AS "SLOT KING".

JACKPOT

* RESETS TO 1,000,000 WHEN THE GAME IS TURNED ON. THE JACKPOT INCREASES BY 300,000 EVERY TIME A NEW GAME IS STARTED AND BY 310 EVERY TIME THE JACKPOT MESSAGE APPEARS IN THE ATTRACT MODE. JACKPOT IS COLLECTED BY GETTING ALL THREE OF ONE KIND ON THE SLOT MACHINE.

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III. TEST MODE

There are several functions accessible to the operator while in the test mode. These functions are Self-Test, Bookkeeping, Game Adjustments, and Burn-In. Each of these functions will be explained in detail later in this section. To enter the test mode, the game must be in the attract mode (game over). Then depress the Test button located just inside the front door of the game. The operator will be given a choice as to which function he wants to access. Depressing the appropriate button will select that function. To exit the test mode or change functions the slam switch (front door) must be activated or the power must be turned off.

I. SELF-TEST

This function will allow the operator to test all the hardware related devices in the game. Each test is described below.

A. MEMORY TEST

This function tests all memory devices on the Control Board (A1). If all the devices pass the test an "OK" will be displayed. If a failure occurs, a description of the faulty component will be displayed. Then after a short period of time the Game Prom check sum will be displayed. The Credit button can be used to restart this test.

B. LAMP CHECK

This function will flash all the controlled lamps continuously. This will allow the operator to easily check for and replace any burned out light bulbs.

C. LAMP MATRIX TEST

This test will allow the operator to single step through and check the operation of each lamp in the game. The left black cabinet button will decrement the active lamp number by one while the right black cabinet button will increment the active lamp number by one. The strobe number and the return number are combined to form the lamp number (strobe,return) which is shown in the display. The Credit button can be used to restart this test. Only one lamp at a time should flash during this test.

D. RELAY AND SOLENOID TEST

This test will allow the operator to single step through and check the operation of each relay and solenoid driver in the game. The left black cabinet button will decrement the driver number shown in the display while the right black cabinet button will increment the driver number. The Credit button is then used to activate the driver for a short time period. Solenoid #31 ("Q" relay) is always on during this test so as to provide power to devices such as the pop bumpers and kicking rubbers.

E. SWITCH MATRIX TEST

This test will allow the operator to test the operation of all the switches used in the game. If no switches are closed when this test is started, the message "ALL SWITCHES OPEN" will be displayed. If any switches are closed either before or after this test is started, the closed switch number(s) will be displayed. The strobe number and the return number are combined to form the switch number (strobe,return). The Credit button can be used to restart this test.

F. DISPLAY TEST

This test will allow the operator to check the operation of the individual digits and segments of the displays. Depressing the right black cabinet button will advance to the next step of the test. The displays will first step through all the individual segments followed by all the individual digits. The Credit button can be used to restart this test.

G. LED DISPLAY TEST

This test will allow the operator to check the operation of the individual segments and digits of the LED Display

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Board. Depressing the right black cabinet button will advance to the next step of the test. The segments will appear and rotate clockwise on all digits. Then all segments will light on one digit at a time starting from the leftmost (DIG1) to the rightmost (DIG3).

H. SOUND TEST

This test allows the operator to test the interface lines from the Control Board (A1) to the Sound Board (A6). Every time the right black cabinet button is depressed, a tone should be heard from the Sound Board. During each tone, the sound line connection which is being tested will be displayed. After the tone stops the sound line which is being tested will still be kept at a low level (<.8v) until the right black cabinet button is depressed again or the Credit button is used to restart the test.

I. FRONT DOOR TEST

This test allows the operator to check the operation of the coin chutes used in the game. Utilizing this function will not affect any bookkeeping values. Each coin chute closure is categorized and shown in the display. The Credit button can be used to restart this test.

II. BOOKKEEPING

The Test button is used to step through bookkeeping. The upper display will contain a description of each step while the lower display will contain the step number and two different bookkeeping values. The value in the leftmost column represents long term bookkeeping. The value in the rightmost column (in brackets) represents short term bookkeeping. These two values are provided so that the operator may compare recent performance with long term performance and then make any necessary game adjustments.

NOTE: The first three left steps (coin chute counts) will not be displayed unless the credit button is pressed during that active step number.

The left black cabinet button will allow the operator to reset all of the left (long term) and right (short term) bookkeeping values. The right black cabinet button will allow the operator to reset all of the short term (right) bookkeeping only. If the R.BOOK AUTO-RESET adjustment is ON, the short term bookkeeping will automatically be reset after every 2000 plays (see Game Adjustments). Therefore, the operator does not need to reset the short term bookkeeping himself unless he prefers to follow his own procedure. Also, this feature will aid in adjusting the game payout percentage to the caliber of players in different locations. If there happens to be a major error in a long term bookkeeping value the letters ERR will appear to the right of that bookkeeping value. To correct this error the long term bookkeeping must be reset. A description of each bookkeeping step is given in the test mode flowchart.

III. GAME ADJUSTMENTS

This function allows the operator to make any adjustments to his game as necessary from time to time.

A. FACTORY SETTINGS

Upon entering the game adjustment section of bookkeeping, the operator is given a choice to load all factory settings or to single step through bookkeeping and adjust each value separately. If he chooses to enter the factory settings by depressing the Credit button, he will also be given a choice of what language to load. By using the right black cabinet button he may choose the appropriate language and then depress the Credit button to enter the settings. After the settings are loaded the display should show the message "FACTORY SETTINGS LOADED" for a short time and then proceed to game adjustment step 1. At any time during the previous steps the operator may either exit the test mode or depress the Test button to proceed immediately to game adjustment step 1.

WARNING

Loading the factory settings will affect all previous game adjustment settings. Therefore be careful when selecting this feature.

B. GAME ADJUSTMENT STEPS

Each time the Test button is pressed a description of the next step appears in the upper display while the lower display contains the step number and the current status of that step.

1) SCORE REPLAY LEVEL 1
2) SCORE REPLAY LEVEL 2
3) SCORE REPLAY LEVEL 3

Each Score Replay Level may be set by using the left black cabinet button to decrement the score and the right black cabinet button to increment the score. The Credit button can be used to load the factory setting for each individual level if desired. If the Auto-Percentaging adjustment is on, Replay Levels 2 & 3 can only be set to on or off. If Replay Level 2 is on, the score level will be set to two times Replay Level 1. If Replay Level 3 is on, the score level will be set to three times Replay Level 1. This allows the operator several combinations of levels in the Auto-Percentaging mode (i.e. 1, 1 & 2, 1 & 3, or 1 & 2 & 3).

4) HIGH GAME TO DATE 1
5) HIGH GAME TO DATE 2
6) HIGH GAME TO DATE 3
7) HIGH GAME TO DATE 4
8) HIGH GAME TO DATE 5

Each High Game To Date may be set by using the left black cabinet button to decrement the score and the right black cabinet button to increment the score. The Credit button can be used to load the factory setting for the displayed level and all those below it.

9) LEFT CHUTE SETTING
10) RIGHT CHUTE SETTING

11) CENTER CHUTE SETTING

These three steps will set the coinage required to receive credits on the machine. The left black cabinet button is used to decrement the credits to be issued for the active coin while the right black cabinet button is used to increment the credits to be issued. The Credit button is used to change the active coin. The operator may enter up to a four coin sequence.

NOTE: If a coin sequence of less than four coins is used, enter 0 credits in each of the remaining coin positions.

Example 1

The following would be the setting for a 25 cent chute set to 50 cents for 1 play, 75 cents for 2 plays, and $1.00 for 3 plays.

COIN 1 = 0 CREDITS
COIN 2 = 1 CREDITS
COIN 3 = 1 CREDITS
COIN 4 = 1 CREDITS

Example 2

The following would be the setting for a 25 cent chute set to 50 cents per play.

COIN 1 = 0 CREDITS
COIN 2 = 1 CREDITS
COIN 3 = 0 CREDITS
COIN 4 = 0 CREDITS

12) GAME PERCENT PAYOUT

This step is used to set the game payout percentage used when the Auto-Percentaging adjustment is on. When the GAME MODE is set to Replay, Replay + Tickets, or Tickets, this setting refers to replay percentage. When the GAME MODE is set to Add a Ball this setting refers to extra ball percentage.

13) MATCH PERCENT PAYOUT

This step is used to set the match payout percentage. If this step is set to zero, the match will be disabled.

14) HIGH GAME REPLAYS

This step is used to set the number of replays to award when the highest game to date has been beaten.

15) MAXIMUM CREDITS

This step sets the maximum number of credits allowed on the game.

16) TILT WARNINGS

This step sets the number of tilts allowed before the ball in play is terminated.

17) BALLS PER GAME

This step sets the game to 3-ball play or 5-ball play.

18) GAME MODE

This step allows the game to be played in Replay, Replay + Tickets, Tickets Only, Add a Ball, or Novelty mode. In Replay mode all Specials and replays are allowed. Replay + Tickets mode is the same as Replay mode with the addition of one or more tickets to be issued (TICKETS TO AWARD) along with each replay. In Tickets Only mode one or more tickets will be issued in place of each replay won. In Add a Ball mode all Specials and Score Level Replays award an extra ball in place of a replay. In Novelty mode all Specials award 1,000,000 points and the Score Replay Levels are disabled. Also, in both the Add a Ball and Novelty modes the Match is disabled.

NOTE: If either the Replay + Tickets or Tickets Only setting is selected do not set the COIN METER setting to on.

19) TICKETS TO AWARD

This step allows the operator to set the number of tickets to award when a replay has been won. This setting will only apply when the GAME MODE is set to either Replay + Tickets, or Tickets Only. (see Installation section)

20) LANGUAGE

This step allows the Test Mode Steps to be displayed in English, German, or French.

21) LEFT AND RIGHT CHUTES

This step allows the left and right coin chutes to be set as separate or the same. If the chutes are set to be the same, all the coins passing through either chute are totaled and the sum is used toward a credit based on the Left Chute Setting (step 9). Also, the sum will be displayed in the Left Chute Coins bookkeeping step and the Right Chute Coins step will not be used.

22) LEFT AND RIGHT CHUTE BONUS

If this step is set to on, the player is allowed to add one coin for one credit if there are any credits remaining on the game, or during any game. If there are no credits left on the game at the time that the game ends the player is also allowed this option for a time period.

23) COIN METER

If this step is set to on, an electromechanical coin meter will be incremented for each accepted coin. (see Installation section)

NOTE: If this setting is on, do not use the Replay + Tickets or Tickets Only GAME MODE settings.

24) AUTO-PERCENTAGING

If this step is set to on, the Score Replay Levels will be adjusted periodically by 100,000 points so that the Game Percent Payout setting will match the actual Replay Percentage displayed in bookkeeping.

NOTE: If the GAME MODE is set to Add a Ball, the Extra Ball Percentage in bookkeeping is used in place of the Replay Percentage.

25) REPLAY LIMIT

This step may be set to no limit or one per player per game.

26) HIGH GAMES 2-5

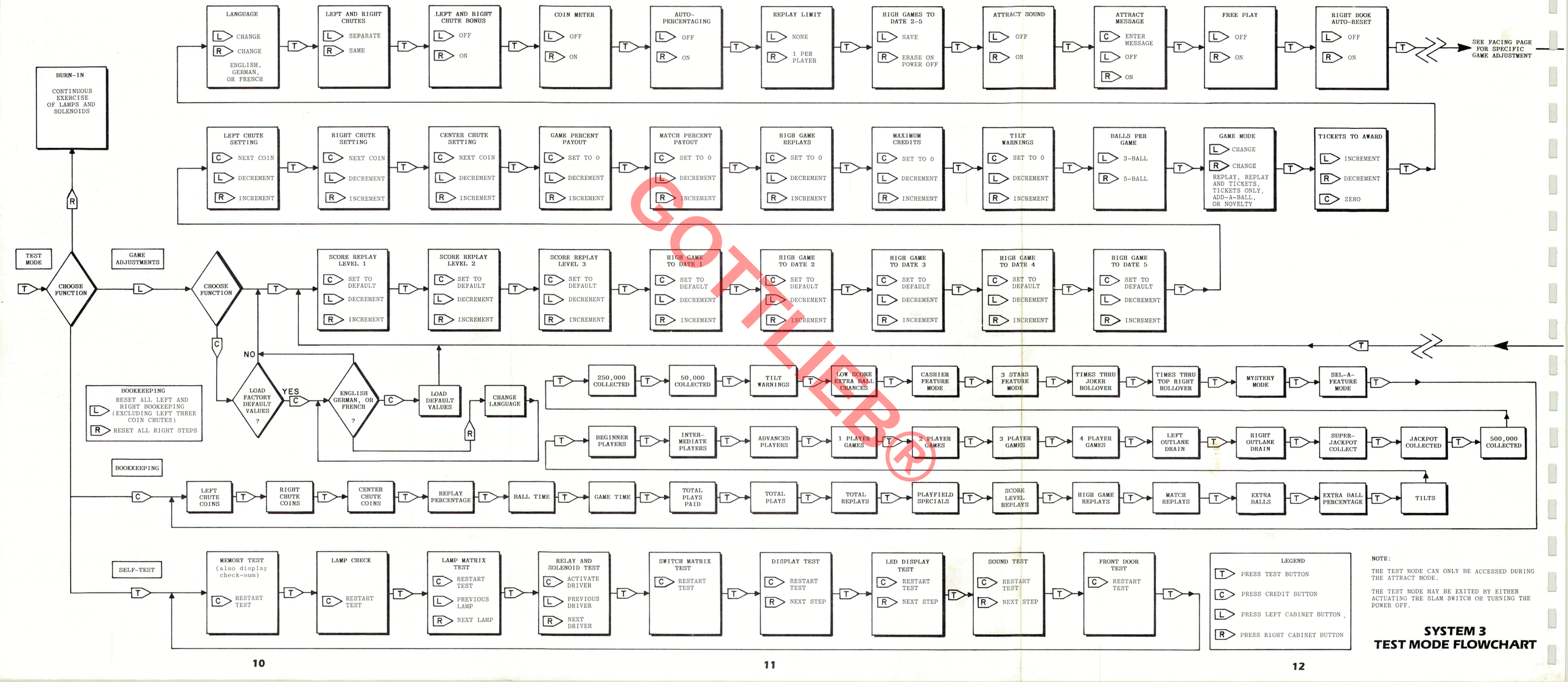
This step will determine if High Games to Date (2-5) will be saved or erased when power is turned off.

27) ATTRACT SOUND

This step determines whether or not sounds are enabled during the attract mode (game over).

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III. TEST MODE



NOTE:

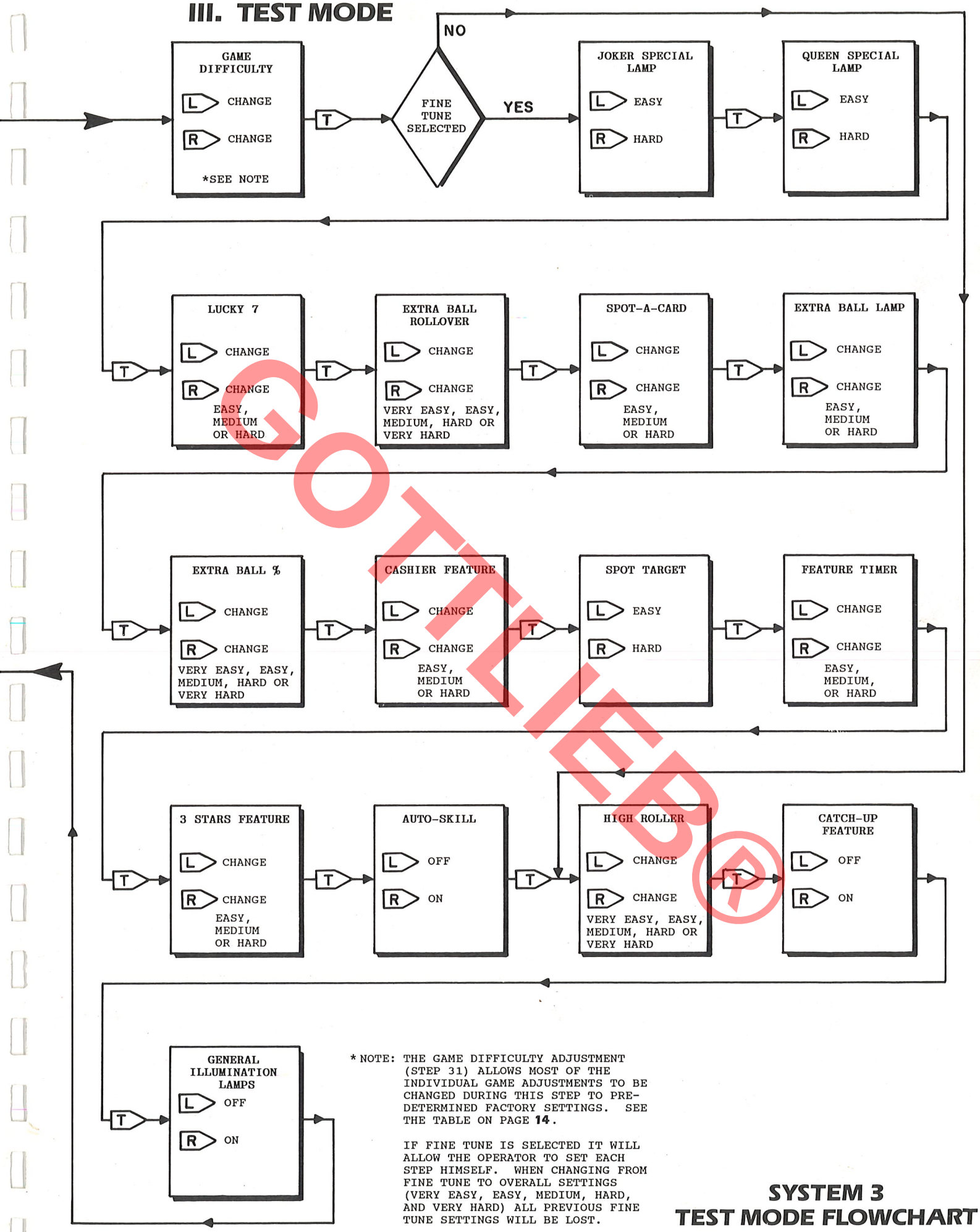
THE TEST MODE CAN ONLY BE ACCESSED DURING THE ATTRACT MODE.

THE TEST MODE MAY BE EXITED BY EITHER ACTUATING THE SLAM SWITCH OR TURNING THE POWER OFF.

SYSTEM 3
TEST MODE FLOWCHART

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III. TEST MODE



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* NOTE: THE GAME DIFFICULTY ADJUSTMENT (STEP 31) ALLOWS MOST OF THE INDIVIDUAL GAME ADJUSTMENTS TO BE CHANGED DURING THIS STEP TO PRE-DETERMINED FACTORY SETTINGS. SEE THE TABLE ON PAGE **14**.

IF FINE TUNE IS SELECTED IT WILL ALLOW THE OPERATOR TO SET EACH STEP HIMSELF. WHEN CHANGING FROM FINE TUNE TO OVERALL SETTINGS (VERY EASY, EASY, MEDIUM, HARD, AND VERY HARD) ALL PREVIOUS FINE TUNE SETTINGS WILL BE LOST.

SYSTEM 3
TEST MODE FLOWCHART

28) ATTRACT MESSAGE
This step is used to enable or disable an operator message during the attract mode (game over). This step is also used to enter a message into memory. To enter a message press the Credit button. The current message will be displayed and the cursor position will be indicated by the flashing character. If the current position is blank, a flashing directional arrow will appear. This type of arrow will indicate which direction the cursor will move if the Credit button is pressed. The Credit button is also used to select characters after they have been chosen using the left and right black cabinet buttons.

29) FREE PLAY
If this step is set to on, a game may be started without any credits left on the machine.

30) RIGHT BOOKKEEPING AUTO-RESET
If this step is set to on, all the short term bookkeeping steps (in brackets) will reset after 2000 plays. Otherwise they will not reset until 10,000 games have been played on the machine.

VEGAS ADJUSTMENTS

OPERATOR ADJUSTMENT SETTINGS
(*** = FACTORY DEFAULT SETTING)

31) GAME DIFFICULTY -
AUTOMATICALLY SETS VARIOUS ADJUSTMENTS LISTED BELOW IN STEPS 32 - 43. THE FINE-TUNE SETTING ALLOWS THE OPERATOR TO INDIVIDUALLY SELECT EACH ADJUSTMENT.

