

Bally

April 1991
16-20003-101

GILLIGAN'S ISLAND™



Operations Manual Includes
Operations & Adjustments
Testing & Problem Diagnosis
Parts Information
Reference Diagrams & Schematics

Midway Manufacturing Company

Jumper Charts

Display	W1	W2
Dot Matrix	In	Out
Alphanumeric	Out	In

Country	W14	W15	W16	W17	W18
American	In	In	In	In	In
European	In	In	Out	In	In
French	In	In	In	Out	In
German	In	In	In	In	Out

Solenoid Table

Sol. No.	Function	Solenoid Type	Wire Color	Connections	Driver Trnstr	Solenoid Part Number Flashlamp Type
01	Left Lock	High Power	Vio-Brn	J130-1	Q82	AE-23-800
02	Island Lock	High Power	Vio-Red	J130-2	Q80	A-14701
03	Outhole	High Power	Vio-Orn	J130-4	Q78	AE-26-1200
04	Ball Popper	High Power	Vio-Yel	J130-5	Q76	AE-26-1200
05	Right Sling	High Power	Vio-Grn	J130-6	Q64	AE-26-1500
06	Left Sling	High Power	Vio-Blu	J130-7	Q66	AE-26-1500
07	Knocker	High Power	Vio-Blk	J130-8	Q68	AE-23-800
08	Kickback	High Power	Vio-Gry	J130-9	Q70	AE-23-800
09	Island Motor	Low Power	Brn-Blk	J127-1	Q58	14-7964-1
10	Trough	Low Power	Brn-Red	J127-3	Q56	AE-26-1200
11	Hold Lock	Low Power	Brn-Orn	J127-4	Q54	A-14701
12	Island Light	Low Power	Brn-Yel	J127-5	Q52	24-8802 #906
13	Left Jet	Low Power	Brn-Grn	J127-6	Q50	AE-26-1200
14	Right Jet	Low Power	Brn-Blu	J127-7	Q48	AE-26-1200
15	Bottom Jet	Low Power	Brn-Vio	J127-8	Q46	AE-26-1200
16	Top Eject	Low Power	Brn-Gry	J127-9	Q44	AE-28-1500
17	Head 1 Flasher	Flasher	Blk-Brn	J125-1	Q42	#906 Plfd, #906 Ins
18	Island Flasher	Flasher	Blk-Red	J126-2 J125-2	Q40	#89 Plfd, #906 Ins
19	Left Bank Flasher	Flasher	Blk-Orn	J126-3 J125-3	Q38	#89 Plfd, #906 Ins
20	Left Flipper Flasher	Flasher	Blk-Yel	J126-4	Q36	#89 Plfd, #906 Ins
21	Right Flipper Flasher	Flasher	Blu-Grn	J126-6 J125-6	Q28	#89 Plfd, #906 Ins
22	Head 2 Flasher	Flasher	Blu-Blk	J126-7 J125-7	Q30	#906 Plfd, #906 Ins
23	Ramp Up Coil	Low Power	Blu-Vio	J126-8 J125-8	Q34	AE-26-1200
24	Ramp Down Coil	Low Power	Blu-Gry	J126-9 J125-9	Q32	SM1-26-600
25	Right Bank Flasher	Flasher	Blu-Brn	J122-1	Q26	#89 Plfd, #906 Ins
26	Treasure Flasher	Flasher	Blu-Red	J122-2	Q24	#906 Plfd, #906 Ins
27	Title Flasher	Flasher	Blu-Orn	J122-3	Q22	#906 Ins (2)
28	Professor Flasher	Flasher	Blu-Yel	J122-4	Q20	#906 Ins
General Illumination Circuits						
01	Left Insert String 1	G.I.	Wht-Brn	J121-7	Q18	#555
02	Playfield Bottom String 2	G.I.	Wht-Org	J120-8	Q10	#555
03	Playfield Middle String 3	G.I.	Wht-Yel	J120-9	Q14	#555
04	Right Insert String 4	G.I.	Wht-Grn	J121-11	Q16	#555
05	Playfield Top String 5	G.I.	Wht-Vio	J120-11	Q12	#555
	Lower Right Flipper		Blu-Yel	J109-7		FL-11630
	Lower Left Flipper		Gry-Yel	J109-5		FL-11630

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Gilligan's Island

**PLAYFIELD SHOT MAPS
&
RULES**

GILLIGAN'S ISLAND

RULES

KONA'S TREASURE

Receive the Treasure by collecting the 7 ingredients necessary to complete the Professor's Secret Formula. The ingredients are Pineapples, Shells, Rope, Turtle Eggs, Shrunken Head, Bananas and Coconuts. This becomes Lava Seltzer and will relieve the upset Kona, the Natives Island God. Now you must run through the Jungle and pour the Lava Seltzer into Kona before it evaporates. If successful, the Island Natives award you Kona's Treasure.

L-A-G-O-O-N FEATURE

Completing the Lagoon Targets qualifies the Lagoon Shot for random point values, such as 150K, 300K, 500K, 750K, 1 Million, 2 Million, 3 Million, Multi-Ball, Bonus Ball or Special.

PLUNGER SKILL SHOT

Making the Plunger Skill Shot (Top Eject Hole) awards either Lites Kickback, Lowers Jungle Run Ramp 500K, Spots Ingredient or Lowers Jungle Run Ramp Million.

JUNGLE RUN RAMP FEATURE

Completing Jungle Run Ramp 500K scores from 500K to 5 Million in increments of 500K until timer runs out.

Completing Jungle Run Ramp Million scores from 1 Million to 10 Million in increments of 1 Million until the timer runs out.

KICKBACK FEATURE

Score the lit value of 100K, 500K, Gift of Gods, 2 Million or Bonus Ball when used. Advance the value through the lit Return Lane.

GIFT OF GODS

All other players collect 1 Million points.

BONUS BALL

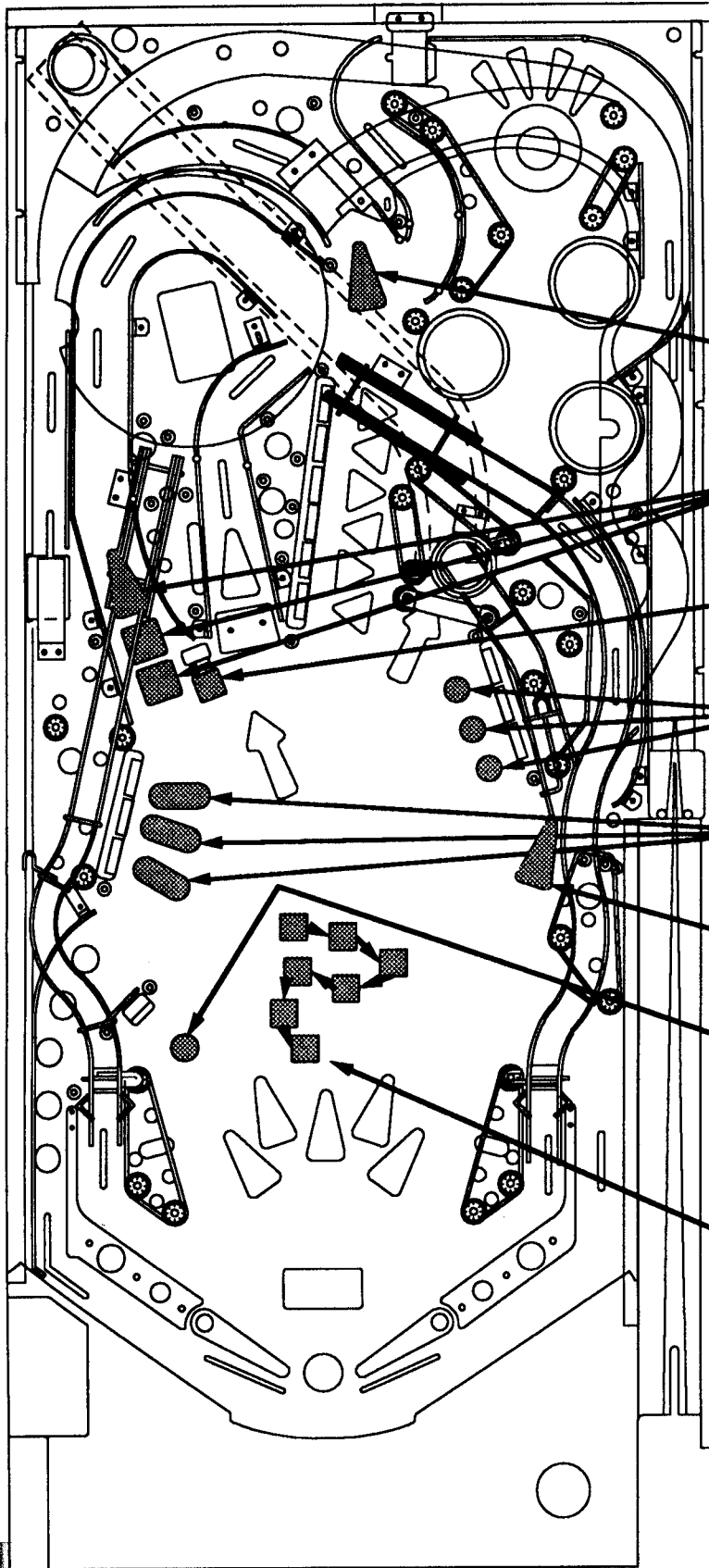
Can be collected off Lagoon Feature or Kickback Feature. Ball is played at end of game as to not delay the other players turn.

OUTHOLE BONUS FEATURE

Is determined by the number of targets and switches hit during that ball in play. Increase bonus through the Bonus Multiplier 2X, 3X, 4X, 5X or Bonus Held.

GILLIGAN'S ISLAND

The object of Gilligan's Island is to collect all seven ingredients to make the Professor's Secret Formula (Lava Seltzer). The seven different ingredients needed are:



Shells

Turtle Eggs

Bananas

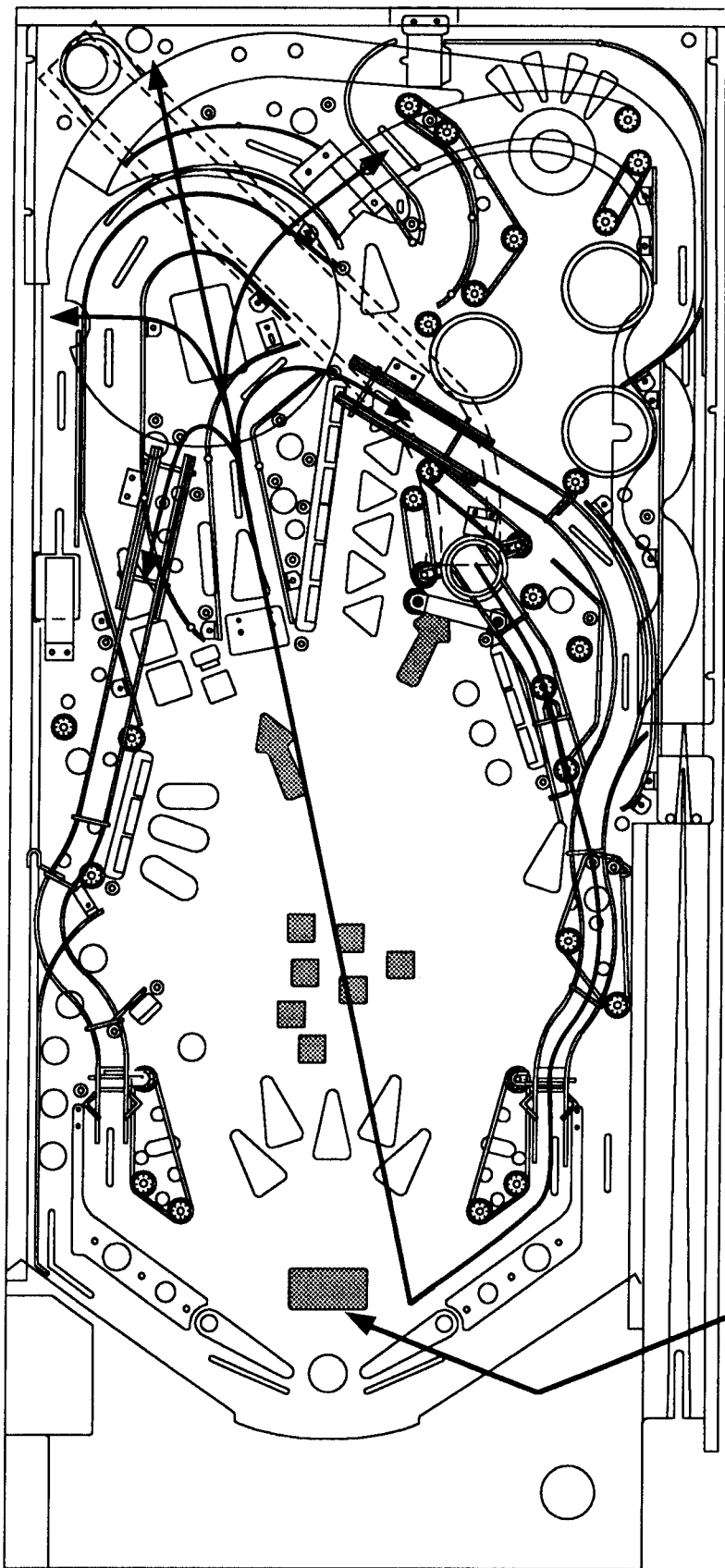
Coconuts

Pineapple

Rope

Shrunken Head

Professor's Secret Formula (Lava Seltzer)



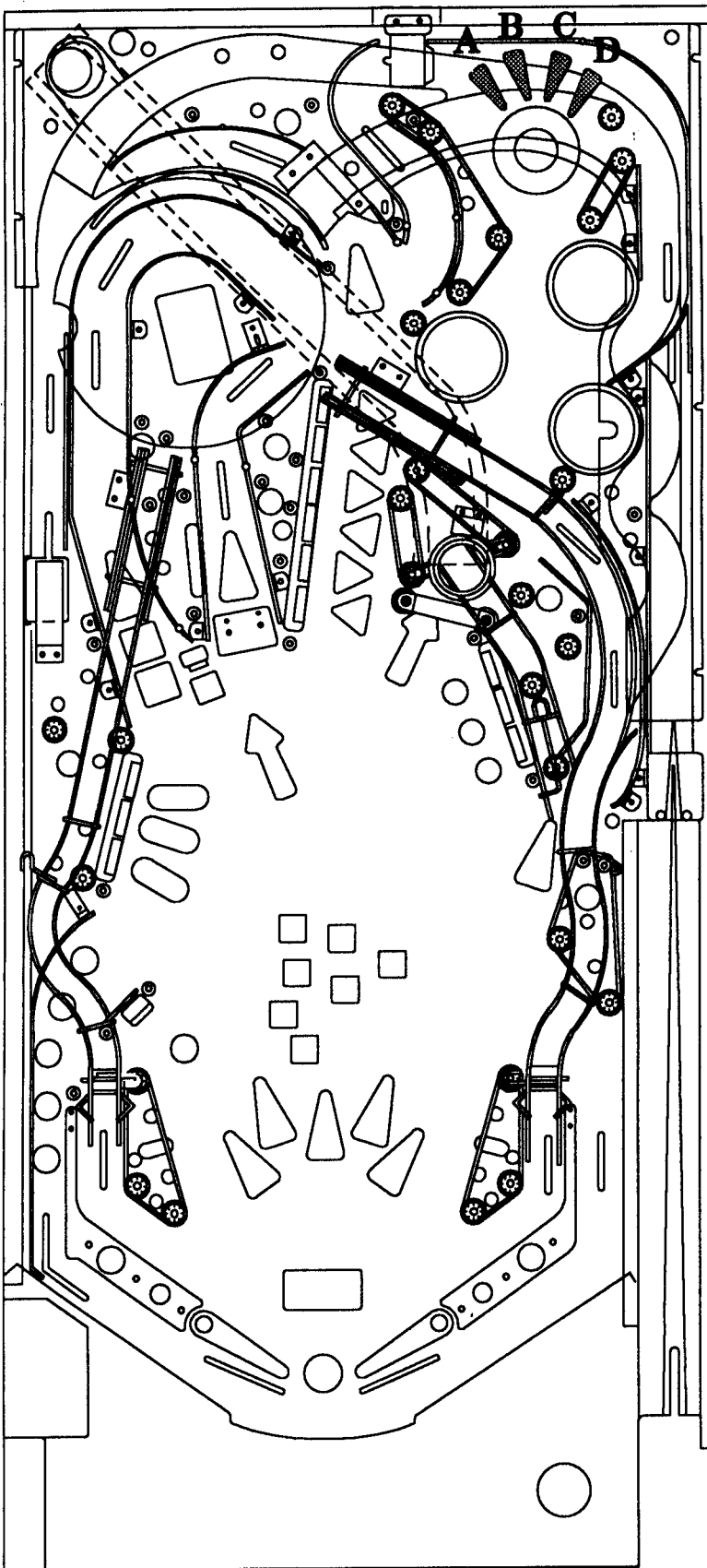
The Lava Seltzer will relieve the upset Kona, the Natives Island God. But, Gilligan must pour the Lava Seltzer into Kona while wearing the uncontrollable jet pack. He must get to Kona before the Lava Seltzer evaporates.

If successful you will receive Kona's Treasure, 50 MILLION POINTS from the Island Natives.

PLUNGER SKILL SHOT (TOP EJECT HOLE)

The Plunger Skill Shot has four different features:

- A Lights Kickback or Spots Ingredient if Kickback is already lit.
- B Lowers Jungle Run Ramp 500K
- C Spots Ingredient
- D Lowers Jungle Run Ramp Million



KICKBACK FEATURE

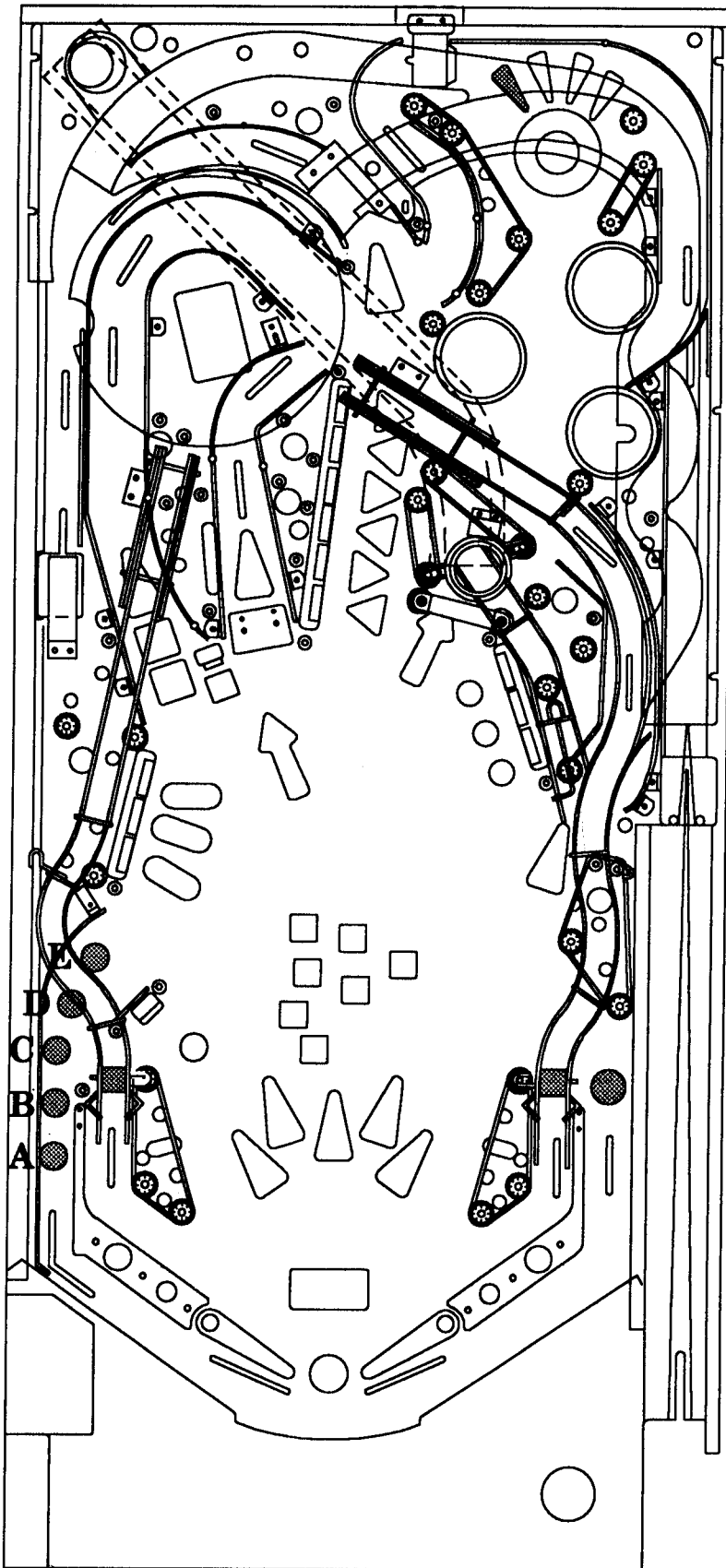
This feature consists of five different values:

- A 100,000
- B 500,000
- C Gift of Gods
- D 2,000,000
- E Bonus Ball

Collect the lit value when kickback is used. Change the lit value through the return lanes when lit with lane change feature.

Gift of Gods is all other players collect 1 million points.

Bonus Ball, if awarded, will be played at end of game as to not delay the other players turn.



JUNGLE RUN RAMP

Two Jungle Run Ramp features exist in the Plunger Skill Shot area. Landing in the top saucer when lit for Jungle Run lowers the ramp.

1) Jungle Run 500K
Points are worth 500K,
1 Million, 1.5 Million,
2 Million, etc...up to 5 Million.

2) Jungle Run Million
Points are worth 1 Million,
2 Million, 3 Million, etc...up to
10 Million.

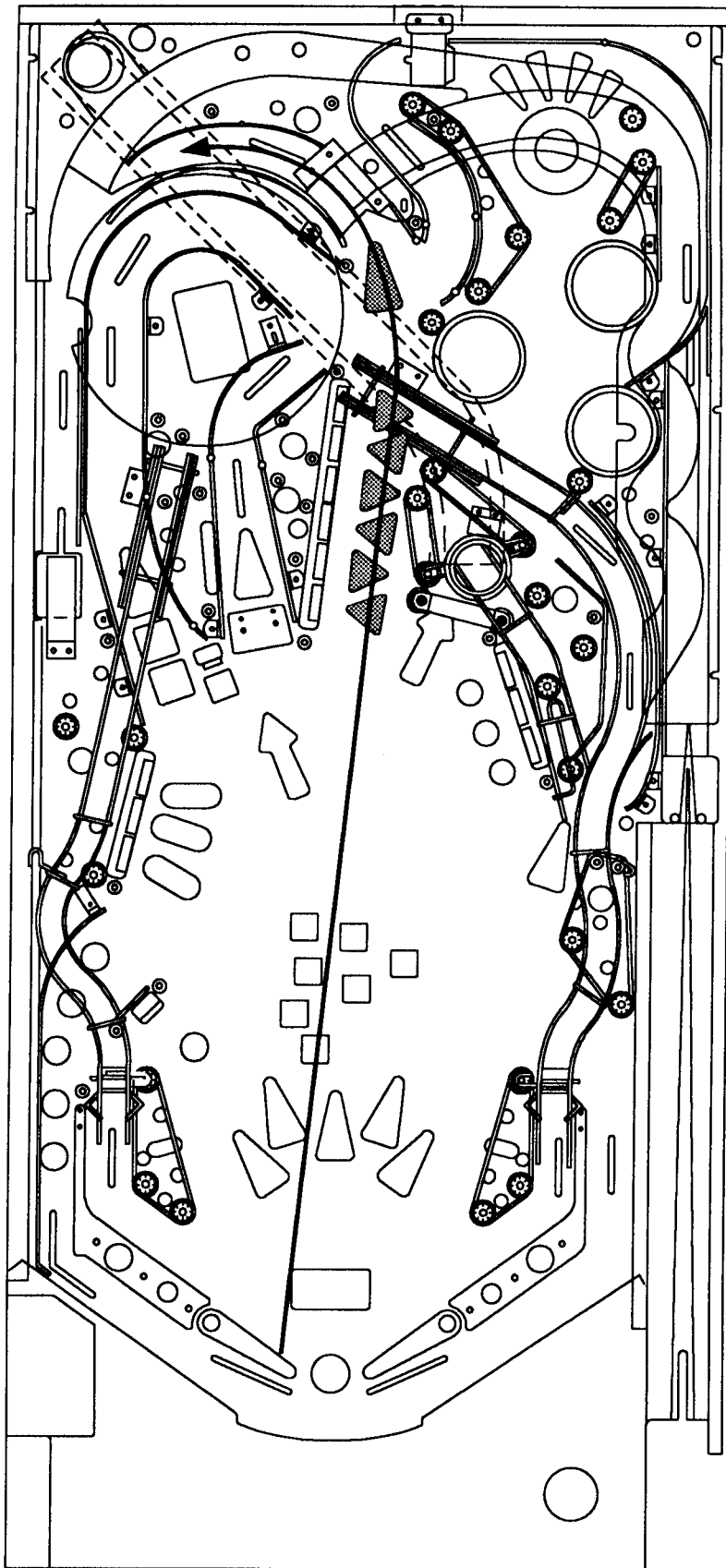
Point values can be scored in increments of 500,000 for Jungle Run 500K or 1,000,000 for Jungle Run Million until the timer runs out and the ramp raises.

LAGOON FEATURE

Lighting L-A-G-O-O-N targets qualifies Lagoon for random values from 250,000 to 3,000,000 points.

If player achieves the **instant multiball**, this sets up the jungle run for one million points during two ball play.

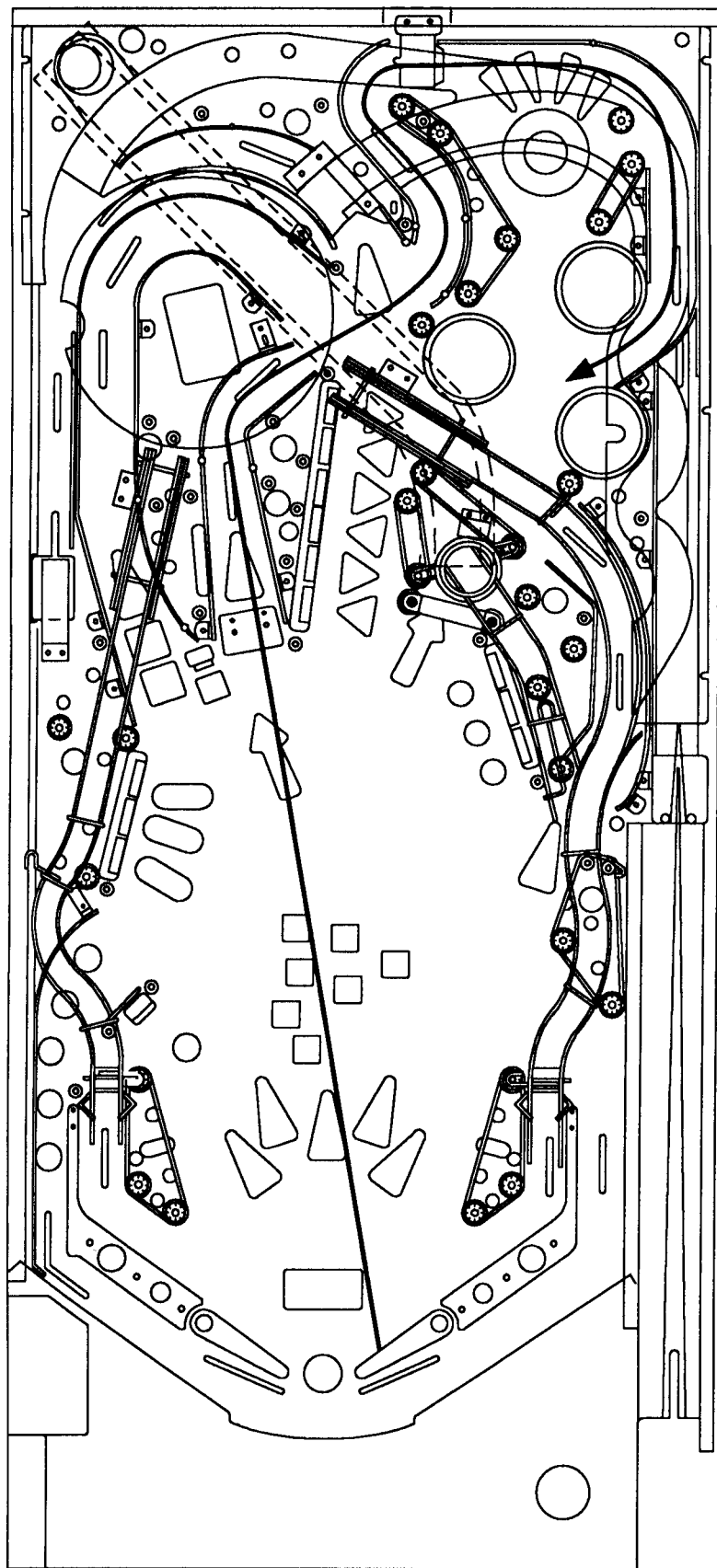
Player can also achieve **SPECIAL** or a possible **BONUS BALL**.



OUTHOLE BONUS FEATURE

All targets and switches hit increase your Outhole Bonus Value.

Multiply your Outhole Bonus by the Sweet Bonus Multiplier Shot. 2X, 3X, 4X, 5X, or Bonus Held.



Section 1

Game Operation & Test Information

- **GILLIGAN'S ISLAND (System WPC) ROM**
 - Summary**
 - **Pinball Game Assembly Instructions**
 - **Game Play**
 - **Menu System Operation**
 - Adjustments**
 - Audits**
 - Test/Diagnostic Procedures**
 - Utilities**

GILLIGAN'S ISLAND (System WPC) ROM Summary

	IC	TYPE	LOCATION	BOARD	PART NUMBER
Game ROM 1	27020		U6	CPU	A-5343-20003-1
Music/Speech ROM 2	27010		U14	Audio	A-5343-20003-2
Music/Speech ROM 3	27010		U15	Audio	A-5343-20003-3
Music/Speech ROM 4	27010		U18	Audio	A-5343-20003-4

NOTICE

To order a replacement ROM from your authorized **MIDWAY MANUFACTURING CO.** distributor, specify: (1) part number (if available); (2) ROM label color; (3) ROM level (number) on the label; (4) which game the ROM is used in.

CONNECTOR & COMPONENT IDENTIFICATION

Since **GILLIGAN'S ISLAND** uses **WILLIAMS ELECTRONICS GAMES, INC.** WPC Electronics System, a new technique to identify connectors and other game components must be introduced. Each plug or jack receives a number that identifies the circuit board and position on that board that it connects to. J-designations refer to the male part of a connector. P-designations refer to the female part of a connector. For example, J101 designates jack 1 of board 1 (a Power Driver Board Board jack); P306 designates plug 6 of board 3 (a Display Driver Board plug). Identifying the specific pin number of a connector involves a hyphen, which separates the pin number from the plug or jack designation. For example, J101-3 refers to pin 3 of jack 1 on board 1.

Other game components may also have similar numbers to clarify their locations or related circuit. For example, F501 refers to a fuse located on the Sound Board.

Prefix numbers for the WPC circuit boards are listed below.

- 1- Power Driver Board
- 2- CPU Board
- 5- Sound Board
- 6- Dot Matrix Controller
Dot Matrix Display/Driver Board

CIRCUIT BOARDS

WPC Circuit Boards for **GILLIGAN'S ISLAND** are in the backbox. They are accessible by unlocking the Backbox, removing the Backglass, unlatching the Insert Board, and swinging it open.

Lamp circuit boards are mounted under the Playfield.

Power Driver Board The Power Driver Board is p/n A-12697.

CPU Board The WPC CPU Board, p/n A-12742-20003, must be equipped with the ROM specified in the ROM Summary.

Sound Board The Sound Board p/n A-12738-20003, must be equipped with the ROMs specified in the ROM Summary.

Dot Matrix Controller The Dot Matrix Controller Board is p/n A-14039.

Dot Matrix Display/Driver Board The Dot Matrix Display/Driver Board is p/n 5901-12784-00.

Figure 1 shows the locations of these circuit boards, as well as other devices especially located to make GILLIGAN'S ISLAND a great game.

Locations Diagram - Major Game Mechanisms

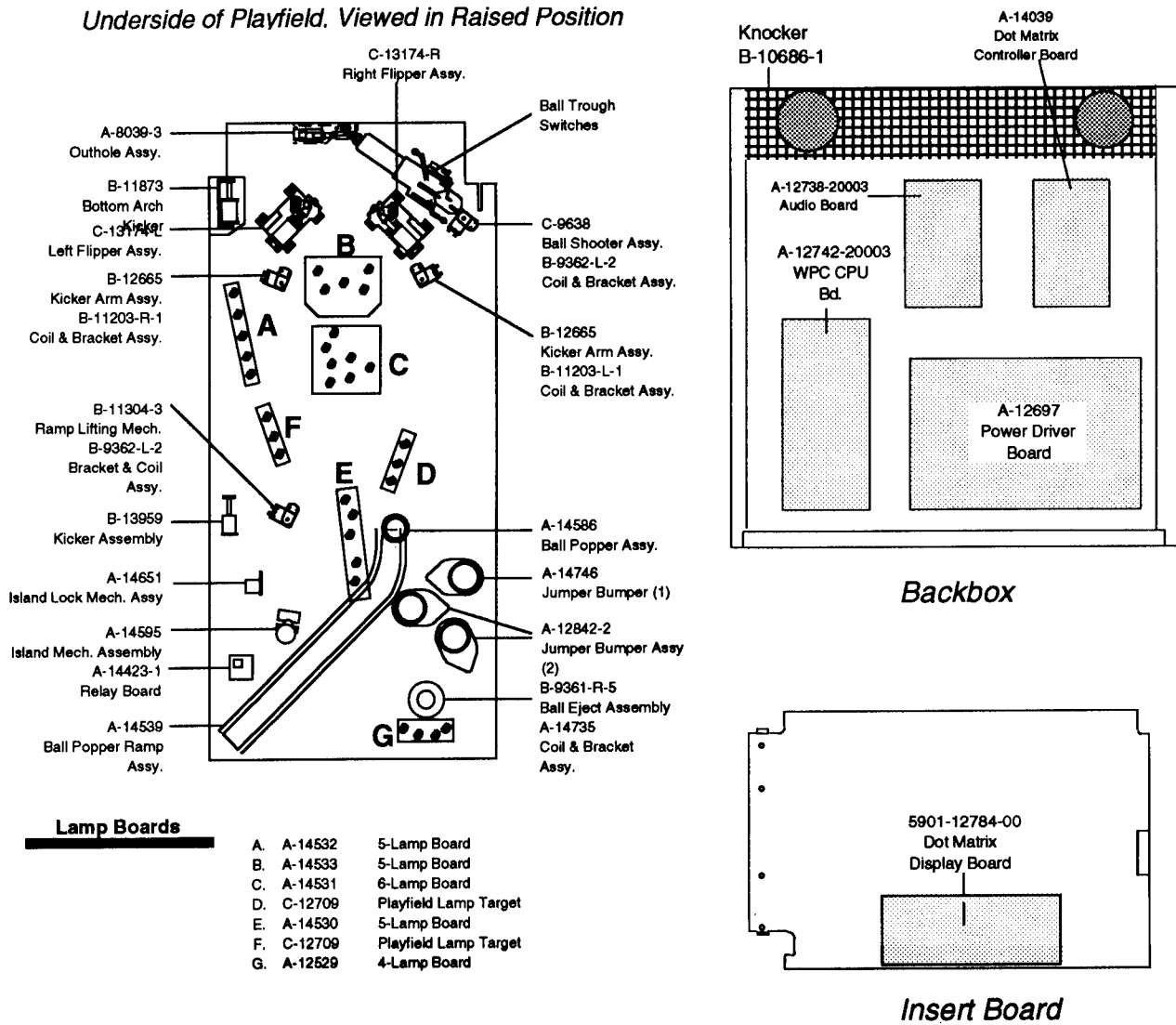


Figure 1. Locations Diagram - Game Circuit Boards and Major Mechanisms

GAME CONTROL LOCATIONS

Cabinet Switches

The On-Off switch is on the bottom of the cabinet near the right front leg.

The Start Button is a pushbutton to the left of the coin door on the cabinet exterior. Press the Start button to begin a game, or during the diagnostic mode, to ask for HELP.

Coin Door Switches

The operator controls all game adjustments, obtains bookkeeping information, and diagnoses problems, using only four pushbutton switches mounted on the inside of the coin door. The Coin Door Switches have two modes of operation Normal Function and Test Function.

Normal Function

The Service Credits switch puts credits on the game that are not included in the game audits.

The Volume Up switch raises the sound level of the game. Press and hold the button until the desired level is reached.

The Volume Down switch lowers the sound level of the game. Press and hold the button until the desired level is reached. See Adjustment A.1 28 to shut sound Off completely.

The Begin Test switch starts the Menu System Operation and changes the Coin Door Switches from Normal Function to Test Function.

Test Function

The Escape switch allows you to get out of a menu selection or return to the Attract Mode.

The Up switch allows you to cycle forward through the menu selections or adjustment choices.

The Down switch allows you to cycle backward through the menu selections or adjustment choices.

The Enter switch allows you to get into a menu selection or lock in an adjustment choice.