STEP				***		
31	GAME DIFFICULTY	VERY EASY	EASY	MEDIUM	HARD	VERY HARD
32	JOKER SPECIAL LAMP	EASY	HARD	HARD	HARD	HARD
33	QUEEN SPECIAL LAMP	EASY	EASY	EASY	HARD	HARD
34	LUCKY 7	EASY	EASY	EASY	MEDIUM	HARD
35	EXTRA BALL ROLLOVER	VERY EASY	EASY	MEDIUM	HARD	VERY HARD
36	SPOT-A-CARD	EASY	MEDIUM	MEDIUM	HARD	HARD
37	EXTRA BALL LAMP	EASY	EASY	MEDIUM	MEDIUM	HARD
38	EXTRA BALL %	VERY EASY	EASY	MEDIUM	HARD	VERY HARD
39	CASHIER FEATURE	EASY	MEDIUM	MEDIUM	MEDIUM	HARD
40	SPOT TARGET	EASY	EASY	EASY	HARD	HARD
41	FEATURE TIMER	EASY	MEDIUM	MEDIUM	HARD	HARD
42	3 STARS FEATURE	EASY	EASY	EASY	MEDIUM	HARD
43	AUTO SKILL	ON	ON	ON	ON	OFF

32) JOKER SPECIAL LAMP -
EASY = ALLOW MULTIPLE JOKER ROLLOVER SPECIALS
*** HARD = ONLY 1 SPECIAL ALLOWED

33) QUEEN SPECIAL LAMP -
*** EASY = ALLOW MULTIPLE QUEEN SPECIALS
HARD = ONLY 1 SPECIAL ALLOWED

34) LUCKY 7 (7's ON BACKGLASS) -
*** EASY = SPOT THREE 7's UPON GAME POWER-UP AND SEQUENCE COMPLETION
MEDIUM = SPOT ONE 7 UPON GAME POWER-UP AND SEQUENCE COMPLETION
HARD = DO NOT SPOT ANY 7's

35) EXTRA BALL ROLLOVER
HOW THE TOP RIGHT ROLLOVER SEQUENCE (EXTRA BALL ROLLOVER) ADVANCES AFTER EACH ACTUATION -

DEFAULT = MEDIUM SETTING

VERY EASY = 10,000 - 30,000 - 40,000 - EXTRA BALL - REPEAT
EASY = 10,000 - 20,000 - 30,000 - 40,000 - EXTRA BALL - REPEAT
MEDIUM = 10,000 - 20,000 - 30,000 - 40,000 - 50,000 - EXTRA BALL - REPEAT
HARD = 10,000 - 20,000 - 30,000 - 40,000 - 50,000 - 60,000 - EXTRA BALL - REPEAT

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VERY HARD = 10,000 - 20,000 - 30,000 - 40,000 - 50,000 - 60,000 - 70,000 - EXTRA BALL - REPEAT

36) SPOT-A-CARD

EASY = SPOT 4 CARDS IN CASINO WHEEL AT START OF BALL
*** MEDIUM = SPOT 2 CARDS IN CASINO WHEEL AT START OF BALL
HARD = DO NOT SPOT ANY CARDS

37) EXTRA BALL LAMP

EASY = LIGHT BOTH EXTRA BALL LAMPS
*** MEDIUM = LIGHT TOP SHOOTER LANE EXTRA BALL LAMP ONLY
HARD = LIGHT TOP RIGHT ROLLOVER EXTRA BALL LAMP ONLY

38) EXTRA BALL %

WHEN THE EXTRA BALL PERCENTAGE IS BELOW THE PERCENTAGE SHOWN, THE GAME ALLOWS 'EXTRA BALL' TO BE AWARDED OR FLASHED IN THE 'MYSTERY' FEATURE OR IN 'SELECT-A-FEATURE'.

VERY EASY = 50 %
EASY = 40 %
*** MEDIUM = 30 %
HARD = 20 %
VERY HARD = 10 %

39) CASHIER FEATURE

EASY = CASHIER FEATURE ENABLED AFTER 5th LETTER OF V-E-G-A-S IS RECEIVED.
*** MEDIUM = CASHIER FEATURE ENABLED AFTER 6th LETTER OF V-E-G-A-S IS RECEIVED.
HARD = CASHIER FEATURE ENABLED AFTER 7th LETTER OF V-E-G-A-S IS RECEIVED.

40) SPOT TARGET

TARGETS ARE TOP LEFT SPOT, CENTER SPOT AND #1 - #3 RIGHT SIDE SPOT TARGETS.

*** EASY = SPOT TARGETS MAY BE COMPLETED IN ANY ORDER.
HARD = SPOT TARGETS MUST BE COMPLETED IN RANDOM ROTATION.

41) FEATURE TIMER

EASY = MORE TIME IN FEATURE
*** MEDIUM = MEDIUM TIME FOR FEATURE
HARD = LESS TIME IN FEATURE

42) 3 STARS FEATURE

*** EASY = SPOT 2 STARS WHEN GAME IS STARTED
MEDIUM = SPOT 1 STAR WHEN GAME IS STARTED
HARD = DO NOT SPOT ANY STARS

43) AUTO-SKILL

OFF = FEATURE OFF. ALL PLAYERS ARE CONSIDERED INTERMEDIATE.
*** ON = FEATURE ON. GAME ANALYZES PLAYER'S SKILL LEVELS AS BEGINNER, INTERMEDIATE OR ADVANCED.

44) HIGH ROLLER

HOW THE LOOP VALUE SCORING SEQUENCE (TOP SHOOTER LANE ROLLOVER) ADVANCES AFTER EACH CONSECUTIVE SHOT -

VERY EASY = 10,000 - 20,000 - 40,000 - 1,000,000 - 1,000,000 - 1,000,000
EASY = 10,000 - 20,000 - 40,000 - 70,000 - 1,000,000 - 1,000,000 - 1,000,000
*** MEDIUM = 10 - 10,000 - 20,000 - 40,000 - 70,000 - 1,000,000 - 1,000,000
HARD = 10 - 10,000 - 20,000 - 40,000 - 70,000 - 1,000,000 - 70,000 - 1,000,000
VERY HARD = 10 - 10,000 - 20,000 - 40,000 - 70,000 - 1,000,000 - START OVER AT 10.

45) CATCH-UP FEATURE

OFF = FEATURE OFF
*** ON = FEATURE ON

46) GENERAL ILLUMINATION LAMPS

USE THE OFF SETTING FOR HIGH AMBIENT LIGHT LOCATIONS. USE THE ON SETTING FOR LOCATIONS WHICH ARE DARK AND HAVE LOW EXTERNAL LIGHTING.

OFF = OFF DURING FEATURE MODE
*** ON = ON DURING FEATURE MODE

SOUND ADJUSTMENTS

The speaker(s) output is controlled by the potentiometer mounted on a bracket located inside the cabinet next to the front door hinge.

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

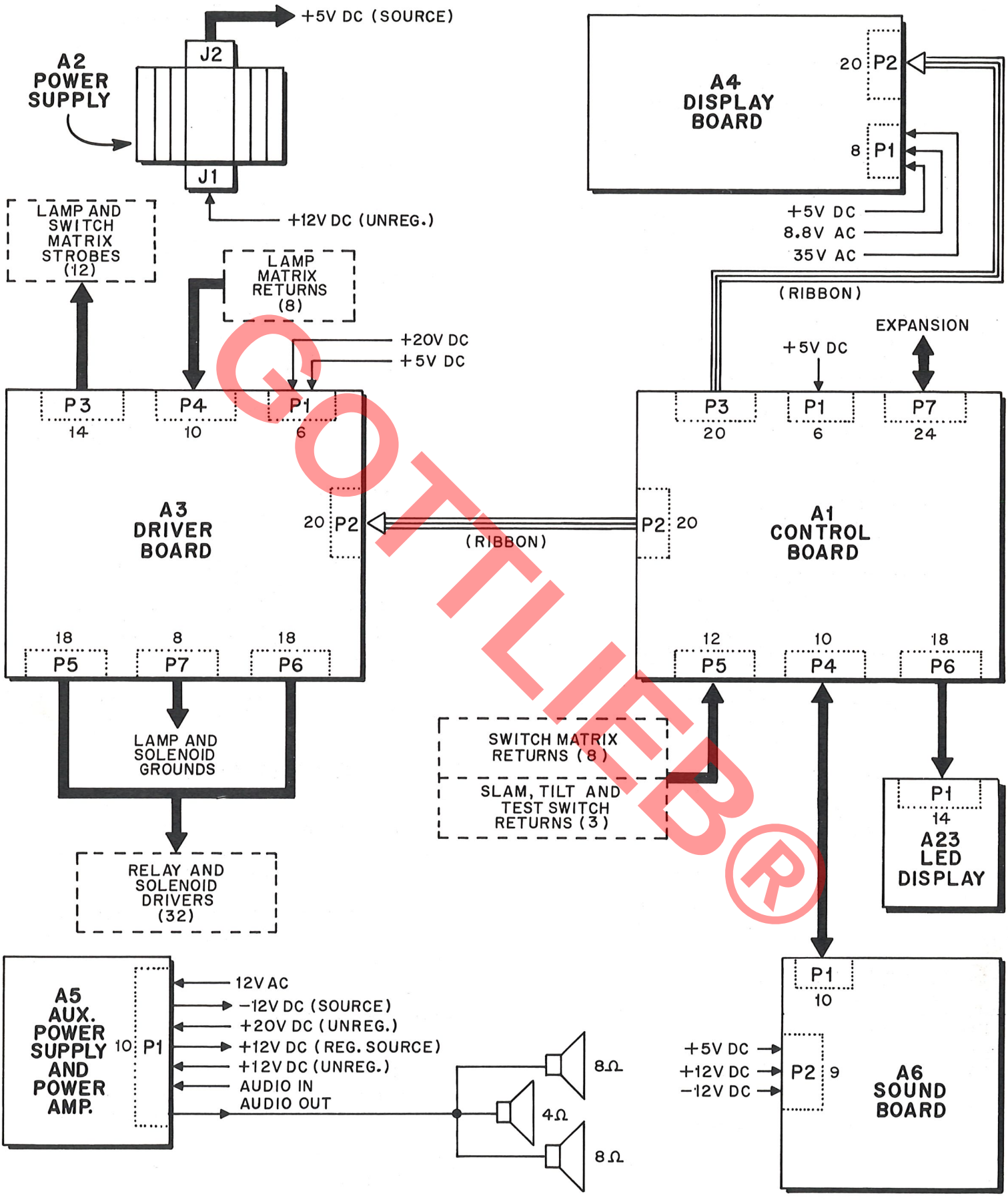
POST ADJUSTMENTS

The posts at the mouth of the right and left outlanes can be positioned for liberal/conservative play. The smaller openings produce a more liberal game.

IV. BURN-IN

This function can be used to continuously exercise all the lamps and solenoids in the game.

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FIGURE 1, SYSTEM 3 BLOCK DIAGRAM

IV. THEORY OF OPERATION

A. CONTROL BOARD (A1)

The Control Board is supplied with 5vdc (A1P1) from the Power Supply (A2P2). The data contained in ram (U3) is kept valid when power is turned off by the lithium battery (BAT1) and controller (U6).

NOTE: When replacing either the battery, ram, or the controller there may be a message that appears in the display on power up the first time that indicates a low battery condition. If this occurs, turn the power off and back on again. The board should power up normally this time. If not, there is another problem on the board.

The Control Board can accommodate either a 27512 or a 27256 Eprom. JP1 must be installed for a 27512 or JP2 for a 27256 Game Prom. A 4 Mhz oscillator is configured using U17,R1,R2,C22,C23, and XTAL1. The oscillator output is then divided by 2 to a 2Mhz clock by U18 which is used as the input clock to the 65C02 (U1) microprocessor. The clock output of U1 (pin 39) is used as a sync signal for reading from or writing to the peripheral devices.

Two versatile interface adapters (U4,U5) are used to develop the necessary control signals for the system. The waveform generated on the CB2 output of U4 triggers the NMI input of the microprocessor. This signal controls the display refresh rate. The display connector (A1P3) is comprised of several signals. The display blanking (DBLNK), digit strobe (DSTB), and digit data (DDATA) are generated by U4-17,U4-16, and U4-15 respectively. The display segment data is output by U7 and latched into the appropriate device on the Display Board by the display segment strobes (DS0-DS3).

The Driver Board connector (A1P2) contains all the signals necessary to operate the lamp and switch matrix strobes, the lamp matrix returns, and the solenoids. The lamp clear (LCLR), lamp strobe (LSTB), and lamp strobe data (LDATA) are generated by U4-12,U4-11, and U4-10 respectively. The appropriate lamp return data during each active lamp strobe is output by U7 and latched into U5 on the Driver Board by the lamp return data strobe (LDS). The solenoid data is output by U7 and latched into the appropriate Driver Board device (U1-U4) by the solenoid strobes (SS0-SS3).

The switch matrix returns are input at A1P5, buffered by U19 and U20 and then input to U4. Discrete inputs are provided at A1P5 for the slam, tilt, and test switches.

The connection to the Sound Board (A1P4) is made up of eight sound data lines (SD0-SD7), a return line (SRET), and a reset line (MR).

A reset circuit is configured using U13,U14,R3, and C24. When power is applied to the system, the microprocessor reset pin (U1-40) is held low for approximately 10 milliseconds. The system can also be reset by pressing the switch (SW1) on the board. Whenever a reset occurs the master reset signal (MR) (U18-9) is held low until the display strobe (DSTB) becomes active. At this point the master reset goes high which enables the peripheral IC's on the Display Board and Driver Board to accept data.

A watchdog circuit is employed to monitor both the display digit strobe and the lamp strobe. This circuit is made up of U11,U12,U13,U16,R5,R6,R29, R32,R33,C20,C21,C28, and C29. If either the display strobe or the lamp strobe is missing for 330 milliseconds the system will be reset. The system will also be reset if the supply voltage drops below 4vdc. This voltage monitor is configured using U21,VR1,D1,D2,R34, and R35.

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IV. THEORY OF OPERATION

B. POWER SUPPLY (A2)

The transformer panel delivers 12vdc to the input of the power supply. The regulated output voltage should be set to 5vdc by using potentiometer R3. This voltage is then supplied to the Control Board (A1), Driver Board (A3), Display Board (A4), Sound Board (A6), and any other auxillary board which may require it.

C. DRIVER BOARD (A3)

Two voltages are supplied to this board at A3P1. The 5vdc is supplied from the Power Supply (A2) and the 20vdc is supplied from the transformer panel. The 20vdc is used to source the controlled lamps and the switch matrix. The Driver Board receives its data at A3P2 from the Control Board (A1P2). Solenoid data is latched into U1-U4. Lamp return data is latched into U5. Lamp and switch strobe data is shifted through U6 and U7. The comparators (U10,U11) are used to protect the MOSFETS (Q33-Q49). If a sensed input voltage exceeds the reference voltage (Vref), the corresponding MOSFET is turned off immediately following the lamp clear pulse (LCLR) supplied by U12 thus limiting the duty cycle. If the master reset signal (MR) is held low all lamps and solenoids will be disabled.

D. DISPLAY BOARD (A4)

Several voltages are input to this board at A4P1. The power supply (A2) supplies 5vdc (Vcc). The board develops Vgg from the 35vac supplied from the transformer panel. The transformer panel also sources 8.8vac to the display filaments. The display filaments are biased 9.1vdc above ground by the zener diode VR1.

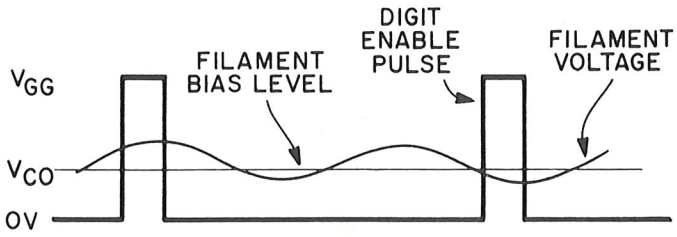


Figure 2. Display Waveform

The Display Board incorporates two vacuum fluorescent display tubes (DSP1,DSP2). The tube's digits are driven by U9. The segments (a-n) of the upper display are driven by U3,U4,U7, and U8. The segments of the lower display are driven by U1,U2,U5, and U6. Figure 1 shows the basic display waveform. Data is sent from the Control Board (A1P3) to the Display Board (A4P2).

E. SOUND BOARD (A6)

The Sound Board consists of two 6502 microprocessor systems, a dual DAC, input ports to receive commands from the game Control Board, and a low level audio output, which is sent to the Auxiliary Power Supply Board for amplification.

The Sound Board requires three supply voltages +5V DC, +12V DC and -12V DC. In addition a power up reset signal is required from the Control Board.

SYSTEM CLOCK

A 4 MHz oscillator is configured with R11, R12, C14, C15, C22, XTAL-1 and T1. This 4MHz clock is divided by 4 to a 1 or 2 MHz clock for both processors clock input, pin 37 of N1 and T3. A 250 KHz signal from S1 pin 11 is the clock for the programmable timer section consisting of N5, H5, T5 and K5, pin 2.

INPUT CODE LATCH SYSTEM

Eight input lines from the Control Board come in on A6P1 and are pulled up by S1P1 and sent to the two input code latches A3 and B2, one for each microprocessor system. A2, pin 8,becomes a logic high when any of it's inputs are low. this output is connected to pin 11 of the input code latches (A3 and B2). A positive edge at pin 11 causes A3 and B2 to latch the data at their inputs. A2 pin 8 is also connected to the clock inputs of two flip flops, A4 pin 3 and A4 pin 11. When A2 pin 8 goes high, both flip flops are clocked, setting both $\bar{Q}$ outputs low. The $\bar{Q}$ outputs, A4 pin 6 and pin 8, are connected to both of the 6502's active low interrupt request lines,

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T3 and N1, pin 4. The $\overline{Q}$ outputs of A4 will stay low until the associated 6502 reads its input port therefore clearing the interrupt.

SYSTEM EPROMS

The sound board is designed to accommodate different types of EPROMS. Jumpers JP1, 2, 3, and 4 should be set to the proper position based on the EPROM being used, (See Schematic Diagram).

RESET

The Sound Board receives an external reset signal from A1P4 pin 10. This active low reset signal is pulled up by R34 and sent to G5, pin 1 (2-input AND gate). However, if a manual reset is desired, pushing switch SW2 will reset the processor.

MAIN SUMMER

The main summer consists of R13 through R17 and B1, pins 12, 13 and 14. B1 pin 14 is the main output from the Sound Board, at A6P2 pin 9, and will swing plus or minus 5 V peak to peak.

F. AUXILIARY SOUND BOARD (A20)

The Auxiliary Sound Board consists of a YM2151 (U1) sound generator, a YM3014 (U2) DAC, and a LM324 op-amp (U3). The master Sound Board (A6), controls the YM2151 (U1) sound chip by sending commands via the data bus of the master Sound Board's T3 micro-processor. The YM2151 responds to these commands and serially sends sound data to the YM3014 DAC by means of the CLK, SD, and SH2 lines. The DAC converts this serial data into an analog signal which is buffered and amplified by U3, a LM324 op-amp. This analog signal is then sent back to the main summer of the master Sound Board (A6).

G. SENSOR BOARD (A15)

This board is used to detect if any flipper is energized and then inputs the data to the Control Board to be processed. This board therefore eliminates the need for a second switch to be used on the flipper assembly itself. U1 is an optocoupler device which converts the input signal from the flipper circuit when energized to a signal which can be recognized by the Control Board as a valid switch closure.

H. LED DISPLAY BOARD (A23)

This board is used to display the casino wheel card value for an associated spot target. Two voltages are supplied at A23P1. The 5vdc supplies power to the IC's while 12vdc supplies power for the LED displays. The multiplexed data is sent from the Control Board (A1P6) to the LED Display Board (A23P1). The data lines (DX0-DX7) output the alphanumeric character data in two bytes to the octal latches (U3 & U4). The latch signals for U3 and U4 are provided by AX4 and AX5. Data lines DX0 and DX1 output the active digit data to the latched decoder (U6). Its latch signal is provided by AX6.

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V. GENERAL INFORMATION

A. PRINTED CIRCUIT BOARDS ARE DESIGNATED AS FOLLOWS:

A1 - Control Board
A2 - Power Supply
A3 - Driver Board
A4 - Display Board
A5 - Auxiliary Power Supply
A6 - Sound Board
A13 - Resistor Board
A15 - Sensor Board
A17 - Diode Board
A20 - Auxiliary Sound Board
A23 - LED Display Board

Printed circuit board connectors will be labeled AX-JX. For example, A3-J4 is the connector J4 to 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 Violet
8 Gray
9 White

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

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C. FUSE AND COIL INFORMATION

TRANSFORMER PANEL

F1	Line Input	110V AC	8 Amp SLO-BLO
		220V AC	4 Amp SLO-BLO
F2	Primary Power	110V AC	5 Amp SLO-BLO
		220V AC	2.5 Amp SLO-BLO
F3	Display Filament		1/2 Amp
F4	Display Filament		1/2 Amp
F5	Displays		1/4 Amp SLO-BLO
F6	Power Supply		4 Amp SLO-BLO
F7	Controlled Lamps		10 Amp SLO-BLO
F8	Solenoids		8 Amp SLO-BLO
F9	Playfield Illumination		8 Amp SLO-BLO
F10	Lightbox Illumination		10 Amp SLO-BLO
F11	Auxiliary Power Supply		1/2 Amp

NOTE:
FUSE DESIGNATIONS F12 THRU F14 NOT USED.