Coin Door Switches

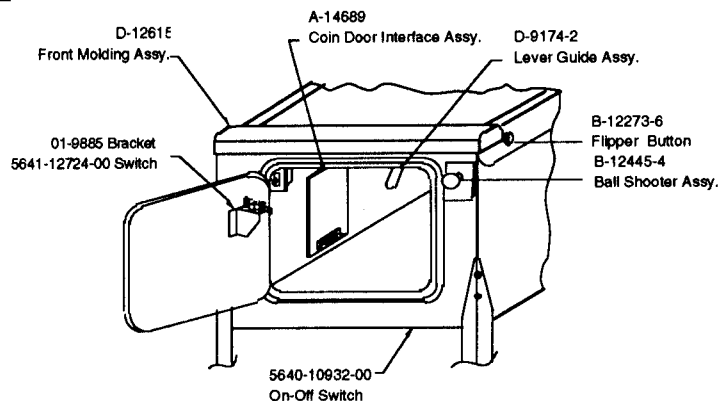
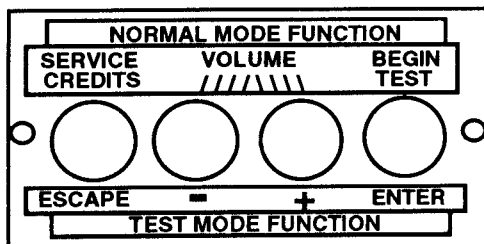


Figure 2. Pinball Game Controls Locations

PINBALL GAME ASSEMBLY INSTRUCTIONS

1. Open the shipping container; remove all cartons, parts, and other items, and set them aside.
2. Place the cabinet on a support and attach rear legs using leg bolts. Leg levelers and leg bolts are provided among the parts in the cash box.
3. Attach the front legs (after installing leg levelers), using leg bolts. See Figure 3 for details.

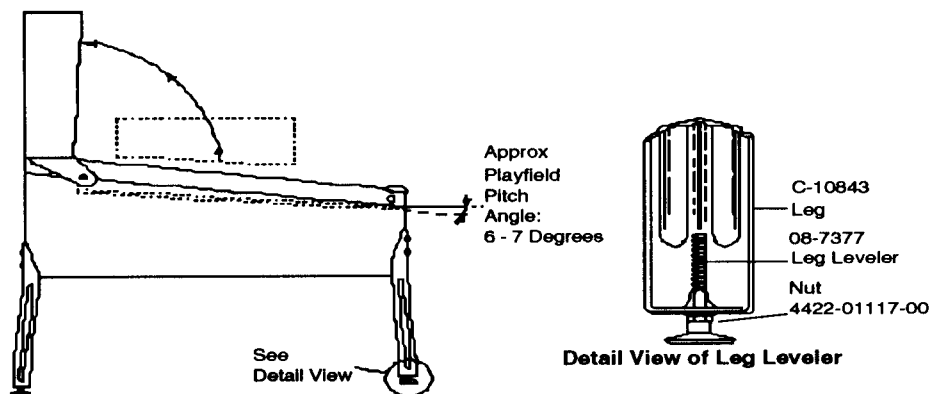


Figure 3. Pinball Assembly, Playfield Pitch Angle, and Leg Leveler Details.

4. Reach into the cabinet and backbox and ensure that the interconnecting cables are free to move (not kinked or pinched). Be careful to avoid damaging wires at any stage of the assembly process.
5. Raise the hinged backbox upright and latch it into position. Unlock the backbox, and remove the backglass, storing it carefully to avoid scratches. Remove the shipping block holding the Insert Board. Unlatch and open the Insert Board. This allows access to the bolt holes used for securing the backbox upright. Install the washer-head mounting bolts through the bottom holes of the backbox into the threaded fasteners in the cabinet to secure the backbox. Close the Insert Board and latch it in position. Reinstall the backglass, and lock the backbox.

FAILURE TO INSTALL the backbox mounting hardware properly can cause personal injury. **NEVER TRANSPORT** a pinball game with the hinged backbox erect. *Always* lower the backbox forward onto the playfield cabinet on a layer of protective material to prevent marring or damage and possible personal injury.

6. Extend each leg leveler *slightly* below the leg bottom, so that all four foot pads are extended about the same distance. Remove the cabinet from its support and place it on the floor.
7. Unlock and open the coin door. Locate the Molding Latch Lever, and move the lever toward the left side of the game, to release the Front Molding. Lift the Front Molding off the playfield cover glass

return the Latch Lever toward the right, and close the coin door. *Carefully* slide the glass downward, until it clears the grooves of the Left and Right Side Moldings. Lift the glass up and away from the game, storing it carefully to avoid breakage.

8. Place a level or an inclinometer on the playfield surface. Adjust the leg levelers for proper playfield level (side-to-side) *and* playfield pitch angle (incline) of approximately 6-7 degrees. **NOTE:** It is recommended that these measurements be made **ON** the playfield, not the cabinet nor the playfield cover glass. Tighten the nut on each leg leveler shaft to maintain this setting, as shown in Figure 3.

CAUTION

Playfield pitch angle adjustments can affect the operation of the plumb bob tilt, inside the cabinet. The plumb bob weight is among the parts in the cash box; the operator should install the weight and adjust this tilt mechanism for proper operation, after completion of the desired playfield pitch angle setting.

9. Move the game into the desired location; recheck the level and pitch angle of the playfield.

10. Verify that the *required number* of balls are installed in the game. **GILLIGAN'S ISLAND** uses 2 balls.

11. Install playfield mylars if desired.

NOTE: The Gilligan's Island Hardcoat playfield does not require a protective mylar. However, playfield mylars can be purchased thru your local Bally Distributor. Specify part number 03-7960-20003-1 for full playfield mylar and 03-7960-20003-2 for jet bumper area mylar.

12. Clean and reinstall the playfield cover glass, reversing the procedure of step 7. Prepare the game for player operation.

GAME OPERATION

After assembly and installation at its site location, this game must be plugged into a properly grounded outlet to prevent shock hazard, and to assure proper game operation. DO NOT use a 'cheater' plug to defeat the ground pin on the line cord. DO NOT cut off the ground pin.

POWERING UP. Perform the following 'power up' routine upon completion of the assembly and installation procedure, as well as at the beginning of each period of game operation. Initially, it will confirm that the game is in proper operating condition; later, it will aid the operator via its messages (refer to later text entitled "Problem Analysis Messages").

Procedure. With the coin door closed, plug the game in, and switch it ON, using the On-Off switch. In normal operation, the displays initially show the last score. Then, the game goes into the Attract Mode (playfield and backbox lamps flashing, sounds being heard, etc., if the operator does not change the Factory Setting).

Open the coin door and press the BEGIN TEST switch to begin the game test routine. The display shows the game name, game number and game software revision. The message changes. The display shows the sound software revision, revision level of the system software and date the game software was revised.

Example:

GILLIGAN'S ISLAND
20003 Rev. L-1

Sound Rev. L-1
SY. 1.16 4-15-91

Perform the entire test menu routine to verify that the game is operating satisfactorily (refer to later text entitled "Menu System Operation"). Successful completion of the tests shows that the game is ready to begin earning your investment return.

After the game has been on location for a period of time, the test routine may be preceded by messages concerning game problems. The text entitled 'Problem Analysis Messages' contains more details concerning messages displayed at each game turn-on.

ATTRACT MODE*. Playfield and backbox lamps blink. The player score displays exhibit a series of messages informing the player concerning:

- A. Recent highest scores*;
- B. A "custom message"
- C. The score to achieve to obtain a Replay award*;

These (or similar) displays reappear occasionally, accompanied by sounds and music, until a player initiates game play by inserting a coin or, when credits are available, pressing the Start button.

* - operator-adjustable feature

CREDIT POSTING. Insert coin(s). A sound is heard for each coin, and the player score displays show

STARTING A GAME. Press the Start button once. A startup sound plays, and the Credit amount shown in the player score display decreases by one. The left score display flashes 00 (until the first playfield switch is actuated), and the right score display shows ball 1, except for 4-player games where the ball # shows in the individual player's display. Additional players may enter the game by pressing the Start button once for each player, before the end of play on the first ball.

TILTS. Actuating the Slam Tilt switch on the coin door inside the cabinet ends the current game and then proceeds to the Game Over Mode. With the third closure* of the plumb bob tilt switch, the player loses the remaining play of that ball, but can complete the game.

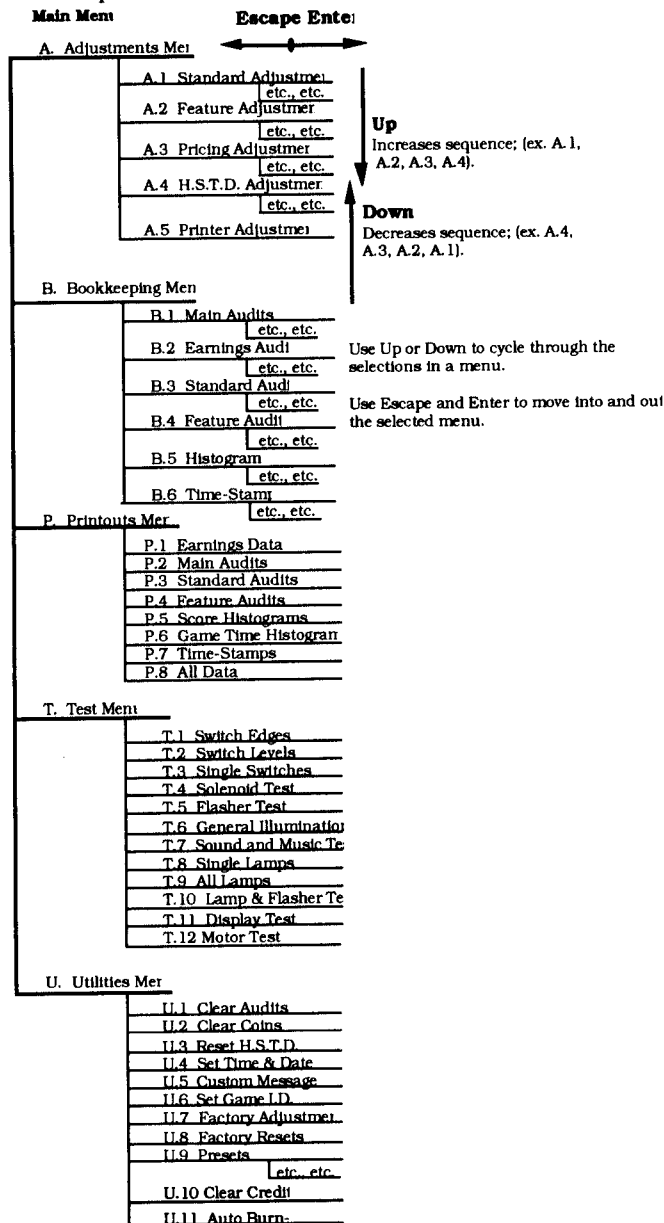
END OF GAME. All earned scores and bonuses are awarded. If a player's final score exceeds the specified value, the player receives a designated award for achieving the current highest score. A random digit set* appears in the display. Credit* may be awarded, when the last two digits of any player's score display (1 through 4) match the random digits. Match, high score, and game over sounds are made, as appropriate.

GAME OVER MODE. The GAME OVER display shows in the player score displays. Then, the high scores flash on the appropriate player score displays. The game proceeds to the Attract Mode.

* - operator-adjustable feature

MENU SYSTEM OPERATION

GILLIGAN'S ISLAND operates on a Menu System. The Main Menu allows you to choose from several main categories, which in turn lead to other menus to choose from. To enter the Menu System, open the coin door and press the Begin Test button. The displays show the Game I.D. Mode. Press the Enter button and the Main Menu appears. To cycle through the Main Menu selections press either the Up or Down button. Activate any selection by pressing the Enter button when the desired selection appears in the displays. To return to the Attract Mode while viewing the Main Menu, or to return to a previous menu selection, press the Escape button. Press the Start button for HELP at any time.



MAIN MENU

- A. Adjustments**
- B. Bookkeeping**
- P. Printouts** (optional board required)
- T. Tests**
- U. Utilities**

The game Adjustments are the first category available from the Main Menu. Press the Enter button to activate the Adjustments Menu. Press the Up or Down button to cycle through the Adjustment Menu selections. Press the Enter button to activate the desired Adjustment Group when that group appears in the displays.

A. ADJUSTMENTS MENU

- A.1 Standard Adjustments**
- A.2 Feature Adjustments**
- A.3 Pricing Adjustments**
- A.4 H.S.T.D Adjustments**
- A.5 Printer Adjustments** (optional board required)

Once you have entered the adjustment group desired, press the Up or Down button to cycle through the available adjustments in that group. When the desired adjustment appears press the Enter button to activate that adjustment. When an adjustment is activated, the setting value begins to flash. Use the Up or Down button to raise or lower the setting value. When the desired value is displayed press Enter to lock in the value. IF you realize you have made an error, press the Escape button while "Saving Adjustment Value" is displayed. The new value is ignored and the original value is retained.

A.1 Standard Adjustments

- A.1 01 Balls Per Game**
The operator defines a "game" by specifying the number of balls to be played. The range of this setting is 1 through 10.
- A.1 02 Tilt Warnings**
The operator specifies the number of total actuations of the plumb bob mechanism that can occur before the game is "tilted". The range of this setting is 1 through 10.
- A.1 03 Maximum Bonus Balls**
The operator chooses the number of Bonus Balls that a player may accumulate. The range of this setting is 1 through 10, or "No Bonus Ball" (Bonus Ball disabled).
- A.1 04 Maximum Bonus Balls/Ball in Play**
The operator chooses the number of Bonus Balls to be awarded per ball in play. The range of this setting is:

 - OFF - No maximum number of Bonus Ball per ball in play.
 - 1-10 - 1 through 10 Bonus Balls per ball in play.

- A.1 05 Replay System**
The operator chooses the replay system to be used. The choices are:
- Fixed - Replay value is set by the operator and does not change during game play.
 - Auto% - Replay starting value is set by the operator and changes every 50 games to comply with the percentage of replays desired.
- A.1 06 Replay Percent***
The operator chooses the percentage of replays the players are able to earn when Auto Replay is used. The range of this setting is 5% to 50%.
- A.1 07 Replay Start***
The operator chooses the replay starting value when Auto% Replay is used. The range of this setting is 1, 000, 000 to 20, 000, 000.
- A.1 08 Replay Levels***
The operator chooses the number of replay levels used by the Auto% Replay mode. The range of this setting is 1 through 4. When the operator chooses two replay levels, the second replay level is automatically adjusted to twice the starting replay level value. When three or four replay levels are chosen, their values are automatically adjusted to three or four times the starting replay level value.
- *For Auto % Replay.
- A.1 09 Replay Level 1****
The operator chooses the value to be used for the first Fixed Replay. The range of this setting is 00 to 25, 000, 000.
- A.1 10 Replay Level 2****
The operator chooses the value to be used for the second Fixed Replay. The range of this setting is 00 to 25, 000, 000.
- A.1 11 Replay Level 3****
The operator chooses the value to be used for the third Fixed Replay. The range of this setting is 00 to 25, 000, 000.
- A.1 12 Replay Level 4****
The operator chooses the value to be used for the fourth Fixed Replay. The range of this setting is 00 to 25, 000, 000.
- ** For Fixed Replay
- A.1 13 Replay Boost**
The operator chooses if the replay score can be temporarily boosted by the selected amount EACH time the player reaches or exceeds the replay score. This temporary boost is canceled when Credits=0, when the player inserts another coin, or when

Begin Test is pressed. The choices are:

- ON - Score is boosted between 500, 000 and 5, 000, 000 points.
- OFF - The replay score is not boosted.

A.1 14 Replay Award

For either Auto% Replay or Fixed Replay the operator can choose the form of the award automatically provided when the player exceeds any replay level. The choices are:

- Credit - Reaching each Replay level awards credit.
- Ticket - Reaching each Replay level awards a ticket.
- Ball - Reaching each Replay level awards a Bonus Ball.
- Audit - Reaching each Replay level awards nothing to the player; it does increase the entry value of the Audit Item(s) maintaining a tally of these awards.

A.1 15 Special Award

The operator can choose the award automatically provided when the player scores a special. The choices are:

- Credit - Scoring a Special awards a Credit.
- Ticket - Scoring a Special awards a Ticket.
- Ball - Scoring a Special awards a Bonus Ball.
- Points - Scoring a Special awards 1 Million points.

A.1 16 Match Award

The operator can choose the award automatically provided when the players wins a match. The choices are:

- Credit - Winning a Match awards a Credit.
- Ticket - Winning a Match awards a Ticket.

A.1 17 Bonus Ball Ticket

The operator can choose whether a Ticket is awarded when the player earns a Bonus Ball. The choices are:

- YES - The player is awarded a Ticket in addition to a Bonus Ball.
- NO - The player is not awarded a Ticket.

A.1 18 Maximum Ticket/Player

The operator can choose the amount of Tickets each player can earn. The range of this setting is 00 to 100.

- A.1 19 Match Feature**
The operator can choose the desired percentage for the Match Feature occurring at the end of the game. The range of this setting is:
- OFF - Match Feature is not available.
 - 1-50% - 1% is 'hard'; 50% is 'extremely easy'. During the Match Feature the game selects a random two-digit number at the end of the game and compares each players score for an identical two digits in the rightmost two positions. A matching of these two digits results in award of a Credit or a Ticket.
- A.1 20 Custom Message**
The operator chooses if a message is displayed during the Attract Mode. The choices are:
- YES - A message is displayed
 - NO - A message is not displayed.
- A.1 21 Language**
The operator chooses what language the game uses. The choices are, English, French, or German.
- A.1 22 Clock Style**
The operator chooses what style of clock the game uses. The choices are A.M./P.M. or 24 Hours.
- A.1 23 Date Style**
The operator chooses what style of date the game uses. The choices are Month/Date/Year, or Date/Month/Year.
- A.1 24 Show Date and Time**
The operator chooses whether the date and time show in the Attract Mode. The choices are:
- YES - Show the date, time in status report or in the Attract Mode.
 - NO - Do Not show date, time in status report or in the Attract Mode.
- A.1 25 Allow Dim Illumination**
The operator chooses whether to allow the game program to dim the General Illumination for special effects and during the Attract Mode. The choices are:
- YES - Dim the General Illumination during the Attract Mode.
 - NO - Do Not dim the General Illumination.

- A.1 26 Tournament Play**
The operator chooses whether to equalize Multi-ball and Jackpots during multi-player games, (do not carry over to next player). The choices are:
- YES - Keep Multi-ball and Jackpots equal.
 - NO - Do Not Keep Multi-ball and Jackpots equal.

- A.1 27 Euro. Scr. Format**
The operator chooses whether to have commas or dots between digits when numbers are displayed. The choices are:
- YES - Dots instead of commas, (example- 1.000.000).
 - NO - Commas instead of dots, (example- 1, 000, 000).

- A.1 28 Minimum Volume Control**
The operator chooses whether the volume can be turned Off. The choices are:
- YES - Volume can be turned Off.
 - NO - Volume can be turned Down but not Off.

Press the Escape button to return to the Adjustments Menu. Press the Up button to advance to the next desired Adjustments Group, (or press the Down button to return to a previous group). Press the Enter button to activate. Use the Up or Down button to cycle through the available adjustments.

A.2 Feature Adjustments

- A.2 01 % Lagoon Score (Special)**
The operator can choose what percentage of the LAGOON SCORE awards SPECIAL. The range of this setting is 0% to 25%. Factory Setting is 3%.
- A.2 02 % Lagoon Score (Multi Ball)**
The operator can choose what percentage of the LAGOON SCORE awards SPECIAL. The range of this setting is 0% to 25%. Factory Setting is 3%.
- A.2 03 % Lagoon Score (Bonus Ball)**
The operator can choose what percentage of the LAGOON SCORE awards BONUS BALL. The range of this setting is 0% to 50%. Factory Setting is 15%.
- A.2 04 % Lagoon Score (3 Million)**
The operator can choose what percentage of the LAGOON SCORE awards 3 MILLION. The range of this setting is 0% to 50%. Factory Setting is 5%.
- A.2 05 % Lagoon Score (2 Million)**
The operator can choose what percentage of the LAGOON SCORE awards 2 MILLION. The range of this setting is 0% to 50%. Factory Setting is 10%.

- A.2 06 % Lagoon Score (1 Million)**
The operator can choose what percentage of the LAGOON SCORE awards 1 MILLION. The range of this setting is 0% to 50%. Factory Setting is 15%.
- A.2 07 % Lagoon Score (750K)**
The operator can choose what percentage of the LAGOON SCORE awards 750K. The range of this setting is 0% to 50%. Factory Setting is 15%.
- A.2 08 % Lagoon Score (500K)**
The operator can choose what percentage of the LAGOON SCORE awards 500K. The range of this setting is 0% to 50%. Factory Setting is 10%.
- A.2 09 % Lagoon Score (300K)**
The operator can choose what percentage of the LAGOON SCORE awards 300K. The range of this setting is 0% to 50%. Factory Setting is 10%.
- A.2 10 Easy Kickback**
The operator can choose how often the kickback is enables at ball start. The choices are:

YES - (liberal) The kickback is enabled at the start of every ball.
NO - (conservative) The kickback is enabled at the first ball start only.
Factory setting is yes.
- A.2 11 Left Outlane Memory**
The operator can choose whether the LEFT OUT LANE lights are saved in memory for "next ball" play or is reset for each ball. The choices are:

YES - (liberal) Memory is ON.
NO - (conservative) Memory is OFF.
Factory setting is yes.
- A.2 12 Lagoon Memory**
The operator can choose whether the LAGOON lights are saved in memory for "next ball" play or is reset for each ball. The choices are:

YES - (liberal) Memory is ON.
NO - (conservative) Memory is OFF.
Factory setting is no.
- A.2 14 Easy Ramp Time Gilligan**
The operator can choose how much time a player has to achieve the treasure hunt after all items are spotted. The choices are:

YES - (liberal) The timer is set at 45 seconds.
NO - (conservative) The timer is set at 35 seconds.
Factory setting is yes.

- A.2 14 Easy Jungle Time Millions**
The operator can choose how much time a player has to achieve a repeatable MILLIONS shot. The choices are:
- YES - (liberal) The timer is set at 7 seconds.
NO - (conservative) The timer is set at 5 seconds.
Factory setting is yes.
- A.2 15 Attract Sounds**
The operator can choose if the attract sounds are allowed. The choices are:
- YES - The attract sounds are allowed.
NO - The attract sounds are not allowed.
Factory setting is yes.
- A.2 16 Easy Eject Control**
The operator can choose if the player can control the eject lights during the game. The choices are:
- YES - The player has control.
NO - The player has control until formula is done.
Factory setting is yes.
- A.2 17 Increase Bonus**
The operator can choose if the player can have larger bonus totals during the game. Ball 1 does 1X bonus, ball 2 does 2X bonus and ball 3 does 3X bonus.
- YES - The increase bonus is active.
NO - The increase bonus is not active.
Factory setting is no.
- A.2 18 Consolation Bonus Ball Time**
The operator can choose whether a less skilled player can obtain a bonus ball easier. A bonus ball lane will be lit if the player's score is less than 1 million and the game time is less than or equal to the consolation time. (Setting Range 0-99 seconds - selecting 0 seconds will disable this feature.)
- Factory Setting is 60 seconds.

Press the Up button to advance to the next desired Adjustment Group, (or press the Down button to return to a previous Adjustment Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available adjustments in that group.

A. 3 Pricing Adjustments

- A.3 01 Game Pricing (if set to custom, then 02 to 09 are available)**
The operator chooses the cost for a game from a selection of Standard pricing or by installing Custom pricing.

- A.3 02 Left Coin Units**
The operator can specify the number of coin units purchased by a coin passing through the left coin chute.
- A.3 03 Center Coin Units**
The operator can specify the number of coin units purchased by a coin passing through the center coin chute.
- A.3 04 Right Coin Units**
The operator can specify the number of coin units purchased by a coin passing through the right coin chute.
- A.3 05 4th Slot Units**
The operator can specify the number of coin units purchased by a coin passing through the fourth coin chute.
- A.3 06 Units/Credits**
The operator defines the number of coin units required to obtain 1 credit. A coin unit counter in the game program totals the number of coin units purchased through all coin chutes prior to each game. If the total number of these coin units exceeds or matches the Unit per Credit value by a multiple (or more, coin units) of the specified Units per Credit value the Credits display shows the proper number of credits. The coin unit counter retains any remaining coin units, until the start of Ball 2; then the coin unit counter is cleared (its contents are zeroed).
- A.3 07 Units/Bonus**
The operator can specify that additional credits are to be indicated in the credits display, when a certain number of coin units are accumulated.
- A.3 08 Bonus Credits**
The operator specifies the number of credits that are awarded when the Units/Bonus level is achieved.
- A.3 09 Minimum Units**
The operator can specify that No credits are to be posted (indicated in the credit display), until the credits unit counter reaches a particular value, by setting this value to 02 (or more).
- A.3 10 Coin Door Type (if set to custom, then 11 to 15 are available)**
This adjustment is used to preset adjustments 11 to 15 based on standard coin doors (U.S.A., German, etc.).
- A.3 11 Collection Text**
The operator chooses what coin system is used to display the Earning Audits.

- A.3 12 Left Slot Value**
The operator can specify the monetary value of the left coin chute.
- A.3 13 Center Slot Value**
The operator can specify the monetary value of the center coin chute.
- A.3 14 Right Slot Value**
The operator can specify the monetary value of the right coin chute.
- A.3 15 4th Slot Value**
The operator can specify the monetary value of the 4th coin chute.
- A.3 16 Maximum Credits**
The operator can specify the maximum number of credits the game can accumulate, either through game play awards or coin purchases. The range of this setting is 5 through 10. Reaching the specified setting prevents the award of any credits.
- A.3 17 Free Play**
The operator can specify whether a player can operate the game without a coin (free play) or with a coin. The choices are:
- NO - A coin is necessary for game play.
 - YES - Game play is free; no coin required.
- A.3 18 Hide Coin Audits**
The operator chooses whether or not to show the coin audits. The choices are:
- YES - The coin audits are not displayed.
 - NO - The coin audits are displayed.
 - HIDE NAMES - The coin audit value is shown but not the audit name.
- A.3 19 1 Coin Buy-in**
If the game pricing is set to 1 for 50¢/2 for \$1.00 the operator chooses whether the player is allowed to 'buy-in' a subsequent game for 1 coin. The number of games that may be purchased at this cost is determined by the number of players in the previous game; that is, if the previous game had three players, 3 Credits can be purchased at the rate of 1 coin per credit. The choices are:
- YES - The player has 10 seconds to buy-in at 1 coin per game.
 - NO - The buy-in feature is disabled.

Pricing Table

Country	Coin Chute				Games/Coin	Display	Pricing Adjustments A.3							
	Left	Center	Right	4th Chute			02	03	04	05	06	07	08	09
USA	25¢	-	25¢	-	1/25¢, 4/\$1 ² 1/50¢, 2/75¢, 3/\$1 ^{1,2} 1/50¢, 2/\$1 ² 1/25¢, 3/\$1 ² 1/25¢, 3/50¢, 6/\$1 1/25¢, 5/\$1	U.S.A. 4/\$1.00 50-75-1.00 U.S.A. 2/\$1.00 U.S.A. 3/\$1.00 CUSTOM CUSTOM	01	04	01	00	01	02	01	00
Canada	25¢	-	\$1.00	-	1/50¢, 2/75¢, 3/\$1 ² 1/50¢, 2/\$1 ²	CANADA 1 CANADA 2								
Austria	5 Sch	10 Sch	10 Sch	-	1/2x5 Sch, 3/2x10 Sch ² 2/5 Sch, 5/10 Schilling	AUSTRIA CUSTOM	02	00	05	00	01	00	01	00
Australia	20¢	\$1	\$1	\$2	1/\$1, 3/\$2 ²	AUSTRALIA								
United Kingdom	1L	50 P	0	20 P	1/2x10 P, 3/50 P, 7/1£ ²	U. KINGDOM								
Switzerland	1 Fr	2 Fr	5 Fr	-	1/1 Fr, 3/2 Fr, 7/5 Franc ²	SWISS								
Belgium	5Fr	20 Fr	50 Fr	-	1/4 x 5F, 1/20 F, 3/50 Franc ²	BELGIUM								
West Germany	1 DM	2 DM	5 DM	-	1/1 DM, 2/2 DM, 7/5 DMark ² 1/1 DM, 2/2 DM, 6/5 DM ^{1,2} 1/1 DM, 3/2 DM, 9/5 DM 1/2x1 DM, 1/2 DM, 3/5 DM 2/1 DM, 5/2 DM, 14/5 DM	GER. 7/6 DM GER. 6/5 DM CUSTOM CUSTOM CUSTOM	09	18	45	00	05	00	01	00
Netherlands	1 Hfl	2.5 Hfl	2.5 Hfl	-	1/1 Hfl, 3/2.5 Holland Florin ² 1/25¢, 5/1 Guilder 1/1 Guilder ²	NETHERLAND CUSTOM HOLLAND	01	00	05	00	01	00	01	00
Sweden	5 Kr	5 Kr	5 Kr	-	1/5 Krona ²	SWEDEN								
France	1 Fr	5 Fr	10 Fr	-	2/5 F, 4/10 F, 9/2x10 Franc ^{2,3} 1/2x1 F, 3/5 F, 7/10 Franc ^{2,3} 1/5 F, 3/10 F, 7/2x10 Franc ^{2,3} 1/3x1 F, 2/5 F, 5/10 Franc ^{1,2,3} 2/5 F, 5/10 F, 11/2x10 Franc ^{2,3} 1/5 F, 3/10 Franc ^{2,3}	TARIF 1 TARIF 2 TARIF 3 TARIF 4 TARIF 5 TARIF 6								
Italy	500L	500L	500L	-	1/500 Lire ²	ITALY								
Spain	25 P	-	100 P	-	1/25 P, 5/100 Peseta ² 1/25 P, 4/100 Peseta 1/2x25 P, 2/100 Peseta 1/2x25 P, 3/100 Peseta	SPAIN CUSTOM CUSTOM CUSTOM	01	00	04	00	01	00	01	00
Japan	100 ¥	-	100 ¥	-	1/100 Yen ²	JAPAN								
Antilles, Nth Ind	25¢	-	1G	-	1/25¢, 4/1 Guilder ²	ANTILLES								
Chile	Token	-	Token	-	1/1 Token ²	CHILE								
Denmark	1 Kr	5 Kr	10 Kr	-	1/2x1 Kr, 3/5 Kr, 7/10 Krone ²	DENMARK								
Finland	1 Mka	-	5 Mka	-	1/2x1 Mka, 3/5 Markka ²	FINLAND								
New Zealand	20¢	-	20¢	-	1/3x20¢ ²	N. ZEALAND								
Norway	5Kr	-	10 Kr	-	1/5 Kr, 2/10 Kr, 5/20 Krone ²	NORWAY								
Argentina	10¢	10¢	10¢	-	1/1 Token ²	ARGENTINA								
Greece	10 D	20 D	50 D	-	1/2x10D, 1/20D, 3/50 Drachma ²	GREECE								
Hungary	10 F	-	20 F	-	1/1x20F, 1/2x10F, 3/2x20 Forint ²	HUNGARY								

Notes: 1. Factory Default. 2. Standard Setting - Change by pressing Enter button. 3. Other functions are also affected.

Press the Escape button to return to the Adjustment Menu. Press the Up button to advance to the next desired Adjustment Group, (or press the Down button to return to a previous Adjustment Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available adjustments in that group.

A.4 H.S.T.D. Adjustments

A.4 01 Highest Scores

The operator specifies whether the game is to maintain a record of the four highest scores achieved to date. The choices are:

- OFF - No high scores are recorded, or displayed.
- ON - The four highest scores are stored in memory and displayed in the Attract Mode.

A.4 02 H.S.T.D. Award

The operator chooses the award given for achieving the High Score To Date, or the Champion H.S.T.D.. The choices are a Credit or a Ticket.

A.4 03 Champion H.S.T.D.

The operator chooses whether the "Highest" High Score is displayed in the Attract Mode. This score is not cleared when "High Score Reset Every" occurs. The choices are:

- ON - The "Highest" High Score is retained in memory and displayed.
- OFF - The "Highest" High Score is not retained.

A.4 04 Champion Credits

The operator chooses the number of credits or tickets awarded for a Grand Champion Score. The range of this setting is 00 through 10.

A.4 05 H.S.T.D. 1 Credits

The operator selects the number of credits or tickets to be awarded whenever a player exceeds the previous Highest Score. The range of this setting is 00 to 10.

A.4 06 H.S.T.D. 2 Credits

The operator selects the number of credits or tickets to be awarded whenever a player exceeds the second highest score. The range of this setting is 00 to 10.

A.4 07 H.S.T.D. 3 Credits

The operator selects the number of credits or tickets to be awarded whenever a player exceeds the third highest score. The range of this setting is 00 to 10.

A.4 08 H.S.T.D. 4 Credits

The operator selects the number of credits or tickets to be awarded whenever a player exceeds the fourth highest score. The range of this setting is 00 to 10.

A.4 09 High Score Reset Every

The operator can specify that the game will provide an automatic reset of the displayed "Highest scores", and the number of games to be played before the reset occurs. The values provided upon reset are those selected by the operator in the Back-up High Scores. The range of this setting is OFF (disabled) and 250 to 20,000.

- A.4 10 **Backup Champion**
The operator sets the Back-up Grand Champion Score. The range of this setting is 00 through 99,900,000.
- A.4 11 **Backup H.S.T.D. 1**
The operator can set the Back-up High Score value. The game automatically restores this value when the High Score Reset Every value is reached. The range of this setting is 00 to 99,900,000.
- A.4 12 **Backup H.S.T.D. 2**
The operator can set the second Back-up High Score value. The game automatically restores this value when the High Score Reset Every value is reached. The range of this setting is 00 to 99,900,000.
- A.4 13 **Backup H.S.T.D. 3**
The operator can set the third Back-up High Score value. The game automatically restores this value when the High Score Reset Every value is reached. The range of this setting is 00 to 99,900,000.
- A.4 14 **Backup H.S.T.D. 4**
The operator can set the fourth Back-up High Score value. The game automatically restores this value when the High Score Reset Every value is reached. The range of this setting is 00 to 99,900,000.

Press the Up button to advance to the next desired Adjustment Group, (or press the Down button to return to a previous Adjustment Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available adjustments in that group.

A.5 Printer Adjustments (optional board required)

- A.5 01 **Column Width**
The operator chooses the column width to be printed. The range of this setting is 22 through 80.
- A.5 02 **Lines Per Page**
The operator chooses the amount of lines per page. The range of this setting is 20 through 80.
- A.5 03 **Pause Every Page**
The operator chooses whether the printer pauses at the end of a page. The choices are:

YES - The printer does pause.
NO - The printer doesn't pause.
- A.5 04 **Printer Type**
The operator selects which kind of printer to use. The choices are Parallel, Serial or ADP.
- A.5 05 **Serial Baud Rate**
The operator selects which baud rate to use for Serial or ADP communications (bit rate). The choices are 300, 600, 1200, 2400, 4800. or 9600.

A.5 06 Serial D.T.R. (Data Transmit Ready)

The operator selects which mode of (D.T.R) to use for Serial or ADP communications. The choices are Ignore, Normal or Inverted.

Press the Escape button to return to the Adjustments Menu. Then, either press the Up or Down button to return to a previous Adjustment Menu Group, or press the Escape button again to return to the Main Menu. Once in the Main Menu, either press the Up button to advance to the next menu selection, the Bookkeeping Menu, or press the Down button to return to a previous Main Menu selection.

Press the Enter button to activate the Bookkeeping Menu, once the menu name is shown under the Main Menu. Then, use the Up or Down button to cycle through the Bookkeeping Menu selections. Press the Enter button to activate the desired Bookkeeping Group when that group appears in the displays.

B. BOOKKEEPING MENU

- B.1 Main Audits**
- B.2 Earning Audits**
- B.3 Standard Audits**
- B.4 Feature Audits**
- B.5 Histograms**
- B.6 Time-Stamps**

Once you have entered the desired Bookkeeping Group, press the Up or Down button to cycle through the available audits in that group. Audits cannot be set, they can only be cleared by using U1 and U2 from the Utilities Menu.

One-Button Audit System

Information from the Bookkeeping Menu is obtainable directly from the Attract Mode. Continually pressing the Enter button, while in the Attract Mode, will cycle through all of the game audits.

B.1 Main Audits These audits (which also appear in other groups) are the most important, and are grouped here for easier access.

B.1	01	Total Earnings	00
B.1	02	Recent Earnings	00
B.1	03	Free Play Percent	00
B.1	04	Average Ball Time	00
B.1	05	Average Game Time	00
B.1	06	Games Completed	00
B.1	07	Replay Awards	00
B.1	08	Percent Replays	00
B.1	09	Bonus Balls	00
B.1	10	Percent Bonus Ball	00

Press the Escape button to return to the Bookkeeping Menu. Press the Up button to advance to the next desired Bookkeeping Group, (or press the Down button to return to a previous group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available audits in that group.

B.2 Earning Audits

B.2	01	Recent Earnings	00
B.2	02	Recent Left Slot	00
B.2	03	Recent Center Slot	00
B.2	04	Recent Right Slot	00
B.2	05	Recent 4th Slot	00
B.2	06	Recent Paid Credits	00
B.2	07	Recent Service Credits	00
B.2	08	Total Earnings*	00
B.2	09	Total Left Slot*	00
B.2	10	Total Center Slot*	00
B.2	11	Total Right Slot*	00
B.2	12	Total 4th Slot*	00
B.2	13	Total Paid Credits*	00
B.2	14	Total Service Credits*	00

* Note: These Audits are NOT Resettable. They are a record of the earnings of the game since the "CLOCK 1ST SET" Time -Stamp.

Press the Escape button to return to the Bookkeeping Menu. Press the Up button to advance to the next desired Bookkeeping Group, (or the Down button to return to a previous Bookkeeping Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available audits in that group.

B.3 Standard Audits

B.3	01	Games Started	00
B.3	02	Games Completed*	00
B.3	03	Total Free Play	00
B.3	04	Free Play Percent	00
B.3	05	Replay Awards	00
B.3	06	Percent Replays	00
B.3	07	Special Awards	00
B.3	08	Percent Special	00
B.3	09	Match Awards	00
B.3	10	Percent Match	00
B.3	11	H.S.T.D. Credits	00
B.3	12	Percent H.S.T.D	00
B.3	13	Bonus Ball	00
B.3	14	Percent Bonus Ball	00
B.3	15	Tickets Awarded	00
B.3	16	Percent Tickets	00
B.3	17	Left Drains	00
B.3	18	Right Drains	00
B.3	19	Average Ball Time	00
B.3	20	Average Game Time	00
B.3	21	Minutes of Play	00
B.3	22	Minutes On	00
B.3	23	Balls Played	00
B.3	24	Tilts	00
B.3	25	Replay 1 Awards	00

* Games Completed is a new feature in WPC. A game is considered completed when the final ball begins. Audit information from an incomplete game is ignored. Therefore operation for test and service do not affect the Audits.

B.3	26	Replay 2 Awards	00
B.3	27	Replay 3 Awards	00
B.3	28	Replay 4 Awards	00
B.3	29	1 Player Games	00
B.3	30	2 Player Games	00
B.3	31	3 Player Games	00
B.3	32	4 Player Games	00
B.3	33	H.S.T.D. Reset Count	00
B.3	34	Burn-in Cycles	00

Press the Escape button to return to the Bookkeeping Menu. Press the Up button to advance to the next desired Bookkeeping Group, (or press the Down button to return to a previous group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available audits in that group.

B.4 Feature Audits

B.4	01	Outlane Bonus Ball	00
B.4	02	Outlane 2 Million	00
B.4	03	Outlane Gift of Gods	00
B.4	04	Outlane 500K	00
B.4	05	Outlane 100K	00
B.4	06	Potion Ready	00
B.4	07	Jackpot 20 Million	00
B.4	08	Jackpot 5 Million	00
B.4	09	Jackpot 4 Million	00
B.4	10	Jackpot 3 Million	00
B.4	11	Jackpot 2 Million	00
B.4	12	Jackpot 1 Million	00
B.4	13	500K Outlane	00
B.4	14	Eject Kickback On	00
B.4	15	Eject 200K Ramp Down	00
B.4	16	Eject Spot Item	00
B.4	17	Eject 100K Ramp Down	00
B.4	18	Lagoon Done	00
B.4	19	Lagoon Multi Ball	00
B.4	20	Lagoon Bonus Ball	00
B.4	21	Lagoon 3 Million	00
B.4	22	Lagoon 2 Million	00
B.4	23	Lagoon 1 Million	00
B.4	24	Lagoon 750K	00
B.4	25	Lagoon 500K	00
B.4	26	Lagoon 300K	00
B.4	27	Lagoon 150K	00

Press the Escape button to return to the Bookkeeping Menu. Press the Up button to the advance to the next desired Bookkeeping Group, (or press the Down button to return to a previous Bookkeeping Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available audits in that group.

B.5 Histograms

B.5	01	0.0-0.5 Million Scores	00%	00
B.5	02	0.5-1.0 Million Scores	00%	00
B.5	03	1.0-1.5 Million Scores	00%	00
B.5	04	1.5-2.0 Million Scores	00%	00

B.5	05	2.0-3.0 Million Scores	00%	00
B.5	06	3.0-4.0 Million Scores	00%	00
B.5	07	4.0-5.0 Million Scores	00%	00
B.5	08	5.0-6.0 Million Scores	00%	00
B.5	09	6.0-8.0 Million Scores	00%	00
B.5	10	8.0-10 Million Scores	00%	00
B.5	11	10-15 Million Scores	00%	00
B.5	12	15-20 Million Scores	00%	00
B.5	13	Over 20 Million	00%	00
B.5	14	Game Time 0.0-1.0 Mins	00%	00
B.5	15	Game Time 1.0-1.5 Mins	00%	00
B.5	16	Game Time 1.5-2.0 Mins	00%	00
B.5	17	Game Time 2.0-2.5 Mins	00%	00
B.5	18	Game Time 2.5-3.0 Mins	00%	00
B.5	19	Game Time 3.0-3.5 Mins	00%	00
B.5	20	Game Time 3.5-4.0 Mins	00%	00
B.5	21	Game Time 4-5 Mins	00%	00
B.5	22	Game Time 5-6 Mins	00%	00
B.5	23	Game Time 6-8 Mins	00%	00
B.5	24	Game Time 8-10 Mins	00%	00
B.5	25	Game Time 10-15 Mins	00%	00
B.5	26	Game Time Over 15 Mins	00%	00

Press the Escape button to return to the Bookkeeping Menu. Press the Up button to the advance to the next desired Bookkeeping Group, (or press the Down button to return to a previous Bookkeeping Group). Press the Enter button to activate that group. Press the Up or Down button to cycle through the available audits in that group.

B.6 Time-Stamps

The Time-Stamps Menu allows you to view dates and times that are important to game software.

B.6	01	Current Time
B.6	02	Clock 1st Set
B.6	03	Clock Last Set
B.6	04	Audits Cleared
B.6	05	Coins Cleared
B.6	06	Factory Setting
B.6	07	Last Game Start
B.6	08	Last Replay
B.6	09	Last H.S.T.D. Reset
B.6	10	Champion Reset
B.6	11	Last Printout
B.6	12	Last Service Credit

Press the Escape button to return to the Bookkeeping Menu. Then, either press the Up or Down button to return to a previous Bookkeeping Menu Group, or press the Escape button again to return to the Main Menu. Once in the Main Menu either press the Up button to advance to the next menu selection, the Printouts Menu, or press the Down button to return to a previous Main Menu selection.

Press the Enter button to activate the Printouts Menu, once the menu name is shown under the Main Menu. Then, use the Up or Down button to cycle through the Printouts Menu selections. Press the Enter button to activate the desired Printouts Group when that group appears in the displays.

P. PRINTOUTS MENU

(optional board required)

- P.1 Earnings Data**
- P.2 Main Audits**
- P.3 Standard Audits**
- P.4 Feature Audits**
- P.5 Score Histograms**
- P.6 Time Histograms**
- P.7 Time-Stamped**
- P.8 All Data**

The Printouts Menu is a combination of the other menus. This menu allows you to access and print information in the available menu selections.

If no Printer is attached the the message "Waiting for Printer" appears in the displays. Note: Set the print specification from the Adjustment Menu, A.5 Printer Adjustments.

Press the Escape button to return to the Printouts Menu. Then, either press the Up or Down button to return to a previous Printouts Menu Group, or press the Escape button again to return to the Main Menu. Once in the Main Menu press the Up button to advance to the next menu selection, the Test Menu, or press the Down button to return to a previous Main Menu selection.

Press the Enter button to activate the Test Menu, once the menu name is shown under the Main Menu. Then, use the Up or Down button to cycle through the Test Menu selections. Press the Enter button to activate the desired test when that test appears in the displays.

T. TEST MENU

- T.1 Switch Edges**
- T.2 Switch Levels**
- T.3 Single Switch**
- T.4 Solenoid Test**
- T.5 Flasher Test**
- T.6 General Illumination**
- T.7 Sound & Music Test**
- T.8 Single Lamps**
- T.9 All Lamps**
- T.10 Lamp & Flasher Tests**
- T.11 Display Test**
- T.12 Motor Test**

T.1 Switch Edges

For all switches, the number on the left indicates the column, the number on the right indicates the row. Example- Switch 23 means 2nd column, 3rd row.

To test the Left and Right Flippers, press the Left or Right Flipper buttons during switch test. The flipper name and switch number should show in the displays. Any other results indicate the system has detected a problem with the flipper circuit.

To activate the Switch Edges Test, from the Test Menu, press the Enter button. The name and number of each switch that is pressed is shown in the displays. If any other switch, or no switch at all is indicated, the system has detected a problem with the switch circuit.

Press Escape to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T.2 Switch Levels

Once the test name is shown under the Test Menu, press the Enter button. The name and number of each switch that is activated is shown in the displays. This test automatically cycles through all switches that are detected closed.

Press the Escape button to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T.3 Single Switches

Once the test name is shown under the Test Menu, press the Enter button. The Single Switch Test isolates a particular switch by blocking signals from all other switches. Use the Up or Down buttons to select the switch to be tested. Either Open or Closed appears in the displays to indicate the state of the switch at the present time. When the switch is activated, an "A" appears in the displays. Press the Start button to obtain wire color, connector, and fuse information of any switch when that switch is displayed.

Press the Escape button to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

Switch Matrix

White  Green

Dedicated Grounded Switches	Column		1	2	3	4	5	6	7	8
	Row		Green-Brown J206-1 U20-18	Green-Red J206-2 U20-17	Green-Orange J206-3 U20-16	Green-Yellow J206-4 U20-15	Green-Black J206-5 U20-14	Green-Blue J206-6 U20-13	Green-Violet J206-7 U20-12	Green-Gray J206-8 U20-11
Orange-Brown (1) Left Coin Chute D1	1	White-Brown J208-1 U18-11	Right Flipper 11	Slam Tilt 21	Payoff Middle Left 31	Left Jet 41	Lagoon N 51	Island Entrance 61	Payoff Top Left 71	Not Used 81
Orange-Red (2) Center Coin Chute D2	2	White-Red J208-2 U18-9	Left Flipper 12	Coin Door Closed 22	Right 10 Points 32	Right Jet 42	Lagoon O 52	Ramp Status 62	Payoff Top Right 72	Not Used 82
Orange-Black (3) Right Coin Chute D3	3	White-Orange J208-3 U18-5	Start Button 13	Ticket Opto 23	Left Lock 33	Bottom Jet 43	Lagoon O 53	Left Loop 63	Payoff Bottom Right 73	Top Left Loop 83
Orange-Yellow (4) 4th Coin Chute D4	4	White-Yellow J208-4 U18-7	Plumb Bob Tilt 14	Always Closed 24	Not Used 34	Left Sling 44	Lagoon G 54	Right Loop 64	Payoff Bottom Left 74	Top Right Loop 84
Orange-Green (5) Normal Function Test Function Service Escape Credits D5	5	White-Green J208-5 U19-11	Not Used 15	Left Out Lane 25	Left Stand Up 35	Right Sling 45	Lagoon A 55	S Turn 65	Lock Lane 75	Not Used 85
Orange-Blue (6) Normal Function Test Function Volume Down Down D6	6	White-Blue J208-7 U19-9	Trough Left 16	Left Return Lane 26	Left Bank Left 36	Right Bank Left 46	Lagoon L 56	Ball Popper 66	Wheel Lock 76	Not Used 86
Orange-Violet (7) Normal Function Test Function Volume Up Up D7	7	White-Violet J208-8 U19-5	Trough Right 17	Right Return Lane 27	Left Bank Middle 37	Right Bank Middle 47	Ramp Stand Up 57	Top Eject 67	Wheel Opto 77	Not Used 87
Orange-Gray (8) Normal Function Test Function Begin Enter Test D8	8	White-Gray J208-9 U19-7	Outhole 18	Right Out Lane 28	Left Bank Right 38	Right Bank Right 48	Jet 10 Points 58	Top Right 68	Shooter 78	Not Used 88

Note:
Dedicated Switch are connected directly to ground.

T4 Solenoid Test

Once the test name is shown under the Test Menu, press the Enter button. The Solenoid Test has three modes, Repeat, Stop, and Running. Only one solenoid should turn On at a time. The system has detected a problem if, more than one solenoid turns On, a solenoid comes On and stays On, or no solenoid turns On during the Repeat or Running test modes. Press the Start button to see the wire color, driver number, connector and, fuse information of any coil, when that coil is displayed.

- Repeat -** This test allows you to stop and pulse a single coil or flashlamp. Once you have entered the Solenoid Test, coil 1 shows in the displays and the corresponding solenoid activates. Press the Up or Down button to cycle through the solenoids, one at a time, manually. The same solenoid pulses until you press the Up or Down button to move to the next one. Either press the Escape button to return to the Test Menu, or press the Enter button to move to the next test mode.
- Stop -** This test allows you to stop the Solenoid Test at any point. Press Enter during the Repeat test mode and the Solenoid Test stops. There should not be any solenoids activated while the test is stopped. Either press the Escape button to return to the Test Menu, or the Enter button to move to the next test mode.
- Running -** This test allows you to cycle through the solenoids automatically. Press the Enter button during the Stop test mode. The displays show you the name and number of the solenoid currently being pulsed.

Either press the Enter button to return to the Repeat test mode, or press the Escape button to return to the Test Menu. Once in the Test Menu press, the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T5 Flasher Test

Once the test name is shown under the Test Menu, press the Enter button. This test allows you to test the flashlamp part of the solenoid circuit exclusively. This test, like the Solenoid Test, has three test modes Repeat, Stop, and Running. During this test, only one flashlamp circuit should turn On at a time. If, more than one flashlamp circuit turns On, or stays On, or no flashlamp circuit turns On at all during the Repeat or Running test modes the system has detected a problem. Press the Start button to see the wire color, driver number, connector, and fuse information of any flashlamp circuit when that circuit appears in the displays.

- Repeat -** This test allows you to stop and pulse a single flashlamp. Once you have entered the Flasher Test the name and number of the first flashlamp circuit shows in the displays and the corresponding bulb(s) flashes. Press the Up or Down button to cycle through all of the flashlamps circuits one at a time, manually. The same flashlamp circuit pulses until you press the Up or Down button to move to the next one. Either, press the Escape button to return to the Test Menu, or press the Enter button to advance to the next test mode.
- Stop -** This test allow you to stop the Flasher Test at any time. Press the Enter button during the Repeat test mode. The Flasher Test stops. There should not be any flashlamp circuit turned On during this test mode. Either press the Escape button to return to the Test Menu, or press the Enter button to advance to the next test mode.
- Running -** This test allows you to cycle through the flashlamps automatically. Press the Enter button during the Stop test mode. The displays show you the name and number of the flashlamp currently being pulsed, and the corresponding bulb(s) flashes.

Either press the Enter button to return to the Repeat test mode or, press the Escape button to return to the Test Menu. Once in the Test Menu, press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

Solenoid Table

Sol. No.	Function	Solenoid Type	Wire Color	Connections	Driver Trnstr	Solenoid Part Number Flashlamp Type
01	Left Lock	High Power	Vio-Bm	J130-1	Q82	AE-23-800
02	Island Lock	High Power	Vio-Red	J130-2	Q80	A-14701
03	Outhole	High Power	Vio-Orn	J130-4	Q78	AE-26-1200
04	Ball Popper	High Power	Vio-Yel	J130-5	Q76	AE-26-1200
05	Right Sling	High Power	Vio-Gm	J130-6	Q64	AE-26-1500
06	Left Sling	High Power	Vio-Blu	J130-7	Q66	AE-26-1500
07	Knocker	High Power	Vio-Blk	J130-8	Q68	AE-23-800
08	Kickback	High Power	Vio-Gry	J130-9	Q70	AE-23-800
09	Island Motor	Low Power	Bm-Blk	J127-1	Q58	14-7964-1
10	Trough	Low Power	Bm-Red	J127-3	Q56	AE-26-1200
11	Hold Lock	Low Power	Bm-Orn	J127-4	Q54	A-14701
12	Island Light	Low Power	Bm-Yel	J127-5	Q52	24-8802 #906
13	Left Jet	Low Power	Bm-Gm	J127-6	Q50	AE-26-1200
14	Right Jet	Low Power	Bm-Blu	J127-7	Q48	AE-26-1200
15	Bottom Jet	Low Power	Bm-Vio	J127-8	Q46	AE-26-1200
16	Top Eject	Low Power	Bm-Gry	J127-9	Q44	AE-28-1500
17	Head 1 Flasher	Flasher	Blk-Bm	J125-1	Q42	#906 Plfd, #906 Ins
18	Island Flasher	Flasher	Blk-Red	J126-2 J125-2	Q40	#89 Plfd, #906 Ins
19	Left Bank Flasher	Flasher	Blk-Orn	J126-3 J125-3	Q38	#89 Plfd, #906 Ins
20	Left Flipper Flasher	Flasher	Blk-Yel	J126-4	Q36	#89 Plfd, #906 Ins
21	Right Flipper Flasher	Flasher	Blu-Gm	J126-6 J125-6	Q28	#89 Plfd, #906 Ins
22	Head 2 Flasher	Flasher	Blu-Blk	J126-7 J125-7	Q30	#906 Plfd, #906 Ins
23	Ramp Up Coil	Low Power	Blu-Vio	J126-8 J125-8	Q34	AE-26-1200
24	Ramp Down Coil	Low Power	Blu-Gry	J126-9 J125-9	Q32	SM1-26-600
25	Right Bank Flasher	Flasher	Blu-Bm	J122-1	Q26	#89 Plfd, #906 Ins
26	Treasure Flasher	Flasher	Blu-Red	J122-2	Q24	#906 Plfd, #906 Ins
27	Title Flasher	Flasher	Blu-Orn	J122-3	Q22	#906 Ins (2)
28	Professor Flasher	Flasher	Blu-Yel	J122-4	Q20	#906 Ins
General Illumination Circuits						
01	Left Insert String 1	G.I.	Wht-Bm	J121-7	Q18	#555
02	Playfield Bottom String 2	G.I.	Wht-Org	J120-8	Q10	#555
03	Playfield Middle String 3	G.I.	Wht-Yel	J120-9	Q14	#555
04	Right Insert String 4	G.I.	Wht-Gm	J121-11	Q16	#555
05	Playfield Top String 5	G.I.	Wht-Vio	J120-11	Q12	#555
	Lower Right Flipper		Blu-Yel	J109-7		FL-11630
	Lower Left Flipper		Gry-Yel	J109-5		FL-11630

T6 General Illumination

Once the test name is shown under the Test Menu, press the Enter button. This test allows you to check all of the General Illumination circuits. There are two modes of operation, Stop and Run. To obtain wire color, driver number, connector, and fuse information, press the Start button when the desired General Illumination circuit appears in the displays.

Stop - Press the Up or Down buttons to cycle through the General Illumination Test manually. All illumination is tested first, followed by an individual circuit test. The circuit name and number shows in the displays while the corresponding lamps lights. If any other results occur the system has detected an error.

Run - Press the Enter button any time during Stop test mode and the General Illumination Test cycles through automatically. For each circuit shown in the displays the corresponding bulbs should light. If any other results occurs the system has detected a problem.

Either press the Enter button to return to Stop test mode, or the Escape button to return to the Test Menu. Once in the Test Menu press the Up button to advance to the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T7 Sound and Music Test

Once the test name is shown under the Test Menu, press the Enter button. The Sound and Music Test allows you to check the audio circuits. This test has three modes for testing the sound and music circuits, Running, Repeat and Stop.

Running - This test steps through a sequence of sounds and music. Pressing the Up or Down button during this portion of the Sound and Music test allows you to advance to a particular sound or tune without having to wait for the program to play all the sounds available in the test. For each name and number that appears in the displays a sound or tune should be heard. Any other results indicates the system has detected a problem.

Repeat - Press the Enter button at any time during the Running test mode to cause the program to stop and repeat a particular sound or tune. The same sound should repeat continuously until the Up or Down button is pressed. Any other results indicates the system has detected a problem.

Stop - Press the Enter button at any time during the Repeat test mode to stop this test altogether. Nothing should be heard. Any other results indicates the system has detected a problem.

Use the Enter button to return to the Running test mode, or the Escape button to return to the Test Menu. Once in the Test Menu press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T.8 Single Lamp Test

For all lamps, the number on the left indicates the column, the number on the right indicates the row. Example- Lamp 23 means 2nd column, 3rd row.

Once the test name is shown under the Test Menu, press the Enter button. This test allows you to test each lamp circuit individually. Press the Up or Down button to cycle through this test. For each name and number that is shown in the displays the corresponding lamp should light. Any other results indicates the system has detected a problem. Press the Start button to obtain wire color, connector, and fuse information when the desired lamp is lit.

Press the Escape button to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T.9 All Lamps Test

Once the test name is shown under the Test Menu, press the Enter button. This test causes all the controlled lamps to flash at the same time. Every controlled lamp should flash. Any other results indicates the system has detected a problem.

Press the Escape button to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

T.10 Lamp and Flasher Test

Once the test name is shown under the Test Menu, press the Enter button. This test causes all the flashlamps and the controlled lamps to flash at the same time. The controlled lamps blink, while the flashlamps cycle from highest to lowest. Any other results indicates the system has detected a problem.

Press the Escape button to return to the Test Menu. Press the Up button to display the next test, (or the Down button to return to a previous test). Press the Enter button to activate that test.

Lamp Matrix

Yellow (B+)  Red

Column Row	1 Yellow- Brown J138-1 Q98	2 Yellow- Red J138-2 Q97	3 Yellow- Orange J138-3 Q96	4 Yellow- Black J138-4 Q95	5 Yellow- Green J138-5 Q94	6 Yellow- Blue J138-6 Q93	7 Yellow- Violet J138-7 Q92	8 Yellow- Gray J138-9 Q91
1 Red- Brown J133-1 Q90	Outlane Bonus Ball 11	Lagoon N 21	Left Bank Left 31	Item 1 41	Leaf 1 51	Turtle Top 61	Eject Kicker 71	Not Used 81
2 Red- Black J133-2 Q89	Outlane 2 Million 12	Lagoon O 22	Left Bank Middle 32	Item 2 42	Leaf 2 52	Turtle Bottom 62	Eject Ramp Down 200K 72	Not Used 82
3 Red- Orange J133-4 Q88	Outlane Gift Of Gods 13	Lagoon O 23	Left Bank Right 33	Item 3 43	Leaf 3 53	Turtle 2 63	Eject Spot 73	Not Used 83
4 Red- Yellow J133-5 Q87	Outlane 500K 14	Lagoon G 24	Right Bank Left 34	Item 4 44	Leaf 4 54	Turtle 3 64	Eject Ramp Down 100K 74	Not Used 84
5 Red- Green J133-6 Q86	Outlane 100K 15	Lagoon A 25	Right Bank Middle 35	Item 5 45	Leaf 5 55	Jungle Run Top 65	Not Used 75	Not Used 85
6 Red- Blue J133-7 Q85	Left Return 16	Lagoon L 26	Right Bank Right 36	Item 6 46	Treasure 56	Jungle Run Bottom 66	Rope Top 76	Not Used 86
7 Red- Violet J133-8 Q84	Right Return 17	Top Lock Top 27	Popper Ready Top 37	Item 7 47	Head Hunter 57	Kona Top 67	Rope Bottom 77	Not Used 87
8 Red- Gray J133-9 Q83	Right Outlane 18	Top Lock Bottom 28	Popper Ready Bottom 38	Bonus Ball 48	Bananas 58	Kona Bottom 68	Not Used 78	Start Button 88

T.11 Display Test

Once the test name is shown under the Test Menu, press the Enter button. This Test automatically turns On and Off every dot in the Dot Matrix Display. A series of patterns appear in sequence. It starts with one line, turned On, moving across the screen vertically, then horizontally. The screen inverts and one line, turned Off, moves across the screen vertically, then horizontally. The second pattern is a series of lines, turned On, moving across the screen diagonally. The screen inverts and there is a series of lines, turned Off, moving across the screen diagonally. The third pattern is gridlines turned On, then turned Off. The last pattern is a box forming an outline of dots around the matrix that are turned On. After the box outline the test repeats itself.

Press the Escape button to return to the Test Menu. Then, either press the Up or Down button to return to a previous Test, or press the Escape button again to return to the Main Menu. Once in the Main Menu, press the Up button to move to the next menu selection, the Utilities Menu, or press the Down button to return to a previous Main Menu selection.

T.12 Motor Test

Once the test name is shown under the Test Menu, press the Enter button. This test allows you to cycle through the motor operation. There are two modes for testing the motor, Running and Stop.

Running - The motor will rotate and show the two switches (opto and lock) closing and opening. There will be a delay of 10 seconds to prevent over heating of the unit, then it will repeat.

Stop - Press the Enter button at any time during the Running test mode and the test stops. Use the Up or Down buttons to cycle through each phase of the test manually. Press the Enter button again to resume the Running test mode.

Press the Escape button to return to the Test Menu. Then, either press the Up or Down button to return to a previous Test, or press the Escape button again to return to the Main Menu. Once in the Main Menu, press the Up button to move to the next menu selection, the Utilities Menu, or press the Down button to return to a previous Main Menu selection

Press the Enter button to activate the Utilities Menu, once the menu name is shown under the Main Menu. Then, use the Up or Down button to cycle through the Utility Menu selections. Press the Enter button to activate the desired Utility or Utility Group when it appears in the displays. If you change a utility setting and realize you have made a mistake, press the Escape button while "Saving Adjustment Value" is still in the displays. The original setting is retained and the new setting is ignored.

U. UTILITIES MENU

- U.1 Clear Audits**
- U.2 Clear Coins**
- U.3 Reset H.S.T.D.**
- U.4 Set Time & Date**
- U.5 Custom Message**
- U.6 Set Game I.D.**
- U.7 Factory Adjustments**
- U.8 Factory Resets**
- U.9 Presets**
- U.10 Clear Credits**
- U.11 Auto Burn-in**

U.1 Clear Audits

Press the Enter button to clear the Standard Audits, Feature Audits, and Histograms. Press the Up button to display the next utility.

U.2 Clear Coins

Press the Enter button to clear the Earnings Audits. Press the Up button to display the next utility.

U.3 Reset H.S.T.D.

Press the Enter button to clear the High Score to Date Table and the Grand Champion. Press the Up button to display the next utility.

U.4 Set Time and Date

Press the Enter button to activate the time and date. Use the Up or Down button to change the value, then press the Enter button to lock in that value. If you make a mistake press the Escape button while "Saving Adjustment Value" is displayed. Press the Up button to move to the next utility.

U.5 Custom Message

This utility allows the operator to install a message that appears in the displays during the Attract Mode. Press the Enter button to activate the Custom Message. Use the Up or Down button to rotate letters. Use the Start button to rotate punctuation marks, (if desired). Press the Enter button to lock in the desired letter and punctuation. Note: Set Adjustment A.1 20 to YES before trying to write a Custom Message.

U.6 Set Game I.D.

This utility allows the operator to install a message, such as game location, that only appears on printouts. Press the Enter button to activate Set Game I.D.. Use the Up or Down button to rotate letters. Use the Start button to rotate punctuation marks, (if desired). Press the Enter button to lock in the desired letter and punctuation.

U.7 Factory Adjustment

Press the Enter button to restore the adjustments to factory settings, then press the Up button to display the next utility.

U.8 Factory Reset

Press the Enter button to restore the adjustments to their factory setting, clear the Audits, H.S.T.D Table, and Custom Message/Game I.D. Press the Up button to display the next utility.

U.9 Presets

Press the Enter button to activate the Presets Group. Use the Up or Down buttons to cycle through the available Presets. When the desired Preset is displayed, press the Enter button to lock in that Preset. If you realize you have made a mistake, press the Escape button while "Saving Adjustment Value" is displayed. The new value is ignored and the original value is retained.

U.9 01 Install Extra Easy

The operator can change the game play difficulty adjustments to a combination that is MUCH LESS difficult than the Factory Settings. The Game Difficulty Setting Table lists the adjustments and the settings that comprise the 'Extra Easy' Group.

U.9 02 Install Easy

The operator can change the game play difficulty adjustments to a combination that is somewhat LESS difficult than the Factory Settings. The Game Difficulty Setting Table lists the adjustments and the settings that comprise the 'Easy' Group.

U.9 03 Install Medium

The operator can change the game play difficulty adjustments to a combination that is about the SAME difficulty as the Factory Settings. The Game Difficulty Setting Table lists the adjustments and settings that comprise the 'Medium' Group.

U.9 04 Install Hard

The operator can change the game play difficulty adjustments to a combination that is somewhat MORE difficult than Factory Settings. The Game Difficulty Setting Table lists the adjustments and settings that comprise the 'Hard' Group.

U.9 05 Install Extra Hard

The operator can change the game play difficulty adjustments to a combination that is MUCH MORE difficult than Factory Settings. The Game Difficulty Setting Table lists the adjustments and settings that comprise the 'Extra Hard' Group.

Game Difficulty Setting Table for U.S. / Canadian / French Games

Adj #	Adj Description	Extra Easy U.9 01	Easy U.9 02	Medium U.9 03 (factory)	Hard U.9 04	Extra Hard U.9 05
A.2 01	% Lagoon Special	6	4	3	3	2
A.2 02	%Lagoon Multiball	25	20	15	15	10
A.2 03	% Lagoon Bonus Ball	20	15	15	15	15
A.2 04	% Lagoon 3 Million	10	15	5	5	10
A.2 05	% Lagoon 2 Million	10	15	10	10	10
A.2 06	% Lagoon 1 Million	10	10	15	10	10
A.2 07	% Lagoon 750K	5	5	15	10	10
A.2 08	% Lagoon 500K	5	5	10	10	10
A.2 09	% Lagoon 300K	5	5	10	10	10
A.2 10	Easy Kickback	yes	yes	yes	yes	no
A.2 11	Left Outlane Memory	yes	yes	yes	no	no
A.2 12	Lagoon Memory	yes	yes	no	no	no
A.2 13	EZ Ramp Time Gilligan	easy	easy	medium	hard	hard
A.2 14	EZ Jungle Time (7 sec)	yes	yes	yes	yes	no
A.2 16	Easy Eject Control	yes	yes	yes	yes	no

Game Difficulty Setting Table for German/European Games

Adj #	Adj Description	Extra Easy U.9 01	Easy U.9 02	Medium U.9 03 (factory)	Hard U.9 04	Extra Hard U.9 05
A.2 01						
A.2 02	% Lagoon Special	4	3	3	2	2
A.2 03	%Lagoon Multiball	20	15	15	10	10
A.2 04	% Lagoon Bonus Ball	15	15	15	15	5
A.2 05	% Lagoon 3 Million	15	5	5	10	5
A.2 06	% Lagoon 2 Million	15	10	10	10	5
A.2 07	% Lagoon 1 Million	10	15	10	10	15
A.2 08	% Lagoon 750K	5	15	10	10	15
A.2 09	% Lagoon 500K	5	10	10	10	15
A.2 10	% Lagoon 300K	5	10	10	10	15
A.2 11	Easy Kickback	yes	yes	yes	no	no
A.2 12	Left Outlane Memory	yes	yes	no	no	no
A.2 13	Lagoon Memory	yes	no	no	no	no
A.2 14	EZ Ramp Time Gilligan	easy	medium	hard	hard	hard
A.2 15	EZ Jungle Time (7 sec)	yes	yes	yes	no	no
A.2 16	Easy Eject Control	yes	yes	yes	no	no

U.9 06 Install 5 Ball
 The operator can change the game to 5 ball play, including the changing of certain features to the recommended 5-ball level. The Preset Game Adjustments Table for U.S./Canadian Games lists the adjustments and settings that comprise the 'Install 5 Ball' Group.

U.9 07 Install 3 Ball
 The operator can change the game to 3 ball play, including the changing of certain features to the recommended 3-ball level. The Preset Game Adjustments Table for U.S./Canadian Games lists the adjustments and settings that comprise the 'Install 3 Ball' Group.

Preset Game Adjustments Table for U.S./ Canadian Games

Adj #	Adj Description	Install 5-ball U.9 06	Install 3-ball U.9 07
A.1 01	Balls / Game	5	3
A.1 07	Replay Start	18,000,000	12,000,000
A.1 19	Match Feature	3%	3%
A.4 10	Backup Champion	70,000,000	50,000,000
A.4 11	Backup H.S.T.D. 1	60,000,000	40,000,000
A.4 12	Backup H.S.T.D. 2	50,000,000	30,000,000
A.4 13	Backup H.S.T.D. 3	40,000,000	20,000,000
A.4 14	Backup H.S.T.D. 4	30,000,000	50,000,000

U.9 08 Install Add -A -Ball
 The operator utilizes this option to delete all Free Play awards and replace them with Bonus Ball awards. Individual adjustments are affected, as follows:

<u>Ad</u>	<u>Name</u>	<u>New Setting</u>
A.1 13	Replay Boost	Off
A.1 14	Replay Award	Bonus Ball
A.1 15	Special Award	Bonus Ball
A.1 17	Bonus Ball Ticket	No
A.1 19	Match Feature	Off
A.4 04	Champion Credits	00
A.4 05	High Score 1 Credits	00
A.4 06	High Score 2 Credits	00
A.4 08	High Score 3 Credits	00
A.4 07	High Score 4 Credits	00

U.9 09 Install Ticket
 The operator utilizes this option to delete Credit awards and replace them with Ticket awards. Individual adjustments are affected as follows.

<u>Ad</u>	<u>Name</u>	<u>New Settings</u>
A.1 14	Replay Award	Ticket
A.1 15	Special Award	Ticket
A.1 16	Match Award	Ticket
A.1 17	Bonus Ball Ticket	Yes
A.4 02	H.S.T.D. Award	Ticket

- U.9 10 Install Novelty**
 The operator utilizes this option to removes all Free Play and Bonus Ball awards. Individual adjustments are affected as follows:

<u>Ad</u>	<u>Name</u>	<u>New Setting</u>
A.1 04	Max. Bonus Ball	Off
A.1 05	Replay System	Fixed
A.1 09	Replay Level 1	Off
A.1 10	Replay Level 2	Off
A.1 11	Replay Level 3	Off
A.1 12	Replay Level 4	Off
A.1 15	Special Award	Points
A.1 19	Match Feature	Off
A.4 01	Highest Score	On
A.4 04	Champion Credits	00
A.4 05	High Score 1 Credits	00
A.4 06	High Score 2 Credits	00
A.4 07	High Score 3 Credits	00
A.4 08	High Score 4 Credits	00

- U.9 11 Install Buy-in**
 The operator uses this option to automatically set game pricing to 1 for 50¢/2 for \$1.00 and 1 Coin Buy-in (A.3 19) to YES.

- U.9 17 Install German 1• • For German Jumpred CPU Boards only.**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for German/European Games lists the adjustments and settings that comprise the 'Install German 1' Group.

- U.9 18 Install German 2•**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustment Table for German/ European Games lists the adjustments and settings that comprise the 'Install German 2' Group.

- U.9 19 Install German 3•**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for German/European Games lists the adjustments and settings that comprise the 'Install German 3' Group.

- U.9 20 Install German 4•**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for German/European Games lists the adjustments and settings that comprise the 'Install German 4' Group

- U.9 21 Install German 5•**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for German/European Games lists the adjustments and settings that comprise the 'Install German 5' Group.

- U.9 22 Install German 6•**
 The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for German/European Games lists the adjustments and settings that comprise the 'Install German 6' Group.

Preset Game Adjustments Table for German/European Games

Adj #	Adj Description	German 1 U.9 17	German 2 U.9 18	German 3 U.9 19	German 4 U.9 20	German 5 U.9 21	German 6 U.9 22
A.1 14	Replay Award	Credit	Ticket	Audit	Credit	Ticket	Audit
A.1 15	Special Award	Credit	Ex. Ball	Points	Credit	Ex. Ball	Points
A.1 16	Match Award	Credit	Ticket	Credit	Credit	Ticket	Credit
A.1 19	Match Feature	7%	7%	Off	7%	7%	Off
A.3 01	Game Pricing	6 spiele/5 DM	6 spiele/5 DM	6 spiele/5 DM	7 spiele/5 DM	7 spiele/5 DM	7 spiele/5 DM
A.4 02	H.S.T.D. Award	Credit	Ticket	Credit	Credit	Ticket	Credit
A.4 04	Champion Credits	03	03	00	03	03	00
A.4 05	High Score 1 Credits	01	01	00	01	01	00
A.4 06	High Score 2 Credits	00	00	00	00	00	00
A.4 07	High Score 3 Credits	00	00	00	00	00	00
A.4 08	High Score 4 Credits	00	00	00	00	00	00
A.4 10	Backup Champion	15.000.000	15.000.000	00	15.000.000	15.000.000	00
A.4 11	Backup High Score 1	12.000.000	12.000.000	00	12.000.000	12.000.000	00
A.4 12	Backup High Score 2	11.000.000	11.000.000	00	11.000.000	11.000.000	00
A.4 13	Backup High Score 3	10.000.000	10.000.000	00	10.000.000	10.000.000	00
A.4 14	Backup High Score 4	9.000.000	9.000.000	00	9.000.000	9.000.000	00

U.9 23 Install French 1*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games lists the adjustments and setting that comprise the 'Install French 1' Group.

U.9 24 Install French 2*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games list the adjustments and settings that comprise the 'Install French 2' Group.

U.9 25 Install French 3*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games list the adjustments and settings that comprise the 'Install French 3' Group.

U.9 26 Install French 4*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games lists the adjustments and setting that comprise the 'Install French 4' Group.

U.9 27 Install French 5*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games lists the adjustments and settings that comprise the 'Install French 5' Group.

U.9 28 Install French 6*

The operator uses this adjustment to modify the game pricing and the type of game play. The Preset Game Adjustments Table for French Games lists the adjustments and settings that comprise the 'Install French 6' Group.

*For French Jumpered CPU Boards only.