PLAYBOARD FUSES, COILS/COLORS

FUSE	RATING	PART NO.	USAGE	COIL/COLOR
F15	1-1/2 Amp SLO-BLO	EL-34	Top Left Pop Bumper	16570 (Green)
F16	1-1/2 Amp SLO-BLO	EL-34	Bottom Left Pop Bumper	16570 (Green)
F17	1-1/2 Amp SLO-BLO	EL-34	Right Pop Bumper	16570 (Green)
F18	1-1/2 Amp SLO-BLO	EL-34	Left Kicking Rubber	5195 (White)
F19	1-1/2 Amp SLO-BLO	EL-34	Right Kicking Rubber	5195 (White)
F20	1/2 Amp SLO-BLO	EL-20	Ball Release Outhole	26451 (Yellow) 26451 (Yellow)
F21	1 Amp SLO-BLO	EL-6	Hole	17876 (Tan)
F22	2 Amp SLO-BLO	EL-7	5 Bank Reset	19300 (Orange)

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VI. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS

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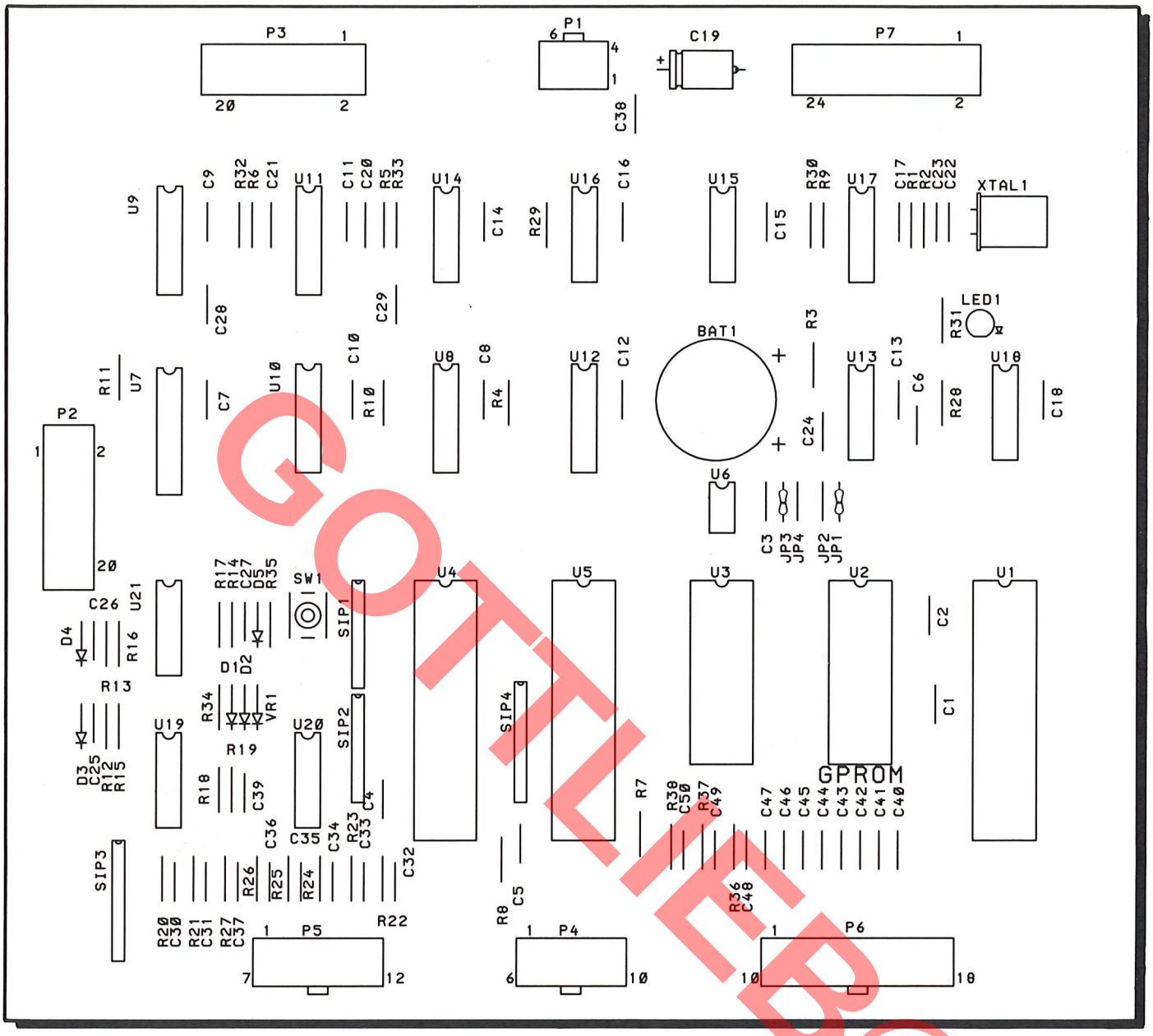
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VI. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS

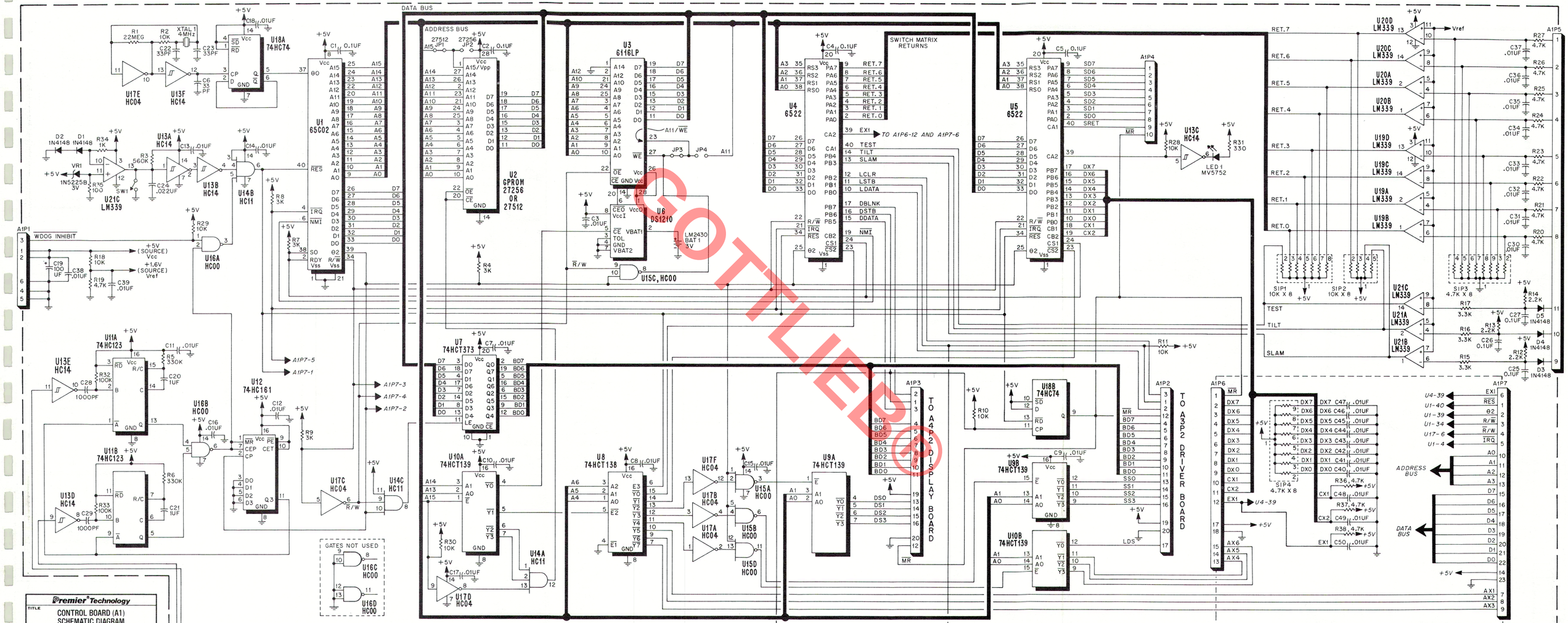
CONTROL BOARD (A1) COMPONENT LOCATION



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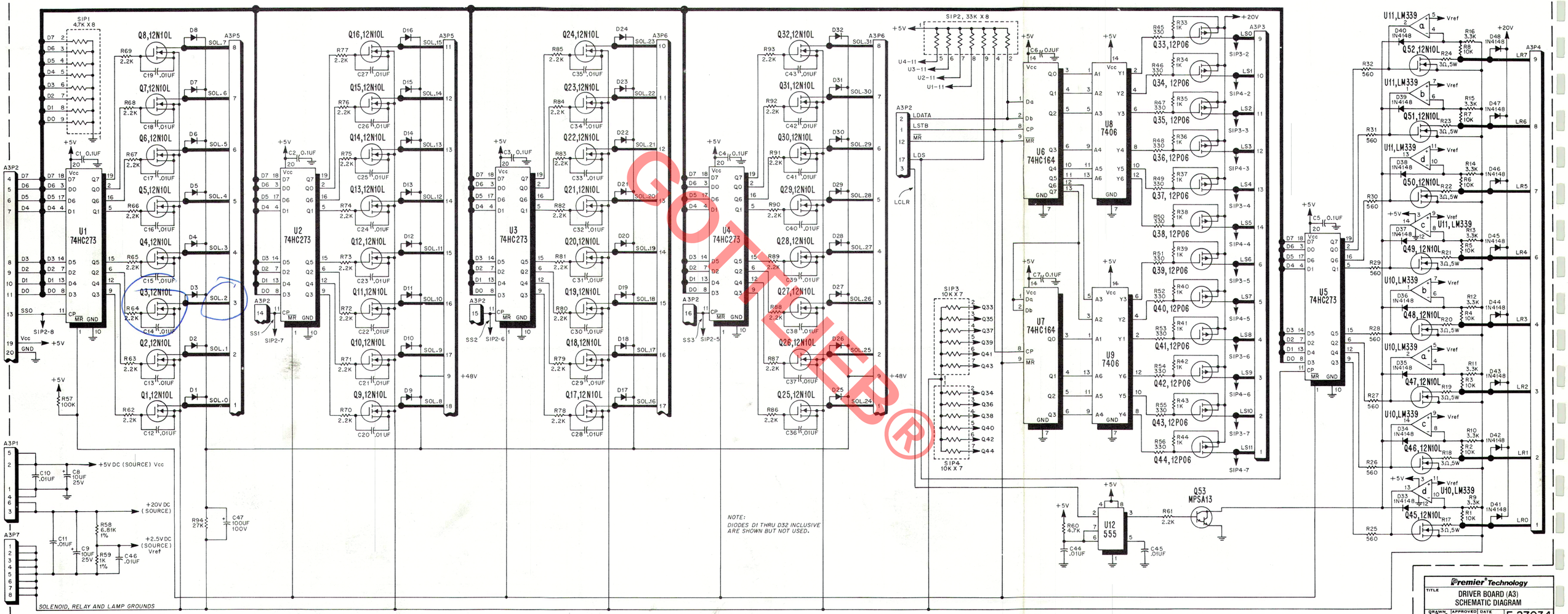
CONTROL BOARD (A1) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	Control Board Assembly (A1)	MA-1423
BAT 1	Lithium Battery, LM2430, 3V	X0-925
C3, C7-C18, C30-C50	Capacitor, .01UF, +80% -20%, 50V	X0-229
C1,C2,C4 C5,C25,C27	Capacitor, 0.1UF, +80% -20%, 50V	X0-230
C6,C22,C23	Capacitor, 33PF, 10%, 50V	X0-896
C19	Capacitor, 100UF, +80% -20%, 10V	X0-211
C20,C21	Capacitor, 1UF, 20%, 50V	X0-746
C24	Capacitor, .022UF, 10%, 50V	X0-873
C28,C29	Capacitor, 1000PF, 10%, 100V	X0-296
D1-D5	Diode, 1N4148	X0-261
LED 1	LED, MV5752 (Red)	X0-270
R1	Resistor, 22 MEGOHM, 5%, 1/4W	X0-74
R2,R10,R11 R18,R28,R30	Resistor, 10K OHM, 5%, 1/4W	X0-18
R3	Resistor, 560K OHM, 5%, 1/4W	X0-169
R5,R6	Resistor, 330K OHM, 5%, 1/4W	X0-47
R4,R7-R9	Resistor, 3K OHM, 5%, 1/4W	X0-23
R12-R14	Resistor, 2.2K OHM, 5%, 1/4W	X0-27
R15-R17	Resistor, 3.3K OHM, 5%, 1/4W	X0-38
R19-R27, R36-R38	Resistor, 4.7K OHM, 5%, 1/4W	X0-7
R31	Resistor 330 OHM, 5%, 1/4W	X0-34
R32-R33	Resistor, 100K OHM, 5%, 1/4W	X0-45
R34	Resistor, 1K OHM, 5%, 1/4W	X0-5
R35	Resistor, 100 OHM, 5%, 1/4W	X0-28
SIP1,SIP2	Resistor Pack, 10K OHM X 7, 5%, 1/4W	X0-926
SIP3,SIP4	Resistor Pack, 4.7K OHM X 8	X0-161
SW1	Switch, N.O.	X0-897
U1	IC, 65CO2P2, CPU, 2MHZ	X0-927
U3	IC, 6116LP, 2K X 8, Static Ram	X0-928
U4,U5	IC,6522AP, Versatile Interface Adaptor (VIA)	X0-929
U6	IC, DS1210, Non-Volatile Controller	X0-930
U7	IC, 74HCT373, Octal Latch	X0-931
U8	IC, 74HCT138, Decoder	X0-932
U9,U10	IC, 74HCT139, Dual Decoder	X0-933
U11	IC, 74HC123, Dual Multivibrator	X0-934
U12	IC, 74HC161, Binary Counter	X0-935
U13	IC, 74HC14, Schmitt Hex Inverters	X0-936
U14	IC, 74HC11, Triple "And" Gates	X0-937
U15,U16	IC, 74HC00, Quad "Nand" Gates	X0-782
U17	IC, 74HC04, Hex Inverters	X0-888
U18	IC, 74HC74, Dual "D" Flip-Flop	X0-939
U19,U21	IC, LM339, Quad Comparators	X0-583
VR1	Zener Diode, 1N5225B, 3V, 5%	X0-269
XTAL1	Crystal, 4MHZ	X0-366
A1P1	Header, 6 Position	X0-910
A1P2,A1P3	Header, 20 Position (Ribbon)	X0-940
A1P4	Header, 10 Position	X0-912
A1P5	Header, 12 Position	X0-913
A1P6	Header. 18 Position	X0-916
	Jumper, Resistor, 0 OHM (2)	X0-469
	Socket, 28 Pin Dip	X0-536



GOTTLIEB®

Premier® Technology			
TITLE: CONTROL BOARD (A1) SCHEMATIC DIAGRAM			
DRAWN	APPROVED: RHM	DATE: 10-12-89	E-27033



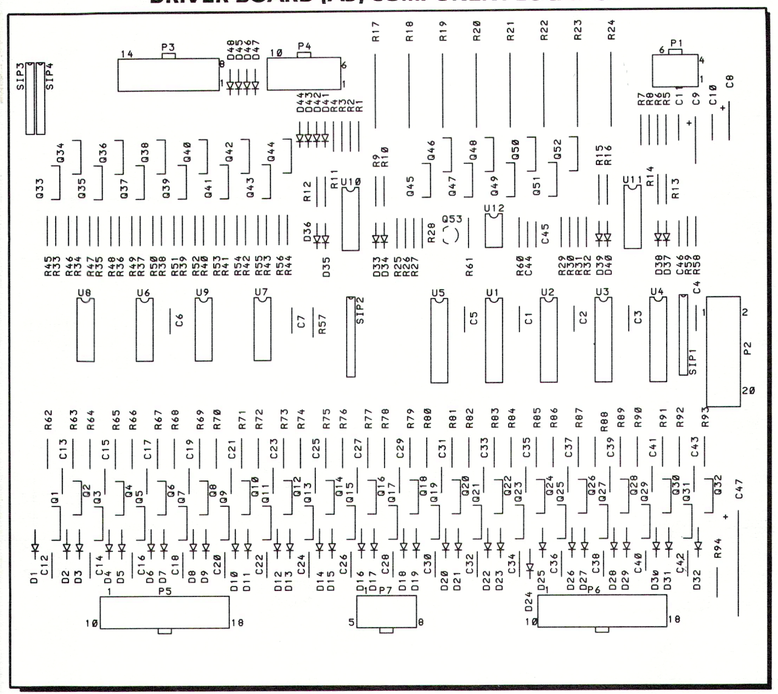
GOTHIC®

Premier® Technology

TITLE: DRIVER BOARD (A3) SCHEMATIC DIAGRAM

DRAWN: BJD | APPROVED: KHM | DATE: 10-12-89 | E-27034

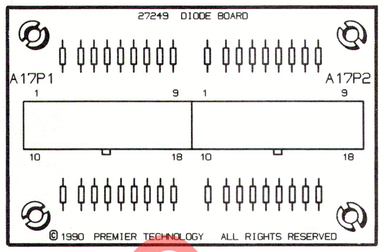
DRIVER BOARD (A3) COMPONENT LOCATION



DRIVER BOARD (A3) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	Driver Board Assembly (A3)	MA-1358
C1-C7	Capacitor, 0.1 UF, +80% -20%, 50V	XO-230
C8	Capacitor, 10UF, 20%, 25V	XO-127
C9	Capacitor, 10UF, +80% -20%, 25V	XO-225
C10,C11	Capacitor, .01UF, +80% -20%, 50V	XO-229
C45,C46		
C12-C44	Capacitor, .01UF, 10%, 50V	XO-696
C47	Capacitor, 100UF, 20%, 100V	XO-958
D33-D48	Diode, 1N4148	XO-261
Q1-Q32,	Transistor, RFP12N10L,	XO-947
Q45-Q54	N-Channel MOSFET	
Q33-Q44	Transistor, RFP12P06,	XO-948
	P-Channel MOSFET	
Q53	Transistor, MPSA13, Darlington	XO-304
R1-R8	Resistor, 10K Ohm, 5%, 1/4W	XO-18
R9-R16	Resistor, 3.3K Ohm, 5%, 1/4W	XO-38
R17-R24	Resistor, 3 Ohm, 5%, 5W	XO-942
R25-R32	Resistor, 560 Ohm, 5%, 1/4W	XO-36
R33-R44	Resistor, 1K Ohm, 5%, 1/4W	XO-5
R45-R56	Resistor, 330 Ohm, 5%, 1/4W	XO-34
R57	Resistor, 100K Ohm, 5%, 1/4W	XO-45
R58	Resistor, 6.81K Ohm, 1%, 1/4W	XO-943
R59	Resistor, 1K Ohm, 1%, 1/4W	XO-944
R60	Resistor, 4.7K Ohm, 5%, 1/4W	XO-7
R61-R93	Resistor, 2.2K Ohm, 5%, 1/4W	XO-27
R94	Resistor, 27K Ohm, 5%, 1/4W	XO-11
SIP1	Resistor Pack, 4.7K Ohm X 8,5%, 1/4W	XO-161
SIP2	Resistor Pack, 33K Ohm X 8,5%, 1/4W	XO-945
SIP3	Resistor Pack, 10K Ohm X 7,5%, 1/4W	XO-926
SIP4		
U1-U5	IC, Octal "D" Flip-Flops, 74HC273	XO-949
U6-U7	IC, Shift Register, 74HC164	XO-950
U8-U9	IC, Buffer, 7406	XO-85
U10-U11	IC, Quad Comparator, LM339	XO-583
U12	IC, Timer, NE555	XO-631
A3P1	Header, 6 Position	XO-910
A3P2	Header, 20 Position (Ribbon)	XO-940
A3P3	Header, 14 Position	XO-914
A3P4	Header, 10 Position	XO-912
A3P5,	Header, 18 Position	XO-916
A3P6		
A3P7	Header, 8 Position	XO-911

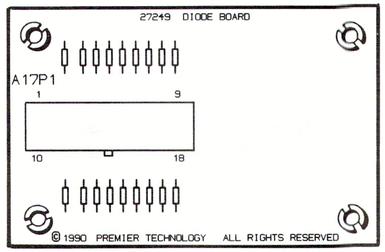
DIODE BOARD (A17) COMPONENT LOCATION



DIODE BOARD (A17) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
1A17	Diode Matrix Assembly	MA-1448
D1-D32	Diode, 1N4148	XO-261
P1,P2	Header, 18 Position	XO-916
R1-R4	Resistor, 220 OHM, 5%, 1/4W	XO-21
	Circuit Board Support (4)	23984

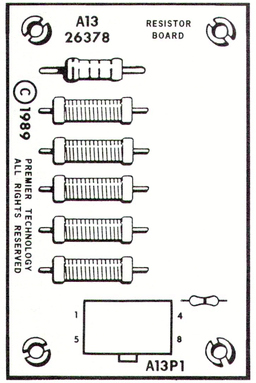
DIODE BOARD (A17) COMPONENT LOCATION



DIODE BOARD (A17) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
2A17	Diode Matrix Assembly	MA-1449
D1-D16	Diode 1N4148	XO-261
P1	Header, 18 Position	XO-916
R1,R2	Resistor, 220 OHM, 5%, 1/4W	XO-21
	Circuit Board Support (4)	23984

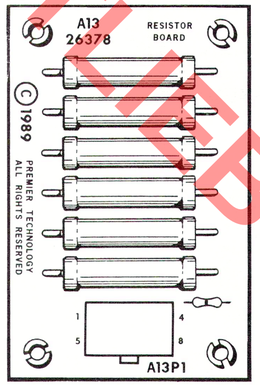
RESISTOR BOARD (A13) COMPONENT LOCATION



RESISTOR BOARD (A13) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
2A13	Resistor Board Assembly	MA-1363
R1	Resistor, 6.6 OHM, 5%, 5W	XO-960
R2-R6	Resistor, 3.3 OHM, 5%, 7W	XO-959
JP1	Jumper, Resistor, 0 OHM	XO-469
P1	Header, 8 Position	XO-911
	Circuit Board Support (4)	23984

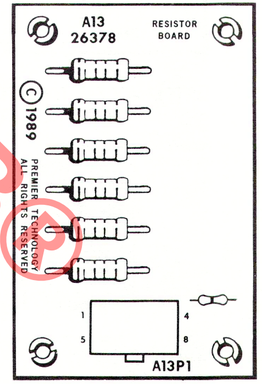
RESISTOR BOARD (A13) COMPONENT LOCATION



RESISTOR BOARD (A13) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
1A13	Resistor Board Assembly	MA-1418
R1-R6	Resistor, 3.3 OHM, 5%, 7W	XO-959
JP1	Jumper, Resistor, 0 OHM	XO-469
P1	Header, 8 Position	XO-911
	Circuit Board Support (4)	23984

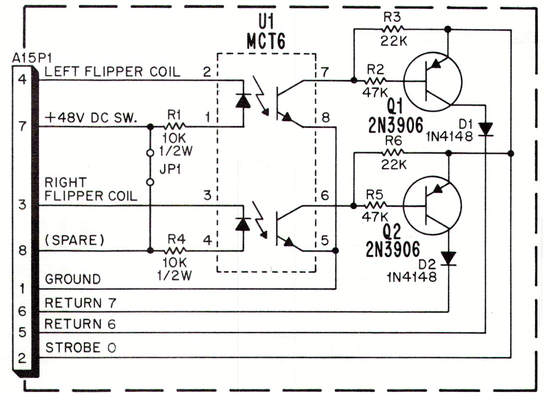
RESISTOR BOARD (A13) COMPONENT LOCATION



RESISTOR BOARD (A13) PARTS LIST

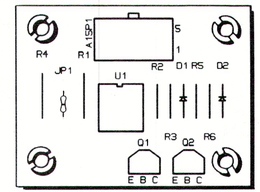
REFERENCE	DESCRIPTION	PART NUMBER
3A13	Resistor Board Assembly	MA-1461
R1-R6	Resistor, 6.6 OHM, 5%, 5W	XO-960
JP1	Jumper, Resistor, 0 OHM	XO-469
P1	Header, 8 Position	XO-911
	Circuit Board Support (4)	23984

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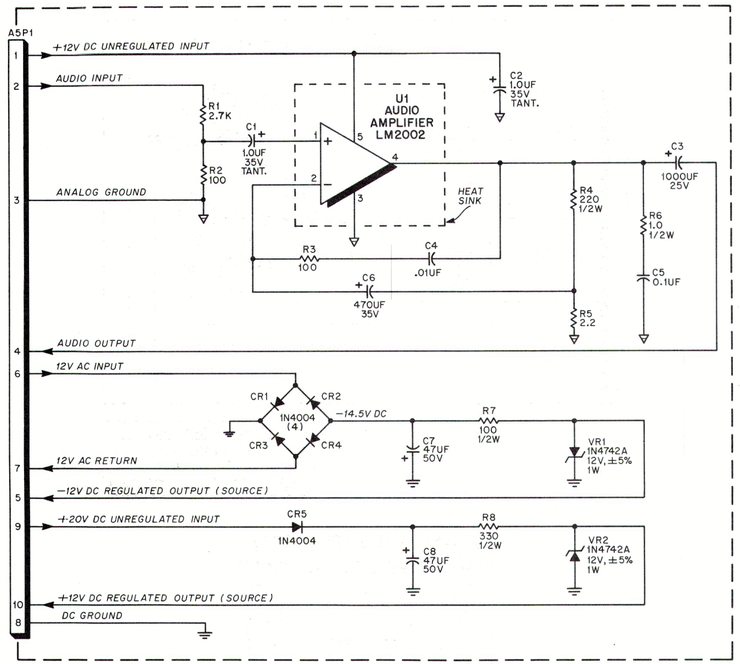
Premier Technology	
TITLE	SENSOR BOARD (A15) SCHEMATIC DIAGRAM
DRAWN	APPROVED: RNM
DATE	10-12-89
	E-27041

SENSOR BOARD (A15) COMPONENT LOCATION

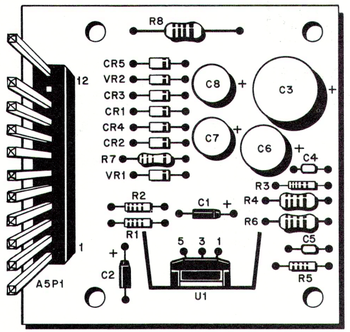


SENSOR BOARD (A15) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	Sensor Board Assembly (A15)	MA-1334
D1,D2	Diode, 1N4148	XO-261
JP1	Jumper, Resistor, 0 OHM	XO-469
Q1,Q2	Transistor, 2N3906 (PNP)	XO-588
R1,R4	Resistor, 10K Ohm, 5%, 1/2W	XO-62
R2,R5	Resistor, 47K Ohm, 5%, 1/4W	XO-30
R3,R6	Resistor, 22K Ohm, 5%, 1/4W	XO-42
U1	IC, Optocoupler, MCT6	XO-1000
A15P1	Header, 8 Position	XO-911
	Spacer (4)	23984



AUXILIARY POWER SUPPLY (A5) COMPONENT LOCATION

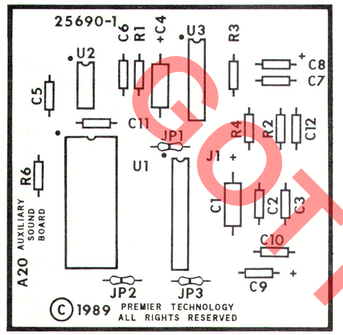


Premier Technology			
TITLE: AUXILIARY POWER SUPPLY (A5) SCHEMATIC DIAGRAM			
DRAWN	APPROVED	DATE	
	RHM	9 OCT 85	E-24715

AUXILIARY POWER SUPPLY (A5) PARTS LIST

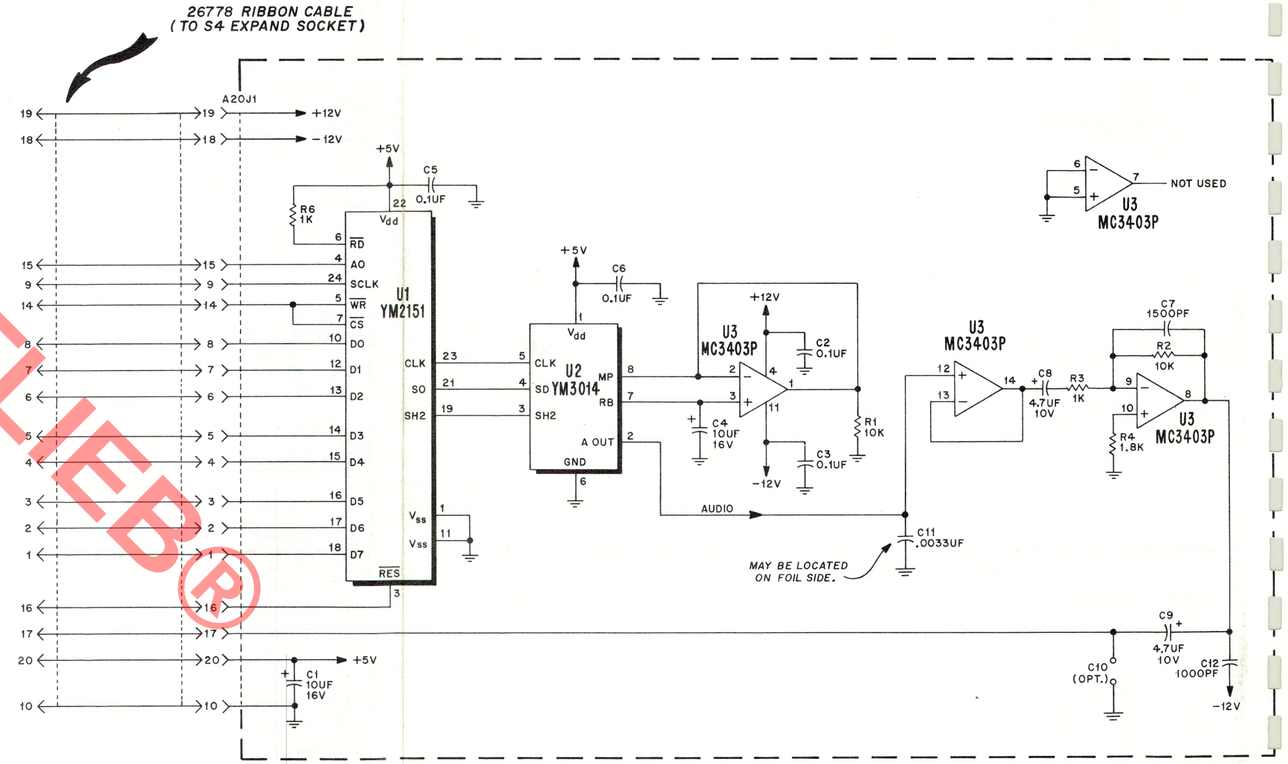
REFERENCE	DESCRIPTION	PART NUMBER
	Auxiliary Power Supply	MA-1366
C1,C2	Capacitor, 1UF, 10%, 35V, TANT	XO-715
C3	Capacitor, 1000UF, 25V	XO-874
C4	Capacitor, .01UF, +80% -20%, 50V	XO-229
C5	Capacitor, 0.1UF, +80% -20%, 50V	XO-230
C6	Capacitor, 470UF, 35V	XO-284
C7, C8	Capacitor, 47UF, 50V	XO-210
CR1-CR5	Diode, 1N4004	XO-254
R1	Resistor, 2.7K Ohm, 5%, 1/4W	XO-6
R2,R3	Resistor, 100 Ohm, 5%, 1/4W	XO-28
R4	Resistor, 220 Ohm, 5%, 1/2W	XO-185
R5	Resistor, 2.2 Ohm, 5%, 1/4W	XO-595
R6	Resistor, 1 Ohm, 5%, 1/2W	XO-593
R7	Resistor, 100 Ohm, 5%, 1/2W	XO-52
R8	Resistor, 330 Ohm, 5%, 1/2W	XO-1001
U1	Audio Amplifier, LM2002	XO-550
VR1,VR2	Diode, Zener, 1N4742A, 12V, ±5%,1W	XO-257
	Heat Sink	XO-472
	12 Position Connector	XO-879

AUXILIARY SOUND BOARD (A20) COMPONENT LOCATION



AUXILIARY SOUND BOARD (A20) PARTS LIST

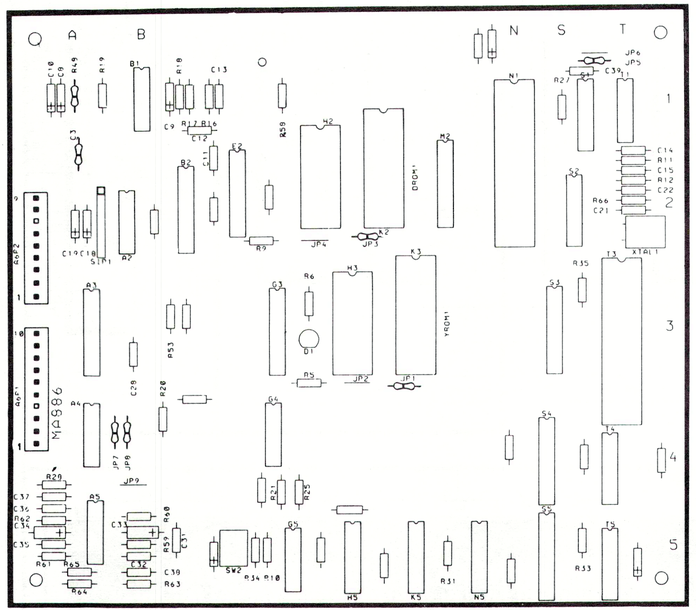
REFERENCE	DESCRIPTION	PART NUMBER
	AUXILIARY SOUND BOARD	MA-1294
C1,C4	CAPACITOR, 10UF, +80%-20%, 16V	XO-846
C2,C3,C5,C6	CAPACITOR, 0.1UF, +80%-20%, 50V	XO-230
C7	CAPACITOR, 1500PF, 5%, 50V	XO-954
C8,C9	CAPACITOR, 4.7UF, 10%, 10V	XO-226
C11	CAPACITOR, 3300PF, 10%, 100V	XO-600
C12	CAPACITOR, 1000PF, 10%, 100V	XO-296
R1	RESISTOR, 10K OHM, 5%, 1/4W	XO-18
R2	RESISTOR, 10K OHM, 1%, 1/4W	XO-956
R3,R6	RESISTOR, 1K OHM, 5%, 1/4W	XO-5
R4	RESISTOR, 1.8K OHM, 5%, 1/4W	XO-37
U1	IC, SOUND CHIP, YM2151	XO-882
U2	IC, SERIAL DAC, YM3014	XO-883
U3	IC, QUAD OP-AMP, MC3403P	XO-953
	JUMPER, RESISTOR, 0 OHM (3)	XO-469
	SOCKET, 20 PIN DIP	XO-491
	SOCKET, 24 PIN DIP	XO-529



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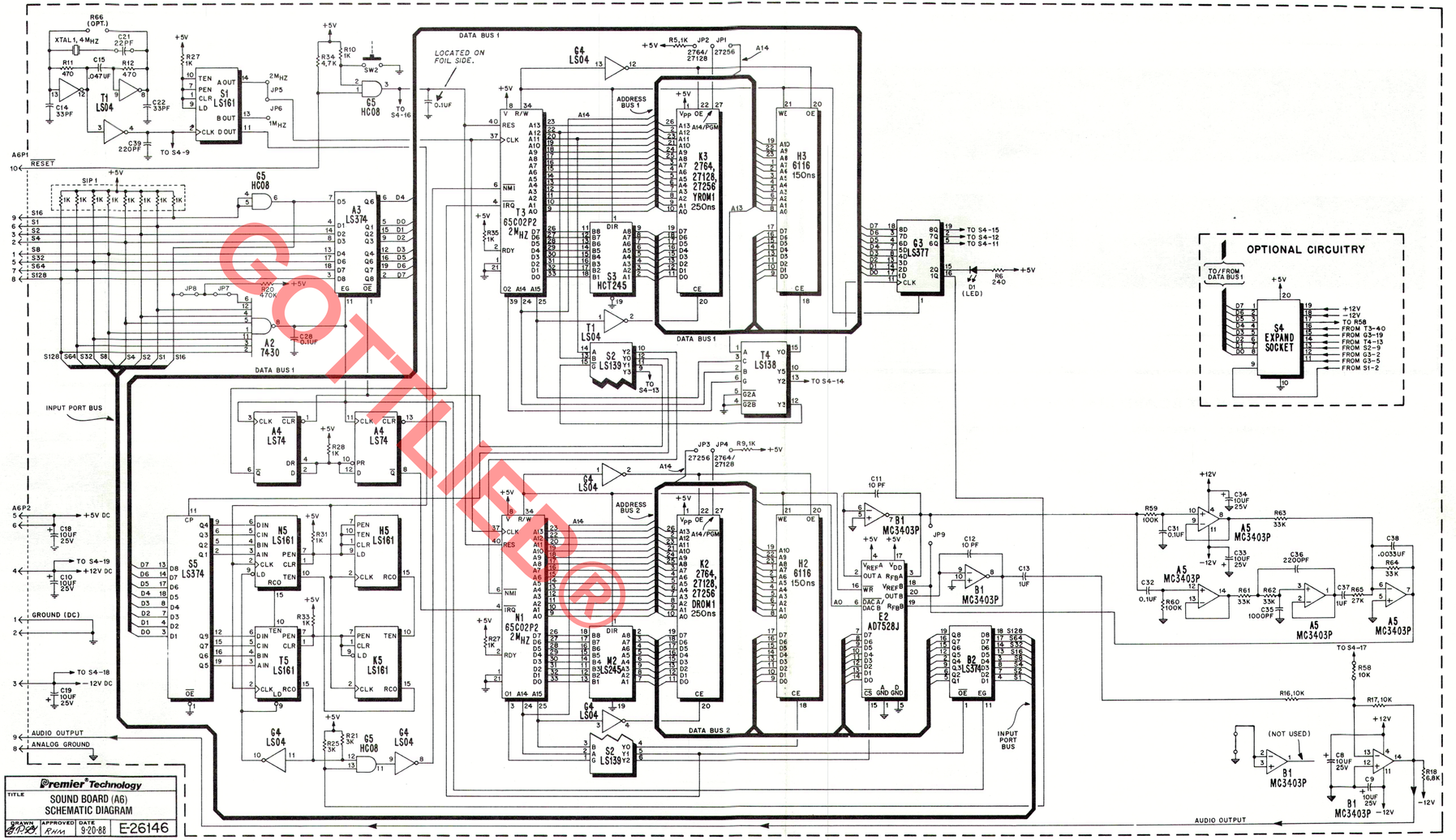
Premier Technology			
TITLE: AUXILIARY SOUND BOARD (A20) SCHEMATIC DIAGRAM			
DRAWN	APPROVED	DATE	
	RHM	9-20-88	E-26145

SOUND BOARD (A6) COMPONENT LOCATION



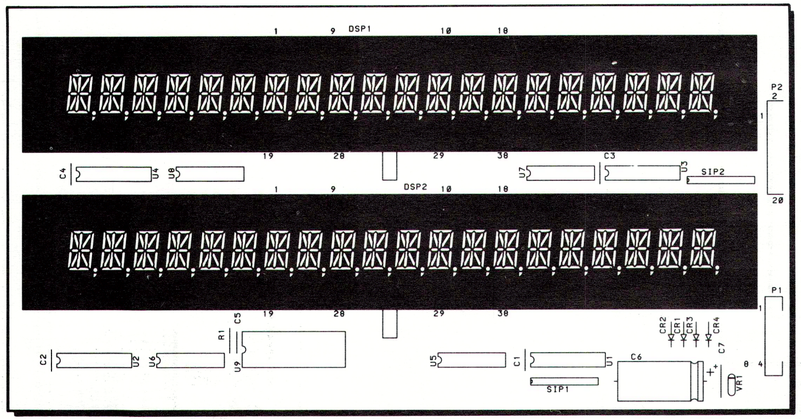
SOUND BOARD (A6) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	Sound Board Assembly(1A6)	MA-886-723
C13,C37	Capacitor, 1UF, 20%,50V(Non. Polar.	XO-746
C8,C9,C10, C18,C19, C33,C34 AND THREE UNMARKED CAPACITORS	Capacitor, 10UF, 20% 25V (Tantalum)	XO-127
C11,C12	Capacitor, 10PF, +80%-20%, 50V	XO-635
C14,C22	Capacitor, 33PF, 10%, 100V	XO-896
C15	Capacitor, .047UF, 20%, 50V	XO-638
C21	Capacitor, 22PF, 10%, 50V	XO-633
C28 AND FIFTEEN UNMARKED CAPACITORS	Capacitor, 0.1UF, +80%-20%, 50V	XO-230
C31,C32	Capacitor, 0.1UF, 10%, 100V	XO-784
C35	Capacitor, 1000PF, 10%, 100V	XO-296
C36	Capacitor, 2200PF, 10%, 100V	XO-289
C38	Capacitor, .0033UF, 10%, 100V	XO-600
C39	Capacitor, 330PF, 10%, 100V	XO-694
D1	Diode, MV5752, (LED, Red)	XO-270
R5,R9,R10, R27,R28,R31, R33,R35	Resistor, 1K Ohm, 5%, 1/4W	XO-5
R6	Resistor, 240 Ohm, 5%, 1/4W	XO-173
R11,R12	Resistor, 470 Ohm, 5%, 1/4W	XO-35
R21,R25	Resistor, 3K Ohm, 5%, 1/4W	XO-23
R16,R17,R58	Resistor, 10K Ohm, 5%, 1/4W	XO-18
R18	Resistor, 6.8K Ohm, 5%, 1/4W	XO-8
R20,R34	Resistor, 4.7K Ohm, 5%, 1/4W	XO-7
R61,R62,R63, R64	Resistor, 33K Ohm, 5%, 1/4W	XO-43
R59,R60	Resistor, 100K Ohm, 5%, 1/4W	XO-45
R65	Resistor, 27K Ohm, 5%, 1/4W	XO-11
A2	IC, 7430, 8 input NAND Gate	XO-643
A3,B2,S5	IC, 74LS374, Octal "D" Flip Flop	XO-96
A4	IC, 74LS74, Dual "D" Flip Flop	XO-434
A5	IC, MC3403P, Quad Op-Amp	XO-953
B1	IC, MC3403P, Quad Op-Amp	XO-953
E2	IC, AD7528J, Multiplier DAC	XO-647
G3	IC, 74LS377, Octal "D" Flip Flop	XO-97
G4,T1	IC, 74LS04, Hex Inverter	XO-418
G5	IC, 74HC08, Quad 2 Input "AND" Gate	XO-872
H2,H3	IC, 6116LP-15, 2K X 8 RAM	XO-928
H5,K5,N5	IC, 74LS161, Synchronous Presettable Binary Counter	XO-440
S1,T5		
K2,K3	IC, Specified Per Game	
M2	IC, 74LS245, Octal Bus Transceiver	XO-79
N1,T3	IC, 65C02P2, CPU	XO-927
S2	IC, 74LS139, Dual 1 of 4 Decoder	XO-419
S3	IC, 74HCT245, Octal Bus Transceiver	XO-891
T4	IC, 74LS138, 1 of 8 Decoder	XO-437
SIP 1	Resistor Pack 1K Ohm X 8	XO-493
SW2	Switch, Pushbutton	XO-897
XTAL 1	Crystal, 4 MHZ	XO-366
A6P1,A6P2	Connector (2)	XO-879
	28 Pin Dip Socket (2)	XO-536
	Jumper, Resistor, 0 OHM (7)	XO-469
	20 Pin Dip Socket	XO-491



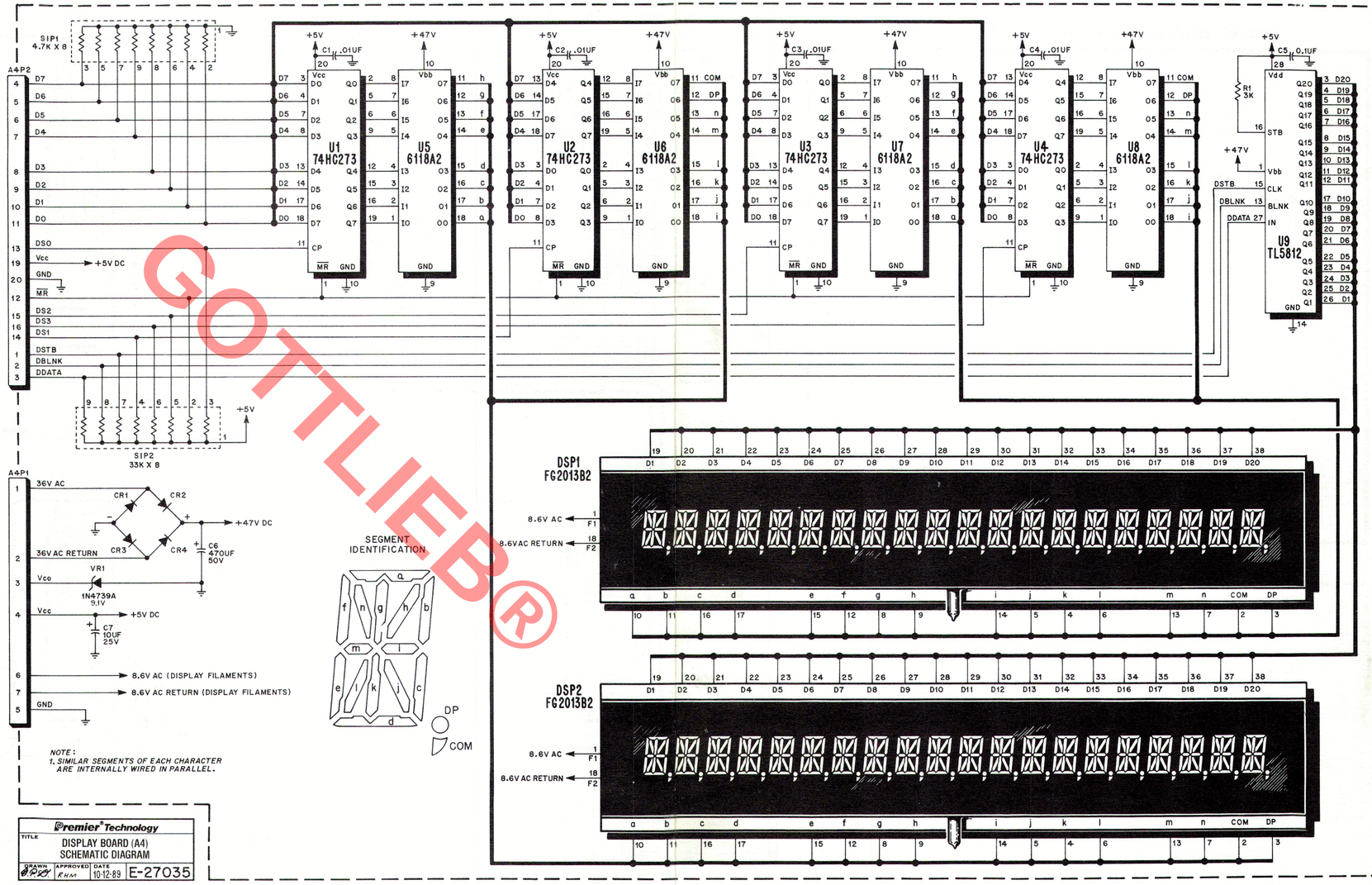
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DISPLAY BOARD (A4) COMPONENT LOCATION