Preset Game Adjustments Table for French Games

Adj #	Adj Description	French 1 U.9 23	French 2 U.9 24	French 3 U.9 25	French 4 U.9 26	French 5 U.9 27	French 6 U.9 28
U.9 06	Install 5 Ball	N/A	N/A	N/A	N/A	N/A	Yes

Press the Escape button to return to the Presets menu. Then press the Up button to display the next utility, (or the Down button to return to a previous utility).

U.10 Clear Credits

Press the Enter button to clear the game Credits. Press the Up button to display the next utility.

U.11 Auto Burn-in

Press the Enter button to activate Auto Burn-in. This utility allows you to automatically cycle through several tests. This helps in finding intermittent problems. The tests that Auto Burn-in cycles through are the Display Test, the Sound and Music Test, the All Lamps Test, the Solenoid Test, the Flashers Test, and the General Illumination Test.

Press the Escape button to return to the Utilities Menu. Then, either press the Up or Down button to return to a previous Utilities Menu Group, or press the Escape button again to return to the Main Menu. Once in the Main Menu either use the Up or Down buttons to return to a previous menu selection, or press the Escape button again to return to the Attract Mode.

PROBLEM ANALYSIS MESSAGES

The WPC game program has a great capability to aid the operator and service personnel: At Game Turn-on (and after pressing the Begin Test switch) once the game has been operating for an extended period, the player score displays may signal with a message, "Press ENTER for Test Report", that the game program has detected a possible problem with the game.

To obtain details of the problem, open the coin door and press the Begin Test switch. Press the Enter button to begin displaying the message(s). The following messages apply to your **GILLIGAN'S ISLAND** game.

Check Switch ##. This message indicates that at least one switch was stuck 'On' at game turn-on or has NOT been actuated during ball play (for 90 balls or ~30 games) by displaying the message "Adjust Switch ##", listing each problem switch by number. (The game program compensates the game play requirements affected by each disabled switch to allow 'nearly normal' play. This helps keep **GILLIGAN'S ISLAND** earning, until the service technician can repair the problem, bringing the game back to its normal good profits!)

To verify the problem, refer to the Test Menu text describing Switch Testing, and check each reported switch using applicable switch tests. Always check switch operation using a ball, to simulate game conditions. (Switch problems may often be resolved by adjusting the wire switch actuators, fixing switch circuitry problems, securing loose connectors, etc. Mechanisms using 'opto switches' (drop targets, etc.) need to be checked for proper power connections (+12V dc and ground).

Pinball Missing. **GILLIGAN'S ISLAND** normally uses two balls; however, it will operate with one ball. This message announces that a ball is missing or stuck somewhere. When the ball is located, return it to the game via the Outhole. Other possibilities for this problem could be malfunctions of the Ball Trough switches or the Ball Shooter switch.

xxxxx Sw. is Stuck On. This message indicates that a switch, which is not usually On, remains in the On position after the game is switched On. The stuck switch is essential for game play (for example, a coin chute switch, the slam tilt switch, the plumb bob tilt switch), and should be cleared to permit proper game operation.

Ground Short Row-N, Wht-xxx. Frequent appearance of this message requires activation of the Switch Levels Test to locate the switch causing the "WHT-xxx ROW x SHORT" message. Possible 'row short' causes are: 1) Slam Tilt (or other coin door) switch touching the grounded coin door; 2) A *leaf-type*, playfield switch touching a grounded part; 3) Players poking metallic objects (wires, coat hangers, etc.) into the game; 4) Switch cable insulation pierced or damaged allowing bare wire contact with a grounded part; 5) All switches in a row closing at the same time (Note: This instance is NOT a switch problem; however, for most games this is a very rare possibility).

Factory Settings Restored. Repeated appearance of this message indicates that the CMOS RAM no longer retains any custom Pricing or Game Adjustment settings and has reverted to factory default settings. Generally, the following CPU checks will isolate the cause of the CMOS RAM memory failure. The voltage at pin 28 of U8 should be +5V (game turned On) and at least +3.8V (game turned Off). When the voltage drops below +3.8V, memory reset occurs. Check the batteries and battery holder. Be sure that the batteries are good and that there is no contamination on the battery holder terminals. Turn the game OFF, and use an ohmmeter to check diodes D1 and D2 on the CPU Board. D1 should read 0 ohms when forward-biased and infinite ohms when reverse-biased. D2 should read 15 ohms when forward-biased and infinite ohms when reverse-biased.

U6 Checksum Error. The game ROM checksum is invalid. If this occurs replace the game ROM.

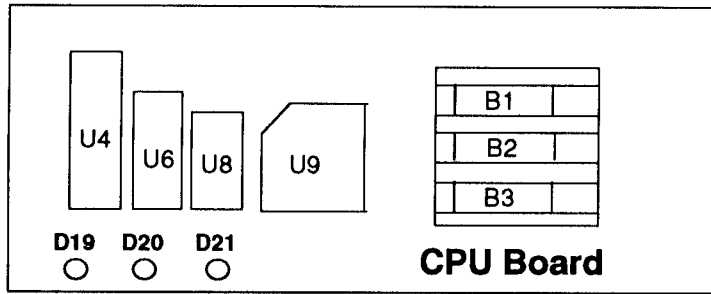
Time and Date Not Set. The real time clock is not running. If this occurs go to U.4 of the Utilities Menu and set the time and date.

The CPU has three L.E.D.s located on the upper left side of the board. On game power-up the top and bottom L.E.D.s turn On for a moment then, the top L.E.D. turns Off and the center L.E.D. starts to blink rapidly. The bottom L.E.D. remains On. The system has detected a problem if the following happens:

CPU Board L.E.D. Error Codes

Center L.E.D. blinks one time	-	ROM Error U6
Center L.E.D. blinks two times	-	RAM Error U8
Center L.E.D. blinks three times	-	Custom Chip Failure U9

LED List



CPU Board

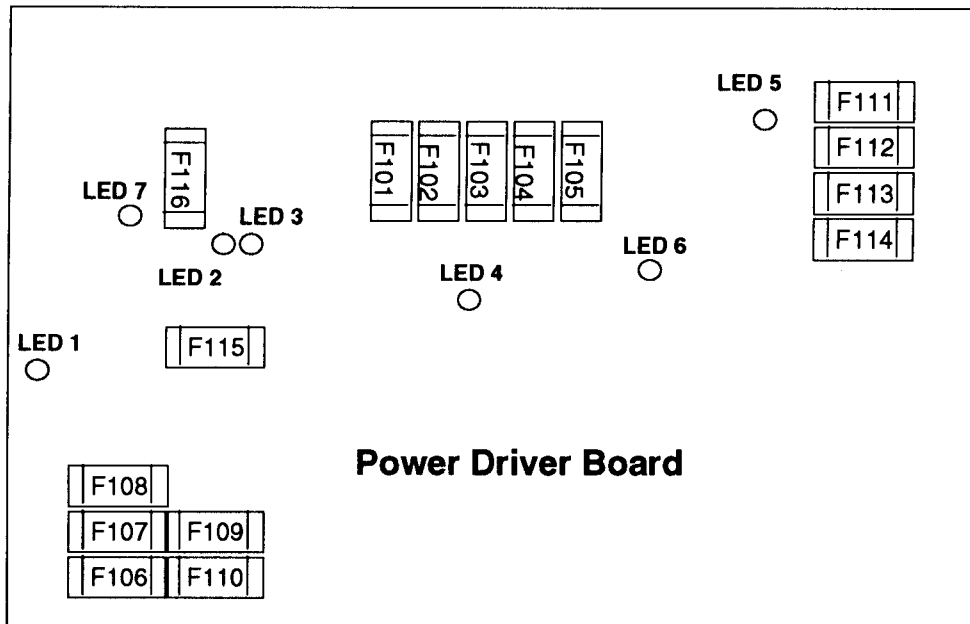
D19, Blanking

D20, Diagnostic

D21, +5vdc

At game Turn-On = D19 & D21 On, D20 Off

During Normal Operation = D19 Off, D20 Flashing, D21 On



Power Driver Board

LED 1, +12vdc Switch Circuit, Normally On

LED 2, High/Low Line Voltage Sensor, Normally On

LED 3, High/Low Line Voltage Sensor, Normally Off

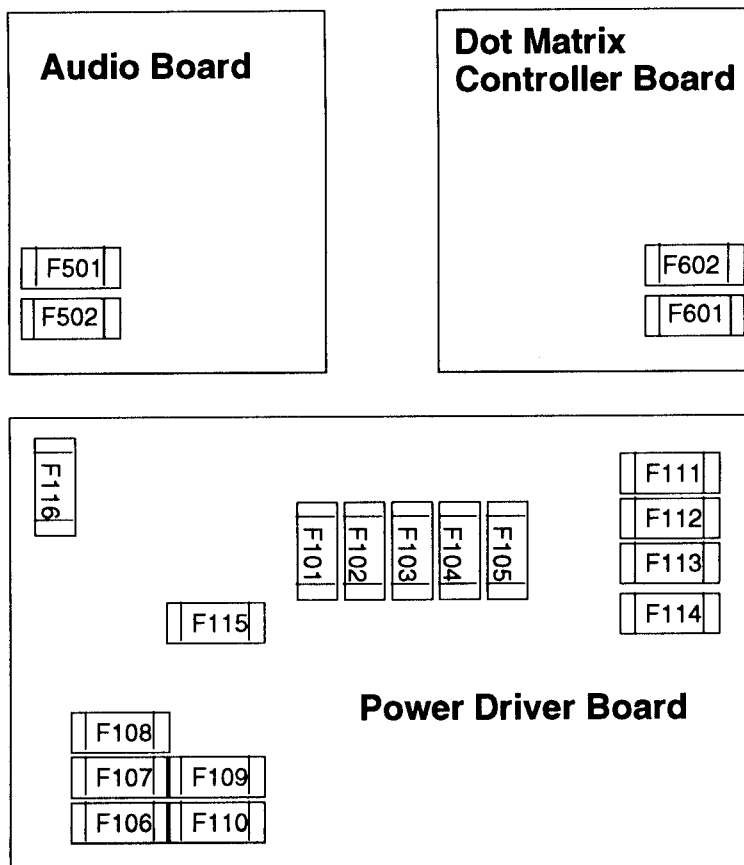
LED 4, +5vdc, Digital Circuit, Normally On

LED 5, +20vdc, Flashlamp Circuit, Normally On

LED 6, +18vdc, Lamps Circuit, Normally On

LED 7, +12vdc, Power Circuit (motors relays etc.), Normally On

Fuse List



Audio Board

F501 -25V Circuit 3A, S.B.
 F502 +25V Circuit 3A, S.B.

Dot Matrix Controller Board

F601 +80V A.C. 3/8A, S.B.
 F602 +100V A.C. 3/8A, S.B.

Power Driver Board

F101	Left Flipper	2.5A, S.B.	F113	+5V Logic	5A, S.B.
F102	Right Flipper	2.5A, S.B.	F114	+18V Lamp Matrix	8A, N.B.
F103	Solenoid 25-28	3A, S.B.	F115	+12V Switch Matrix	3/4A, S.B.
F104	Solenoids 9-16	3A, S.B.	F116	+12V Secondary	3A, S.B.
F105	Solenoids 1-8	3A, S.B.			
F106	G.I. #2 Wht-Vio	5A, S.B.			
F107	G.I. #3 Wht-Yel	5A, S.B.			
F108	G.I. #5 Wht-Grn	5A, S.B.			
F109	G.I. #4 Wht-Orn	5A, S.B.			
F110	G.I. #1 Wht-Brn	5A, S.B.			
F111	Flasher Secondary	5A, S.B.			
F112	Solenoid Secondary	5A, S.B.			

Line Filter

Domestic Game 8A, N.B.
 Foreign Game 4A, S.B.

MAINTENANCE INFORMATION

Regular maintenance is essential to a game's continuing contribution to the operator's earnings.

LUBRICATION

The two main lubrication points of the Ball Shooter Lane Feeder mechanism are the pivots for the arm. Note that the mechanism of other playfield devices are somewhat similar to the Ball Shooter Lane Feeder Device; and have the same lubrication requirements as the Ball Shooter Lane Feeder Device. A medium viscosity oil (20W or 30W) is satisfactory for these devices.

Because of the functional design (arm-actuated via solenoid plunger operation), the pivot points of the Left and Right Kickers ("Slingshots") all require lubrication as a regular servicing procedure.

Lubrication to ensure proper operation also applies to the target blades of the Drop Targets. MBI Instrument Grease, also known as Drop Target Switch Lubricant, with a Williams' part number of 20-8886, is a recommended lubricant.

SWITCH CONTACTS

For proper game operation, switch contacts should be free of dust, dirt, contamination, and corrosion. Blade switch contacts are plated to resist corrosion. Cleaning blade switch contacts requires gentle closing of the contacts on a clean business card or piece of paper, and then pulling the paper about 2 inches, which should restore the clean contact surface. Adjust the switch contacts to a 1/16-inch gap.

CLEANING

Good game action and extended playfield life are the results of regular playfield cleaning. During each collection stop, the playfield glass should be removed and thoroughly cleaned and the playfield should be wiped off with a clean, lint-free cloth. The game balls should be cleaned and inspected for any chips, nicks, or pits. Replace any damaged balls to prevent playfield damage.

Regular, more extensive, playfield cleaning is recommended. However, avoid excessive use of water and caustic or abrasive cleaners because they tend to damage the playfield surface. Playfield wax (or any carnauba based wax), or polish may be used sparingly, to prevent a buildup on the playfield surface. Do not use cleaners containing petroleum distillates on any playfield plastics because they may dissolve the plastic material or damage the artwork.

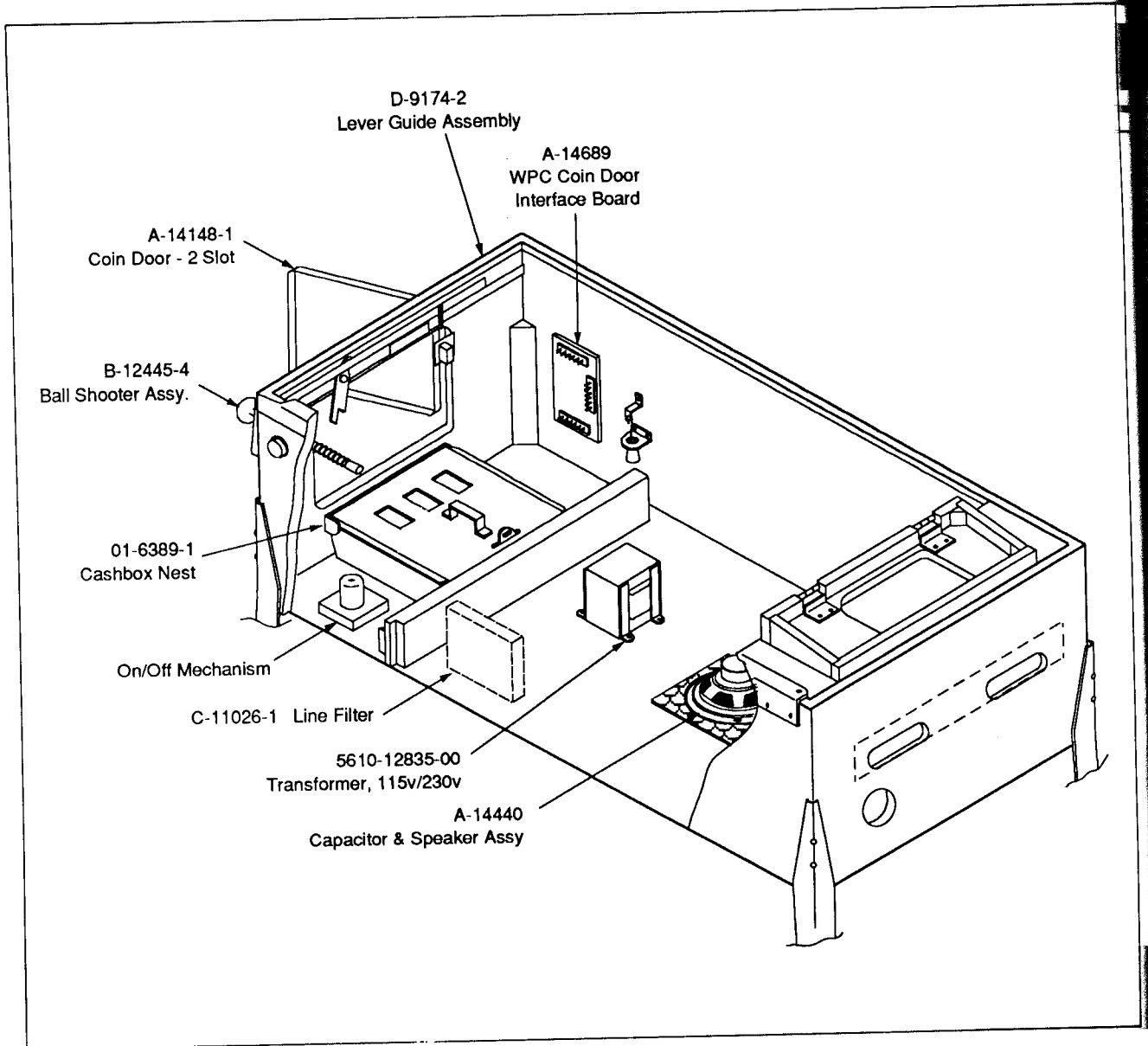
Section 2

Game Parts Information

- ***Parts Lists & Diagrams***

- Cabinet Parts**
- Game Circuit Boards**
- Major Mechanism Locations Diagram**
- Audio Board**
- CPU Board**
- Power Driver Board**
- Dot Matrix Controller Assy.**
- Lamp Boards**
- Major Mechanism Assemblies**
- Rubbers**
- Lamps**
- Switches**
- Solenoids/Flashers**
- Playfield Parts**

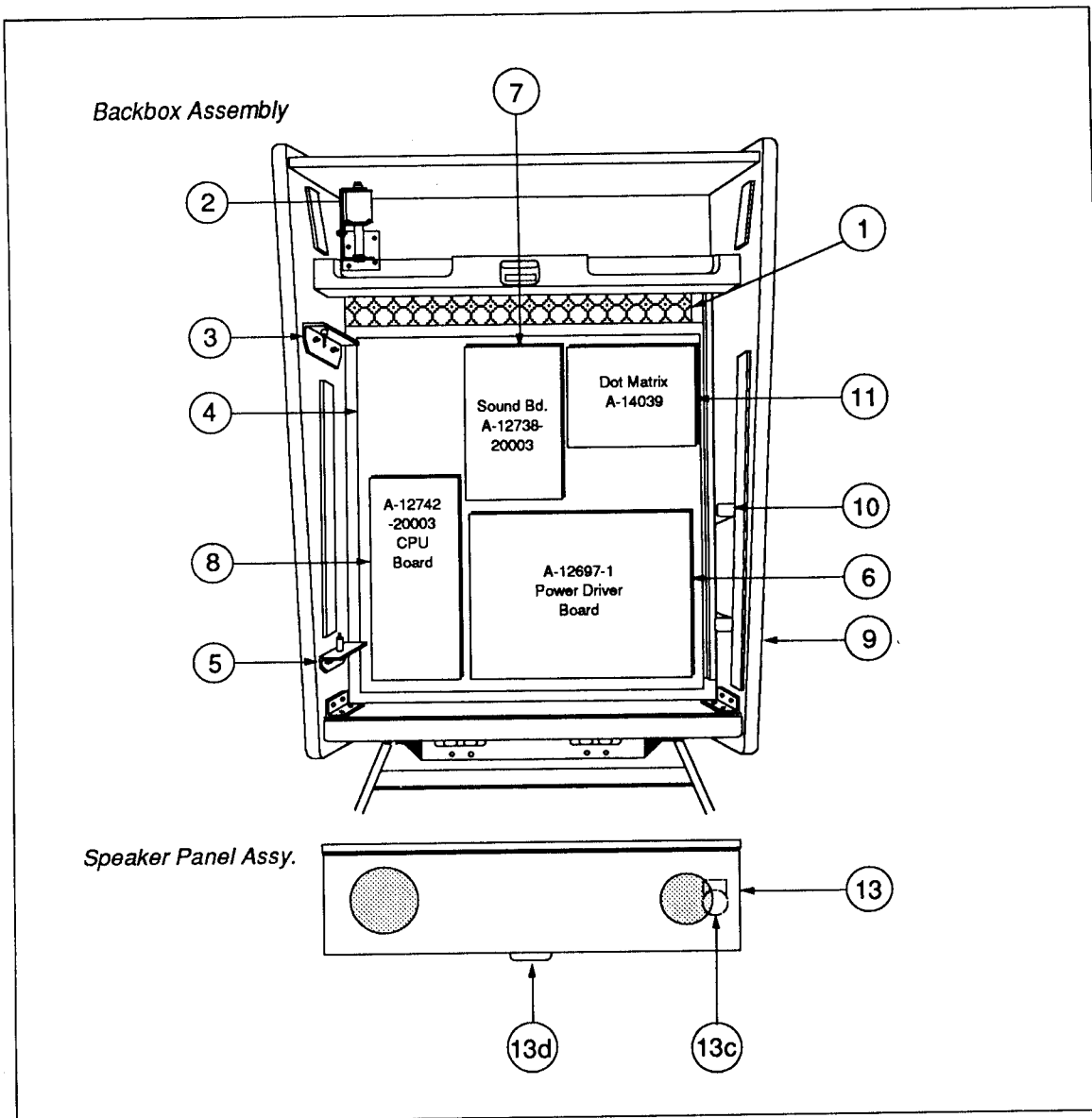
Cabinet Parts



Miscellaneous Parts

Part Number	Description	Part Number	Description
08-7028-T	Glass Playfield	31-1524-3	Decal - See Cards
08-7463	Backbox Glass, 27 x 23	31-1-20003-1	Playfield Plastic
09-23002-1	Coin Door - 2-Slot	thru 31-1-20003-28	
31-1009-20003	Shooter Plate (Screened)	31-2-20003-1	Decal
31-1524-1	Decal - Coinage	thru 31-2-20003-10	
31-1524-2	Decal - Tokens		

Backbox Assembly



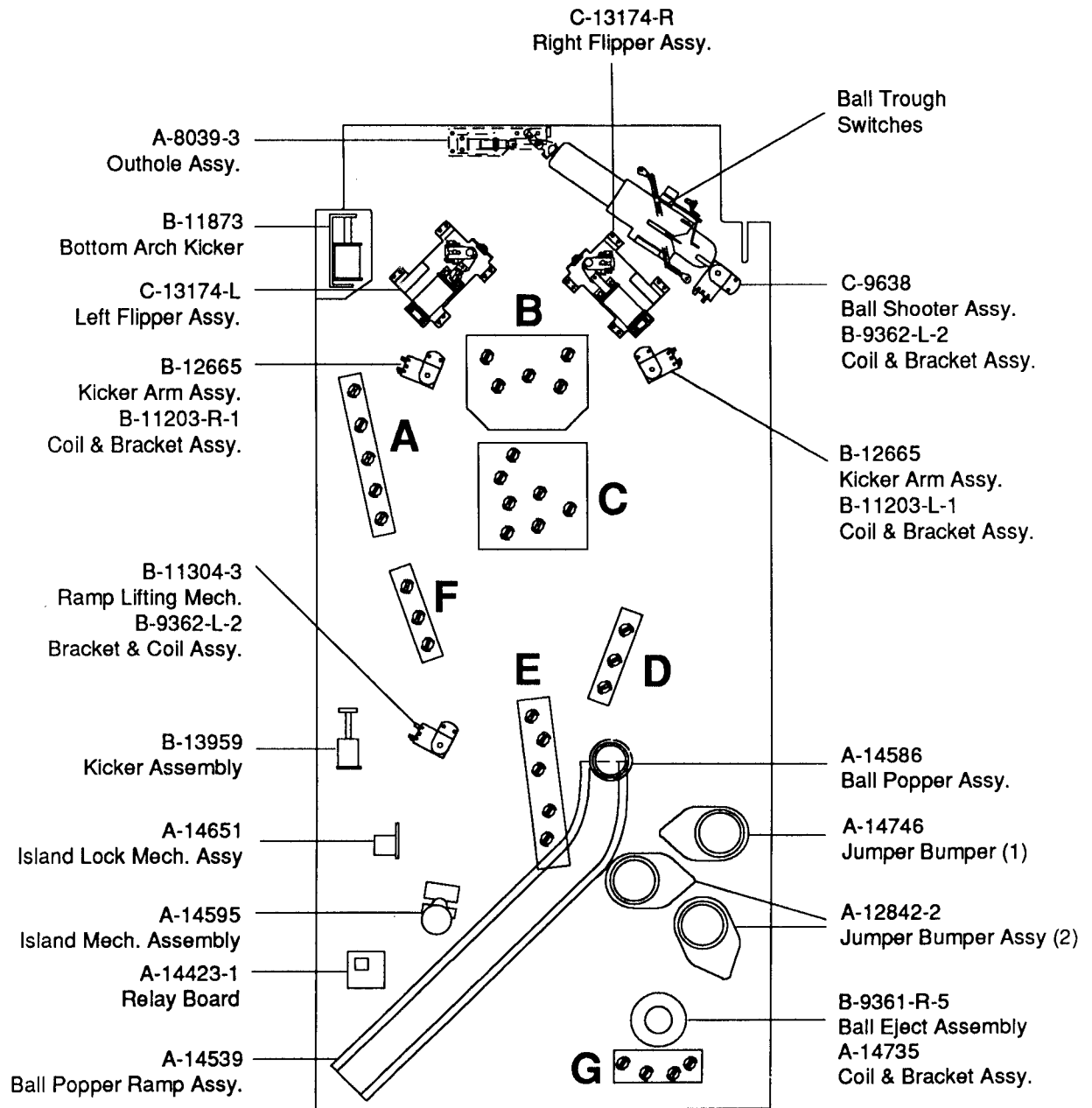
Item	Part Number	Description	Item	Part Number	Description
1	01-6645	Venting Screen	11	A-14039	Dot Matrix Controller
2	B-10686-1*	Knocker & Bracket Assy.	** 12	5901-12784-00	Dot Matrix Display
3	A-12497	Upper Insert Bd Hinge Assy.	13	A-14440	Speaker Panel Assembly
4	A-14092-1	Mounting Plate Assembly	a)	5555-12015-00	Speaker, 8Ω, 6", 20w
5	A-12498	Lower Insert Bd Hinge Assy.	b)	5555-12068-00	Piezo Speaker, 4", 50w.
6	A-12697-1	Power Driver Assembly	c)	A-14292-1	Coil & Bracket Assembly
7	A-12738-20003	WPC Sound Board		A-14418	Cross- Over Coil Assembly
8	A-12742-20003	WPC CPU Board		A-14291	Coil Pole & Coil Assy
9	A-13767-20003	Gilligan's Island Backbox	d)	20-9637	Lock & Cam Assembly
10	01-9047	Insert Stop Bracket			

* Refer to Individual Unit's Parts List

** Dot Matrix Display located on Insert Board.

Locations Diagram - Game Major Mechanisms

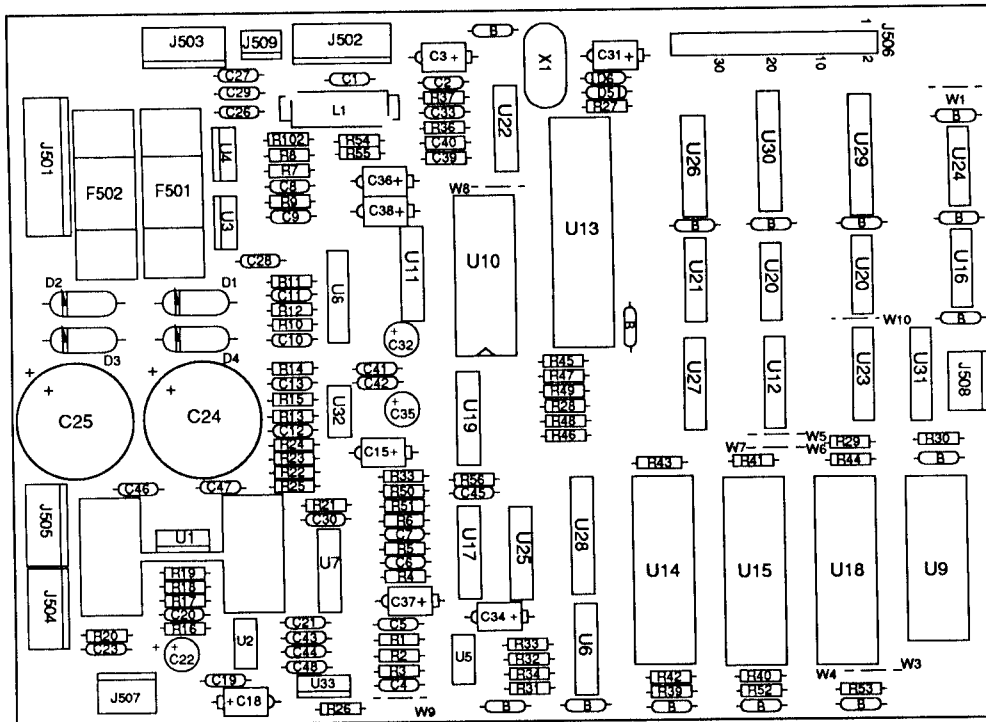
Underside of Playfield, Viewed in Raised Position



Lamp Boards

A.	A-14532	5-Lamp Board
B.	A-14533	5-Lamp Board
C.	A-14531	6-Lamp Board
D.	C-12709	Playfield Lamp Target
E.	A-14530	5-Lamp Board
F.	C-12709	Playfield Lamp Target
G.	A-12529	4-Lamp Board

A-12738-20003 WPC Audio Board

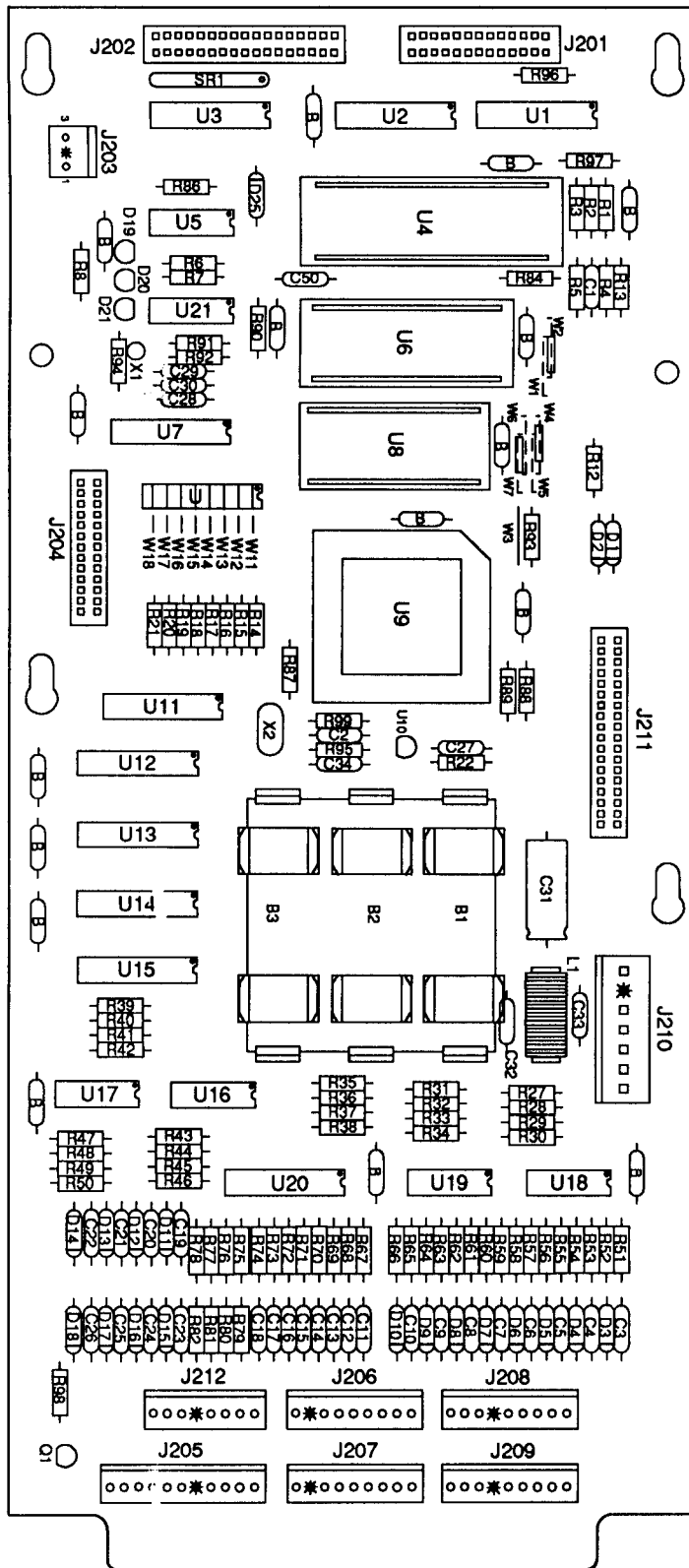


Part No.	Ckt Designator	Description	Part No.	Ckt Designator	Description
01-9980		Shield: Wire Protector	5048-12746-00	C5, C7	Capacitor, 330pfd., 50V
20-9229	U1	Thermal Compound	5048-12748-00	C9, C11, C30	Capacitor, 220pfd., 50V
4004-01005-06	U1	Mach. Screw, 4-40 x 3/8	5070-08919-00	D5, D6	Diode, 1N4148
4104-01012-04	U1	Sh. Mach. Screw, #4 x 1/4	5070-09045-00	D1-D4	Diode MR501, 3.0A.
4404-01119-00	U1	Nut, 4-40 SNUT	5250-10495-00	U3	Reg. 7912 1.0A -12V
5010-09324-00	R21	Resistor 27K Ω , 1/4w, 5%	5281-09215-00	U22	IC, 74LS04 Hex INV
5010-12065-00	R22, R25	Resistor, 120K Ω , 1/4w, 5%	5281-09246-00	U12	IC, 74LS139 2-4 Dec.
5010-08991-00	R51	Resistor, 4.7K Ω , 1/4w, 5%	5281-09486-00	U28-U30	IC, 74LS374 8 Dual Flipflop
5010-09034-00	R13, R14, R29-R31, R33, R34, R50, R45-R49	Resistor, 10K Ω , 1/4w, 5%	5281-09487-00	U6, U23-U25	IC, 74LS74 Dual Flipflop
5010-09035-00	R4	Resistor, 47K Ω , 1/4w, 5%	5281-09500-00	U31	IC, 74LS32
5010-09036-00	R35	Resistor, 100K Ω , 1/4w, 5%	5281-09745-00	U26, U27	IC, 74LS138 DMLTPX
5010-09134-00	R1, R2, R6, R8, R9, R11, R12, R23, R24	Resistor, 150K Ω , 1/4w, 5%	5281-09850-00	U20	IC, 74LS11 Tripple AND
5010-09162-00	R26, R102	Resistor, 100K Ω , 1/4w, 5%	5281-10577-00	U16	IC, 74LS125 O/B Bfr
5010-08774-00	R3, R5, R17, R19	Resistor, 22K, 1/4w, 5%	5370-11086-00	U10	IC, YM2151 Sound
5010-09269-00	R15	Resistor, 12K Ω , 1/4w, 5%	5371-11087-00	U11	IC, YM3012 D/A
5010-09358-00	R18, R32	Resistor, 1K Ω , 1/4w, 5%	5400-10320-00	U13	IC, MPU 68B09E
5010-09416-00	R28, R39, R40-R44	Resistor, 470K Ω , 1/4w, 5%	5284-12651-00	U21	IC, 4584
5010-09534-00	R52, R53, R57, R36, R37	Resistor, 0 Ω	5340-12278-00	U9	S/Ram 2064
5010-10171-00	R38, R56	Resistor, 56 Ω , 1/4w, 5%	5370-09691-00	U17	IC, 55536 CVSD
5010-10258-00	R16	Resistor, 1M, 1/4w, 5%	5370-12260-00	U2	IC, 3340 Elec Atten
5010-10650-00	R7, R10	Resistor, 62K, 1/4w, 5%	5370-12728-00	U1	IC, Audio Amp LM1875
5010-10989-00	R54, R55, R27	Resistor, 470K, 1/4w, 5%	5370-12730-00	U7, U8	IC, Op Amp TL084
5010-12752-00	R20	Resistor, 1 Ω , 1/4w, 5%	5370-12742-00	U32	IC, Op Amp TL082
5040-08986-00	C3	Capacitor, 100M, 10v (\pm 20%)	5371-12727-00	U19	Dac AD7524
5040-09332-00	C15, C18, C34, C36, C38	Capacitor, 47 μ fd., 25v, Axial	5432-12726-00	U5	EE Prom Pot X9503
5040-11036-00	C32, C35	Capacitor, 47 μ fd., 16v, Rad.	5460-12423-00	U4	IC, LM7812
5040-12729-00	C24, C25	Capacitor, 4700 μ fd., 35v	5460-12743-00	U33	LM7809 TO-220
5040-12750-00	C22	Capacitor, 22 μ fd., 35v, Rad.	5520-09020-00	X1	Crystal, 3.58 MHz.
5041-09031-00	C26-C29, C37, C46-C48	Capacitor, 1 μ fd. TANT	5521-10931-00	OSC1	Oscillator, 8.0 MHz.
5041-09243-00	C20, C21	Capacitor, 10 μ fd. TANT	5551-09822-00	L1	Ind, 4.7UH 3.0A.
5043-08980-00	C41-C44, B(15)	Capacitor, .01M, 50v, (+80, -20)	5700-08985-00	U13	Socket, IC 40-pin, .6"
5043-08996-00	C1, C2	Capacitor, .1 μ fd., 50v, 10%	5700-09004-00	U9, U10	Socket, IC 24-pin, .6"
5048-11027-00	C8, C10	Capacitor, 33pfd., 50v, 10%	5700-09006-00	U11	Socket, IC 16-pin, .3"
5048-11028-00	C45	Capacitor, 22pfd., 50V, Axial	A-5343-20003-4	U14	IC, Audio ROM
5048-11029-00	C33, C49	Capacitor, 100pfd., 50v	A-5343-20003-3	U15	IC, Audio ROM
5048-11030-00	C12	Capacitor, 470pfd., 50v	A-5343-20003-2	U18	IC, Audio ROM
5048-11031-00	C19, C31	Capacitor, .001 μ fd., 50v, 10%	5700-12088-00		Socket, IC 32-pin (U14, U15, U18)
5048-11065-00	C13	Capacitor, .0022 μ fd., 50v, 10%, Ax.	5705-12755-00	U1	Heatsink 5299B-220
5048-11072-00	C39, C40	Capacitor, .0033 μ fd.	5731-08633-00	F501, F502	Fuse, 3A, S-B
5048-12036-00	C23	Capacitor, .22 μ fd., 10v, Ceramic	5733-12060-01		Fuse Holder (F501, F502)
5048-12745-00	C4, C6	Capacitor, 1800pfd., 50V, 10%	5766-12433-00		PCB-Sound 90
16-8850-346		PCB Label	5791-10862-04	J504, J505	Connector, 4-pin Header Sq. .156
			5791-10862-05	J502	Connector, 5-pin Header Sq. .156
			5791-10862-07	J601	Connector, 7-pin Header Sq. .156
			5791-12462-03	J509	Connector, 3-pin Header Sq. .100
			5791-12462-04	J508	Connector, 4-pin Header Sq. .100
			5791-12516-00	J506	34 Hen 2x17 STR