DISPLAY BOARD (A4) PARTS LIST

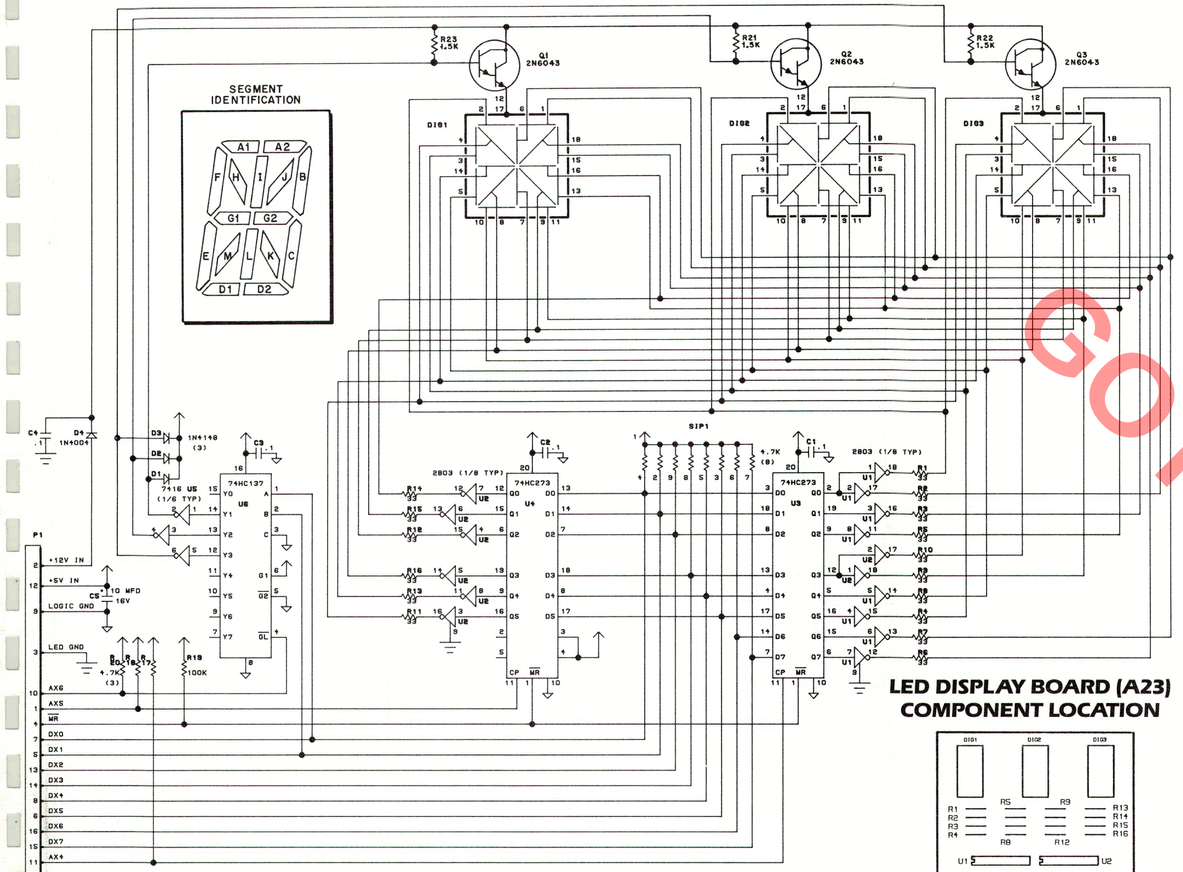
REFERENCE	DESCRIPTION	PART NUMBER
	Display Board Assembly (A4)	MA-1361
C1-C4	Capacitor, .01UF, +80%-20%, 50V	XO-229
C5	Capacitor, 0.1UF, +80%-20%, 50V	XO-230
C6	Capacitor 470UF, 50V	XO-847
C7	Capacitor, 10UF, 20%, 25V	XO-127
CR1-CR4	Diode, 1N4004	XO-254
DSP1, DSP2	Alphanumeric Display, FG2013B2	XO-901
R1	Resistor, 3K Ohm, 5%, 1/4W	XO-23
SIP1	Resistor Pack 4.7K Ohm X 8, 5%, 1/4W	XO-161
SIP2	Resistor Pack, 33K Ohm X 8, 5%, 1/4W	XO-945
U1-U4	IC, Octal "D" Flip-Flop, 74HC273	XO-949
U5-U8	IC, Display Drivers, 6118A2	XO-951
U9	IC, Latched Drivers, TL5812	XO-952
VR1	Diode 1N4739A, 9.1V Zener	XO-881
A4P1	Header, 8 Position	XO-920
A4P2	Header, 20 Position	XO-941
	Sponge Rubber, 1-1/4" (4)	24290A



NOTE:
1. SIMILAR SEGMENTS OF EACH CHARACTER ARE INTERNALLY WIRED IN PARALLEL.

Premier Technology			
TITLE: DISPLAY BOARD (A4) SCHEMATIC DIAGRAM			
DRAWN	APPROVED	DATE	E-27035
	RHM	10-12-89	

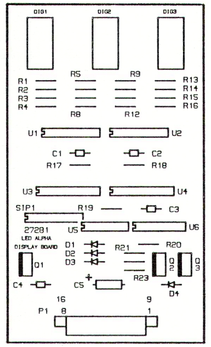
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LED DISPLAY BOARD (A23) PARTS LIST

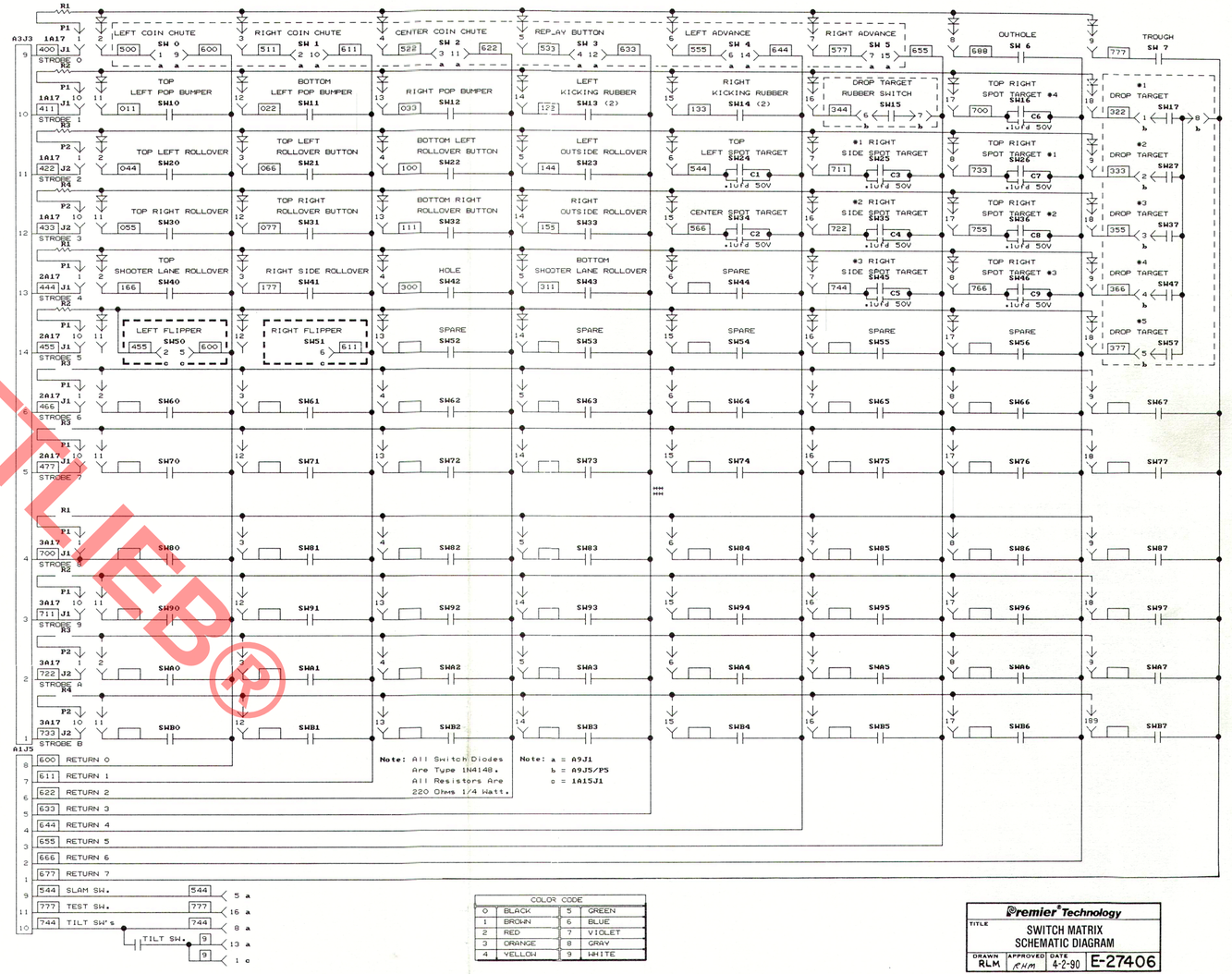
REFERENCE	DESCRIPTION	PART NUMBER
A23	LED Alpha Display Board	MA-1451
C1-C4	Capacitor, 0.1UF, 50V	X0-230
C5	Capacitor, 10UF, 16V	X0-846
DIG1-DIG3	16 Segment LED Display	X0-1010
D1-D3	Diode, 1N4148	X0-261
D4	Diode, 1N4004	X0-254
Q1-Q3	Transistor, Darlington Driver, 2N6043	X0-303
R1-R16	Resistor, 33 OHM, 5%, 1/4W	X0-573
R17,R18,R20	Resistor, 4.7K OHM, 5%, 1/4W	X0-7
R19	Resistor, 100K OHM, 5%, 1/4W	X0-45
R21-R23	Resistor, 1.5K OHM, 5%, 1/4W	X0-20
SIP1	Resistor Pack, 4.7K OHM X 8	X0-161
U1, U2	IC, Driver, ULN2803	X0-1006
U3, U4	IC, Flip-Flop, 74HC273	X0-949
U5	IC, Buffer, 7416	X0-405
U6	IC, Decoder, 74HCI37	X0-1004
A23P1	16 Pin Right Angle Header	X0-961

LED DISPLAY BOARD (A23) COMPONENT LOCATION



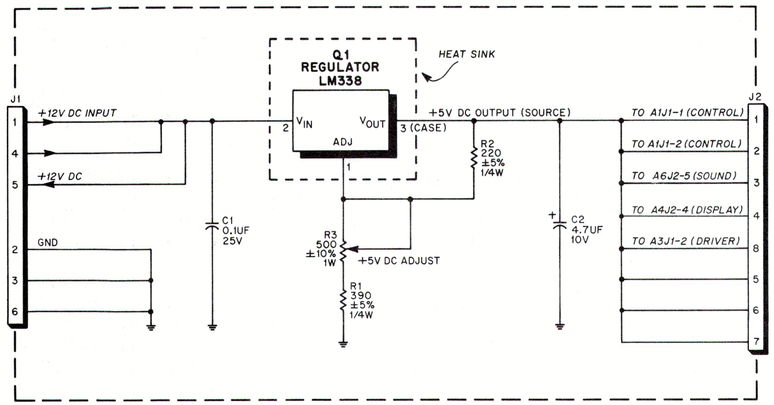
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Premier® Technology			
TITLE: LED DISPLAY BOARD (A23) SCHEMATIC DIAGRAM			
DRAWN: B.W.	APPROVED: RHM	DATE: 4-2-90	E-27405



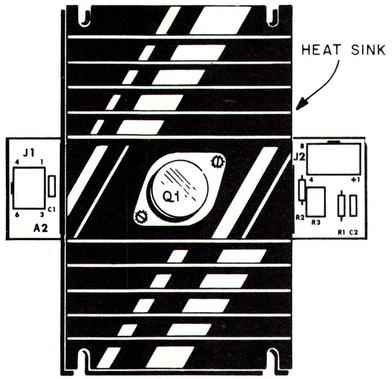
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1	BROWN	6	BLUE
2	RED	7	VIOLET
3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

Premier® Technology			
TITLE: SWITCH MATRIX SCHEMATIC DIAGRAM			
DRAWN: RLM	APPROVED: RHM	DATE: 4-2-90	E-27406



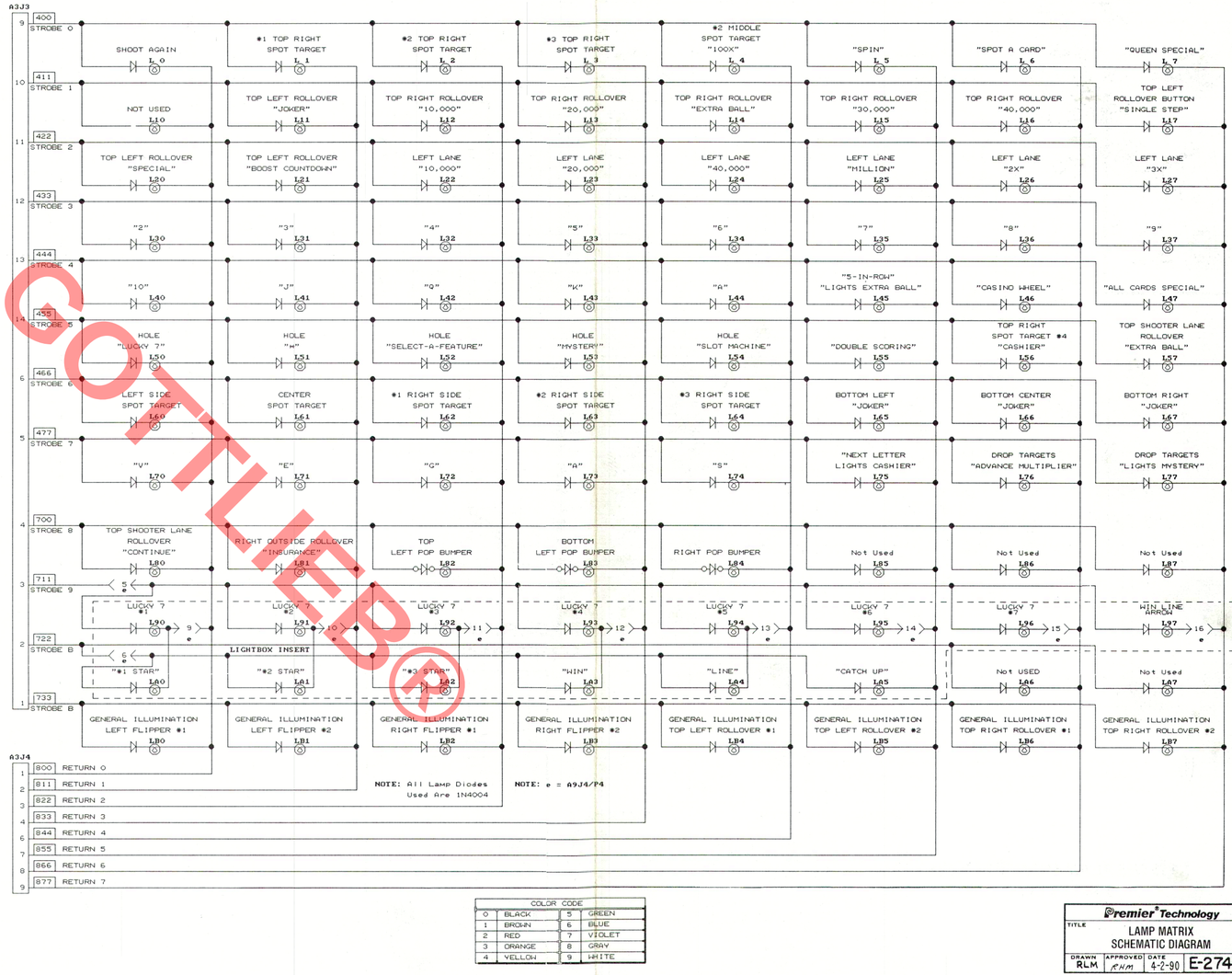
Premier® Technology			
TITLE: POWER SUPPLY (A2) SCHEMATIC DIAGRAM			
DRAWN: [illegible]	APPROVED: RHM	DATE: 12 FEB 85	E-24441

POWER SUPPLY (A2) COMPONENT LOCATION



POWER SUPPLY (A2) PARTS LIST

REFERENCE	DESCRIPTION	PART NUMBER
	Power Supply (A2)	MA-1359
C1	Capacitor, 0.1UF, +80% -20%, 50V	XO-230
C2	Capacitor, 4.7UF, 10% 10V	XO-226
J1	Header, 6 Position	XO-910
J2	Header, 8 Position	XO-911
Q1	Regulator, LM338, (5 Amp)	XO-839
R1	Resistor, 390 Ohm, 5%, 1/4W	XO-845
R2	Resistor, 220 Ohm, 5%, 1/4W	XO-21
R3	Resistor, (Pot) 500 Ohm, 10%, 1W	XO-112
	Heat Sink	XO-534
	Insulator (Regulator)	XO-522
	Insulator (Regulator)	XO-523

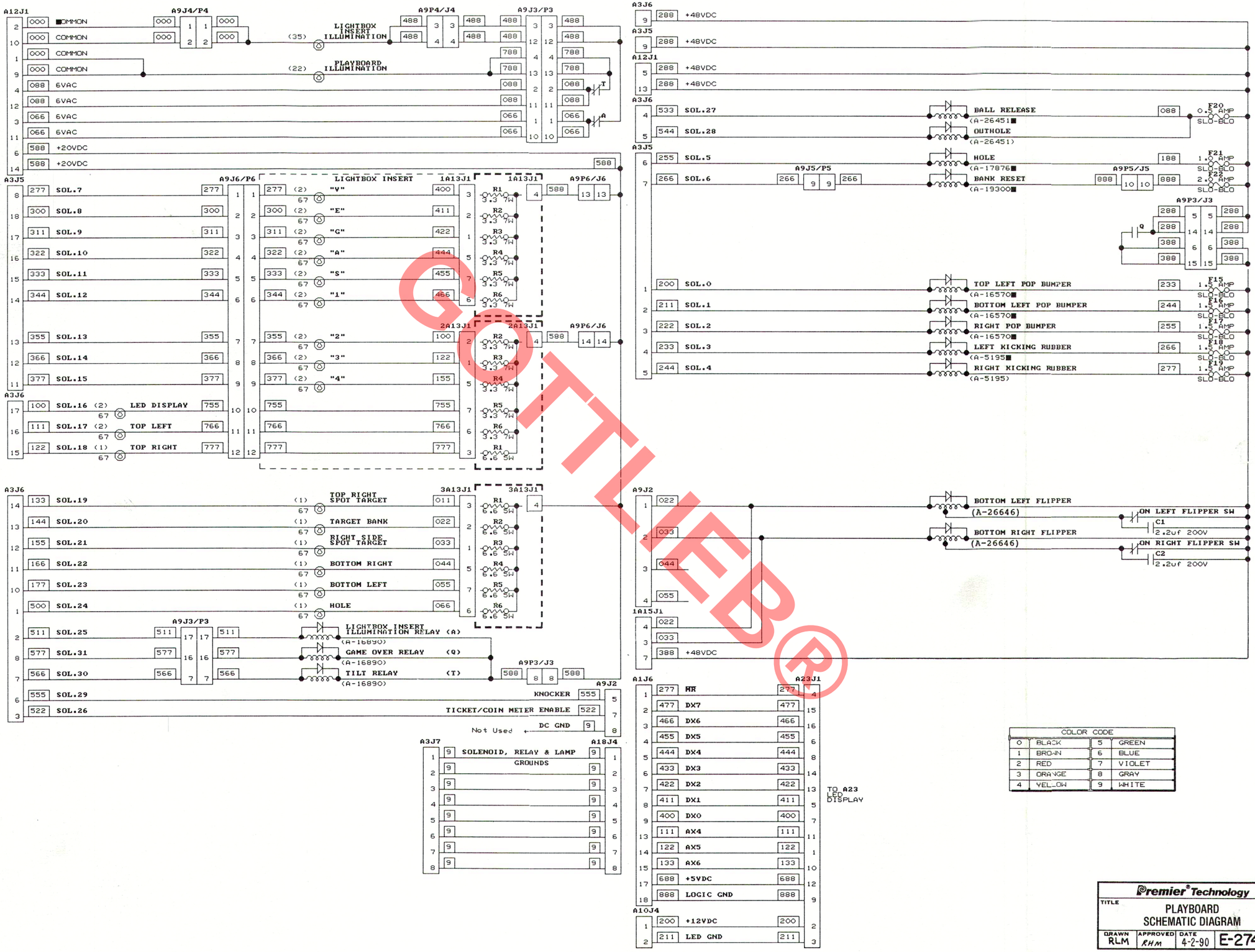


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1	BROWN	6	BLUE
2	RED	7	VIOLET
3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

Premier® Technology			
TITLE: LAMP MATRIX SCHEMATIC DIAGRAM			
DRAWN: RLM	APPROVED: RHM	DATE: 4-2-90	E-27407

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VI. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS



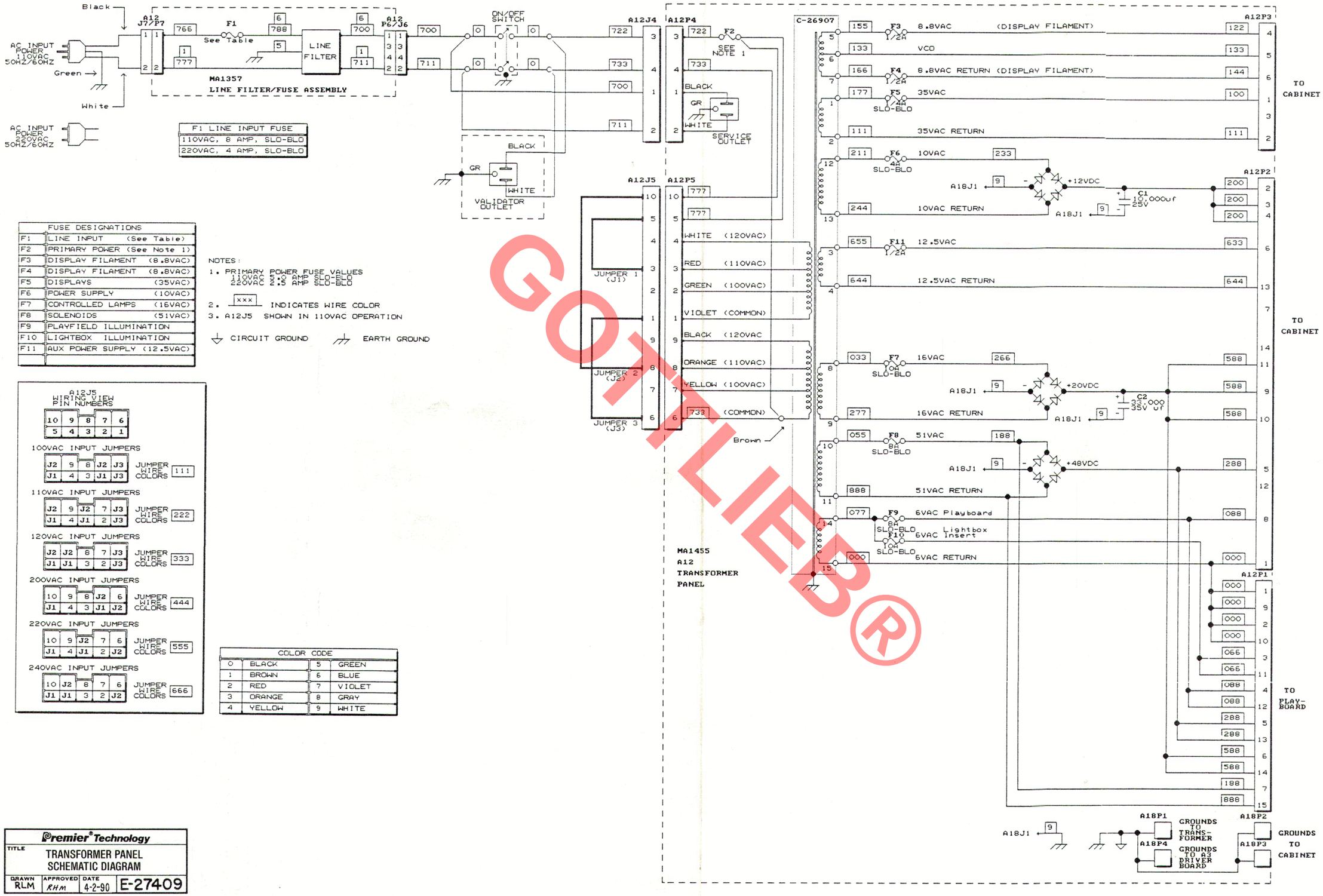
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3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

Premier® Technology

TITLE: PLAYBOARD SCHEMATIC DIAGRAM

DRAWN	APPROVED	DATE	
RLM	RHM	4-2-90	E-27408

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F1 LINE INPUT FUSE
110VAC, 8 AMP, SLO-BLO
220VAC, 4 AMP, SLO-BLO

	FUSE DESIGNATIONS
F1	LINE INPUT (See Table)
F2	PRIMARY POWER (See Note 1)
F3	DISPLAY FILAMENT (8.8VAC)
F4	DISPLAY FILAMENT (8.8VAC)
F5	DISPLAYS (35VAC)
F6	POWER SUPPLY (10VAC)
F7	CONTROLLED LAMPS (16VAC)
F8	SOLENOIDS (51VAC)
F9	PLAYFIELD ILLUMINATION
F10	LIGHTBOX ILLUMINATION
F11	AUX POWER SUPPLY (12.5VAC)

NOTES:

1. PRIMARY POWER FUSE VALUES
   110VAC 5.0 AMP SLO-BLO
   220VAC 2.5 AMP SLO-BLO
2. [xxx] INDICATES WIRE COLOR
3. A12J5 SHOWN IN 110VAC OPERATION

CIRCUIT GROUND EARTH GROUND

A12J5 WIRING VIEW PIN NUMBERS

10	9	8	7	6
5	4	3	2	1

	J2	9	8	J2	J3	JUMPER WIRE COLORS
100VAC INPUT JUMPERS	J1	4	3	J1	J3	111
110VAC INPUT JUMPERS	J2	9	J2	7	J3	222
	J1	4	J1	2	J3	
120VAC INPUT JUMPERS	J2	J2	8	7	J3	333
	J1	J1	3	2	J3	
200VAC INPUT JUMPERS	10	9	8	J2	6	444
	J1	4	3	J1	J2	
220VAC INPUT JUMPERS	10	9	J2	7	6	555
	J1	4	J1	2	J2	
240VAC INPUT JUMPERS	10	J2	8	7	6	666
	J1	J1	3	2	J2	

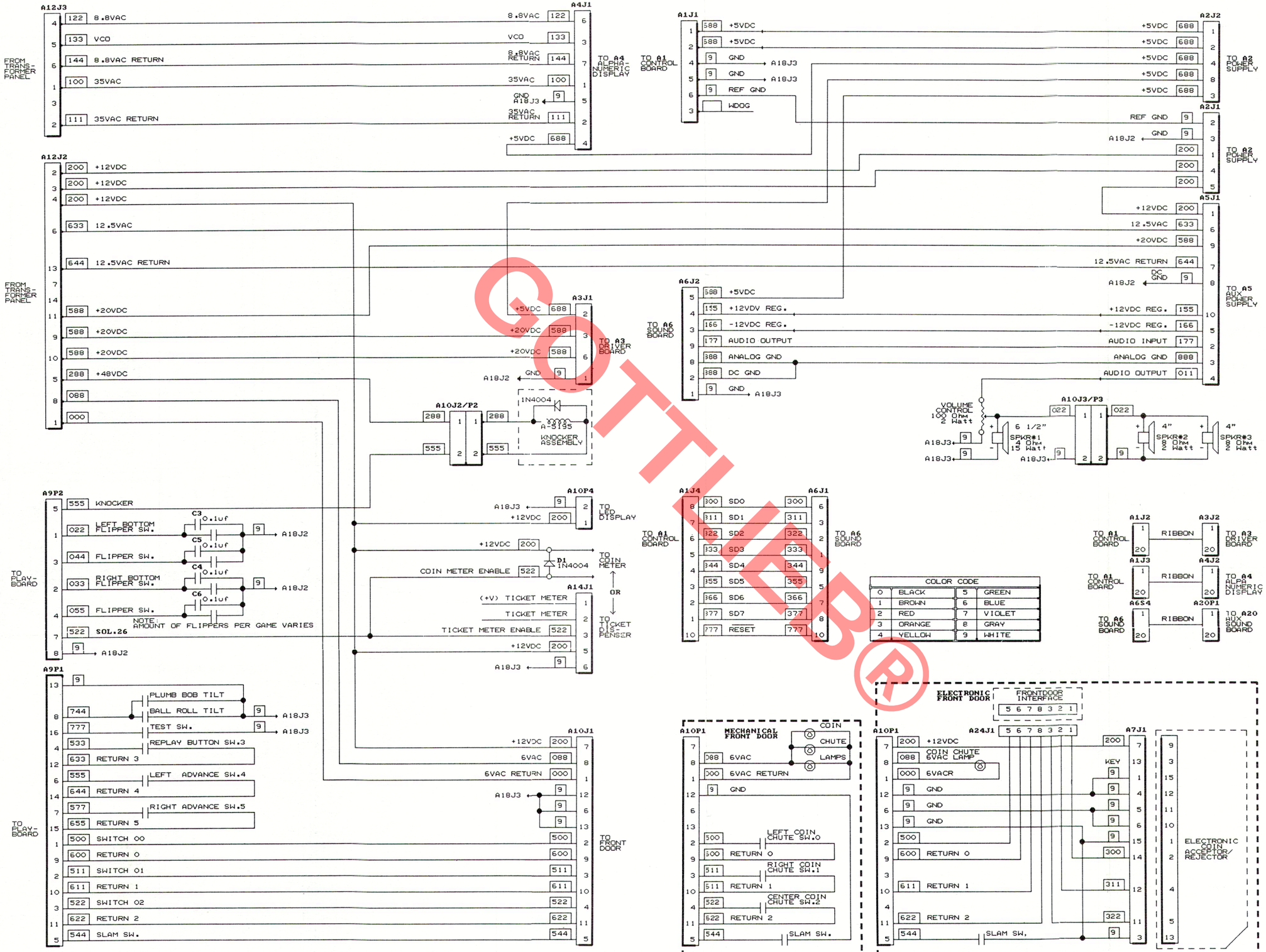
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3	ORANGE	8	GRAY
4	YELLOW	9	WHITE

Premier® Technology

TITLE			
TRANSFORMER PANEL SCHEMATIC DIAGRAM			
DRAWN	APPROVED	DATE	
RLM	RHM	4-2-90	E-27409

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VI. WIRING AND SCHEMATIC DIAGRAMS, PARTS LISTS



GOTTLIEB®

Premier® Technology	
TITLE	CABINET/LIGHTBOX SCHEMATIC DIAGRAM
DRAWN RLM	APPROVED RHM
DATE 4-2-90	E-27410

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EXPLODED VIEW.....60

DROP TARGET PARTS
EXPLODED VIEW.....61

FLIPPER PARTS
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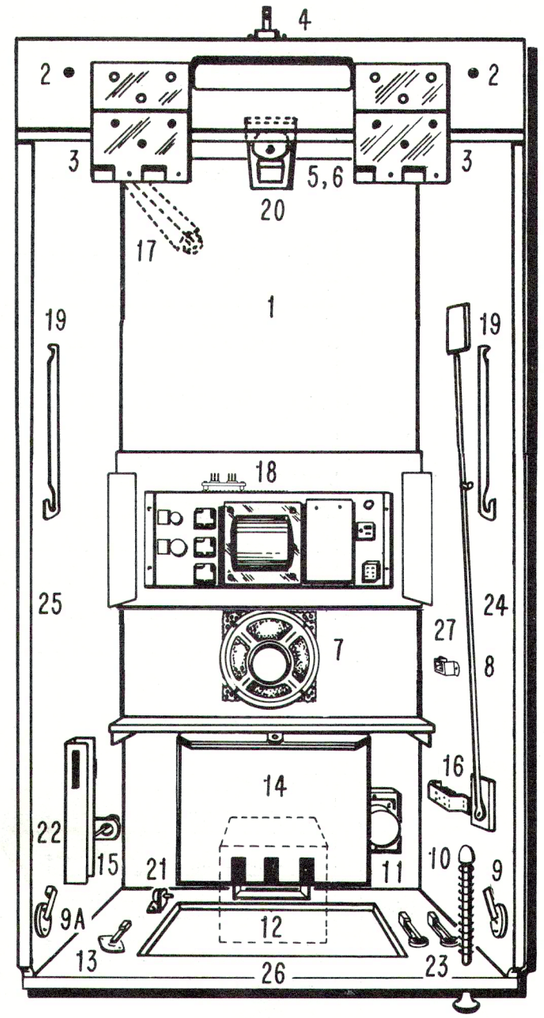
LIGHTBOX INSERT
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UNIQUE PARTS.....64

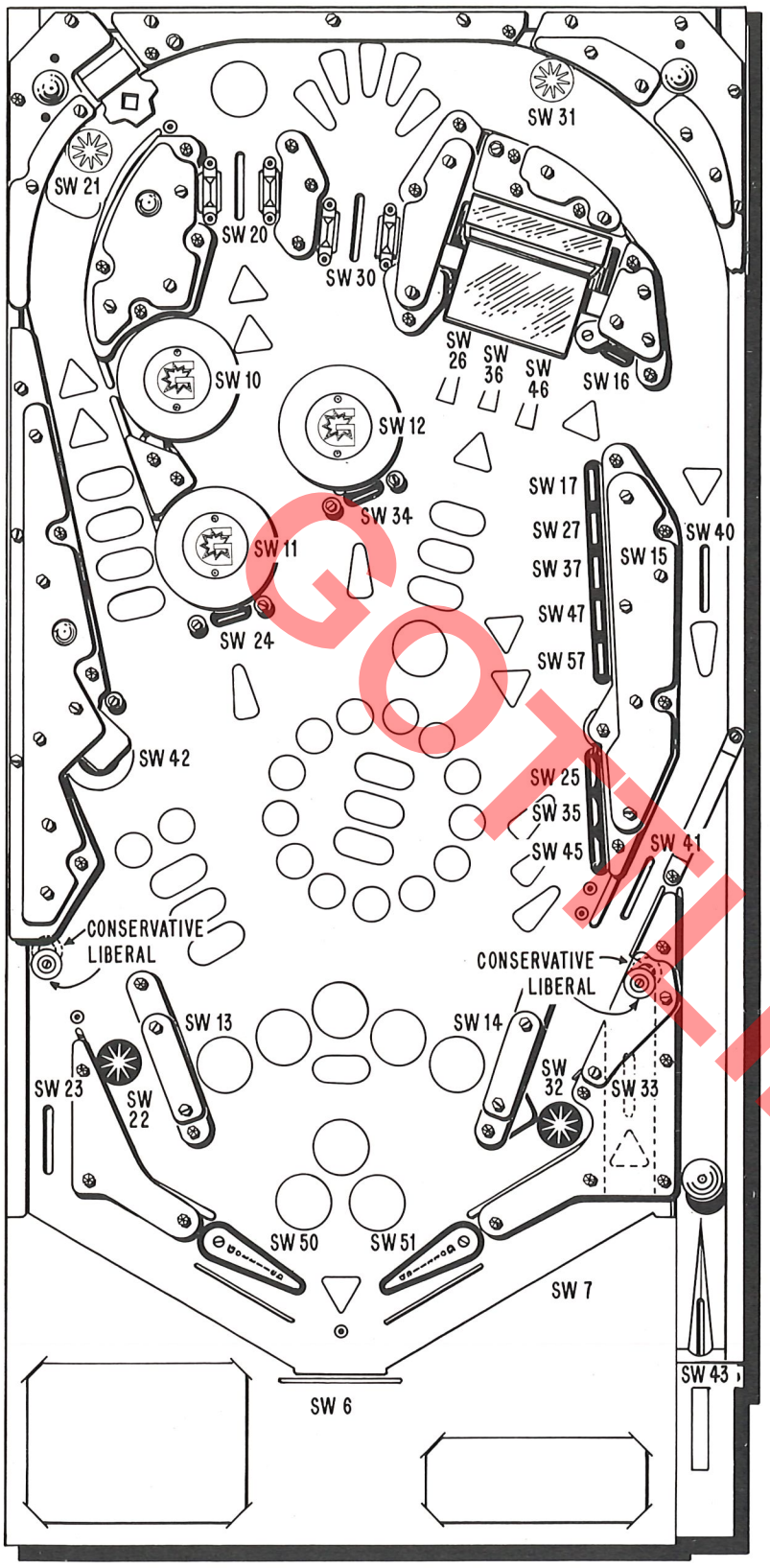
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CABINET PARTS

ITEM	DESCRIPTION	PART NO.
1.	Cabinet	27115-723
2.	Lightbox Mounting Thumb Screw (2)	FA-162
	(Not Shown, For Reference Only, Part of Lightbox Assembly)	
3.	Butt Hinge (2)	26449
	(Attached to Lightbox)	
4.	"U" Bolt (P/O Lightbox)	24659
	Latch Assembly (P/O Cabinet)	21969
5.	Cable Assembly, Domestic (High Voltage)	MA-1419
6.	Line Cord (Domestic)	23365
	Line Cord Cover Plate	23364
7.	Speaker, 4 Ohm, 15W, 6-1/2"	EL-83
	Speaker Guard	20931
8.	Prop Stick, Playfield	23940
9.	Right Flipper Switch	26423
9A.	Left Flipper Switch	26075
10.	Ball Shooter Assembly	26314A
11.	Switch, On/Off	13799
	Switch Plate (2)	18769
	Switch Housing	15163
12.	Front Door Assembly (Universal)	24159
	Cable Assembly	MA-1347
	Slam Switch (N/O)	26130
	6V DC Lamp, Wedge Base	FD-2
	Frame, Door	FD-13
	Two Chute Door	24159
	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.	Cashbox	25309
	Cover	25315
	Liner (Small) (3)	24870
	Liner (Large) (2)	24871
15.	Plumb Bob Tilt Switch Assembly	
	Strike Plate	358
	Carbon, Tilt Bob	MH-30
	Rod, Tilt	357
	Bracket	22043
	Clip	14653
16.	Knocker Assembly	MA-12
17.	Cabinet Leg (4)	26684
	Leg Bolt (8)	3775
	3" Leg Adjuster (4)	MH-21
	3/8-16", Jam Nut (8)	FA-665
18.	Transformer Panel Assembly	MA-1455
	Bridge Rectifier (3)	EL-42
	Cable Assembly (Secondary)	MA-1348
	Capacitor, 10,000UF, 25V	XO-830
	Capacitor, 33,000UF, 35V	XO-957
	Fuse Block (8 Pos.)	EL-10
	Fuse Cover	23805
	Fuse Holder and Cap (F2)	EL-78
	Fuse Holder (1 Pos.)	EL-17
	F2, 5 Amp, SLO-BLO (110V AC)	EL-8
	F2, 2.5 Amp, SLO-BLO (220V AC)	EL-21
	F3, 1/2 Amp	EL-28
	F4, 1/2 Amp	EL-28
	F5, 1/4 Amp, SLO-BLO	EL-5
	F6, 4 Amp, SLO-BLO	EL-33
	F7, 10 Amp, SLO-BLO	EL-36
	F8, 8 Amp, SLO-BLO	EL-26
	F9, 8 Amp, SLO-BLO	EL-26
	F10, 10 Amp, SLO-BLO	EL-36
	F11, 1/2 Amp	EL-28
	Ground Bus Assembly	27153
	Outlet, Service	18133
	Transformer	26907
19.	Cabinet Pivot Bracket (Right)	25658
	Cabinet Pivot Bracket (Left)	25657
20.	Line Filter Assembly	MA-1386
	Fuse Holder	EL-78
	F1, 8 Amp, SLO-BLO (110V AC)	EL-26
	F1, 4 Amp, SLO-BLO (220V AC)	EL-33
	Line Filter	EL-50
	Line Filter (Germany)	EL-51
21.	Mounting Bracket	24149
	Control, Volume, 100 Ohm, 2W	XO-199
	Switch, PLAY/TEST	EL-57



ITEM	DESCRIPTION	PART NO.
22.	Ball Roll Tilt	
	Housing and Switch Assembly	24394
	Switch	24393
23.	Button Holder and Switch (2)	23503
	Pushbutton (2) (Black)	24293
24.	Right Moulding (Not Shown)	22735
25.	Left Moulding (Not Shown)	22736
26.	Front Moulding (Not Shown)	16951
27.	Bracket, Voltage Outlet (Bill Acceptor)	18104