A-12742-20003 WPC CPU Board

Item	Part Number	Ckt Designator	Description
1	5010-09034-00	R14-R22, R27-R42, R86, R90, R94, R98	Resistor, 10K Ω , 1/4w, 5%
2	5010-09085-00	R1, R2, R4, R93, R96, R97	Resistor, 1.5K Ω , 1/4w, 5%
3	5010-09314-00	R52, R54, R56, R58, R60, R62, R64, R66, R75-R82	Resistor, 1.2K Ω , 1/4w, 5%
4	5010-09358-00	R3, R43-R51, R53, R55, R57, R59, R61, R63, R65, R67-R74, R84	Resistor, 1K Ω , 1/4w, 5%
5	5010-09416-00	R5-R8, R12, R13, R87-R89	Resistor, 470 Ω , 1/4w, 5%
6	5010-09534-00	W1, W4, W7, W13 - W18	Resistor, 0 Ω
7	5010-10258-00	R95, R99	Resistor, .01 μ fd, 1/4w, 5%
8	5010-10989-00	R92	Resistor, 470K Ω , 1/4w, 5%
9	5010-12104-00	R91	Resistor, 22 μ fd, 1/4w, 5%
10	5019-09362-00	SIP 1	SIP, 9R, 10-pin, 4.7K Ω , 5%
11	5040-08986-00	C31	Capacitor, 100 μ fd, 10v (\pm 20%)
12	5043-08980-00	B	Capacitor, .01 μ fd, 50v, (+80, -20%)
13	5043-09030-00	C27	Capacitor, 0.047 μ fd, 50v (\pm 20%)
14	5043-09065-00	C3 - C26	Capacitor, 470pfd, 50v (\pm 20%)
15	5043-09491-00	C2, C29, C30, C34	Capacitor, 22pfd, 1KV, (\pm 10%)
16	5043-09492-00	C28	Capacitor, 100pfd, 50v, (\pm 10%)
17	5043-09845-00	C32, C33	Capacitor, 1KP, 50v, (\pm 20%)
18	5070-08919-00	D2 - D18	Diode, 1N4148, 150MA
19	5070-09266-00	D1, D25	Diode, 1N5817, 1.0A.
20	5160-10269-00	Q1	Transistor, 2N3904, NPN
21	5162-12422-00	U20	IC, ULN, 2803A
22	5281-09308-00	U3	IC, 74LS245, Octal Bus Trncv
23	5281-09486-00	U14	IC, 74LS374, 8D F/F
24	5281-09851-00	U5	IC, 74LS14, SMT/TRG
25	5281-09867-00	U , U2, U7	IC, Octal Buffer, 74LS244
26	5281-10182-00	U 1, U12, U13, U15	IC, 74LS240 Driver
27	5284-12651-00	U21	IC, 4584
28	5340-12278-00	U8	S/RAM 2064
29	5370-12272-00	U16 - U19	IC, LM339, Quad. Comp
30	5370-12687-00	U10	MC, 34064 Reset Chip
31	5520-10438-00	X2	Crystal, 8.0MHz.
32	5520-12084-00	X1	Crystal 32.768 KHz
33	5551-09822-00	L1	ILN, 4.7 UH 3A
34	5671-09019-00	D19 - D21	DSPL LED RED
35	5700-08985-00	U4	Socket, IC 40P, .6"
36	5700-12088-00	U6	Socket, IC 32P, .6"
37	5700-12424-00	U9	Socket, 84 Pin PLCC
38	5764-12431-00		PC Board
39	5791-10850-00	J201, J204	Connector, 26-pin Header Str Sq.
40	5791-10862-07	J210	Connector, 7-pin Header Str Sq.
41	5791-12461-08	J212	Connector, 8-pin Header Str Sq.
42	5791-12461-09	J206 - J209	Connector, 9-pin Header Sq. pin
43	5791-12461-12	J205	Connector, 12-pin Header Sq. pin
44	5791-12516-00	J202, J211	34 Hen 2x17 STR
45	5881-09021-00	B1 - B3	Battery Holder "AA"
46	5048-11033-00	C50	Capacitor, 0.022 μ f, 10v
47	16-8850-345		PCB Label
48	A-5343-20003	U6	Game PROM Assembly
49	5410-12426-00	U9	WPC-89 ASIC
50	5400-10320-00	U4	IC MPU 68B09E
51	5880-09022-00	B1 - B3	Battery, Alkaline, 1.5v ("AA")

A-12742-20003 WPC CPU Board

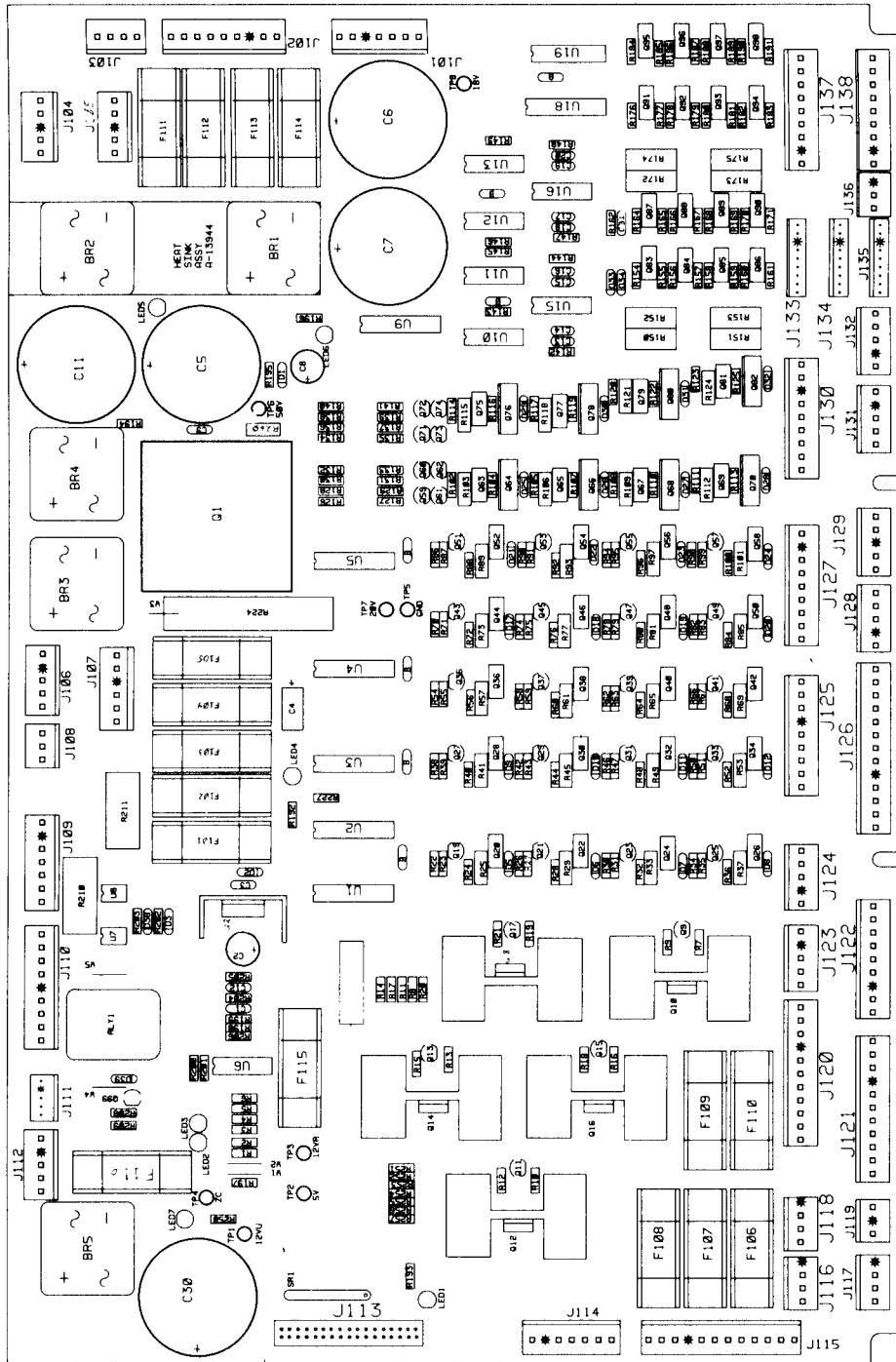


A-12697-1 WPC Power Driver Assembly

Item	Part Number	Ckt Designator	Description	Item	Part Number	Ckt Designator	Description
1	20-9229	Q2, Q10, Q12, Q14, Q16, Q18	Thermal Compound	41	5194-09055-00	Q9, Q11, Q13, Q15, Q17, Q19, Q21, Q23, Q25, Q27, Q29, Q31, Q33, Q35, Q37, Q39, Q41, Q43, Q45, Q47, Q49, Q51, Q53, Q55, Q57, Q59-Q62, Q71-Q74, Q99	Transistor, 2N4403 PNP
2	4006-01005-06	Q1, Q2	Mach. Screw, 6-32 x 3/8	42	5191-12179-00	Q64, Q66, Q68, Q70, Q76 Q78, Q80, Q82	Transistor, TIP36C PNP
3	4406-01128-00	Q1, Q2	Nut, 6-32 KEPS	43	5192-12428-00	Q91-Q98	Transistor, TIP 107
4	4004-01005-06	Q10, Q12, Q14, Q16, Q18	Mach. Screw, 4-40 x 3/8	44	5250-12634-00	Q1	Reg LM 323 5v
5	4404-01119-00	Q10, Q12, Q14, Q16, Q18	Nut, 4-40 SNUT	45	5281-09486-00	U1-U5, U18	IC, 74LS374 8 Dual D Flipflop
6	5010-08981-00	R260	Resistor, 10K Ω , 1/2w, 5%	46	5281-09487-00	U10-U13	IC, 74LS74 Dual D flipflop
7	5010-08991-00	R9, R12, R15, R18, R21, R23, R27, R31, R35, R39, R43, R47, R51, R55, R59, R63, R67, R71, R75, R79, R83, R87, R91, R95, R99, R126, R128, R130, R132, R134, R136, R138, R140, R209, R227	Resistor, 4.7K Ω , 14w, 5%	47	5281-10182-00	U9	IC, 74LS240, L/Dvrr
8	5010-08992-00	R8, R11, R14, R17, R20, R177, R179, R181, R183, R185, R187, R189, R191, R208	Resistor, 560 Ω , 1/4w, 5%	48	5370-12272-00	U6, U15, U16	IC, LM339 Quad. Comp
9	5010-08993-00	R25, R29, R33, R37, R41, R45, R49, R53, R57, R61, R65, R69, R73, R77, R81, R85, R89, R93, R97, R101, R103, R106, R109, R112, R115, R118, R121, R124	Resistor, 68 Ω , 1/4w, 5%	49	5460-12423-00	Q2	IC, LM 7812
10	5010-08997-00	R24, R28, R32, R36, R40, R44, R48, R52, R56, R60, R64, R68, R72, R76, R80, R84, R88, R92, R96, R100, R102, R105, R108, R111, R114, R117, R120, R123, R195	Resistor, 2.7K Ω , 1/4w, 5%	50	5490-10892-00	U7, U8	Opto Isolator, 4N25
11	5010-08998-00	R155, R157, R159, R161, R165, R167, R169, R171	Resistor, 2.2K Ω , 1/4w, 5%	51	5580-08994-01	RLY 1	Relay 4PDT 6VDC5A VS
12	5010-09034-00	R3, R4, R6, R142-R149, R197-R198	Resistor, 10K Ω , 1/4w, 5%	52	5671-09019-00	LED1 - LED7	Diaplay LED Red
13	5010-09085-00	R194, R196, R251, R253-R257	Resistor, 1.5K Ω , 1/4w, 5%	53	5701-09652-00	Q1	Thermal Pad TO-3
14	5010-09086-00	R252	Resistor, 6.8K Ω , 1/4w, 5%	54	5705-09199-00	Q2	Heatsink, #6030B
15	5010-09224-00	R1, R2, R192, R201- R205	Resistor, 270 Ω , 1/4w, 5%	55	A-13944	Bridge Assembly	WPC Heatsink Rectifier Assy
16	5010-09314-00	R176, R178, R180, R182, R184, R186, R188, R190	Resistor, 1.2K Ω , 1/4w, 5%	56	5705-12637-00	Q1	Heatsink 5054
17	5010-09324-00	R206	Resistor, 27K Ω , 1/4w, 5%	57	5705-12638-00	Q10, Q12, Q14, Q16, Q18	Heatsink 5298B
18	5010-09358-00	R154, R156, R158, R160, R164, R166, R168, R170, R162, R193, R199, R200, R250	Resistor, 1K Ω , 1/4w, 5%	58	5733-12060-01		Fuse Holder, F101-F116
19	5010-09361-00	R104, R107, R110, R113, R116, R119, R122, R125	Resistor, 220 Ω , 1/4w, 5%	59	5763-12405-00		Bare PCB
20	5010-09416-00	R22, R26, R30, R34, R38, R42, R46, R50, R54, R58, R62, R66, R70, R74, R78, R82, R86, R90, R94, R98, R127, R129, R131, R133, R135, R137, R139, R141	Resistor, 470 Ω , 1/4w, 5%	60	5791-10862-03	J108, J119, J136	Connector, 3-pin Header STR
21	5010-09534-00	W1, W2	Resistor, 0 Ω	61	5791-10862-04	J103, J118-J118	Connector, 4-pin Header STR
22	5010-11079-00	R7, R10, R13, R16, R19	Resistor, 51 Ω , 1/4w, 5%	62	5791-10862-05	J112, J104-J106, J123, J124, J128, J129, J131, J132, J105	Connector, 5-pin Header STR
23	5010-12427-00	R150-R153, R172-R175	Resistor, .22 Ω , 1w, 5%	63	5791-10862-06	J107	Connector, 6-pin Header STR
24	5010-12632-00	R224	Resistor, .12 Ω , 10w, 5%	64	5791-10862-07	J101, J109, J114	Connector, 7-pin Header STR
25	5012-12238-00	R210, R211	Resistor, 3.3K Ω , 5w, 10%	65	5791-10862-09	J102, J110, J122, J125, J127, J130, J137, J138	Connector, 9-pin Header STR
26	5019-10143-00	SR1	SIP, 9R, 10 pin, 470 Ω , 5%	66	5791-10862-11	J120, J121	Connector, 11-pin Header STR
27	5040-08986-00	C4	Capacitor, 100 μ fd, 10v (\pm 20%)	67	5791-10862-12	J115	Connector, 12-pin Header STR
28	5040-09421-00	C2	Capacitor, 100 μ fd, 25v (+50, -10%)	68	5791-10862-13	J126	Connector, 13-pin Header STR
29	5040-09537-00	C8	Capacitor, 100 μ fd, 100v (\pm 20%)	69	5791-12461-05	J111	Connector, 5-pin Header STR
30	5040-12313-00	C5, C6, C7, C11, C30	Capacitor, 15,000 μ fd, 25v (\pm 20%)	70	5791-12461-09	J133-J135	Connector, 9-pin Header STR
31	5043-08980-00	B-BYPASS	Capacitor, .01 μ fd, 50v (+80, -20%)	71	5791-12516-00	J113	34 HEN 2x17 STR
32	5043-08996-00	C13-C20, C31	Capacitor, .1 μ fd, 50v (\pm 20%)	72	5824-09248-00	TP1-TP8	Test Point #1502-1
33	5043-09845-00	C1, C12	Capacitor, 1,000 μ fd, 50v (\pm 20%)	73	5041-09163-00	C9	Capacitor, 2.2 μ fd TANT
34	5048-10994-00	C3	Capacitor, .33 μ fd, 50v (\pm 20%) Ax.	74-100	Not Used		
35	5070-08919-00	D33, D34	Diode, 1N4148, 150MA.	101	16-8850-323		ID Label
36	5070-09054-00	D1-D3, D5-D12, D17-D32, D38, D39	Diode, 1N4004, 1.0A.	102	5730-09071-00	F114	Fuse, 8A, 32v
37	5100-09690-00	BR3-BR5	Bridge Rectifier, 35A., 200v	103	5731-09128-00	F101, F102	Fuse, S-B, 2.5A., 250v
38	5131-12725-00	Q10, Q12, Q14, Q16, Q18	Triac, BT138E	104	Not Used		
39	5162-12422-00	U19	IC, ULN 2803	105	5731-09651-00	F106-F113	Fuse, S-B, 5A., 250v
40	5162-12635-00	Q20, Q22, Q24, Q26, Q28, Q30, Q32, Q34, Q36, Q38, Q40, Q42, Q44, Q46, Q48, Q50, Q52, Q54, Q56, Q58, Q63, Q65, Q67, Q69, Q75, Q77, Q79, Q81, Q83 - Q80	Transistor, TIP 102	106	Not Used		
				107	5731-10356-00	F103-F105, F116	Fuse, S-B, 3A., 250v
				108	5730-09797-00	F115	Fuse, S-B, 3/4A., 250v

NOTE: For schematic refer to drawing #16-9057.

A-12697-1 WPC Power Driver Board

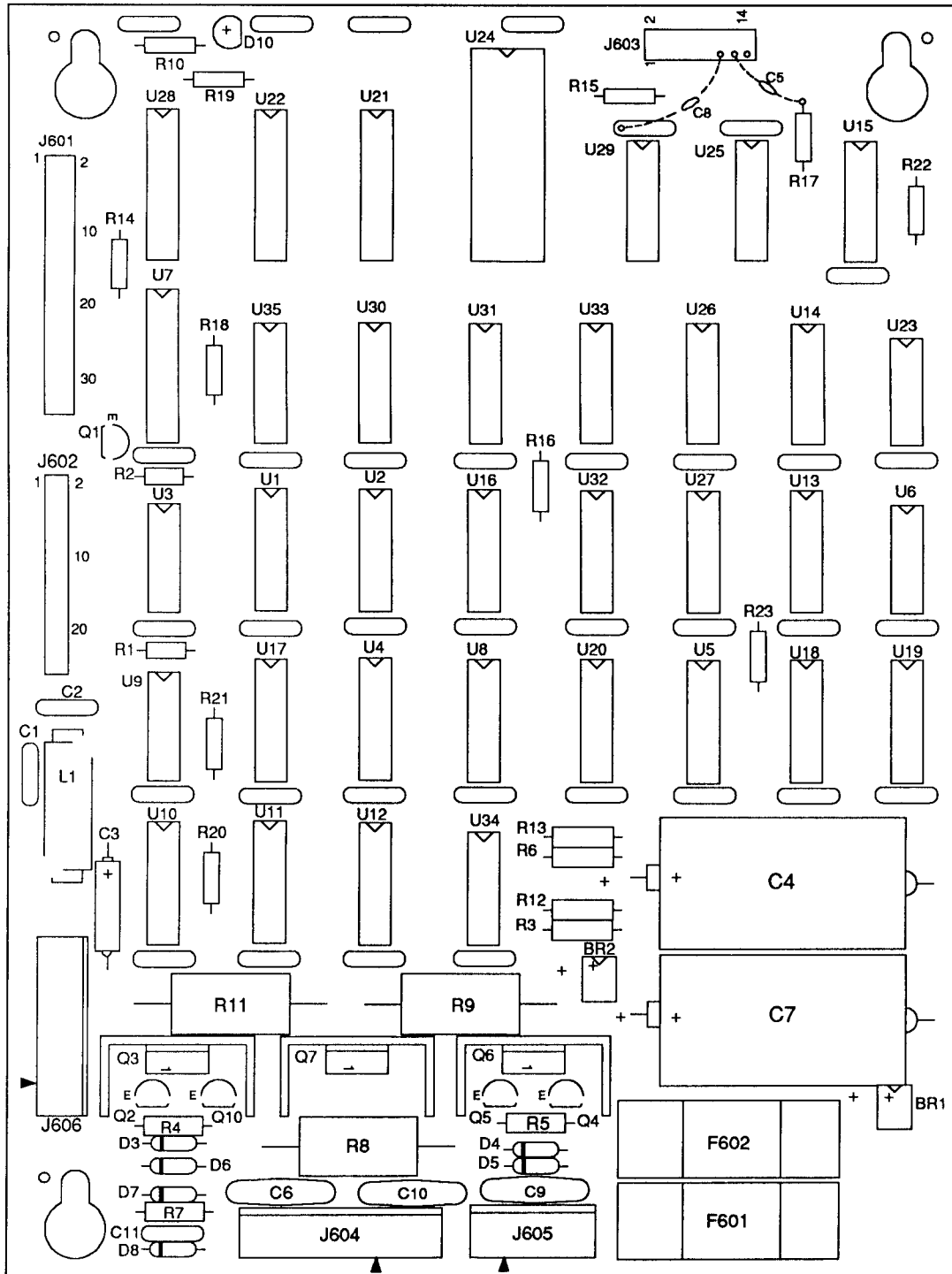


A-14039 Dot Matrix Controller Assembly

Item	Part Number	Ckt Designator	Description
1	5010-08991-00	R1	Resistor, 4.7K Ω , 1/4w, 5%
2	5010-09224-00	R10	Resistor, 270 Ω , 1/4w, 5%
3	5010-09534-00	R7	Resistor, 0 Ω
4	5010-12832-00	R3, R6, R12, R13	Resistor, 47K Ω , 1/2w, 5%
5	5010-12841-00	R4, R5	Resistor, 120 Ω , 1/2w, 5%
6	5012-12830-00	R9	Resistor, 1.8K Ω , 5w, 5%
7	5012-12842-00	R11	Resistor, 120 Ω , 5w, 5%
8	5012-12843-00	R8	Resistor, 4.7K, 5w, 5%
9	5040-08986-00	C3	Capacitor, 100 μ fd., 10v, (\pm 20%)
10	5040-12324-00	C4, C7	Capacitor, 150 μ fd., 160v, (\pm 50%)
11	5043-08980-00	BYPASS	Capacitor, .01 μ fd., 50v, (+80, -20%)
12	5043-09072-00	C6, C9, C10	Capacitor, .1 μ fd., 500v, (+80, -20%)
13	5043-09845-00	C1, C2, C11	Capacitor, 1KP, 50v, (\pm 20%)
14	5070-09054-00	D7	Diode, 1N4004, 1.0A.
15	5075-12824-00	D6	Zener, 1N4742A, 12v
16	5075-12826-00	D3 - D5	Zener, 1N4759A, 62v
17	5100-12833-00	BR1, BR2	Bridge, 400v, 1A.
18	5160-10269-00	Q1	Transistor, 2N3904 NPN
19	5164-09056-00	Q2, Q10	Transistor, MPSD02, NPN
20	5164-12154-00	Q3, Q7	Transistor,, MJE15030 NPN
21	5194-09055-00	Q4, Q5	Transistor, MPSD52 PNP
22	5194-12155-00	Q6	Transistor, MJE15031 PNP
23	5281-09738-00	U16, U25 - U27	IC, 74LS157
24	5281-10033-00	U3	IC, 74LS30
25	5281-10043-00	U31 - U33, U35	IC, 74LS175
26	5311-10946-00	U4, U5, U17, U18, U20	IC, 74HC74
27	5311-10947-00	U9	IC, 74HC125
28	5311-10951-00	U10 - U12	IC, 74HC161
29	5311-10977-00	U6	IC, 74HC04
30	5311-12817-00	U29	IC, 74HC165
31	5311-12819-00	U21	IC, 74HC688
32	5311-12820-00	U23	IC, 74HC27
33	5311-12822-00	U13 - U15	IC, 74HC193
34	5315-12009-00	U22	IC, 74HCT374
35	5315-12812-00	U1, U2, U30	IC, 74HCT138
36	5315-12813-00	U28	IC, 74HCT245
37	5315-12815-00	U8, U34	IC, 74HCT08
38	5315-12816-00	U19	IC, 74HCT32
39	5315-12821-00	U7	IC, 74HCT240
40	5340-12278-00	U24	S/RAM 2064 150NS
41	5551-09822-00	L1	IND 4.7 μ H, 3.0A.
42	5671-09019-00	D10	Display LED Red
43	5705-09199-00	Q3, Q6, Q7	Heatsink 6030B
44	5731-12328-00	F601, F602	Fuse, 3/8A., SB, 250v
45	5733-12060-00		Fuse Holder (F601, F602)
46	5760-12710-00		PC Board
47	5791-10850-00	J602	Connector, 26-pin STR Sq.
48	5791-10862-05	J605	Connector, 5-pin Header Sq.
49	5791-10862-07	J606	Connector, 7-pin Header Sq.
50	5791-10862-08	J604	Connector, 8-pin Header Sq.
51	5791-12516-01	J601	34 Hen 17x2 STR
52	5791-12827-00	J603	14 Hen 7x2 STR
53	5010-09036-00	R14-R23	Resistor, 100 Ω , 1/4w, 5%
54	20-9229	Q3, Q6, Q7	Thermal Compound
55	4006-01003-06	Q3, Q6, Q7	Mach. Screw, 6-32 x 3/8
56	4406-01128-00	Q3, Q6, Q7	Nut, 6-32 KEPS
57	5043-09492-00	C5, C8	Capacitor, 100P, 50v, (\pm 10%)

* Refer to Schematic #16-9148.

A-14039 Dot Matrix Controller Assembly



Lamp Boards

A-14529 4-Lamp Assembly

Part Number	Description
5768-12796-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-06	Connector, 6-pin Header Sq Post

A-14530 5-Lamp Board

Part Number	Description
5768-12797-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-07	Connector, 7-pin Header Sq Post

A-14531 6-Lamp Board

Part Number	Description
5768-12798-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-08	Connector, 8-pin Header Sq Post

A-14532 5-Lamp Board

Part Number	Description
5768-12799-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-07	Connector, 7-pin Flat Header

A-14533 5-Lamp Board

Part Number	Description
5768-12800-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-07	Connector, 7-pin Header Sq Post

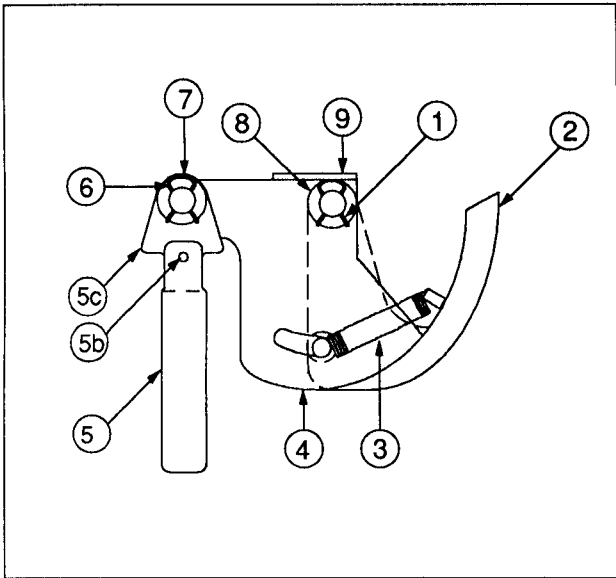
C-12709 Playfield Lamp Target

Part Number	Description
5768-12409-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-05	Connector, 5-pin Header Sq Post

A-14423-1 Playfield Relay Board

Part Number	Description
5768-12243-00	Lamp PCB
5010-09534-00	Resistor, 0Ω
5070-09054-00	Diode, 1N4004, 1.0A.
5580-12782-00	Relay, 12vdc
5791-12273-02	Connector, 2-pin Header
5791-12273-07	Connector, 7-pin Header

C-9638 Ball Shooter Lane Feeder

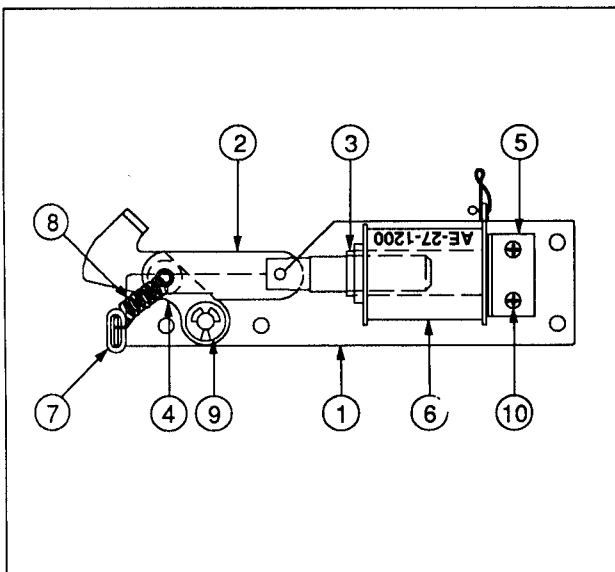


Item	Part Number	Description
1.	12-6227	Hair Pin Clip
2.	A-8247	Eject Cam Assembly
3.	10-362	Ejector Spring (Plain)
4.	A-6949-L	Spring Plate Assembly
5.	A-8050-1	Coil Plunger Assy, 2-1/8"
a)	02-3407-2	Coil Plunger, 2-1/8"
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	03-8085	Armature Link
6.	12-6227	Hair Pin Clip
7.	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.
8.	4700-00103-00	Flatwasher, 17/64 x 1/2 x 28ga.
9.	A-8268	Mounting Bracket Assembly

Associated Parts

B-9362-L-2	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1200	Coil Assembly
03-7066	Coil Tubing

A-8039-3 Outhole Kicker Assembly



Item	Part Number	Description
1.	A-6378	Mounting Plate Assembly
2.	A-8335	Coil Plunger Assembly
a)	02-2364	Coil Plunger
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	01-4251	Ball Return Link
3.	03-7066	Coil Tubing
4.	A-6889	Kicker Lever Assembly
5.	A-8038	Coil Stop Assembly
6.	AE-27-1200	Coil Assembly
7.	03-7176-1	Striker Ring
8.	10-101-4	Spring-Reset
9.	20-8712-25	"E" Ring, 1/4" Shaft
10.	4006-01003-03	Mach. Screw, 6-32 x 3/16

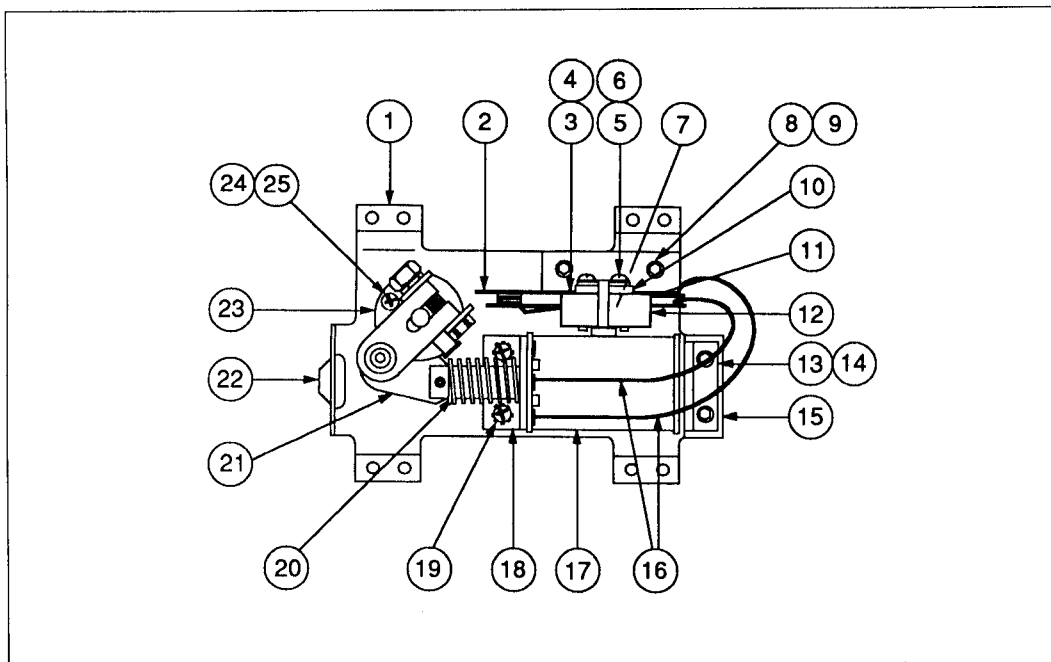
C-13174-R
C-13174-L

Flipper Assembly (Right)
Flipper Assembly (Left)

Item	Part Number	Description
1.	B-13104-R	Flipper Base Assy, Right
	* B-13104-L	Flipper Base Assy, Left
2.	03-7811	End of Stroke (EOS) Sw.
3.	RM-21-06	Sleeve, Vinyl (Cap. leads)
4.	5045-12098-00	Capacitor, 2.2 μ Fd, 250V, 20%
5.	4701-00002-00	Lockwasher, #6 Split
6.	4105-01019-10	Sh. Metal Screw,#5 x 5/8
7.	23-6622	Tape, Double-sided
8.	4008-01079-05	Cap Screw, 8-32 x 5/16
9.	4701-00003-00	Lockwasher, #8 Split
10.	01-9375	Switch Mounting Bracket
11.	03-7520-2	Ty-Wrap, Nylon
12.	20-6516	Speednut, Tinnerman
13.	4010-01066-06	Cap Screw, 10-32 x 3/8, SH
14.	4701-00004-00	Lockwasher, #10 Split
15.	A-12111	Flipper Stop Assembly
16.	HW-30018-6	Wire, 18 AWG, Blue
17.	FL-11630	Flipper Coil (Red)
18.	01-7695	Solenoid Bracket
19.	4006-01017-04	Mach. Screw, 6-32 x 1/4
20.	10-376	Coil Plunger Spring
21.	B-10655-R	Crank Link Assembly, Right
	* B-10655-L	Crank Link Assembly, Left
	a) 02-4179	Link Spacer Bushing
	b) 4010-01086-14	Cap Screw, 10-32 x 7/8, SH
	c) 4700-00023-00	Flatwasher, 5/8 x 13/64 x 16ga.
	d) 4701-00004-00	Lockwasher, #10 Split
	e) 4410-01132-00	Nut, 10-32 ESNA
	f) A-10656*	Flipper Link Assembly
	1.) 02-4219	Coil Plunger
	2.) 20-9370-1	Spring Pin, 5/32 dia. x 7/16
	3.) 03-8050-1	Flipper Link
	g) B-10657-R	Flipper Crank Assy, R.
	* B-10657-L	Flipper Crank Assembly
	1.) 01-8073-R	Flipper Crank, Right
	* 01-8073-L	Flipper Crank, Left
	2.) 17-1037	Crank Washer
	3.) 4010-01066-18	Cap Screw, 10-32 x 1-1/8
	4.) 4410-01127-00	Nut, 10-32 Hex Head
	5.) 4700-00107-00	Flatwasher, 5/8 x 13/64 x 12ga.
	6.) 4701-00004-00	Lockwasher, #10 Split
	7.) RM-23-06	Tubing, H. S. 1/4 DWP
22.	23-6577	Bumper Plug
23.	03-7568	Flipper Bushing
24.	4006-01005-06	Mach. Screw, 6-32 x 3/8
25.	4406-01117-00	Nut, 6-32 Hex.

* Items for **Left Flipper Assembly** Only.

C-13174-R & C-13174-L Flipper Assembly



Associated Parts: 20-9250-6 Flipper Arm on Shaft (Yellow)
 23-6519-4 Red Rubber Ring (Red)

Flipper Assembly Notes...

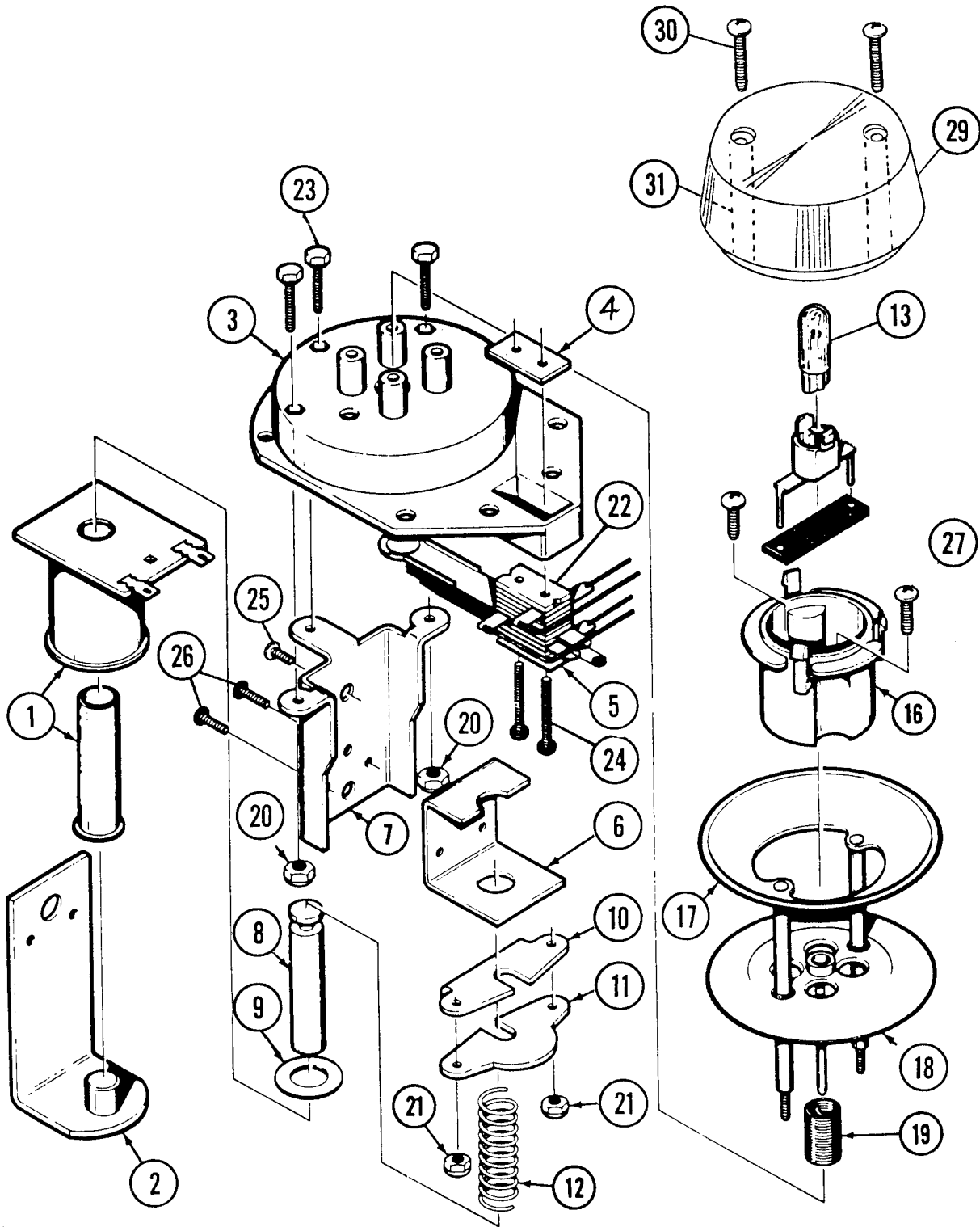
1. Each Flipper Assembly on the Lower Playfield is mounted beneath the playfield, in conjunction with the plastic Flipper Paddle and Shaft (20-9250-6) and Flipper Rubber (23-6519-4) on the upper side of the playfield.
2. The tip of the EOS Switch must travel 0.150 (+ .010, - .000) inch, before the contacts fully open, with the flipper in the actuated position. The EOS Switch contacts must have a gap of 0.062 (\pm .015) inch. Adjustment of the EOS Switch must be made at a minimum distance of 0.25 inch from the switch body.
3. All moving elements of the assembly must operate freely, with no evidence of binding.
4. The large end of the Coil Plunger Spring (item 20) must fit within the four lugs of the Solenoid Bracket.
5. For coil replacement, remove the Solenoid Bracket (Item 18) to prevent screw damage.
6. Use Loctite™ 242 when reattaching screws to the Flipper Stop Assembly, the Solenoid Bracket, and the Flipper Bushing.
7. When replacing their Bumper Plug (item 22) to restore proper flipper operation, readjust the flipper paddle and shaft position.
8. Solid-color blue wire connects to the banded end of each diode, mounted on the connector end of the Flipper Coil (item 17). Trace-color wire connects to the unbanded end of the diode.

A-12842-2 Jumper Bumper Assembly

Item	Part Number	Description
1	AE-26-1200	Coil & Tubing Assy.
a)	5070-09054-00	Diode 1N4004, 1.0A.
2	B-12749	Core Plug & Bracket Assy.
3	03-8324-5	Thunder Bumper Base, Wht.
4	01-9166	Switch Plate
5	01-9321	Switch Plate
6	01-9319	Plunger Bracket
7	01-9117	Mounting Bracket
8	02-3406-1	Plunger Coil
9	4705-00002-00	Spring Washer, 1/2"
10	01-9116	Bracket Plate
11	01-9120	Plate, Bakelite
12	10-411	Compression Spring
13	A-14271	Socket Assembly
a)	24-8768	Bulb #555 (6.3v., 0.25A.)
b)	24-8813	Lamp Socket
14	Not Used	
15	Not Used	
16	03-8292-7	Body, Black
17	A-12854	Flange & Stud Assembly
18	03-6035-7	Wafer, White
19	10-326	Compression Spring
20	4408-01119-00	Nut, 8-32 ESN
21	4406-01119-00	Nut, 6-32 ESN
22	B-13267	Switch & Diode Assembly
a)	SW-1A-187	Switch
b)	5070-06258-00	Diode, 1N4001, 1.0A.
23	4008-01070-14	Mach. Screw, 8-32 x 7/8
24	4005-01016-18B	Mach. Screw, 5-40 x 1-1/8
25	4008-01015-04	TT, 8-32 x 1/4
26	4006-01015-06	TT, 8-32 x 3/8
27	4108-01001-10	Sh. Metal Screw, #8 x 5/8
* 28	03-7066	Coil Tubing
29	03-8291-9	Thumper Bumper Cap, Red
30	4004-01003-08	Mach. Screw, 4-40 x 1/2
31	03-6047-16	Tubing

* Not Shown.

Jumper Bumper Assembly



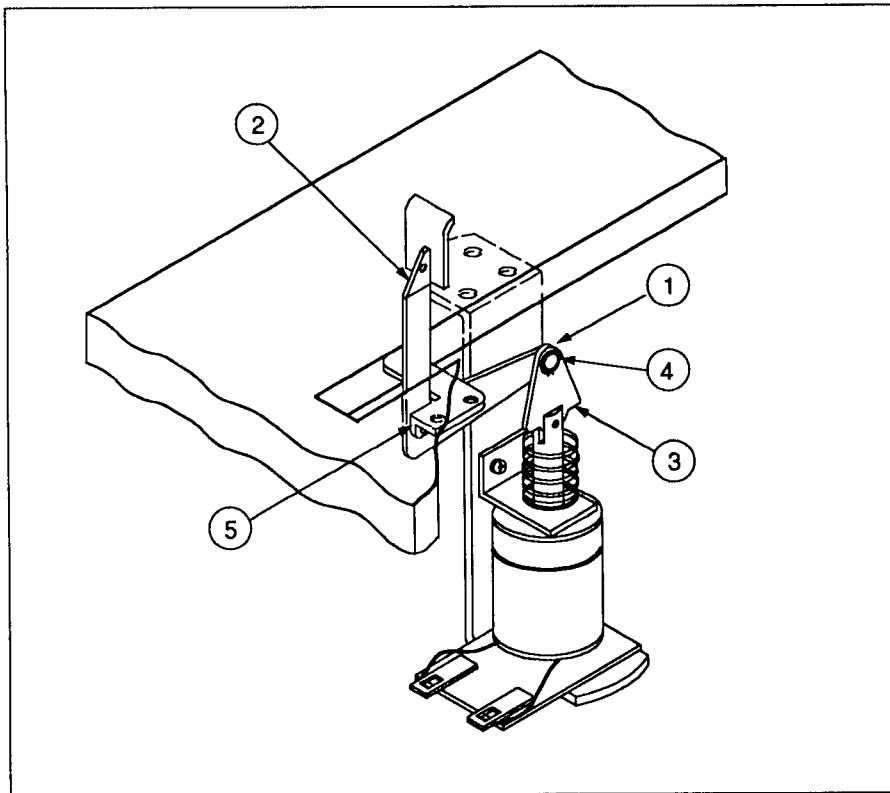
A-14746 Jumper Bumper Assembly

(See p. 2-17 for diagram)

Item	Part Number	Description
1	AE-26-1200	Coil & Tubing Assy.
a)	5070-09054-00	Diode 1N4004, 1.0A.
2	B-12749	Core Plug & Bracket Assy.
3	17-1112	Thunder Bumper Base, Black
4	01-9166	Switch Plate
5	01-9321	Switch Plate
6	01-9319	Plunger Bracket
7	01-9117	Mounting Bracket
8	02-3406-1	Plunger Coil
9	4705-00002-00	Spring Washer, 1/2"
10	01-9116	Bracket Plate
11	01-9320	Plate, Bakelite
12	10-411	Compression Spring
13	A-14271	Socket Assembly
a)	24-8768	Bulb #555 (6.3v., 0.25A.)
b)	24-8813	Lamp Socket
14	Not Used	
15	Not Used	
16	03-8292-7	Body, Black
17	A-12854	Flange & Stud Assembly
18	03-6035-7	Wafer, Black
19	10-326	Compression Spring
20	4401-01119-00	Nut, 8-32 ESN
21	4403-01119-00	Nut, 6-32 ESN
22	B-13267	Switch & Diode Assembly
a)	SW-1A-187	Switch
b)	5070-06258-00	Diode, 1N4001, 1.0A.
23	4008-01070-14	Mach. Screw, 8-32 x 7/8
24	4005-01016-18B	Mach. Screw, 5-40 x 1-1/8
25	4008-01015-04	TT, 8-32 x 1/4
26	4008-01015-06	TT, 8-32 x 3/8
27	4108-01001-10	Sh. Metal Screw, #8 x 5/8
* 28	03-7066	Coil Tubing
29	03-8291-9	Thumper Bumper Cap, Red
30	4004-01003-08	Mach. Screw, 4-40 x 1/2
31	03-6047-16	Tubing

* Not Shown.

B-12665 Kicker Arm (Slingshot) Assembly
(Left & Right Kickers)



Item	Part Number	Description
1.	12-6227	Clip, Hairpin
2.	A-12664	Kicker Crank Assembly
3.	A-5103	Coil Plunger Assembly
a)	02-2364	Coil Plunger
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	03-8085	Armature Link
4.	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.
5.	A-5653	Mounting Bracket Assembly

Associated Parts for Left Kicker

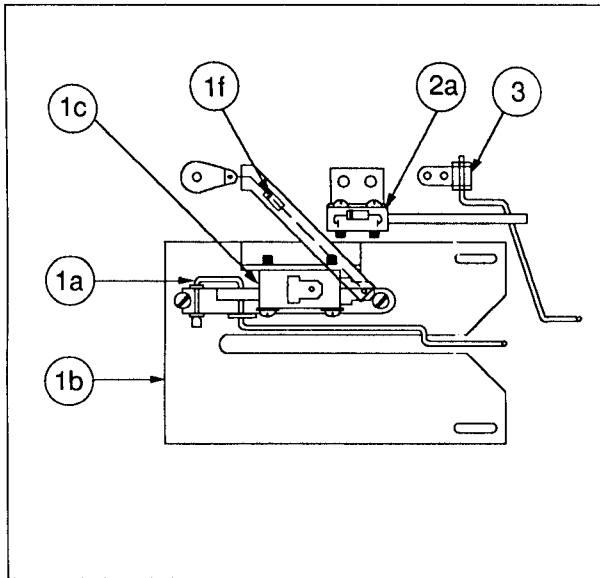
B-11203-R-1	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1500	Coil Assembly
03-7066	Coil Tubing

Associated Parts for Right Kicker

B-11203-L-1	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1500	Coil Assembly
03-7066	Coil Tubing

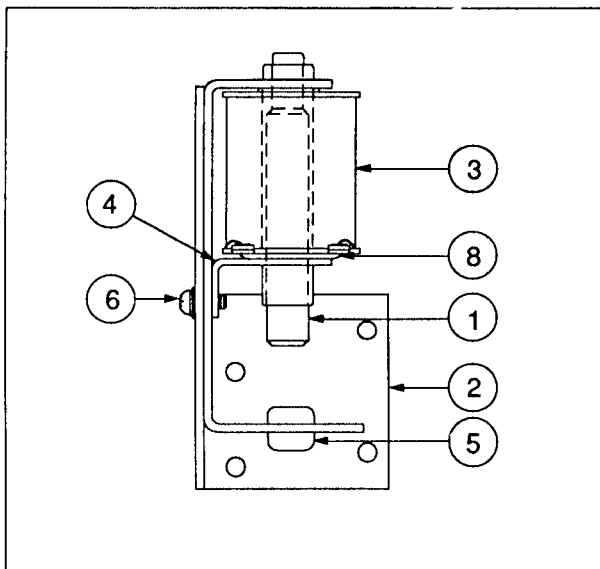
Ball Trough Switches

(Viewed from underside of playfield to show locations)



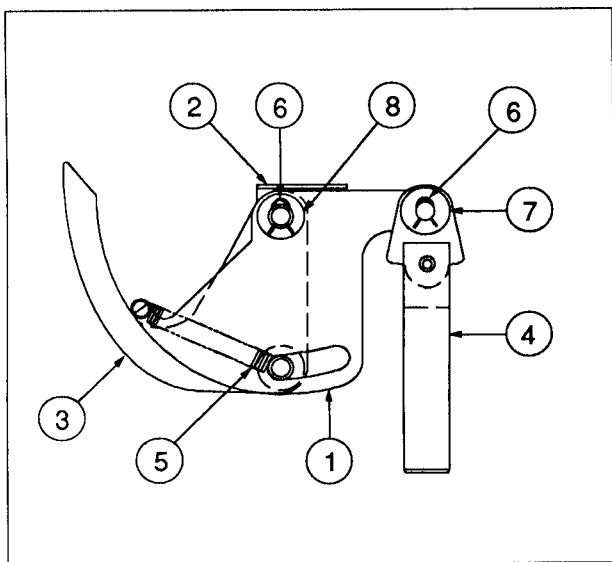
Item	Part Number	Description
1.	B-11348	Ball Trough Switch Plate Assy.
a)	A-5844-44	Switch Wire & Bracket Assy.
b)	B-11349	Switch Mounting Plate Assembly
c)	5647-09957-00	μswitch, Center & Left Ball Trough
d)	4004-01060-08	Mach. Screw, 4-40 x 1/2
e)	4005-01005-02	Mach. Screw, 5-40 x 1/8
f)	5070-06258-00	Diode, 1N4004, 1.0A.
g)	5825-09373-00	Solder Lug-Flat, #4
h)	RM-21-03	Insulating Tubing, #10 x 1.75
2.	A-11680	Ball Trough Switch, Right
a)	5647-12693-08	Submin. Switch
b)	5070-09054-00	Diode, 1N4001, 1.0A.
3.	A-8645	Switch Wire & Bracket Assy.

B-10686-1 Kicker Assembly



Item	Part Number	Description
1.	A-5387	Coil Plunger Assembly
a)	02-2653	Coil Plunger
b)	03-6013	Bell Arm Ext.
2.	B-7409-2	Mtg. Bracket Assembly
3.	AE-23-800	Coil Sub-Assembly
4.	01-8-508-T	Coil Retaining Bracket
5.	23-6420	Rubber Grommet
6.	4008-01017-06	Mach. Screw, 8/32 x 3/8
7.	H-11835	Knocker Cable
8.	03-7067-5	Coil Tubing

B-9361-R-5 Ball Eject Assembly

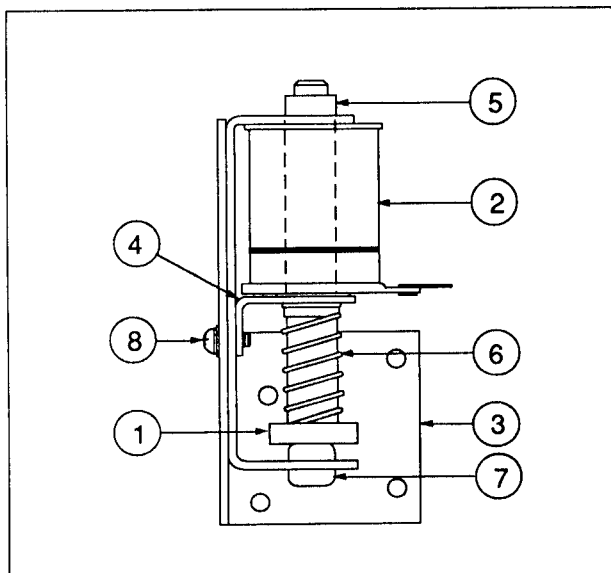


Item	Part Number	Description
1.	A-6949-R	Spring Plate Assembly
2.	A-8268	Mounting Bracket Assembly
3.	A-7471-R	Eject Cam Assembly
4.	A-8050-1	
a)	02-3407-2	Coil Plunger Assy, 2-1/8"
b)	20-8716-5	Coil Plunger, 2-1/8"
c)	03-8085	Roll Pin, 1/8 x 7/16
5.	10-320	Spring Eject (Red)
6.	12-6227	Hairpin Clip
7.	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.
8.	4700-00103-00	Flatwasher, 17/64 x 1/2 x 28ga.

Associated Parts

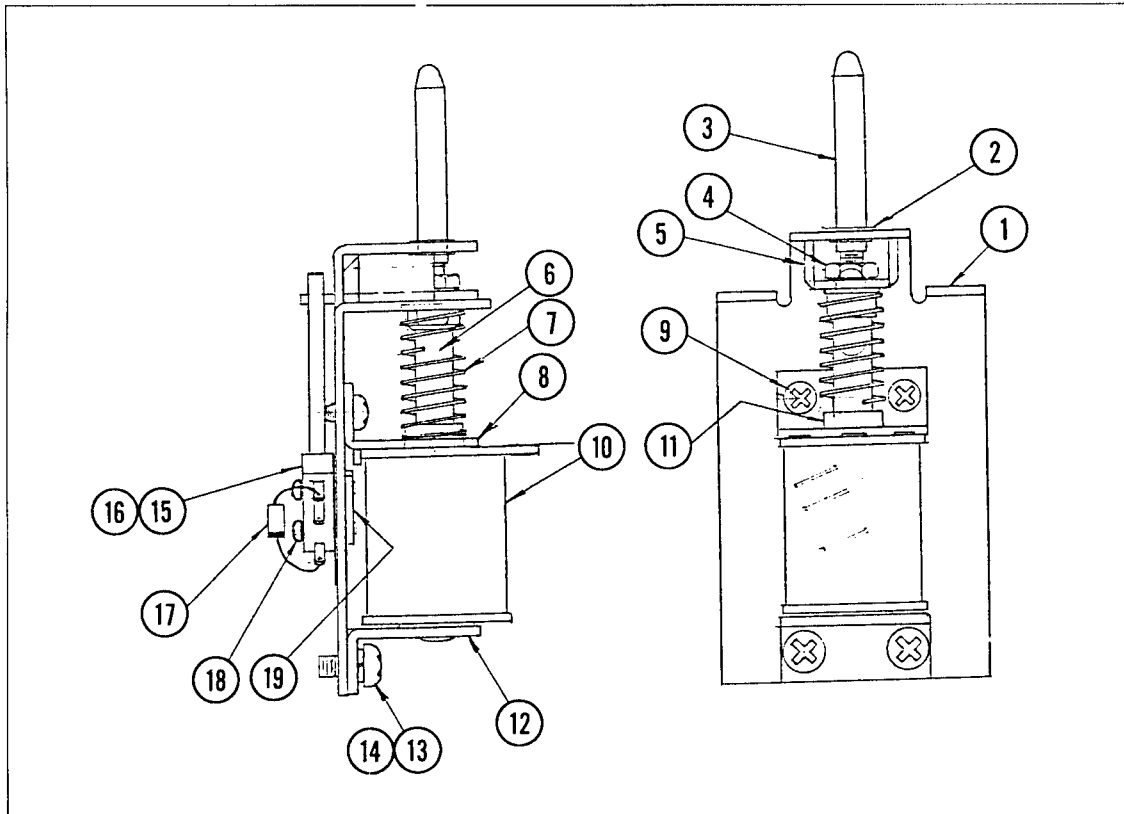
A-14735	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-28-1500	Coil Assembly
03-7066	Coil Tubing

B-11873 Bottom Arch Kicker Assembly



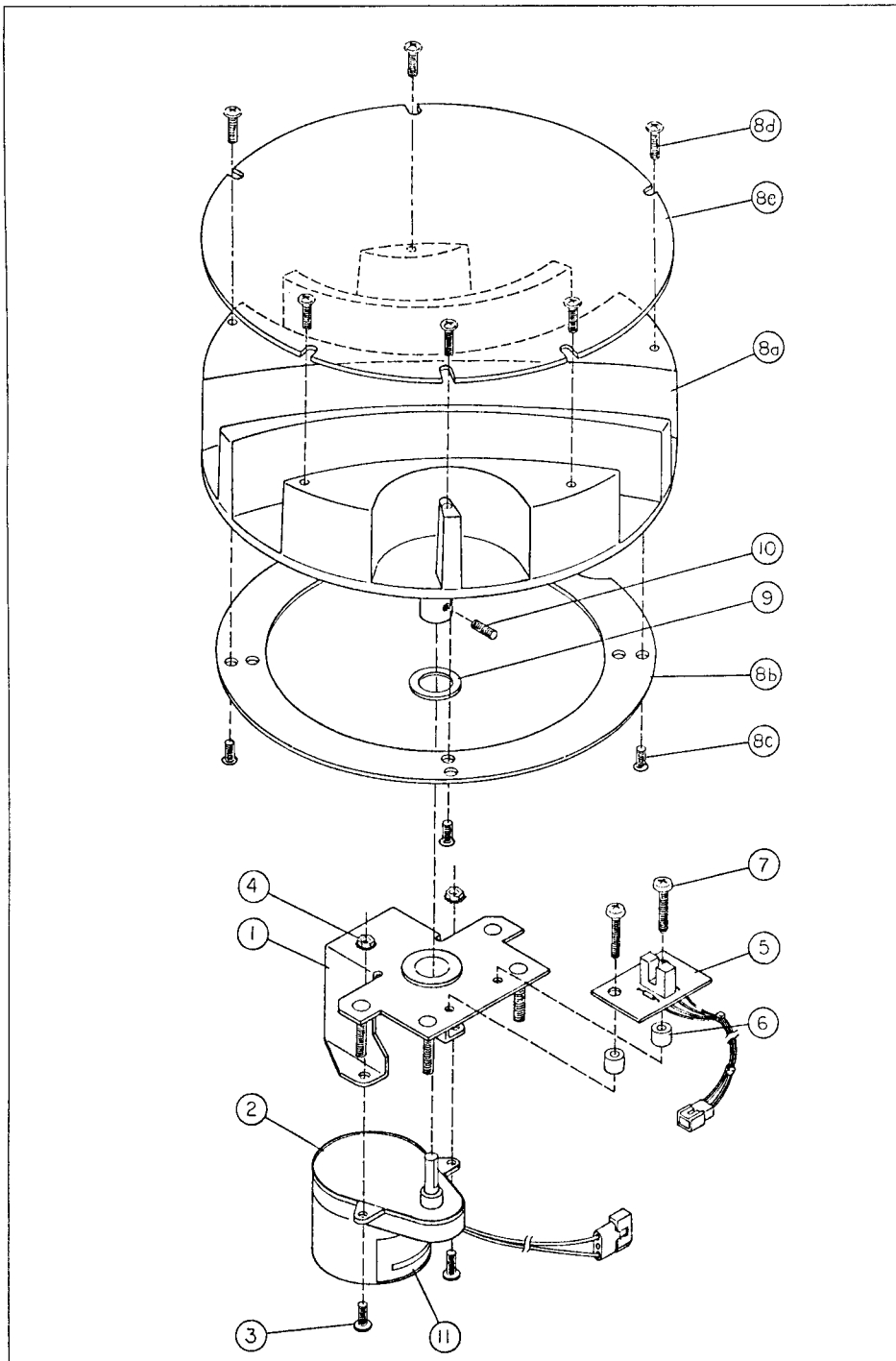
Item	Part Number	Description
1.	A-6306-2	Bell Armature Assembly
2.	AE-23-800	Coil Sub-Assembly
3.	B-7409-2	Mounting Bracket Assy.
4.	01-8-508-T	Solenoid Bracket
5.	03-7067-5	Coil Tubing
6.	10-135	Solenoid Spring
7.	23-6420	Rubber Grommet
8.	4008-01017-05	Mach. Screw, 8-32 x 5/16"

A-14651 Island Lock Mechanism Assembly



Item	Part Number	Description
1.	01-10206	Isle Lock Mech. Bracket
2.	20-8790	Nyliner 1/4 i.d.
3.	02-4541	Locking Pin
4.	4410-01129-00	Hex Nut 1-32 Sems
5.	01-10224	Switch Limit Actuator Brkt.
6.	02-4302	Threaded Plunger Shaft
7.	10-399	Compression Spring 2-9/16
8.	01-10225	Coil Support Bracket
9.	4106-01012-04	TT #6-32x1/4 PH-P-ST (2)
10.	A-14701	Coil Assembly
11.	03-7066	Coil Tubing
12.	A-10821	Coil Stop Bracket Assembly
13.	4010-01008-06	LMS #10-32x3/8 PH-P-ST (2)
14.	4701-00004-00	Lock Washer #10 Split (2)
15.	5647-12073-08	Mini Micro Switch
16.	01-8600	Switch Insulator
17.	5070-09054-00	Diode 1N4004 1.0A
18.	4002-01105-07	MS #2-56x7/16 PH-P-ST (2)
19.	01-8240	Switch Nut Plate 2-56

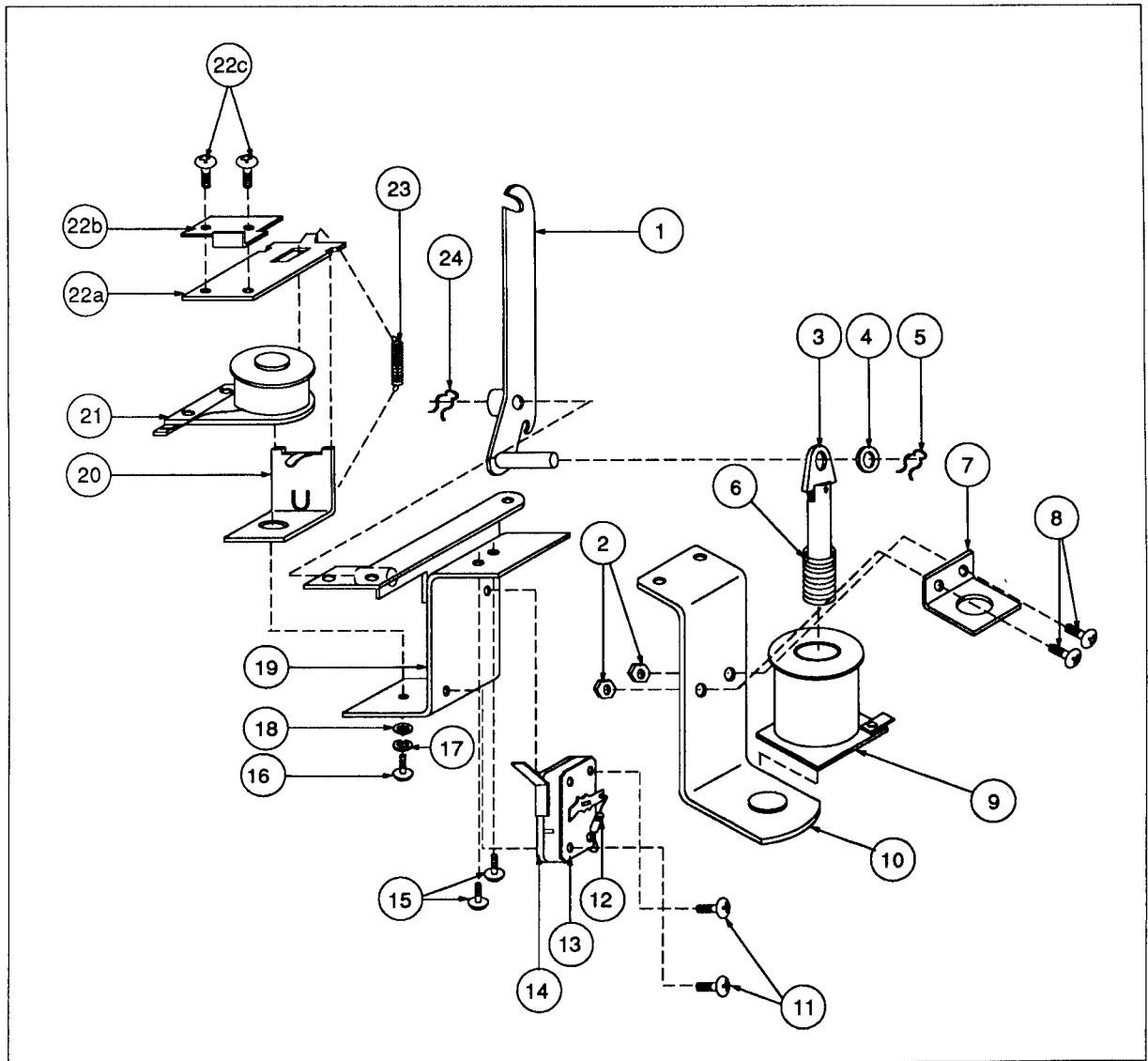
A-14595 Island Mechanism Assembly



Item	Part Number	Description	Item	Part Number	Description
1	A-14591	Island Mech. Bracket Assy.	b)	01-10207	Centering Ring Plate
2	A-14593-1	Motor Terminal Assembly	c)	4106-01043-05	#6 x 5/16 PH-FLT-B (4)
3	4006-01027-06	MS #6-32 x 3/8 PH-R (2)	d)	4106-01033-08	#6 x 1/2 PH-TRS-AB (8)
4	4406-01128-00	Hex Nut #6-32 Keps (2)	e)	31-1A-20003-1	Screened Plastic Cover
5	A-14534-1	PCB Opto Assembly	f)	31-2-20003-1	Decals
6	03-8338-1	Spacer #8 (2)		thru 31-2-20003-10	
7	4008-01015-12B	TT #8-32 x 3/4 PH-P (2)	9	03-8590	FW .505 x .750 x .062
8	A-14513	5-Path Island Assembly	10	4008-01076-06	SS #8-32 x 3/8
a)	03-8549	Plastic 5-Path Island	11	16-9213	Motor Rotation Decal

Note: To remove Island Mech. Bracket Assembly, remove set screw, item 10.

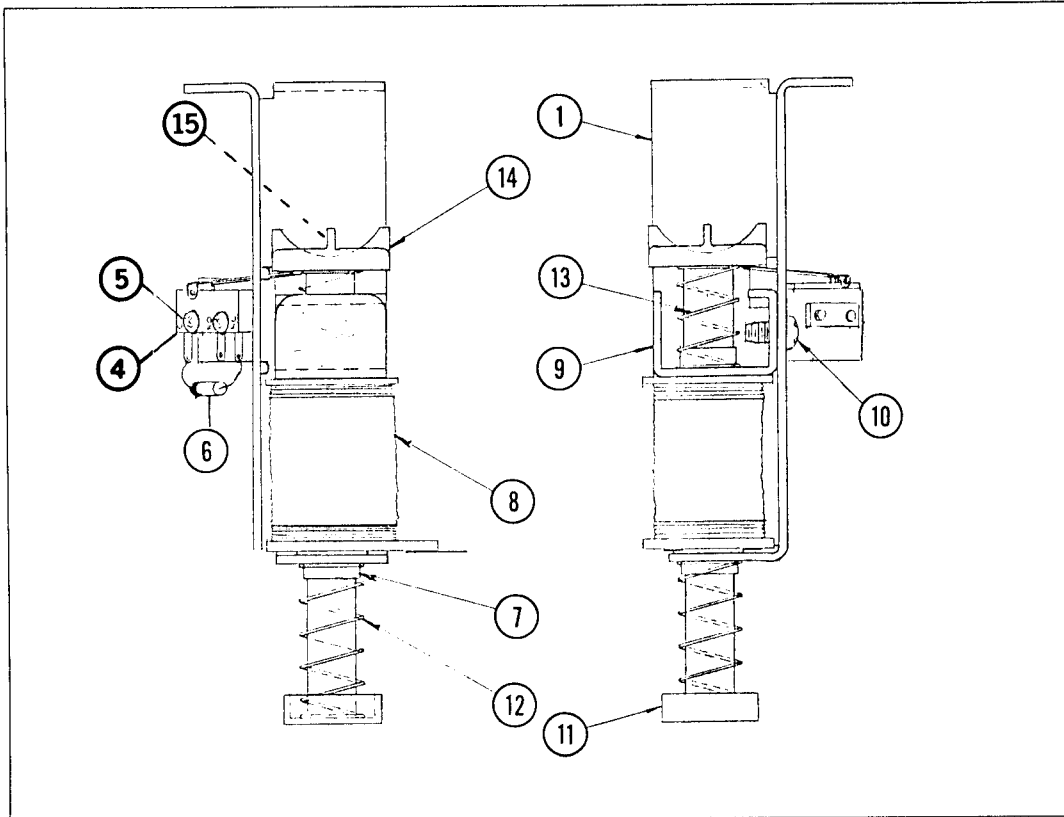
B-11304-3 Ramp Lifting Mechanism w/Coil & Bracket Assembly (B-9362-L-2)



Item	Part Number	Description	Item	Part Number	Description
1.	A-11137	Lift Crank Assembly	15.	03-7066	Tubing, Coil
2.*	4406-01119-00	Nut, 6-32 ESN	16.	4008-01021-07	Mach. Screw, 8-32 x 7/16
3.	A-8050	Plunger Assembly, 2-1/4"	17.	4701-00003-00	Lockwasher, #8 Split
4.	4700-00073-00	Flatwasher, 9/32x1/2x21ga.	18.	4700-00089-00	Flatwasher, 11/64x7/16x16ga
5.	12-6227	Hairpin Clip	19.	B-11302-1	Lift Mech Bracket Assy
6.	10-128	Spring	20.	A-6892	Frame & Eyelet Assy
7.*	01-8-508-S	Coil Retaining Bracket	21.	SM1-26-600	Coil Assembly
8.*	4006-01017-06	Mach. Screw, 6-32 x 3/8	22.	A-11139	Armature Assembly
9.*	AE-26-1200	Coil Assembly	a)	A-8936	Armature Sub-Assembly
10.*	B-7572-1	Bracket & Stop Assembly	b)	01-8390	Lift Crank Lock
11.	4004-01003-10	Mach. Screw, 4-40 x 5/8	c)	4006-01003-03	Mach. Screw, 6-32 x 3/16
12.	5070-06258-00	Diode, 1N4001, 1.0A.	23.	10-363	Extension Spring
13.	A-7438-1	Terminal Strip Assembly	24.	12-6227	Hairpin Clip
14.	5647-12001-00	Microswitch			

* Part of Coil & Bracket Assembly, B-9362-L-2.