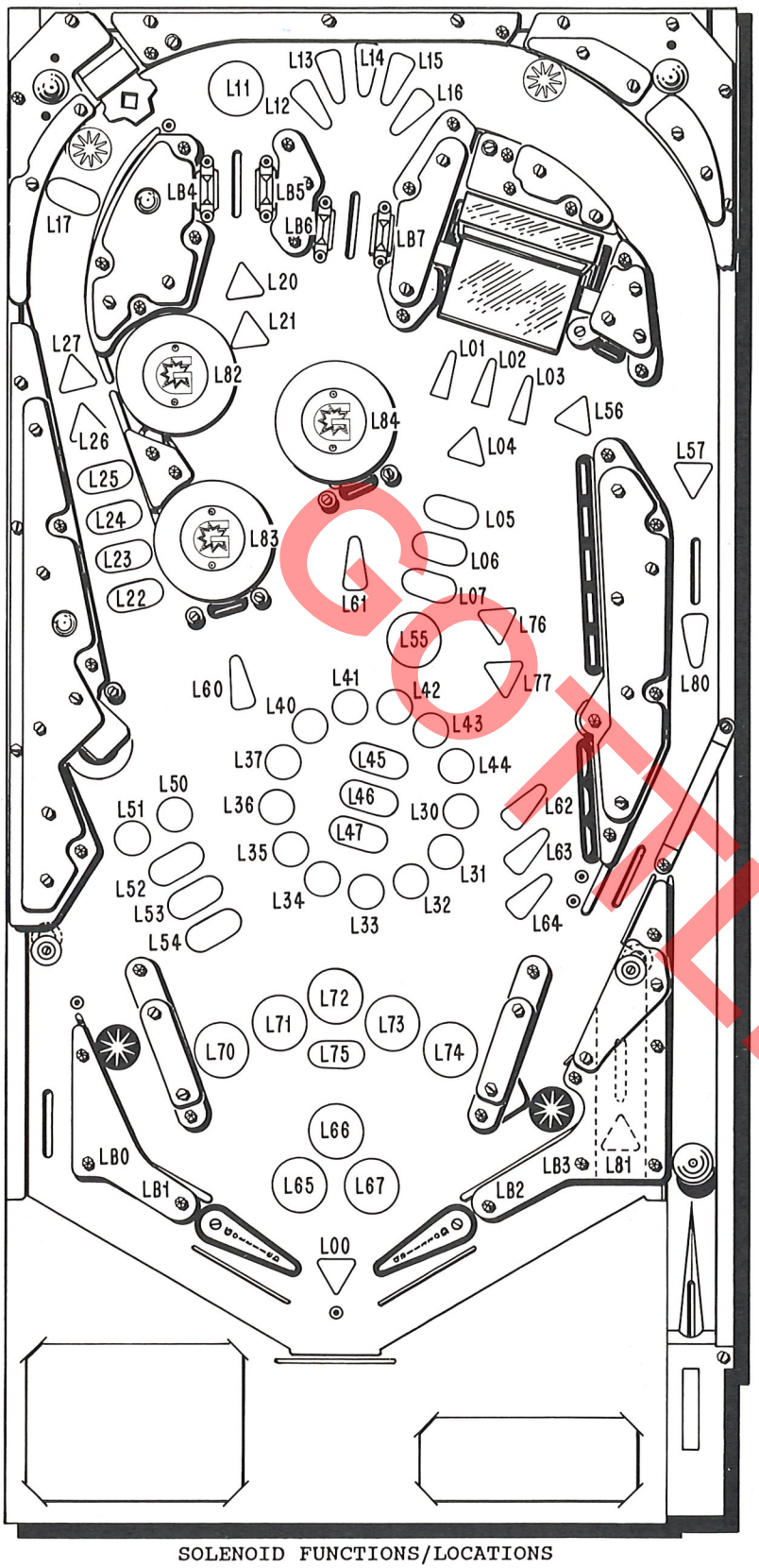


PLAYBOARD SWITCH ASSIGNMENTS

SWITCH MATRIX NUMBER	SWITCH ASSIGNMENT	PART NO.
SW 0	LEFT COIN CHUTE	P/O FRONT DOOR
SW 1	RIGHT COIN CHUTE	P/O FRONT DOOR
SW 2	CENTER COIN CHUTE	P/O FRONT DOOR
SW 3	REPLAY (CREDIT) BUTTON	18092
SW 4	LEFT ADVANCE BUTTON	23503
SW 5	RIGHT ADVANCE BUTTON	23503
SW 6	OUTHOLE	26927
SW 7	TROUGH (2ND POSITION)	26485
SW 10	TOP LEFT POP BUMPER	22705
SW 11	BOTTOM LEFT POP BUMPER	22705
SW 12	RIGHT POP BUMPER	22705
SW 13	LEFT KICKING RUBBER (2)	26939
SW 14	RIGHT KICKING RUBBER (2)	26939
SW 15	DROP TARGET RUBBER SWITCH	20089
SW 16	TOP RIGHT SPOT TARGET ASSEMBLY	26924Z
SW 17	#1 DROP TARGET	25896
SW 20	TOP LEFT ROLLOVER	25938
SW 21	TOP LEFT ROLLOVER BUTTON	12881
SW 22	BOTTOM LEFT ROLLOVER BUTTON	12881
SW 23	LEFT OUTSIDE ROLLOVER	25824
SW 24	TOP LEFT SPOT TARGET ASSEMBLY	25460T
SW 25	#1 RIGHT SIDE SPOT TARGET ASSEMBLY	25460T
SW 26	#1 CENTER SPOT TARGET ASSEMBLY	25460U
SW 27	#2 DROP TARGET	25896
SW 30	TOP RIGHT ROLLOVER	25938
SW 31	TOP RIGHT ROLLOVER BUTTON	12881
SW 32	BOTTOM RIGHT ROLLOVER BUTTON	12881
SW 33	RIGHT OUTSIDE ROLLOVER	25824
SW 34	CENTER SPOT TARGET ASSEMBLY	25460T
SW 35	#2 RIGHT SIDE SPOT TARGET ASSEMBLY	25460T
SW 36	#2 CENTER SPOT TARGET ASSEMBLY	25460U
SW 37	#3 DROP TARGET	27306
SW 40	TOP SHOOTER LANE ROLLOVER	25824
SW 41	RIGHT SIDE ROLLOVER	25824
SW 42	HOLE	21415
SW 43	BOTTOM SHOOTER LANE ROLLOVER	25824
SW 44	(NOT USED)	
SW 45	#3 RIGHT SIDE SPOT TARGET ASSEMBLY	25460T
SW 46	#3 CENTER SPOT TARGET ASSEMBLY	25460U
SW 47	#4 DROP TARGET	25895
SW 50	LEFT FLIPPER (SENSOR BOARD A15)	P/O MA-1334
SW 51	RIGHT FLIPPER (SENSOR BOARD A15)	P/O MA-1334
SW 52 THRU SW 56	(NOT USED)	
SW 57	#5 DROP TARGET	25895

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VII. PARTS INFORMATION



SOLENOID FUNCTIONS/LOCATIONS

SOL.0	TOP LEFT POP BUMPER	SOL.16	LED DISPLAY, #67(2)
SOL.1	BOTTOM LEFT POP BUMPER	SOL.17	TOP LEFT, #67(2)
SOL.2	RIGHT POP BUMPER	SOL.18	TOP RIGHT, #67(2)
SOL.3	LEFT KICKING RUBBER	SOL.19	TOP RIGHT SPOT TARGET, #67
SOL.4	RIGHT KICKING RUBBER	SOL.20	TARGET BANK, #67
SOL.5	HOLE	SOL.21	RIGHT SIDE SPOT TARGET, #67
SOL.6	5 BANK RESET	SOL.22	BOTTOM RIGHT, #67
*SOL.7	"V", #67(2)	SOL.23	BOTTOM LEFT, #67
*SOL.8	"E", #67(2)	SOL.24	HOLE, #67
*SOL.9	"G", #67(2)	SOL.25	LIGHTBOX INSERT ILLUMINATION RELAY(A)
*SOL.10	"A", #67(2)	SOL.26	TICKET/COIN METER ENABLE
*SOL.11	"S", #67(2)	SOL.27	BALL RELEASE
*SOL.12	"1", #67(2)	SOL.28	OUTHOLE
*SOL.13	"2", #67(2)	SOL.29	KNOCKER
*SOL.14	"3", #67(2)	SOL.30	TILT RELAY(T)
*SOL.15	"4", #67(2)	SOL.31	GAME OVER RELAY(Q)

*SEE PAGE 63 FOR LAMP LOCATIONS.

PLAYBOARD LAMP ASSIGNMENTS

LAMP NUMBER	LAMP ASSIGNMENT
L0	Shoot Again
L1	#1 Top Right Spot Target
L2	#2 Top Right Spot Target
L3	#3 Top Right Spot Target
L4	"100X" #2 Top Right Spot Target
L5	"SPIN"
L6	"SPOT A CARD"
L7	"QUEEN SPECIAL"
L10	(NOT USED)
L11	"JOKER", Top Left Rollover
L12	"10,000", Top Right Rollover
L13	"20,000", Top Right Rollover
L14	"EXTRA BALL", Top Right Rollover
L15	"30,000", Top Right Rollover
L16	"40,000", Top Right Rollover
L17	"SINGLE STEP", Top Left Rollover Button
L20	"SPECIAL", Top Left Rollover
L21	"BOOST COUNTDOWN", Top Left Rollover
L22	"10,000", Left Lane
L23	"20,000", Left Lane
L24	"40,000", Left Lane
L25	"MILLION", Left Lane
L26	"2X", Left Lane
L27	"3X", Left Lane
L30	"2"
L31	"3"
L32	"4"
L33	"5"
L34	"6"
L35	"7"
L36	"8"
L37	"9"
L40	"10"
L41	"J"
L42	"Q"
L43	"K"
L44	"A"
L45	"5-IN-ROW", "LIGHTS EXTRA BALL"
L46	"CASINO WHEEL"
L47	"ALL CARDS SPECIAL"
L50	"LUCKY 7", Hole
L51	"*", Hole
L52	"SELECT A FEATURE", Hole
L53	"MYSTERY", Hole
L54	"SLOT MACHINE", Hole
L55	"DOUBLE SCORING"
L56	"CASHIER", #4 Top Right Spot Target
L57	"EXTRA BALL", Top Shooter Lane Rollover
L60	Left Side Spot Target
L61	Center Spot Target
L62	#1 Right Side Spot Target
L63	#2 Right Side Spot Target
L64	#3 Right Side Spot Target
L65	"JOKER", Bottom Left
L66	"JOKER", Bottom Center
L67	"JOKER", Bottom Right
L70	"V"
L71	"E"
L72	"G"
L73	"A"
L74	"S"
L75	"NEXT LETTER LIGHTS CASHIER"
L76	"ADVANCE MULTIPLIER", Drop Targets
L77	"LIGHTS MYSTERY", Drop Targets
L80	"CONTINUE", Top Shooter Lane Rollover
L81	"INSURANCE", Right Outside Rollover
L82	Top Left Pop Bumper
L83	Bottom Left Pop Bumper
L84	Right Pop Bumper
L85	(Not Used)
L86	(Not Used)
L87	(Not Used)
LB0	#1 Left Flipper, General Illumination
LB1	#2 Left Flipper, General Illumination
LB2	#1 Right Flipper, General Illumination
LB3	#2 Right Flipper, General Illumination
LB4	#1 Top Left Rollover, General Illumination
LB5	#2 Top Left Rollover, General Illumination
LB6	#1 Top Right Rollover, General Illumination
LB7	#2 Top Right Rollover, General Illumination

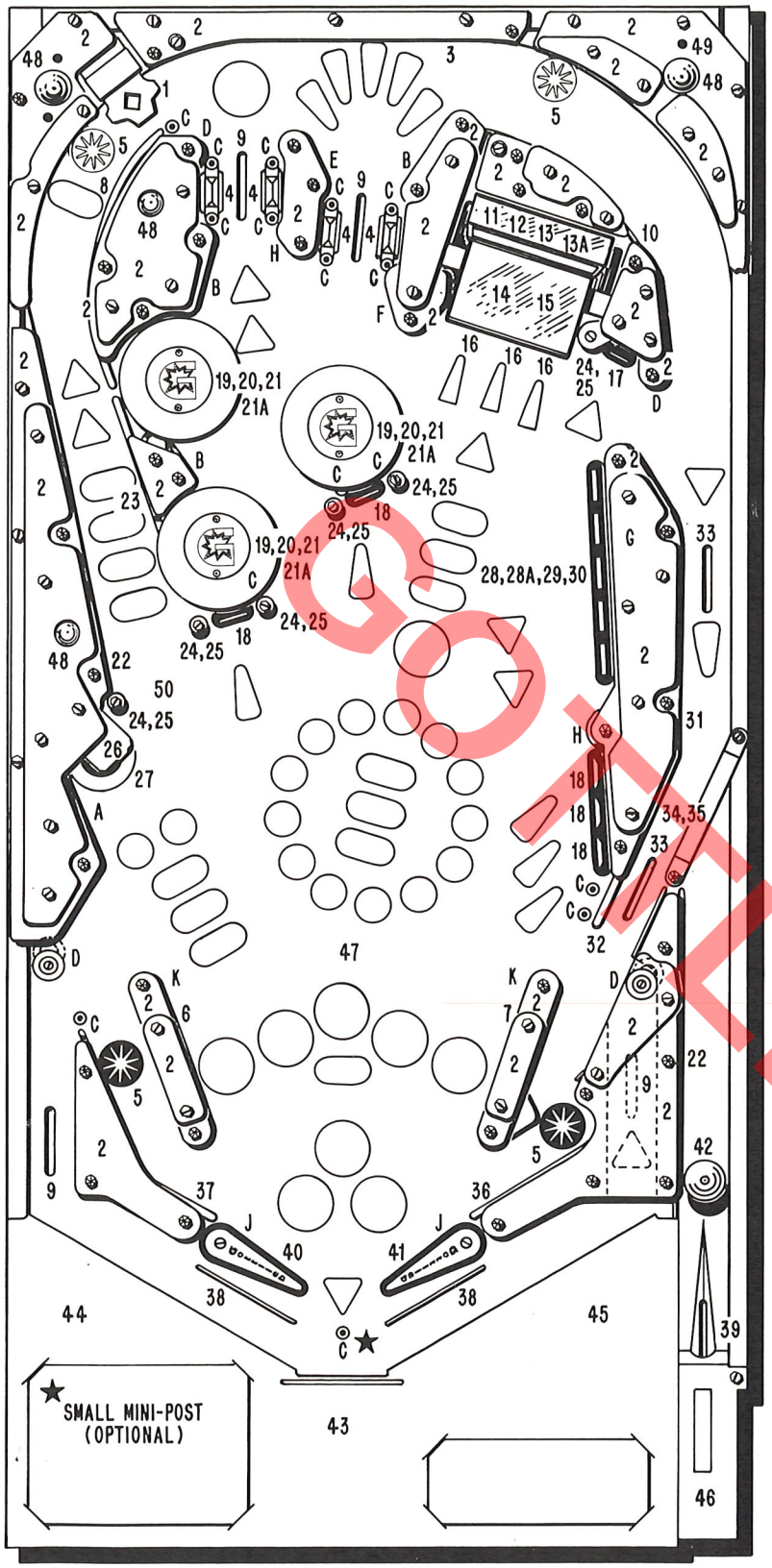
LAMP SOCKETS WITH DIODE BOARD	
TYPE	PART NO.
1-1/8" BRACKET	26621
1/2" BRACKET	26622
LAYDOWN	26623

Lamps L90 thru L97 and lamps LA0 thru LA5 are located on the Lightbox Insert. See Page 63 for locations.

L90	#1 Lucky 7
L91	#2 Lucky 7
L92	#3 Lucky 7
L93	#4 Lucky 7
L94	#5 Lucky 7
L95	#6 Lucky 7
L96	#7 Lucky 7
L97	Win Line Arrow
LA0	"STAR", #1
LA1	"STAR", #2
LA2	"STAR", #3
LA3	"WIN"
LA4	"LINE"
LA5	"CATCH UP"

GOTTLIEB®

VII. PARTS INFORMATION



PLAYBOARD PARTS INFORMATION

PARTS LIST

ITEM	DESCRIPTION	PART NO.
1	Arch Rebound Assembly	19646
2	Plastic Shield Set	27305
3	Flat Rail	27262
4	Rollover Guide, Red (4)	15646UP
5	Rollover Button, White (4)	11968
6	Kicker Assembly	MA-1373
7	Kicker Assembly	MA-1083
8	Ball Guide Rail	27261
9	Rollover and Bracket Assembly (4)	4960
10	Ball Guide Rail	5775
11	LED Alpha Display Shield	27273
12	Joker Decal	27365
13	LED Alpha Display/Bracket Assembly	MA-1462
13A	LED Alpha Display PC Board	MA-1451
14	LED Alpha Display Bracket	27288
15	LED Alpha Display Shield Decal	27364
16	Spot Target Assembly, Red (3)	25460U
17	Spot Target Assembly, White	26924Z
18	Spot Target Assembly, Yellow (5)	25460T
19	Pop Bumper Cap, Transparent Red (3)	26635U
20	Pop Bumper Skirt, White (3)	10433Z
21	Pop Bumper Body and Socket Assembly(3)	MA-1467
21A	Pop Bumper Trim Platter (4)	25732
22	Ball Guide Rail (2)	27161
23	Ball Guide Rail	26106
24	Threaded Shoulder Pin (6)	26531
25	1/2" X 7/8" Bumper, Yellow (6)	26648
26	Ball Snubber	27256
27	Upkicker Assembly	MA-1372
	(See Exploded View Illustration)	
	Kicker Coil	17876
	Kicker Switch Assembly	21415
28	Drop Target Assembly, (5 Position)	MA-1460
	(See Exploded View Illustration)	
28A	Drop Target Reset Coil	19300
29	Drop Target Arm, White (5)	11905Z
30	Drop Target Decal (5)	27366
31	Ball Guide Rail	27260
32	Ball Guide Rail	25348
33	Rollover and Bracket Assembly (2)	4961
34	Gate Shield	1673
35	Gate Wireform	27272
36	Ball Guide Rail	27270
37	Ball Guide Rail	26183
38	Ball Snubber (2)	13798
39	Wireform and Bracket Assembly	27229
40	Flipper Assembly	MA-1250B
	(See Exploded View Illustration)	
	Flipper Coil	26646
	Flipper Switch Assembly	26439
41	Flipper Assembly	
	(See Exploded View Illustration)	MA-1251B
	Flipper Coil	26646
	Flipper Switch Assembly	26438
42	1-1/16" Steel Ball (2)	21864
43	Cardholder	13647-723
44	Cardholder Decal (Left Side)	27368
45	Cardholder Decal (Right Side)	27367
46	Shooter Gauge	9767-723
47	Mylar Overlay	27390
48	Plastic Dome, Red (4)	26293U
49	Plastic Rivet, Black (8)	MP-10
50	Tilt Switch and Bracket Assembly	9141

RUBBER RINGS

ITEM	DESCRIPTION	PART NO.
A	2"	10221
B	1-1/2" (2)	10220
C	Mini-Post, (15)	15705
D	3/8" (6)	10217
E	3/4"	10218
F	1" (2)	10219
G	3"	10223
H	7/16" (2)	17493
J	Flipper, Red (2)	13151
K	2-1/2" (2)	10222

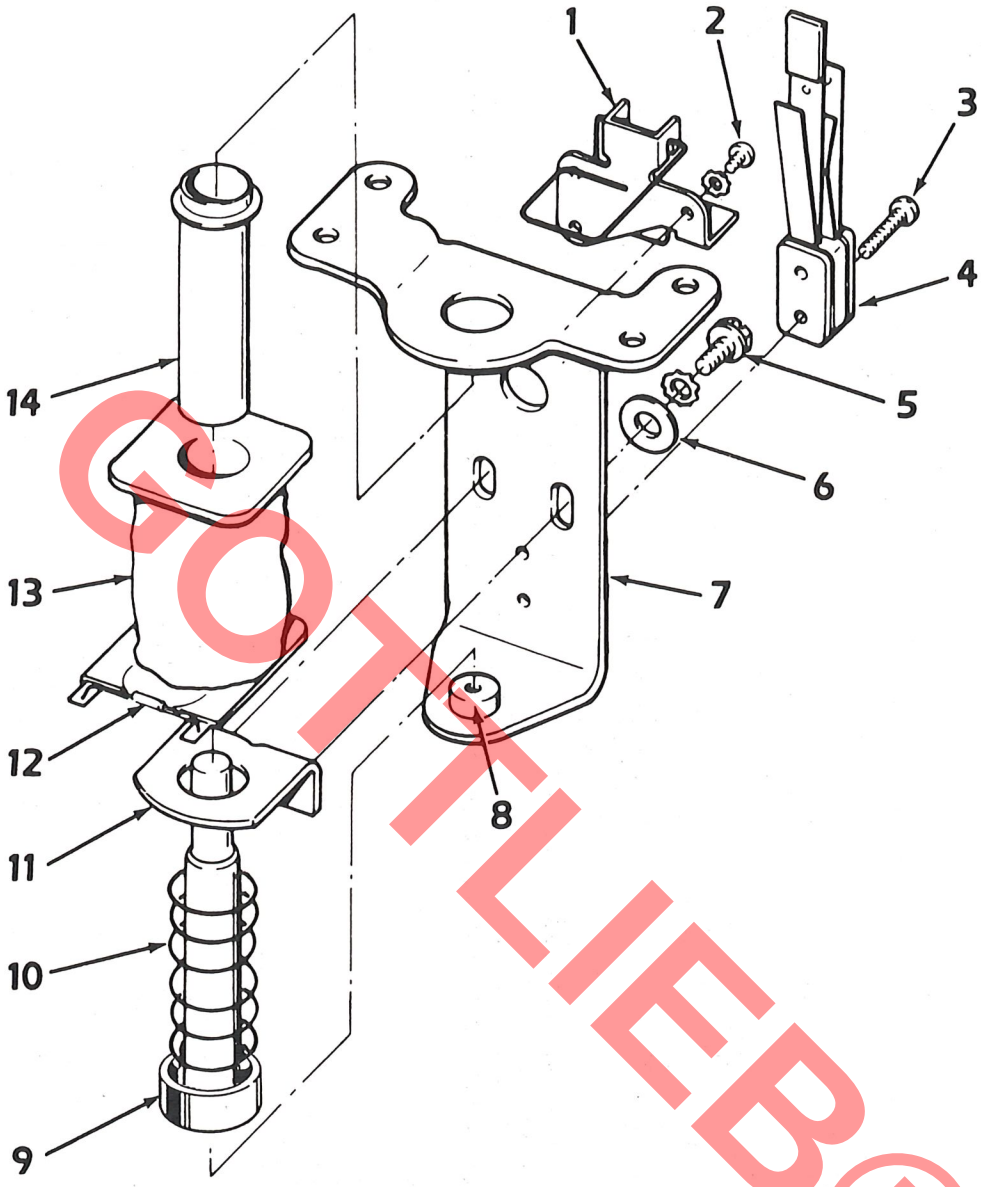
MISCELLANEOUS PARTS

DESCRIPTION	PART NO.
Mini-Post Screw	14792
Support Post	20635U
Plastic Post, Red	11561U
Siamese Post, Red	17492U
"T" Relay	MA-25
"Q" Relay	MA-23
"A" Relay	MA-1021