A-14586 Ball Popper Assembly



Item	Part Number	Description
1.	01-10165-1	Ball Popper Bracket
2.	01-8240	Switch Mounting Plate
3.	01-8600	Insulator 1/32
4.	5647-12073-24	Mini Micro Switch
5.	4002-01105-07	MS #2-56x7/16 PH-R (2)
6.	5070-06258-00	Diode 1N4001 1.0A
7.	03-7067	Coil Tubing
8.	AE-23-800	Coil Assembly
9.	01-10167	Coil Return Ball Popper Brkt.
10.	4008-01015-06	TT #8-32x3/8 PH-P (2)
11.	A-14585	Armature & Extention Ass'y
12.	10-135	7-Active Coil Comp. Spring
13.	10-428	4-Active Coil Comp. Spring
14.	03-8561	Ball Popper Cup
15.	4006-01041-06	MS #6-32x3/8 PH-FL

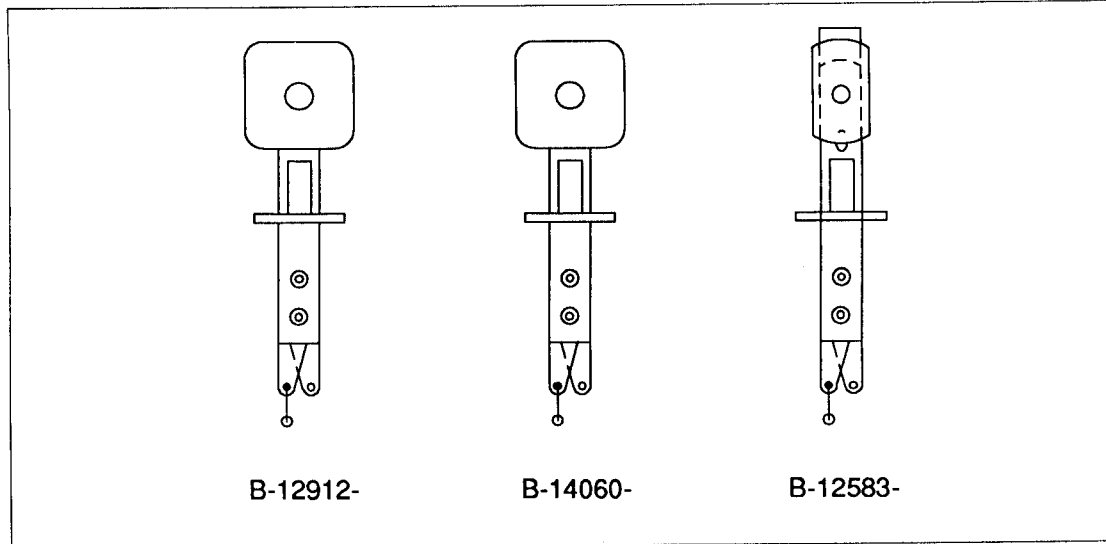
A-14539 Ball Popper Ramp Assy

Item	Part Number	Description
1.	03-8554	Ball Popper Feed Ramp
2	01-10140	Ramp Support Bracket
3.	07-6688-19N	Rivet 1/8 x 7/32 (2)
4.	A-12163-1	Switch & Bracket Ass'y
a)	A-12238	Switch Sub-Assembly
1.)	5070-09054-00	Diode 1N4004 1.0A
2.)	5647-12073-13	Mini Micro Switch
b)	01-8600	Insulator
c)	01-8774	Switch Bracket
d)	4002-01105-06	MS 2-56x3/8 P-PH-S (2)
5.	4004-01041-06	MS #4-40 x 3/8 PH-FL (2)
6.	4404-01119-00	Stop Nut #4-40 ESNA (2)
7.	4700-00003-00	Flat Washer 1/8 i.d. (2)

A-14538 Main Ramp Assembly

Item	Part Number	Description
1.	01-10217-1	Ramp Plate
2.	07-6688-18N	Rivet 3/16 x .218 (2)
3.	03-8552	Crossover Ramp, Plastic
4.	4700-00003-00	FW .125 x .281 x .032 (2)
5.	07-6688-21N	Rivet 9/32 x .218 (2)
6.	A-12336-1	Socket/Bulb Assembly
7.	A-14687	Light Dome Support Brkt.
8.	24-8802	#906 Bulb, 13V 0.69
9.	03-8171-8	Mini Dome, Amber
10.	03-7655-4	Harness Clip 1/4
11.	4106-01033-08	SMS #6 PH-Drive Truss Hd. (4)
12.	H-14631	Switch Cable Assembly
13.	H-14328	Light Cable Assembly
14.	B-13243	Switch Bracket Assembly
a)	01-8240	Nut Plate #2-56
b)	01-9432	Switch Gate Bracket
c)	12-6890	Actuator Wire
d)	4002-01005-08	MS 2-56x1/2 P-PH (2)
e)	4701-00024-00	LW #2 Split (2)
f)	5070-06258-00	Diode 1N4001 1.0A
g)	5647-12073-36	Micro Mini Switch
h)	01-916-H	Spacer 3/32
15.	03-8551	Main Ramp, Plastic
16.	01-10232	Ball Deflector Bracket
17.	4006-01027-06	MS #6-32x3/8 PH-R-ST (2)
18.	4406-01128-00	Hex Nut #6-32 Keps

Standup Target Assemblies



B-12912-5 Standup Target Assy

Part Number	Description
SW-1A-184-5	Standup Target Switch
03-8304-5	Sq. Standup Target, White
5070-09054-00	Diode, 1N4004, 1.0A.

B-14060-10 Standup Target Assy

Part Number	Description
SW-1A-184-10	Standup Target Switch
03-8304-10	Sq. Standup Target, Tr. Blue
5070-09054-00	Diode, 1N4004, 1.0A.

B-12912-16 Standup Target Assy

Part Number	Description
SW-1A-184-16	Standup Target Switch
03-8304-16	Sq. Standup Target, Yellow
5070-09054-00	Diode, 1N4004, 1.0A.

B-14060-8 Standup Target Assy

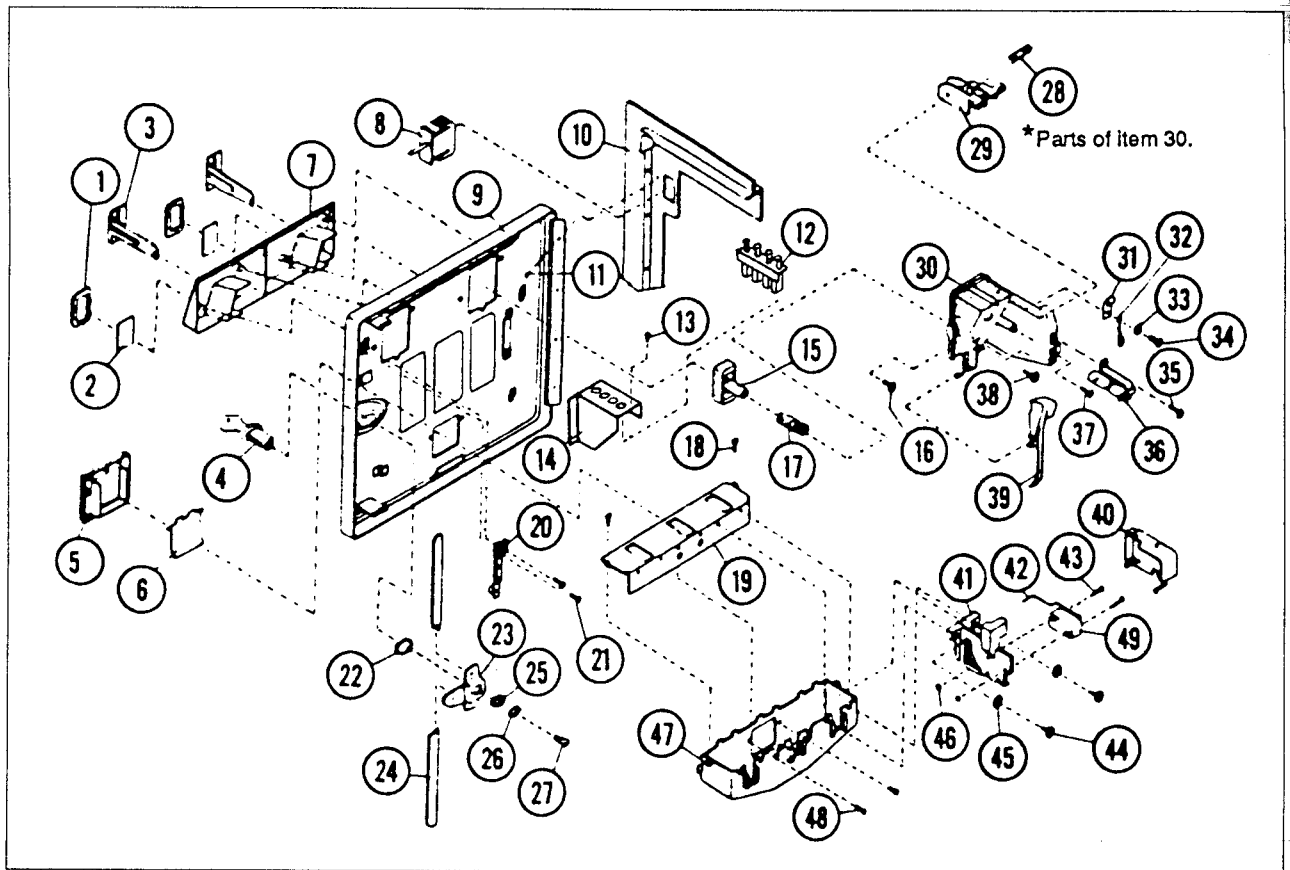
Part Number	Description
SW-1A-184-8	Standup Target Switch
03-8304-8	Sq. Standup Target, Tr. Amber
5070-09054-00	Diode, 1N4004, 1.0A.

B-12583-2 Standup Target Assy

Part Number	Description
SW-1A-178-2	Standup Target Switch
03-8225-2	Standup Target, Green
5070-09054-00	Diode, 1N4004, 1.0A.

A-14148-1 Coin Door Assembly

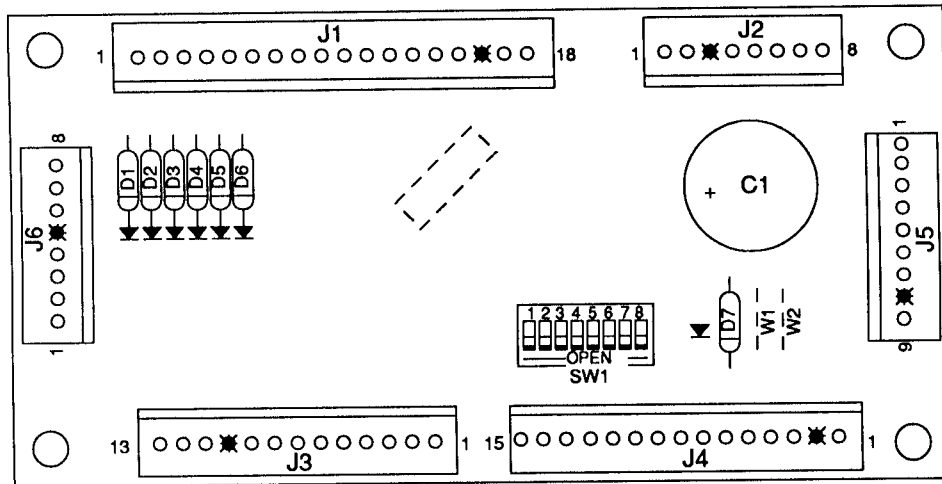
U.S.A. Door with Decals



Item	Part No.	Description	Quantity	Item	Part No.	Description	Quantity
1	27-1038	Button Cover	2 or 3	26	27-1018	Star Washer	1
2	27-1041-1	58 Price Panel	2 or 3	27	27-1019	M/C Screw, 1/4-28 x 5/16	1
3	27-1026-1	17 Coin Entry Plate	2 or 3	28	Not Used		
4	27-1016	Lock Assembly	1	29	Not Used		
5	27-1061-1	Coin Return - Bezel	1	30	27-1112	Coin Inlet Chute	2 or 3
6	27-1062	Coin Return Flap	1	31	27-1088	Cable Clamp	2 or 3
7	27-1021	Button Housing - 2-slot	1	32	27-1025	Key Hook	1
	27-1022	Button Housing - 3-slot	1	33	27-1086	Washer, #6	2 or 3
8	27-1111	Interlock Switch	1	34	27-1078	M/C Screw, 6-32 x 3/8	1 or 2
9	27-1006-1	Coin Door, 2-Slot	1		27-1113	M/C Screw, 6-32 x 7/16	1
	27-1007-1	Coin Door, 3-Slot	1	35	27-1079	Self-tapping Screw, #6 x 1/4	2 or 3
10	27-1005	Coin Door Frame	1	36	27-1084	Lamp Socket	2 or 3
11	27-1003	M/C Screw, 6-32 x 3/16	4		27-1085	Lamp	2 or 3
12	5641-12724-00	Diagnostic Switch	1	37	27-1096	Self-tapping Screw, #5 x 3/8	2 or 3
13	27-1101	M/C Screw, 4-40 x 1/4	2	38	27-1087	M/C Screw, 6-32 x 5/8	2 or 3
14	01-9885	Bracket, Diagnostic Switch	1	39	27-1082	Lever Arm	2 or 3
15	03-7601-4	Button, Red	2	40	27-1097	Switch Cover	2 or 3
	03-7601-7	Button, Black	2	41	27-1091-1	Coin Accept Chute	2 or 3
16	27-1078	M/C Screw, 6-32 x 3/8	2 or 3	42	27-1075	Wire Form (Small)	2 or 3
17	27-1039	Conical Spring	2 or 3		or		
18	27-1079	Self-tapping Screw, #6 x 1/4	2		27-1093	Wire Form (Large)	
19	27-1077-1	Coinbox Cover	1	43	27-1094	M/C Screw, 4-40 x 7/8	4 or 6
20	27-1066	Slam Switch	1	44	27-1087	M/C Screw, 6-32 x 5/8	4 or 6
21	27-1067	M/C Screw, 4-40 x 1/2	2	45	27-1086	Washer, #6	4 or 6
22	27-1017	Nut (key)	1	46	27-1095	Nut, 4-40 ESNA	4 or 6
23	27-1012	Locking Cam	1	47	27-1076-1	Coin Return Box	1
24	27-1011	Locking Arm	2	48	27-1078	M/C Screw, 6-32 x 3/8	2
25	27-1020	Washer	1	49	27-1092	Microswitch	2 or 3

A-14689

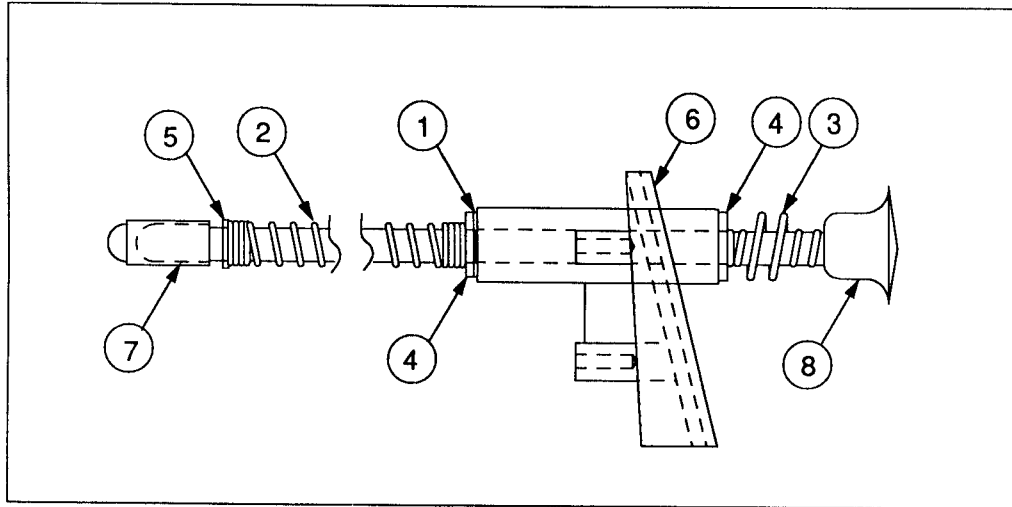
Coin Door Interface Board



Part Number	Ckt Designator	Description
5768-12855-00		Coin Door PCB
5070-09054-00	D1-D7	Diode, 1N4004, 1A
5791-10862-18	J1	Header, 18-pin, Str., Sq.
5791-10862-08	J2, J6	Header, 8-pin, Str., Sq.
5791-10862-13	J3	Header, 13-pin, Str., Sq.
16-8850-355		I.D. Label

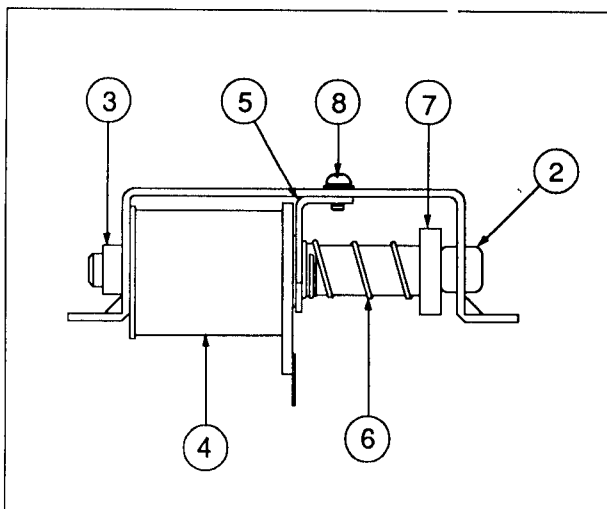
Note: C1 and J5 are not used.

B-12445-4 Shooter Assembly



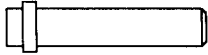
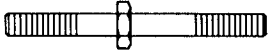
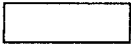
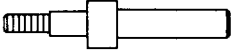

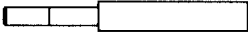
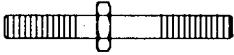
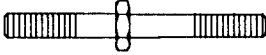
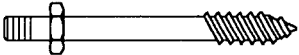

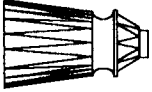
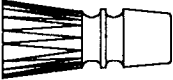
Item	Part Number	Description
1	03-7357	Shooter Sleeve
2	10-148-4	Shooter Spring
3	10-149	Rod Spring
4	4700-00051-00	Flatwasher, 25/64 X 5/8 X 16ga.
5	20-8718-1	"C"-Retaining Ring
6	21-6645-1	Ball Shooter Housing
7	23-6327	Rubber Shooter Tip
8	20-9253-7	Rod Assembly

B-13959 Ball Kicker Mech. Assembly



Item	Part Number	Description
1.	01-9787	Bell Armature Assembly
2.	23-6420	Coil Sub-Assembly
3.	03-7067-5	Mounting Bracket Assy.
4.	AE-23-800	Solenoid Bracket
5.	01-8-508-T	Coil Tubing
6.	10-135	Solenoid Spring
7.	A-13270	Rubber Grommet
8.	4008-01017-04	Mach. Screw, 8-32 x 1/4"

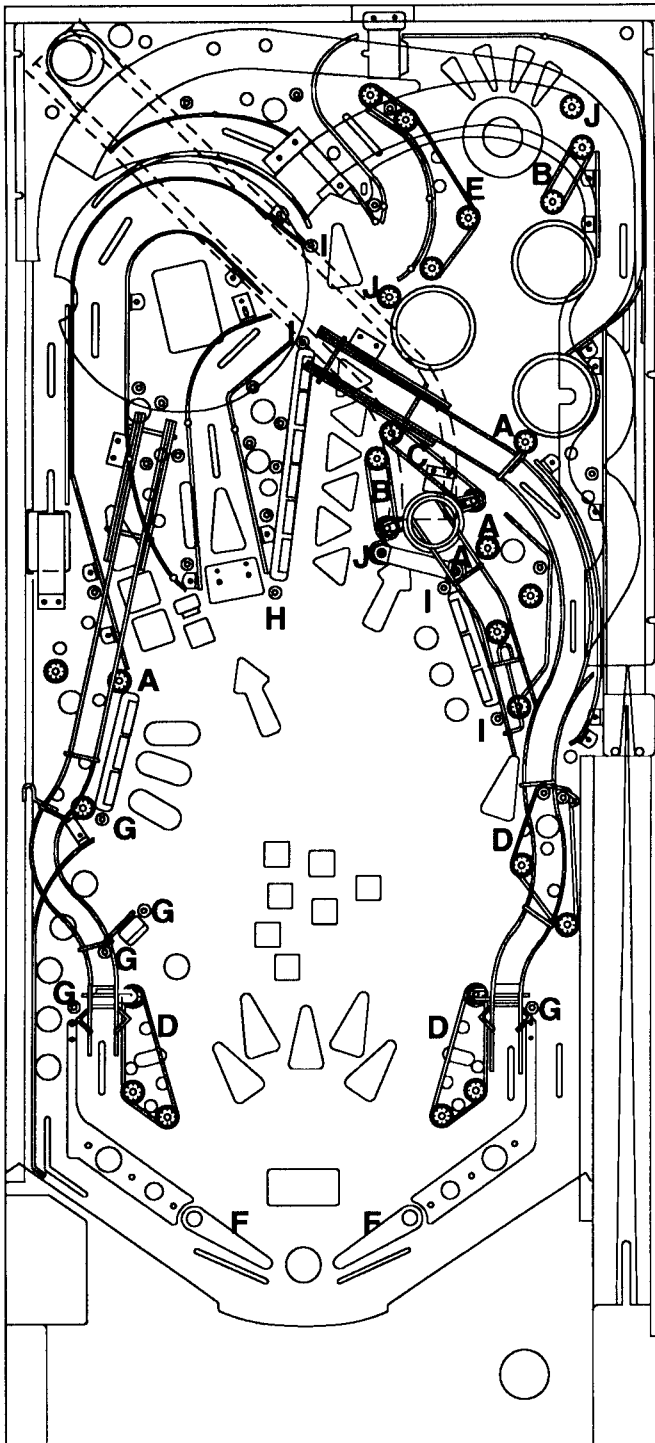
Metal & Plastic Posts

	Part Number	Description	Quantity
	02-3409	Spring Post	2
	02-3905	Bumper Post, #8 WS	1
	02-4020	Support Post	4
	02-4036	Rubber Bumper Post	3
	02-4252-22	F-F Spacer, 6-32 x 1-3/8"	1
	02-4252-24	F-F Spacer, 6-32 x 1-1/2"	2
	02-4252-26	F-F Spacer, 6-32 x 1-5/8"	3
	02-4252-28	F-F Spacer, 6-32 x 3/4"	1
	02-4334-11	Mtg. Post, 8-32 x 2-7/8	2
	02-4424-1	Spring Post, 6-32 x 8-32	11
	02-4425-1	Post, 8-32 / #8-32	5
	02-4426-1	Post, #6-32 / #8 SMS	9
	02-4434	Post, #8 x 1"	3
	03-8319-13	Star Post, #8 Clear	1
	03-8130-13	Double Star Post	1

Unique Parts

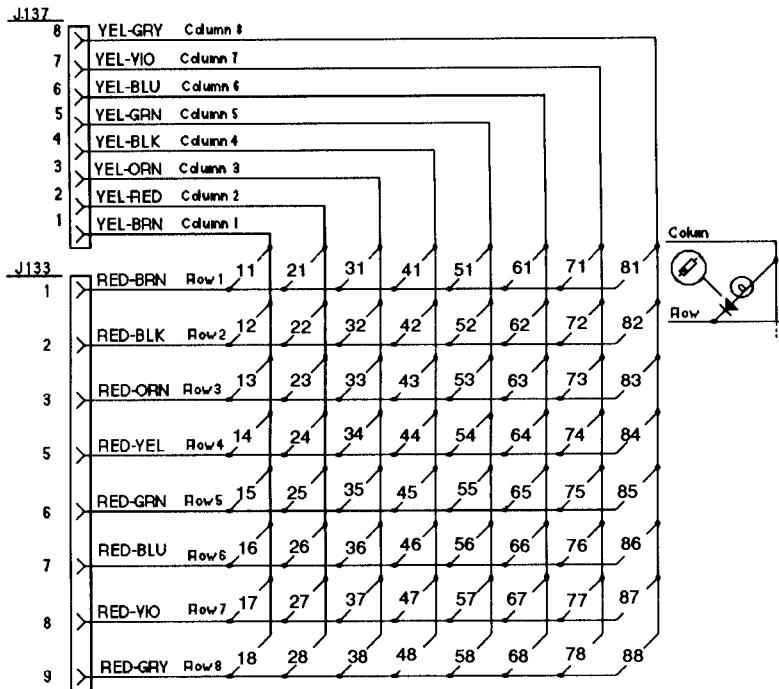
Part Number	Description	Part Number	Description
A-12163-1	Switch & Bracket Assembly	B-12445-4	Shooter Assembly
A-12738-20003	WPC Sound Board		
A-12742-20003	WPC CPU Assembly		
A-13204-20003	Bottom Arch Assembly	H-14599	Playfield Switch Cable
A-13767-20003	Backbox Assembly	H-14600	Playfield Lamp Cable
A-13769-20003	Playfield Inser Assembly	H-14601	Playfield Solenoid Cable
A-14529	4-Lamp Assembly	H-14602	Cabinet Cable
A-14530	5-Lamp Assembly	H-14603	Insert Cable
A-14531	6-Lamp Assembly	H-14627	Lagoon Switch Cable
A-14532	5-Lamp Assembly		
A-14533	5-Lamp Assembly		
A-14534	Opto Switch Assembly		
A-14538	Main Ramp Assembly		
A-14539	Ball Popper Ramp	H-14628	General Switch Cable
A-14540	Ramp Assembly - Right	H-14629	Wheel Opto Cable
A-14541	Ramp Assembly - Left	H-14630	Rocket Lamp Cable
A-14542	Ball Guide Assembly	H-14631	Flash Lamp Cable
A-14543	Ball Guide Assembly	H-14695	Dot Matrix Power Cable
A-14544	Ball Guide Assembly	H-14702	Gen. Illum. Cable
A-14545	Ball Guide Assembly	H-14734	Upper Playfield G.I. Cable
A-14546	Ball Guide Assembly		
A-14547	Ball Guide Assembly		
A-14548	Ball Guide Assembly		
A-14549	Ball Guide Assembly	12-6972	Ball Return Ramp, Left
A-14550	Lift Ramp Assembly	12-6973	Ball Popper Exit
A-14551	Ball Guide Assembly	12-6974	Ball Return Ramp, Right
A-14552	Ramp & Ball Guide Assy.	12-6975	Ball Guide
A-14555	Ball Guide Assembly	12-6985	One Way Gate
A-14556	Ball Guide Assy	12-6986	Ball Guide
A-14586	Ball Popper Assembly		
A-14587-1	Cashbox Assembly		
A-14595	Isle Mech. Assembly		
A-14651	Isle Lock Mech. Assembly	31-1-20003-1	Playfield Plastic
A-14707	One Way Ball Gate Assy.	thru 31-1-20003-28	
A-14714	Playfield Plastic	31-1A-20003-1	Playfield Plastic
A-14715	Playfield Plastic	31-1002-20003	Screened Playfield
A-14716	Playfield Plastic (Professor)	31-1008-20003	Screened Bottom Arch
A-14717	Playfield Plastic (Gilligan)	31-1009-20003	Shooter Gauge (Screened)
A-14718	Playfield Plastic (Middle)	31-1357-20003	Screened Backglass
A-14719	Playfield Plastic	31-2-20003-1	Decal
A-14720	Playfield Plastic	thru 31-2-20003-10	
A-14721-1	Flipper Plastic		
A-14721-2	Flipper Plastic		
A-14735	Coil & Bracket Assembly		
A-14746	Jumper Bumper Assembly		
A-8552-20003	Backglass Assembly		

RUBBERS RINGS



- A. 23-6300 (4) 5/16" Rubber Ring
- B. 23-6303 (2) 1 1/4" Rubber Ring
- C. 23-6305 (2) 2" Rubber Ring
- D. 23-6306 (3) 2 1/2" Rubber Ring
- E. 23-6308 (1) 3 1/2" Rubber Ring
- F. 23-6519-4 (2) Flipper Rubbers
- G. 23-6535 (5) Rubber Bumper
- H. 23-6552 (1) Yellow Bumper Sleeve
- I. 23-6556 (4) Black Bumper Sleeve
- J. 23-6579 (3) Yellow Tapered Rubber

LAMP MATRIX



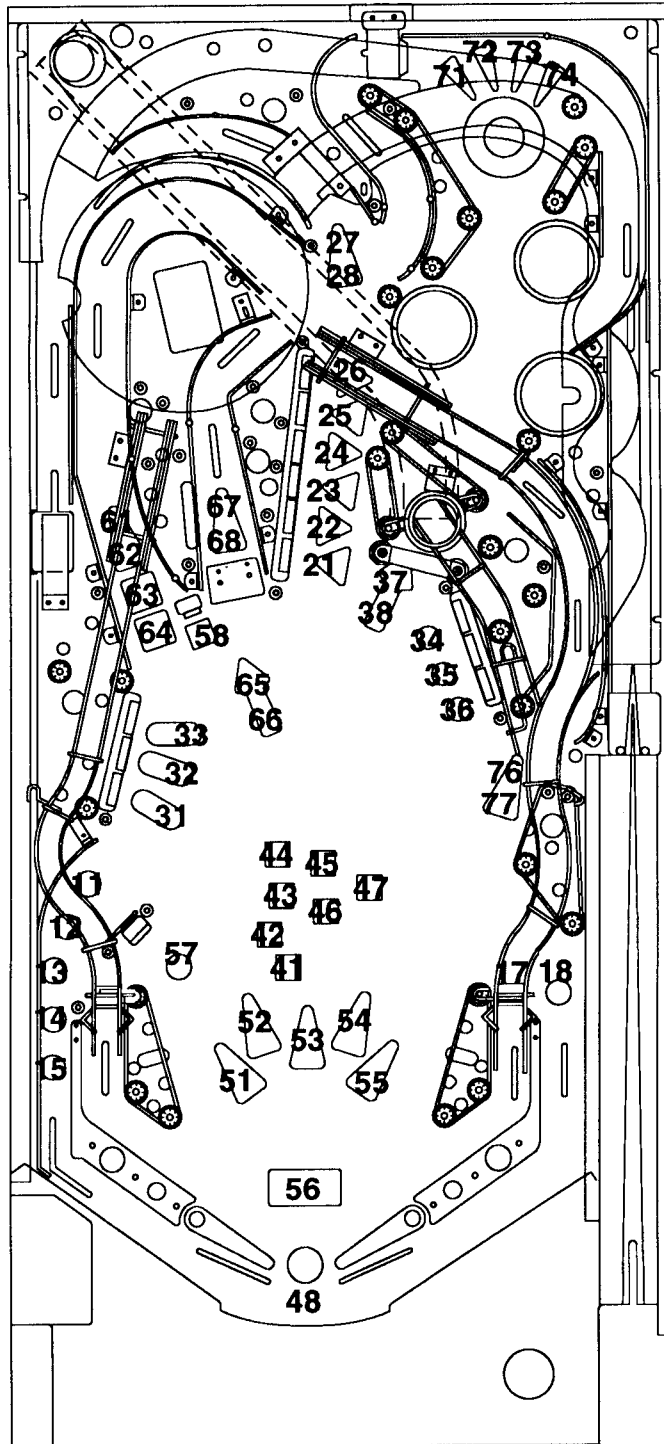
Lamp Matrix

Yellow (B+) Red

Column \ Row	1 Yellow-Brown J138-1 Q98	2 Yellow-Red J138-2 Q97	3 Yellow-Orange J138-3 Q96	4 Yellow-Black J138-4 Q95	5 Yellow-Green J138-5 Q94	6 Yellow-Blue J138-6 Q93	7 Yellow-Violet J138-7 Q92	8 Yellow-Gray J138-9 Q91
1 Red-Brown J133-1 Q90	Outlane Bonus Ball 11	Lagoon N 21	Left Bank Left 31	Item 1 41	Leaf 1 51	Turtle Top 61	Eject Kicker 71	Not Used 81
2 Red-Black J133-2 Q89	Outlane 2 Million 12	Lagoon O 22	Left Bank Middle 32	Item 2 42	Leaf 2 52	Turtle Bottom 62	Eject Ramp Down 200K 72	Not Used 82
3 Red-Orange J133-4 Q88	Outlane Gift Of Gods 13	Lagoon O 23	Left Bank Right 33	Item 3 43	Leaf 3 53	Turtle 2 63	Eject Spot 73	Not Used 83
4 Red-Yellow J133-5 Q87	Outlane 500K 14	Lagoon G 24	Right Bank Left 34	Item 4 44	Leaf 4 54	Turtle 3 64	Eject Ramp Down 100K 74	Not Used 84
5 Red-Green J133-6 Q86	Outlane 100K 15	Lagoon A 25	Right Bank Middle 35	Item 5 45	Leaf 5 55	Jungle Run Top 65	Not Used 75	Not Used 85
6 Red-Blue J133-7 Q85	Left Return 16	Lagoon L 26	Right Bank Right 36	Item 6 46	Treasure 56	Jungle Run Bottom 66	Rope Top 76	Not Used 86
7 Red-Violet J133-8 Q84	Right Return 17	Top Lock Top 27	Popper Ready Top 37	Item 7 47	Head Hunter 57	Kona Top 67	Rope Bottom 77	Not Used 87
8 Red-Gray J133-9 Q83	Right Outlane 18	Top Lock Bottom 28	Popper Ready Bottom 38	Bonus Ball 48	Bananas 58	Kona Bottom 68	Not Used 78	Start Button 88

LAMP LOCATIONS

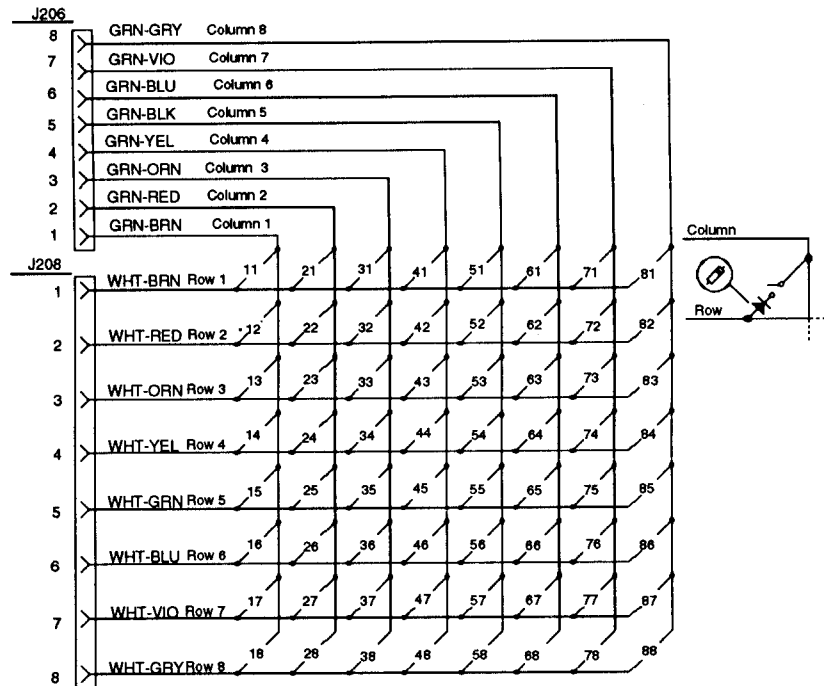
Item No.	Bulb	Description
11.	555	Outlane Bonus Ball
12.	555	Outlane 2 Million
13.	555	Outlane Gift of Gods
14.	555	Outlane 500K
15.	555	Outlane 100K
16.	44	Left Return
17.	44	Right Return
18.	44	Right Outlane
21.	555	Lagoon N
22.	555	Lagoon O
23.	555	Lagoon O
24.	555	Lagoon G
25.	555	Lagoon A
26.	44	Lagoon L
27.	44	Top Lock Top
28.	44	Top Lock Bottom
31.	555	Left Bank Left
32.	555	Left Bank Middle
33.	555	Left Bank Right
34.	555	Right Bank Left
35.	555	Right Bank Middle
36.	555	Right Bank Right
37.	44	Popper Ready Top
38.	44	Popper Ready Bottom
41.	555	Item 1
42.	555	Item 2
43.	555	Item 3
44.	555	Item 4
45.	555	Item 5
46.	555	Item 6
47.	44	Item 7
48.	44	Bonus Ball
51.	555	Leaf 1
52.	555	Leaf 2
53.	555	Leaf 3
54.	555	Leaf 4
55.	555	Leaf 5
56.	44	Treasure
57.	44	Head Hunter
58.	44	Bananas
61.	44	Turtle Top
62.	555	Turtle Bottom
63.	555	Turtle 2
64.	555	Turtle 3
65.	44	Jungle Run Top
66.	44	Jungle Run Bottom
67.	44	Kona Top
68.	44	Kona Bottom
71.	555	Eject Kicker
72.	555	Eject Ramp Down
73.	555	Eject Spot
74.	555	Eject Ramp Down
75.	---	Not Used
76.	44	Rope Top
77.	44	Rope Bottom
78.-87.	---	Not Used
88.	20-9663-1	Start Button