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VII. PARTS INFORMATION

VERTICAL UPKICKER PARTS

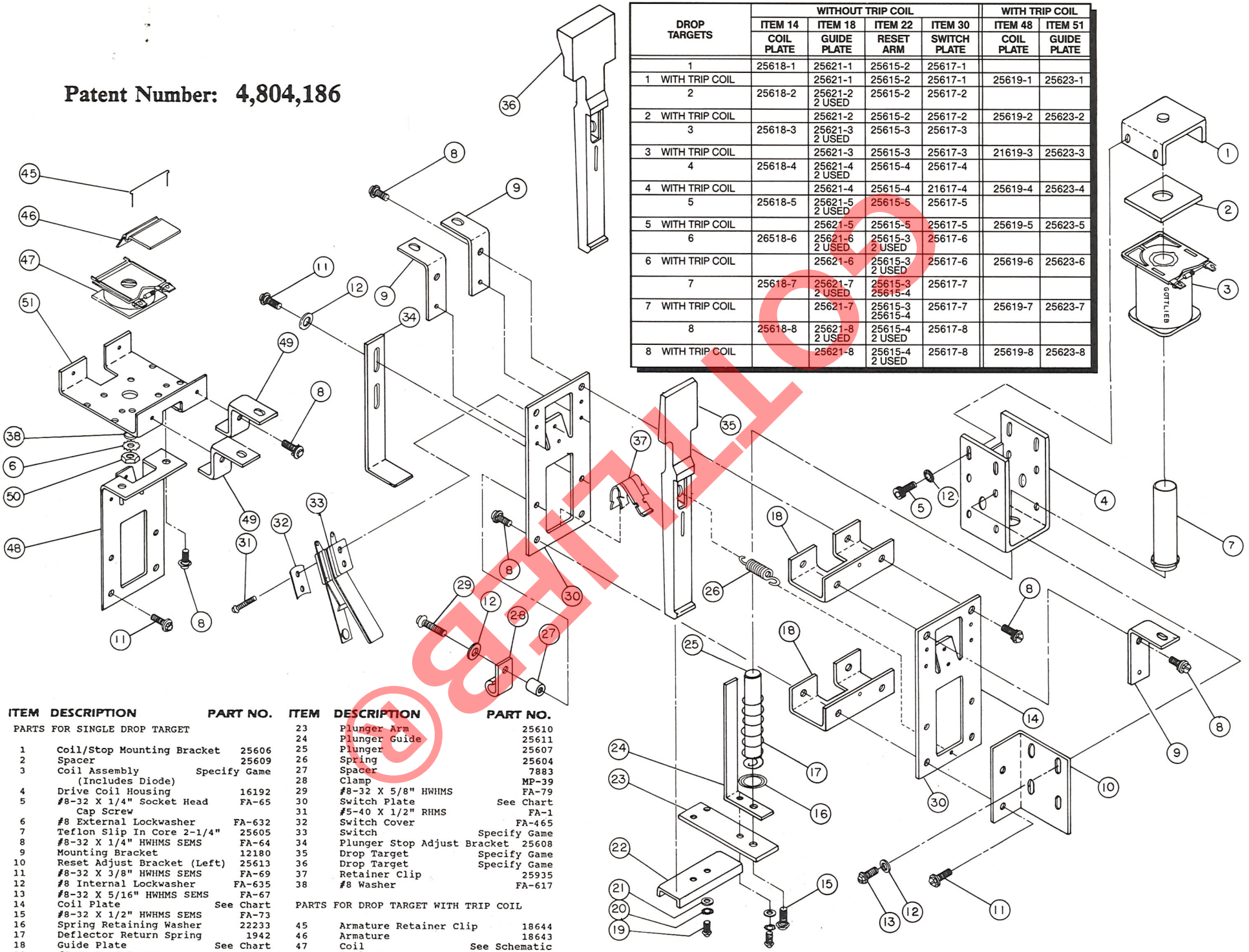


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ITEM	DESCRIPTION	PART NO.
	Upkicker Assembly	MA-1372
1	Wire Form and Bracket	21414
2	Screw - RHMS 6-32 X 3/16" Lg. (3)	FA-30
3	Screw - RHMS 5-40 X 5/8" Lg.	FA-2
4	Switch	21415
5	Slotted Hex - WHMS 8-32 X 5/16" Lg.	FA-67
6	Standard Washer #8	FA-617
7	Coil Mounting Bracket	21416
8	Rubber Grommet	5240
9	Plunger	21412
10	Spring	1942
11	Coil Mounting Bracket	15409
12	Diode, 1N4004	XO-254
13	Coil	17876
14	Sleeve	21411

Patent Number: 4,804,186

DROP TARGETS	WITHOUT TRIP COIL				WITH TRIP COIL	
	ITEM 14 COIL PLATE	ITEM 18 GUIDE PLATE	ITEM 22 RESET ARM	ITEM 30 SWITCH PLATE	ITEM 48 COIL PLATE	ITEM 51 GUIDE PLATE
1	25618-1	25621-1	25615-2	25617-1		
1 WITH TRIP COIL		25621-1	25615-2	25617-1	25619-1	25623-1
2	25618-2	25621-2 2 USED	25615-2	25617-2		
2 WITH TRIP COIL		25621-2	25615-2	25617-2	25619-2	25623-2
3	25618-3	25621-3 2 USED	25615-3	25617-3		
3 WITH TRIP COIL		25621-3	25615-3	25617-3	21619-3	25623-3
4	25618-4	25621-4 2 USED	25615-4	25617-4		
4 WITH TRIP COIL		25621-4	25615-4	21617-4	25619-4	25623-4
5	25618-5	25621-5 2 USED	25615-5	25617-5		
5 WITH TRIP COIL		25621-5	25615-5	25617-5	25619-5	25623-5
6	26518-6	25621-6 2 USED	25615-3 2 USED	25617-6		
6 WITH TRIP COIL		25621-6	25615-3 2 USED	25617-6	25619-6	25623-6
7	25618-7	25621-7 2 USED	25615-3 25615-4	25617-7		
7 WITH TRIP COIL		25621-7	25615-3 25615-4	25617-7	25619-7	25623-7
8	25618-8	25621-8 2 USED	25615-4 2 USED	25617-8		
8 WITH TRIP COIL		25621-8	25615-4 2 USED	25617-8	25619-8	25623-8

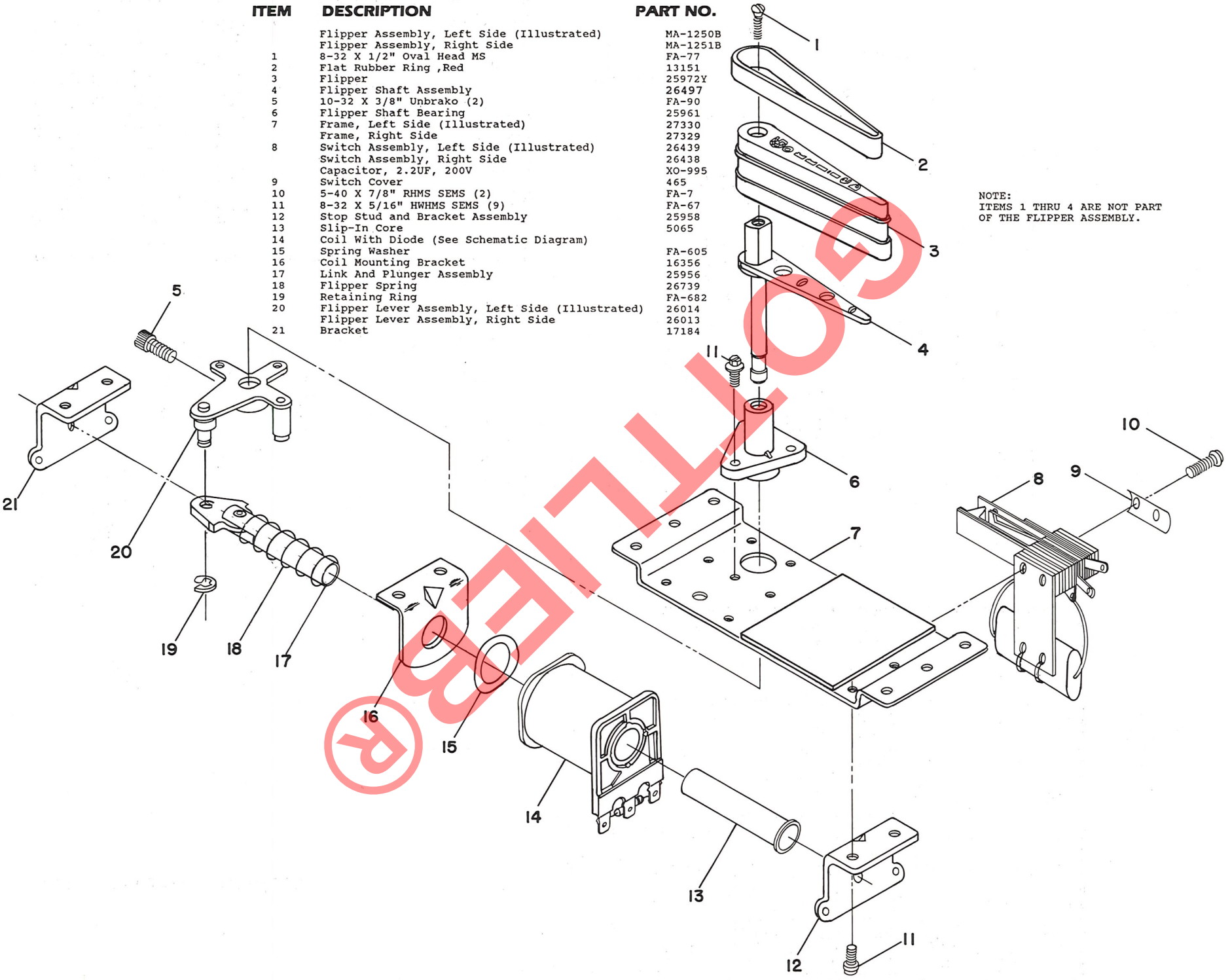


ITEM	DESCRIPTION	PART NO.
PARTS FOR SINGLE DROP TARGET		
1	Coil/Stop Mounting Bracket	25606
2	Spacer	25609
3	Coil Assembly (Includes Diode)	Specify Game
4	Drive Coil Housing	16192
5	#8-32 X 1/4" Socket Head Cap Screw	FA-65
6	#8 External Lockwasher	FA-632
7	Teflon Slip In Core 2-1/4"	25605
8	#8-32 X 1/4" HWHMS SEMS	FA-64
9	Mounting Bracket	12180
10	Reset Adjust Bracket (Left)	25613
11	#8-32 X 3/8" HWHMS SEMS	FA-69
12	#8 Internal Lockwasher	FA-635
13	#8-32 X 5/16" HWHMS SEMS	FA-67
14	Coil Plate	See Chart
15	#8-32 X 1/2" HWHMS SEMS	FA-73
16	Spring Retaining Washer	22233
17	Deflector Return Spring	1942
18	Guide Plate	See Chart
19	#5-40 X 1/4" RHMS	FA-8
20	#5 External Lockwasher	FA-630
21	#5 Washer	FA-622
22	Reset Arm	See Chart
23	Plunger Arm	25610
24	Plunger Guide	25611
25	Plunger	25607
26	Spring	25604
27	Spacer	7883
28	Clamp	MP-39
29	#8-32 X 5/8" HWHMS	FA-79
30	Switch Plate	See Chart
31	#5-40 X 1/2" RHMS	FA-1
32	Switch Cover	FA-465
33	Switch	Specify Game
34	Plunger Stop Adjust Bracket	25608
35	Drop Target	Specify Game
36	Drop Target	Specify Game
37	Retainer Clip	25935
38	#8 Washer	FA-617
PARTS FOR DROP TARGET WITH TRIP COIL		
45	Armature Retainer Clip	18644
46	Armature	18643
47	Coil	See Schematic
48	Guide Plate	See Chart
49	Mounting Bracket (Formed)	25612
50	#8-32 Hex Nut	FA-652
51	Coil Plate	See Chart

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ITEM	DESCRIPTION	PART NO.
	Flipper Assembly, Left Side (Illustrated)	MA-1250B
	Flipper Assembly, Right Side	MA-1251B
1	8-32 X 1/2" Oval Head MS	FA-77
2	Flat Rubber Ring ,Red	13151
3	Flipper	25972Y
4	Flipper Shaft Assembly	26497
5	10-32 X 3/8" Unbrako (2)	FA-90
6	Flipper Shaft Bearing	25961
7	Frame, Left Side (Illustrated)	27330
	Frame, Right Side	27329
8	Switch Assembly, Left Side (Illustrated)	26439
	Switch Assembly, Right Side	26438
	Capacitor, 2.2UF, 200V	XO-995
9	Switch Cover	465
10	5-40 X 7/8" RHMS SEMS (2)	FA-7
11	8-32 X 5/16" HWHMS SEMS (9)	FA-67
12	Stop Stud and Bracket Assembly	25958
13	Slip-In Core	5065
14	Coil With Diode (See Schematic Diagram)	
15	Spring Washer	FA-605
16	Coil Mounting Bracket	16356
17	Link And Plunger Assembly	25956
18	Flipper Spring	26739
19	Retaining Ring	FA-682
20	Flipper Lever Assembly, Left Side (Illustrated)	26014
	Flipper Lever Assembly, Right Side	26013
21	Bracket	17184

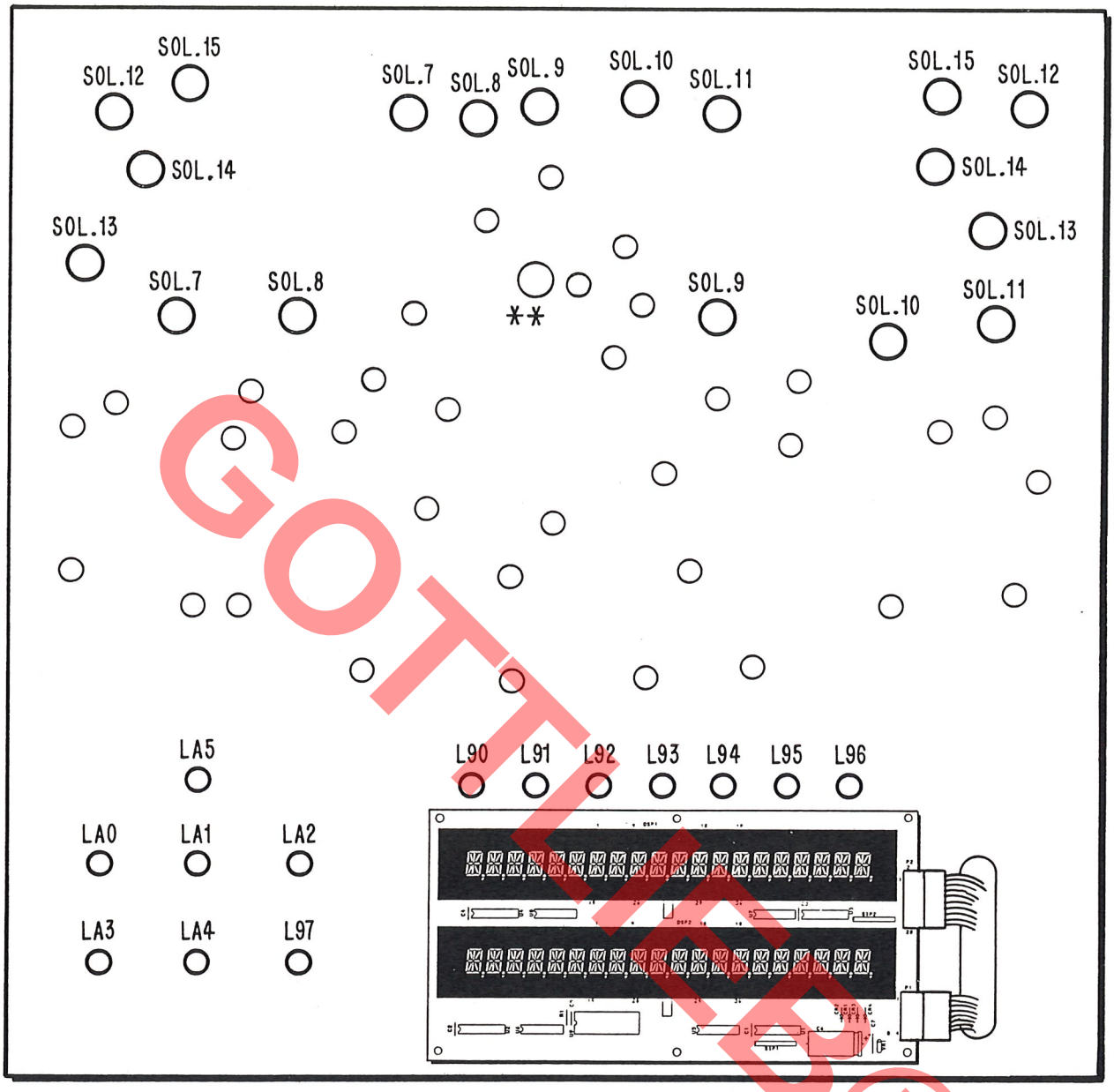
NOTE:
ITEMS 1 THRU 4 ARE NOT PART OF THE FLIPPER ASSEMBLY.



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XI. PARTS INFORMATION

LIGHTBOX INSERT LAMP IDENTIFICATION



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LAMP NUMBER	LAMP ASSIGNMENT
L90	#1 LUCKY 7
L91	#2 LUCKY 7
L92	#3 LUCKY 7
L93	#4 LUCKY 7
L94	#5 LUCKY 7
L95	#6 LUCKY 7
L96	#7 LUCKY 7
L97	WIN LINE ARROW
LA0	"STAR", #1
LA1	"STAR", #2
LA2	"STAR", #3
LA3	"WIN"
LA4	"LINE"
LA5	"CATCH UP"

SOLENOID FUNCTIONS

SOLENOID 7 "V", #67 (2)
SOLENOID 8 "E", #67 (2)
SOLENOID 9 "G", #67 (2)
SOLENOID 10 "A", #67 (2)
SOLENOID 11 "S", #67 (2)
SOLENOID 12 "1", #67 (2)
SOLENOID 13 "2", #67 (2)
SOLENOID 14 "3", #67 (2)
SOLENOID 15 "4", #67 (2)

NOTE:
LAMPS NOT DESIGNATED ARE
GENERAL ILLUMINATION, TYPE #44.

**DENOTES TYPE #455 LAMP (FLASHER).

XI. PARTS INFORMATION

UNIQUE PARTS

The following listing denotes new parts and assemblies unique to VEGAS, Game #723. Part Numbers prefixed with an asterisk (*) will be illustrated or can be located on pages 32 and 56 thru 63. Numbers in parenthesis ( ) indicate multiple quantities.

PLAYBOARD

ITEM/DESCRIPTION	PART NO.
Threaded Shoulder Pin	*26531
1/2" X 7/8" Bumper, Yellow (5)	*26648
Pop Bumper Cap, Transparent Red (3)	*26635U
Spot Target Assembly, White	*26924Z
Ball Guide Rail (2)	*27161
Wireform and Bracket Assembly	*27229
Ball Snubber	*27256
Ball Guide Rail	*27260
Ball Guide Rail	*27261
Flat Rail	*27262
Ball Guide Rail	*27270
Gate Wireform	*27272
LED Alpha Display Shield	*27273
LED Alpha Display Bracket	*27288
Plastic Shield Set	*27305
LED Alpha Display Cover, Red	*27341U
LED Alpha Display Shield Decal	*27364
Joker Decal	*27365
Drop Target Decal (5)	*27366
Cardholder Decal, Right Side	*27367
Cardholder Decal, Left Side	*27368
Mylar Overlay	*27390
Diode Matrix, 1A17	*MA-1448
Diode Matrix, 2A17	*MA-1449
Drop Target Assembly, 5 Position	*MA-1460
Resistor Board, 3A13	*MA-1461
LED Alpha Display Board, A23	*MA-1451
Pop Bumper Body and Socket Assembly	*MA-1467

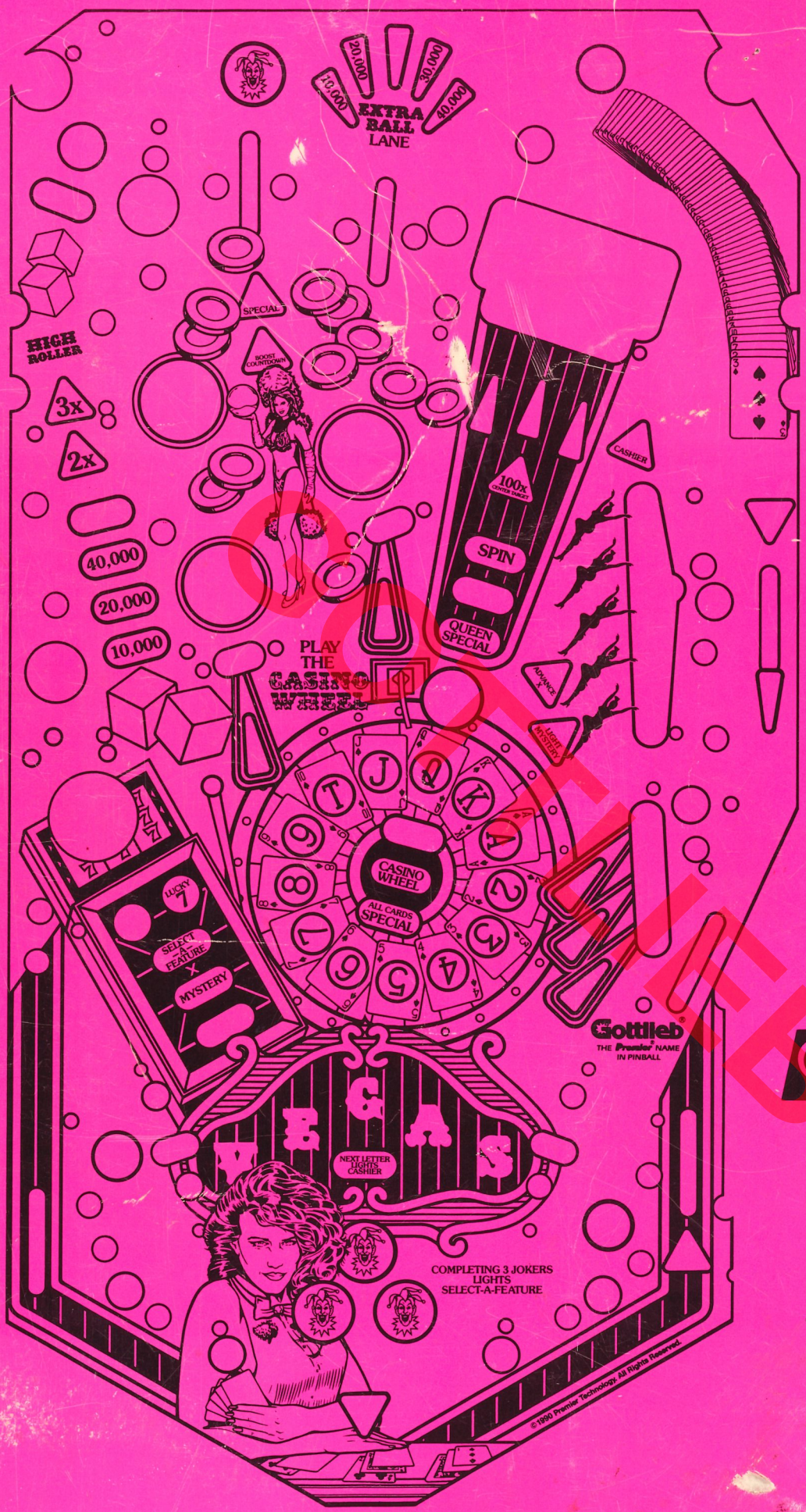
LIGHTBOX

ITEM/DESCRIPTION	PART NO.
Lightbox (Screened)	27124-723
Styrene Backglass Art	27286-723
Speaker Mounting Panel Assembly	MA-1469

CABINET

ITEM/DESCRIPTION	PART NO.
Shooter Gauge (Screened)	*9767-723
Cardholder (Screened)	*13647-723
Cabinet (Screened)	*27115-723
Transformer Panel Assembly	*MA-1455

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