88

Bulb #	Part Number
555	24-8768
44	24-6549

SWITCH MATRIX



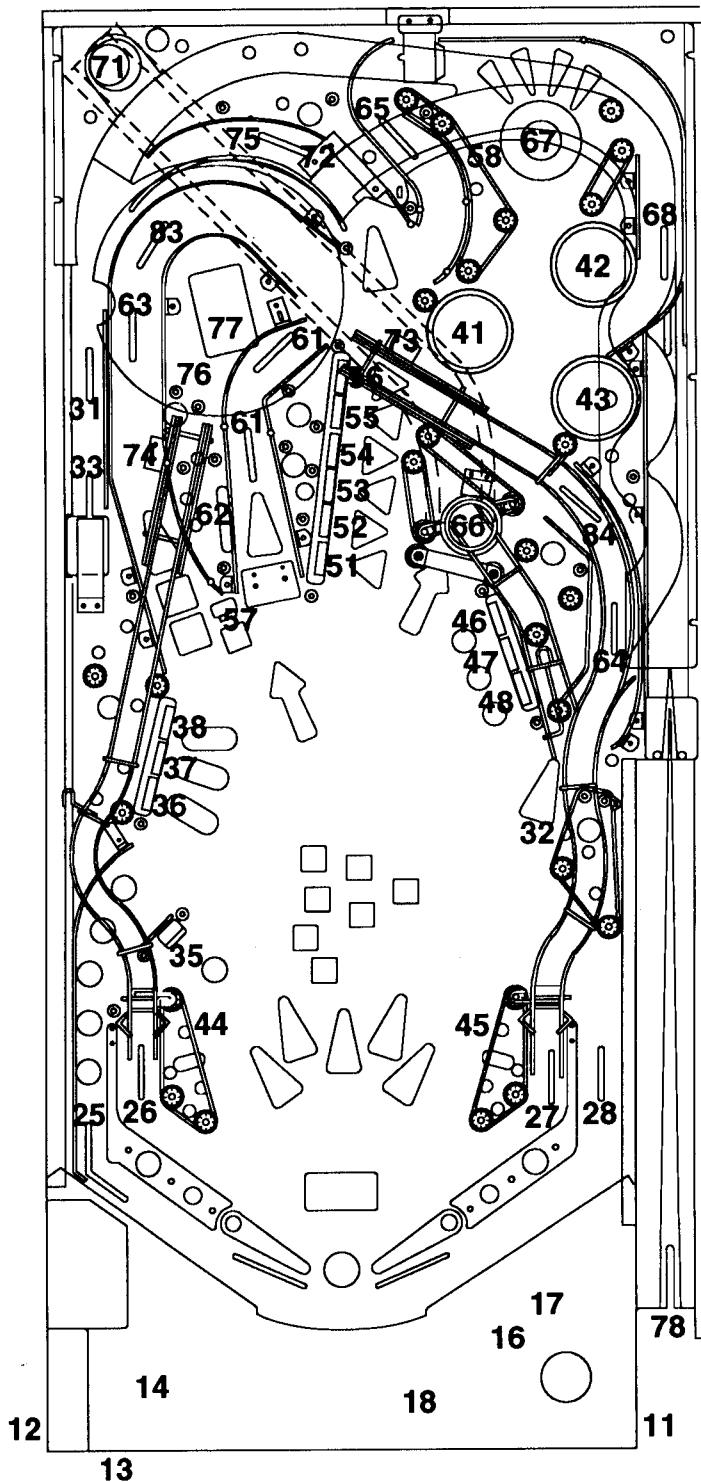
Switch Matrix

White Green

Dedicated Grounded Switches	Column		1	2	3	4	5	6	7	8
	Row		Green-Brown J206-1 U20-18	Green-Red J206-2 U20-17	Green-Orange J206-3 U20-16	Green-Yellow J206-4 U20-15	Green-Black J206-5 U20-14	Green-Blue J206-6 U20-13	Green-Violet J206-7 U20-12	Green-Gray J206-8 U20-11
Orange-Brown (1) Left Coin Chute D1	1	White-Brown J208-1 U18-11	Right Flipper 11	Slam Tilt 21	Payoff Middle Left 31	Left Jet 41	Lagoon N 51	Island Entrance 61	Payoff Top Left 71	Not Used 81
Orange-Red (2) Center Coin Chute D2	2	White-Red J208-2 U18-9	Left Flipper 12	Coin Door Closed 22	Right 10 Points 32	Right Jet 42	Lagoon O 52	Ramp Status 62	Payoff Top Right 72	Not Used 82
Orange-Black (3) Right Coin Chute D3	3	White-Orange J208-3 U18-5	Start Button 13	Ticket Opto 23	Left Lock 33	Bottom Jet 43	Lagoon O 53	Left Loop 63	Payoff Bottom Right 73	Top Left Loop 83
Orange-Yellow (4) 4th Coin Chute D4	4	White-Yellow J208-4 U18-7	Plumb Bob Tilt 14	Always Closed 24	Not Used 34	Left Shing 44	Lagoon G 54	Right Loop 64	Payoff Bottom Left 74	Top Right Loop 84
Orange-Green (5) Normal Function Test Function Service Escape Credits D5	5	White-Green J208-5 U19-11	Not Used 15	Left Out Lane 25	Left Stand Up 35	Right Shing 45	Lagoon A 55	S Turn 65	Lock Lane 75	Not Used 85
Orange-Blue (6) Normal Function Test Function Volume Down D6	6	White-Blue J208-7 U19-9	Trough Left 16	Left Return Lane 26	Left Bank Left 36	Right Bank Left 46	Lagoon L 56	Ball Popper 66	Wheel Lock 76	Not Used 86
Orange-Violet (7) Normal Function Test Function Volume Up D7	7	White-Violet J208-8 U19-5	Trough Right 17	Right Return Lane 27	Left Bank Middle 37	Right Bank Middle 47	Ramp Stand Up 57	Top Eject 67	Wheel Opto 77	Not Used 87
Orange-Gray (8) Normal Function Test Function Begin Enter Test D8	8	White-Gray J208-9 U19-7	Outhole 18	Right Out Lane 28	Left Bank Right 38	Right Bank Right 48	Jet 10 Points 58	Top Right 68	Shooter 78	Not Used 88

SWITCH LOCATIONS

Switch Number	Switch Assy.	Description
SW-10A-48	A-9990-1	Right Flipper
SW-10A-48	A-9990-1	Left Flipper
---	20-9663-1	Start Button
---	20-6502-A	Plum Bob Tilt
---	---	Not Used
---	---	Trough Left
5647-12693-08	A-11680	Trough Right
5647-09957-00	B-11348	Outhole
5647-12133-12	A-10417	*Slam Tilt
---	27-1066	*Coin Door Closed
---	A-8630	*Ticket Opto.
---	Not Used	*Always Closed
---	A-8630	Left Outlane
5647-12693-19	A-12688	Left Return Lane
5647-12693-19	A-12688	Right Return Lane
5647-12693-19	A-12688	Right Outlane
5647-12693-19	A-12688	Payoff Middle Left
5647-12693-19	A-12688	Right 10 Points
---	B-4834-K	Left Lock
5647-12693-19	A-12688	Not Used
---	---	Left Stand-Up
---	B-14060-8	Left Bank Left
---	B-12912-16	Left Bank Middle
---	B-12912-16	Left Bank Right
---	B-12912-16	Left Jet
SW-1A-87	B-13267	Right Jet
SW-1A-87	B-13267	Bottom Jet
SW-1A-187	B-13267	Left Sling
A-4834-H	B-8284-1	Right Sling
A-4834-H	B-8284-1	Right Bank Left
---	B-12912-5	Right Bank Middle
---	B-12912-5	Right Bank Right
---	B-12912-5	Lagoon N
---	B-14060-10	Lagoon O
---	B-14060-10	Lagoon O
---	B-14060-10	Lagoon G
---	B-14060-10	Lagoon A
---	B-14060-10	Lagoon L
---	B-14060-10	Ramp Stand-Up
---	B-12583-2	Jet 10 Points
---	B-4834-K	Island Entrance (2)
5647-12693-19	A-12688	Ramp Status
5647-12001-00	---	Left Loop
5647-12693-19	A-12688	Right Loop
5647-12693-19	A-12688	S Turn
5647-12693-19	A-12688	Ball Popper
5647-12073-24	---	Top Eject
5647-12133-11	A-9381-R	Top Right
5647-12693-19	A-12688	Payoff Top Left
5647-12073-13	A-12163-1	Payoff Top Right
5647-12073-36	B-13243	Payoff Bottom Right
5647-12073-21	A-12556	Payoff Bottom Left
5647-12073-21	A-12556	Lock Lane 12
5647-12693-19	A-12688	Wheel Lock
5647-12073-08	---	Wheel Opto
A-14534-AI	A-14534-1	Shooter
5647-12693-04	A-11619-1	Not Used
---	---	Top Left Loop
5647-12693-19	A-12688	Top Right Loop
5647-12693-19	A-12688	Not Used



*Not Shown

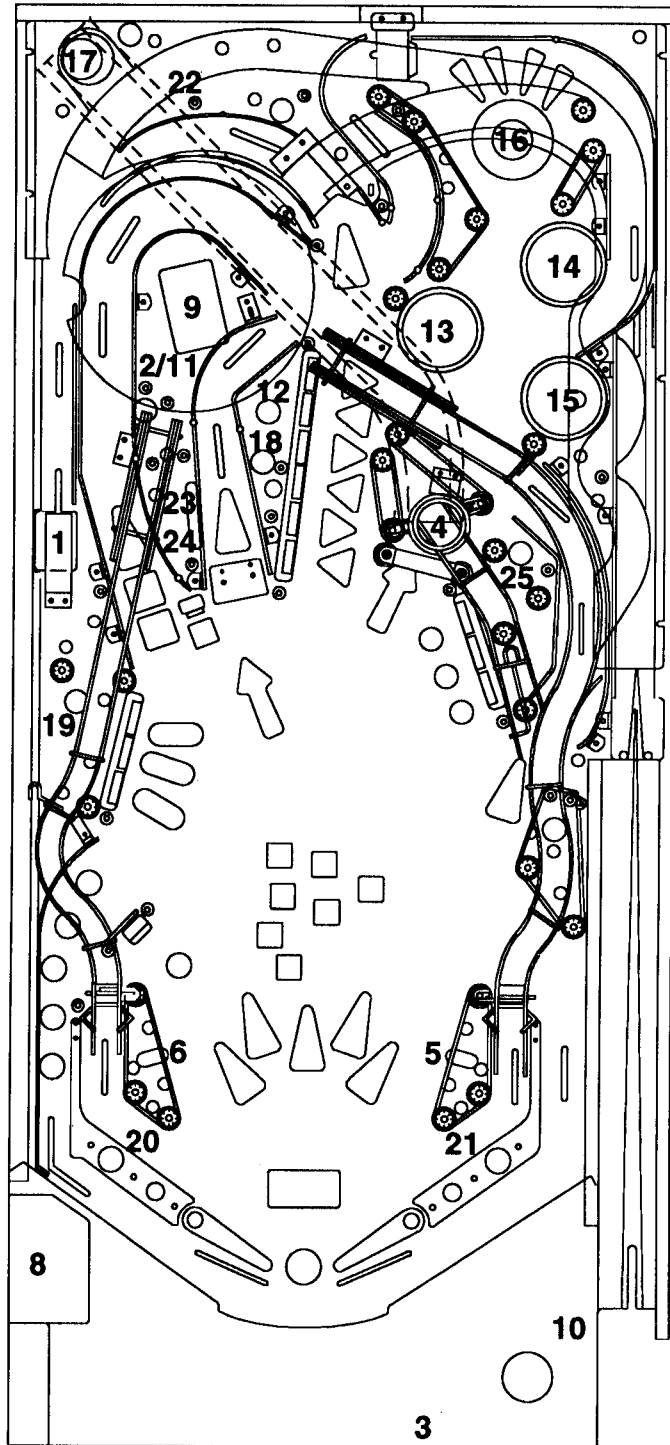
SOLENOID TABLE

Sol. No.	Function	Solenoid Type	Wire Color	Connections	Driver Trnstr	Solenoid Part Number Flashlamp Type
01	Left Lock	High Power	Vio-Brn	J130-1	Q82	AE-23-800
02	Island Lock	High Power	Vio-Red	J130-2	Q80	A-14701
03	Outhole	High Power	Vio-Orn	J130-4	Q78	AE-26-1200
04	Ball Popper	High Power	Vio-Yel	J130-5	Q76	AE-26-1200
05	Right Sling	High Power	Vio-Grn	J130-6	Q64	AE-26-1500
06	Left Sling	High Power	Vio-Blu	J130-7	Q66	AE-26-1500
07	Knocker	High Power	Vio-Blk	J130-8	Q68	AE-23-800
08	Kickback	High Power	Vio-Gry	J130-9	Q70	AE-23-800
09	Island Motor	Low Power	Brn-Blk	J127-1	Q58	14-7964-1
10	Trough	Low Power	Brn-Red	J127-3	Q56	AE-26-1200
11	Hold Lock	Low Power	Brn-Orn	J127-4	Q54	A-14701
12	Island Light	Low Power	Brn-Yel	J127-5	Q52	24-8802 #906
13	Left Jet	Low Power	Brn-Grn	J127-6	Q50	AE-26-1200
14	Right Jet	Low Power	Brn-Blu	J127-7	Q48	AE-26-1200
15	Bottom Jet	Low Power	Brn-Vio	J127-8	Q46	AE-26-1200
16	Top Eject	Low Power	Brn-Gry	J127-9	Q44	AE-28-1500
17	Head 1 Flasher	Flasher	Blk-Brn	J125-1	Q42	#906 Plfd, #906 Ins
18	Island Flasher	Flasher	Blk-Red	J126-2 J125-2	Q40	#89 Plfd, #906 Ins
19	Left Bank Flasher	Flasher	Blk-Orn	J126-3 J125-3	Q38	#89 Plfd, #906 Ins
20	Left Flipper Flasher	Flasher	Blk-Yel	J126-4	Q36	#89 Plfd, #906 Ins
21	Right Flipper Flasher	Flasher	Blu-Grn	J126-6 J125-6	Q28	#89 Plfd, #906 Ins
22	Head 2 Flasher	Flasher	Blu-Blk	J126-7 J125-7	Q30	#906 Plfd, #906 Ins
23	Ramp Up Coil	Low Power	Blu-Vio	J126-8 J125-8	Q34	AE-26-1200
24	Ramp Down Coil	Low Power	Blu-Gry	J126-9 J125-9	Q32	SM1-26-600
25	Right Bank Flasher	Flasher	Blu-Brn	J122-1	Q26	#89 Plfd, #906 Ins
26	Treasure Flasher	Flasher	Blu-Red	J122-2	Q24	#906 Plfd, #906 Ins
27	Title Flasher	Flasher	Blu-Orn	J122-3	Q22	#906 Ins (2)
28	Professor Flasher	Flasher	Blu-Yel	J122-4	Q20	#906 Ins
General Illumination Circuits						
01	Left Insert String 1	G.I.	Wht-Brn	J121-7	Q18	#555
02	Playfield Bottom String 2	G.I.	Wht-Org	J120-8	Q10	#555
03	Playfield Middle String 3	G.I.	Wht-Yel	J120-9	Q14	#555
04	Right Insert String 4	G.I.	Wht-Grn	J121-11	Q16	#555
05	Playfield Top String 5	G.I.	Wht-Vio	J120-11	Q12	#555
	Lower Right Flipper		Blu-Yel	J109-7		FL-11630
	Lower Left Flipper		Gry-Yel	J109-5		FL-11630

SOLENOID/FLASHER LOCATIONS

Item	Part Number	Description
01	AE-23-800	Left Lock
02	A-14701	Island Lock
03	AE-26-1200	Outhole
04	AE-26-1200	Ball Popper
05	AE-26-1500	Right Sling
06	AE-26-1500	Left Sling
07	AE-23-800	Knocker
08	AE-23-800	Kick Back
09	14-7964-1	Island Motor
10	AE-26-1200	Ball Shooter
11	A-14701	Hold Lock
12	24-8802	#906 Island Light
13	AE-26-1200	Left Jet
14	AE-26-1200	Right Jet
15	AE-26-1200	Bottom Jet
16	AE-28-1500	Top Eject
17	24-8802	#906 Head 1 Flasher
18	24-8704	#89 Island Flasher
19	24-8704	#89 Left Bank Flasher
20	24-8704	#89 Left Flipper Flasher
21	24-8704	#89 Right Flipper Flasher
22	24-8802	#906 Head 2 Flasher
23	AE-26-1200	Ramp Up Coil
24	SM1-26-600	Ramp Down Coil
25	24-8704	#89 Right Bank Flasher
26	24-8802	#906 Treasure Flasher
27*	24-8802	#906 Title Flasher
28*	24-8802	#906 Professor Flasher

*Not Shown



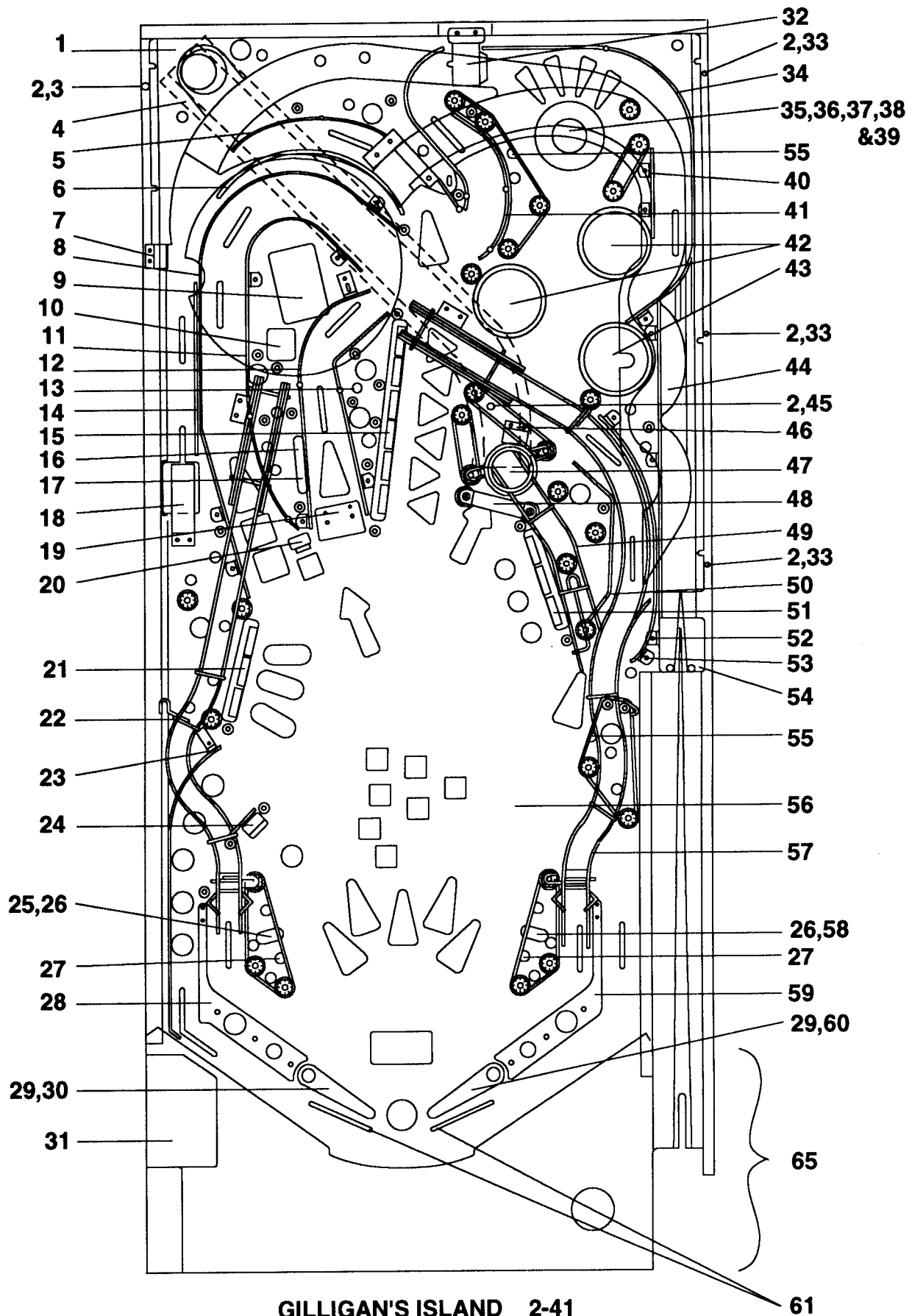
PLAYFIELD PARTS

1.	03-8553	Mountain Cover	51.	B-12912-5	Stand Up Target (White)
2.	A-12258-1	Nut Plate	52.	A-14544	Ball Guide
3.	02-4252-22	Stand Off	53.	A-14545	Ball Guide
4.	A-14539	Ball Popper Ramp Assy.	54.	01-10141	Shooter
5.	A-14556	Ball Guide	55.	B-4834-K	Stand Up Switch
6.	12-6986	Ball Guide Wire	56.	31-1002-20003	Screened Playfield
7.	01-10229-2	Ball Deflector Brkt.	57.	A-14540	Wire Ramp Assy
8.	A-14547	Ball Guide	58.	B-11203-L-1	Coil & Brkt. Assy.
9.	**A-14595	Isle Mech Assy.	59.	B-13921-R	Flipper Ball Guide (2)
10.	A-14651	Isle Lock Mech Assy.	60.	C-13174-R	Flipper mech Assy.
11.	A-14548	Ball Guide	61.	12-6871	Biff Bars 2 3/8"
12.	A-14549	Ball Guide	62.	*03-7960-10003-1	Full Playfield Mylar
13.	A-14717	Gilligan Plastic Assy.	63.	*03-7960-20003-2	Jet Bumper Area Mylar
14.	12-6466-26	Ball Guide Wire 6 1/2"	64.	20003-PLASTICS	Set Playfield Plastics
15.	B-14060-10	Stand Up Target (Blue)	65.	Parts below are located beneath Bottom Arch:	
16.	B-9362-L-2	Coil & Brkt. Assy.	a)	B-8623	Upper Trough Baffle
17.	B-11304-3	Ramp Lift Assy.	b)	C-8235	Lower Trough Baffle
18.	B-13959	Ball Kicker Assy.	c)	12-6542	Trough Baffle Wire
19.	A-14552	Ramp & Ball Guide Assy.	d)	01-3569-1	Ball Trough (runway)
20.	B-12583-2	Stand Up Target (Green)	e)	01-5575	Bottom Arch Mtg. Brkt.
21.	B-12912-16	Stand Up Target (Yellow)	f)	A-8039-2	Outhole Kicker Assy.
22.	A-14541	Wire Ramp Assy.	g)	C-9638	Shooter Lane Feeder
23.	A-14555	Ball Guide			
24.	B-14060-8	Stand Up Target (Amber)			
25.	B-11203-R-1	Coil & Brkt. Assy.			
26.	B-12665	Nylon Kicker Assy.			
27.	B-8284-1	Kicker Count Switch			
28.	B-12852	Flipper Ball Guide (2)			
29.	20-9250-6	Flipper & Shaft (Yellow)			
30.	C-13174-L	Flipper Mech Assy.			
31.	B-11873	Bottom Arch Kicker Assy.			
32.	A-8244-L	Ball Gate Assy.			
33.	02-4252-26	Stand Off			
34.	A-14542	Ball Guide			
35.	A-9381-R	Switch & Brkt Assy.			
36.	B-9361-R-5	Ball Eject Assy.			
37.	A-14735	Coil & Brkt. Assy.			
38.	03-8222	Eject Spacer			
39.	03-7351-1-9	Eject Shield (Red)			
40.	A-14543	Ball Guide			
41.	A-14546	Ball Guide			
42.	A-12842-2	Jumper Bumper Assy.			
43.	A-14746	Jumper Bumper Assy.			
44.	A-14538	Main Ramp Assy.			
45.	02-4252-28	Stand Off			
46.	01-10229-1	Ball Deflector Brkt.			
47.	B-14586	Ball Popper Assy.			
48.	A-14707	One Way Ball Gate Assy.			
49.	12-6973	Ball Popper Exit Ramp			
50.	12-6975	Ball Guide Wire			

* The Gilligan's Island Hardcoat playfield does not require a protective mylar. However, mylars can be purchased thru you local Bally Distributor.

**Upper Island Assy. can be removed for cleaning playfield by removing set screw on underside of playfield.

PLAYFIELD PARTS LOCATIONS



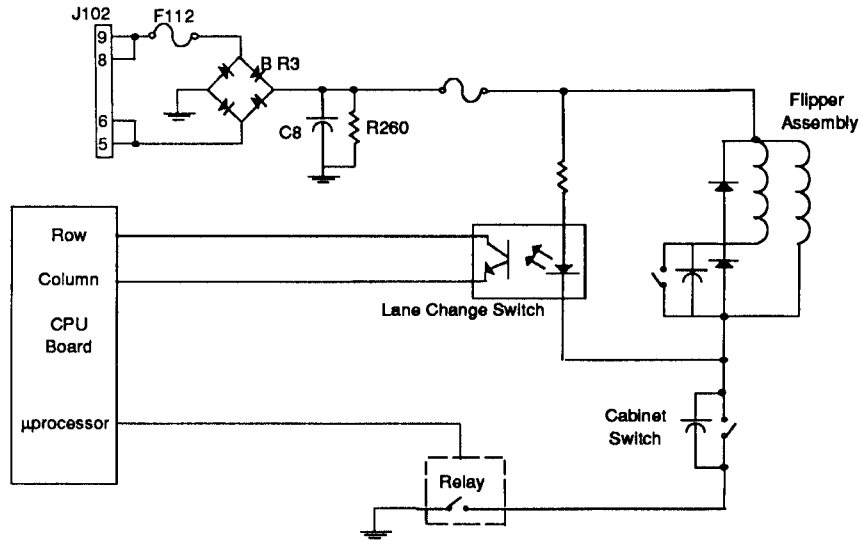
Section 3

Wiring Diagrams and Schematics

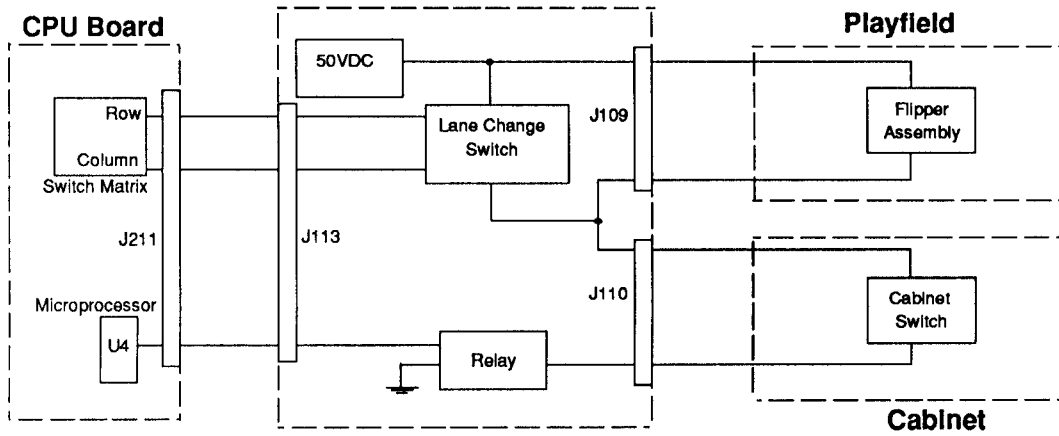
- ***Diagrams & Schematics***

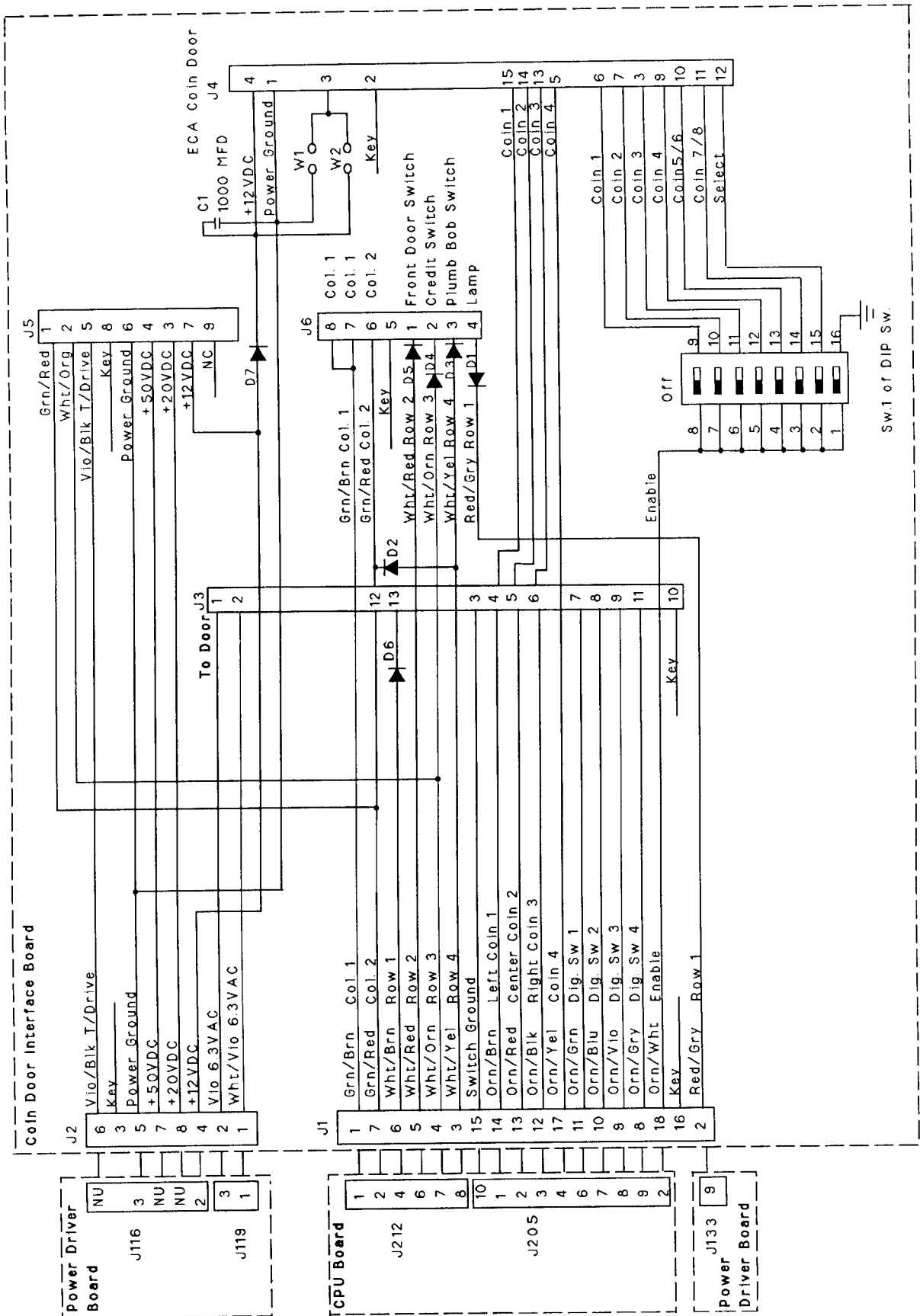
- Flipper Wiring
- Coin Door Interface Board Wiring
- Motor Circuit
- Opto Switch Circuit
- Solenoid Wiring
- Interboard Wiring
- CPU Board
- Power Driver Board
- Dot Matrix Controller Board
- Sound Board
- Power Wiring

FLIPPER and LANE CHANGE CIRCUIT



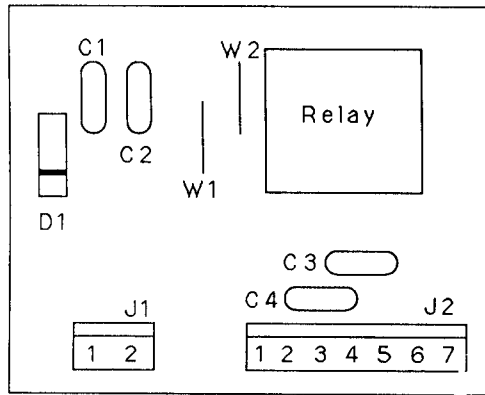
Block Diagram of Flipper & Lane Change Circuit
Power Driver Board



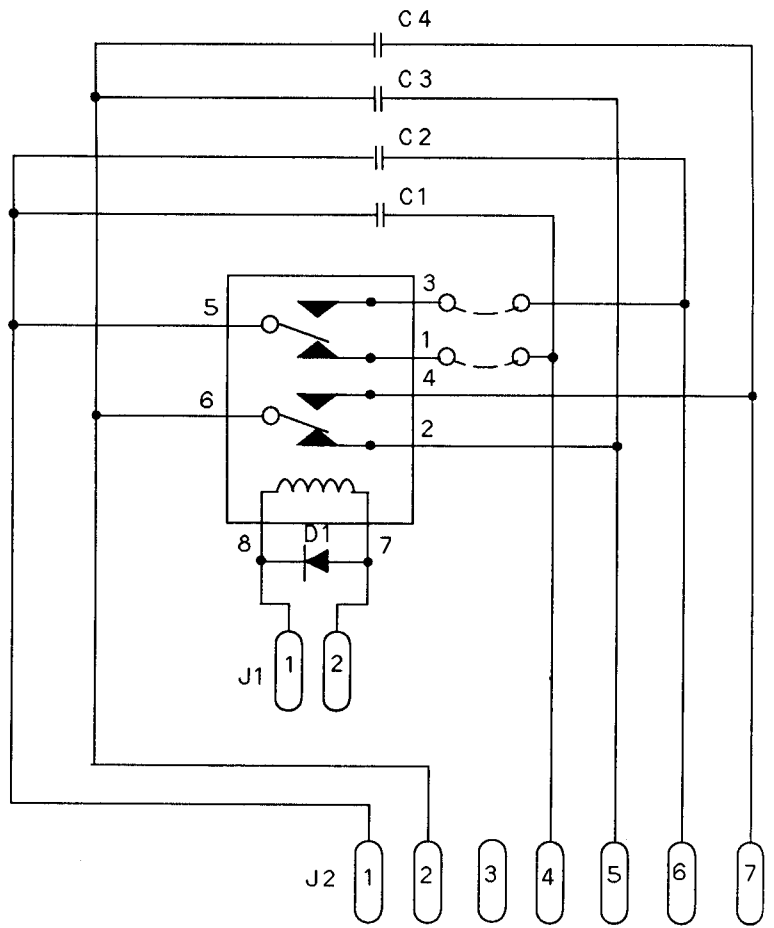


A-14689
Coin Door Interface Board Schematic

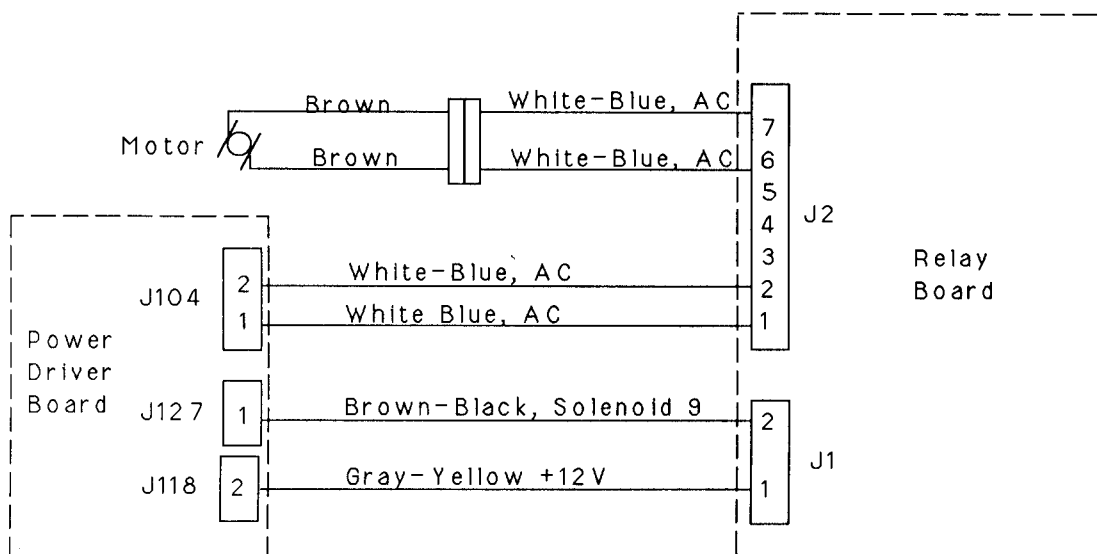
Motor Circuit



Relay Board

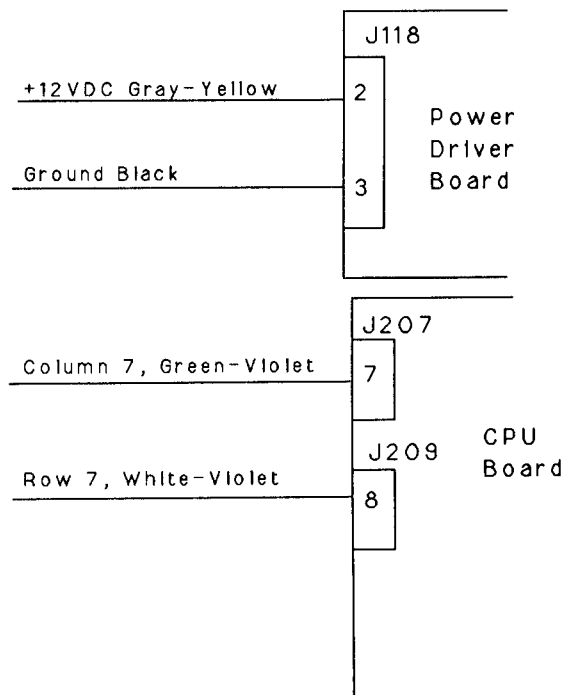
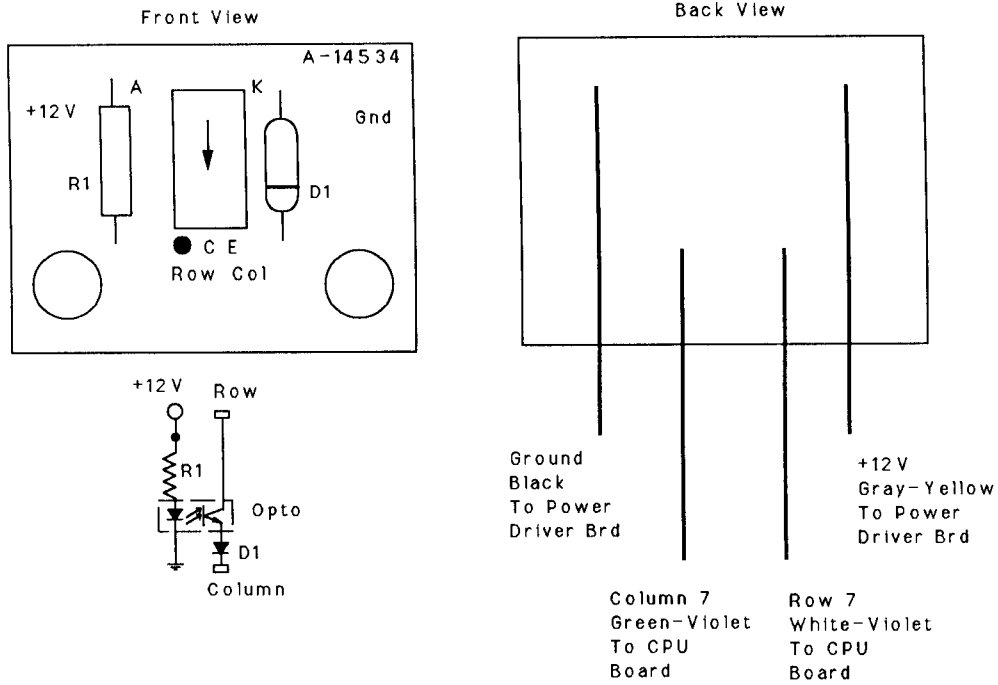


Relay Board Schematic

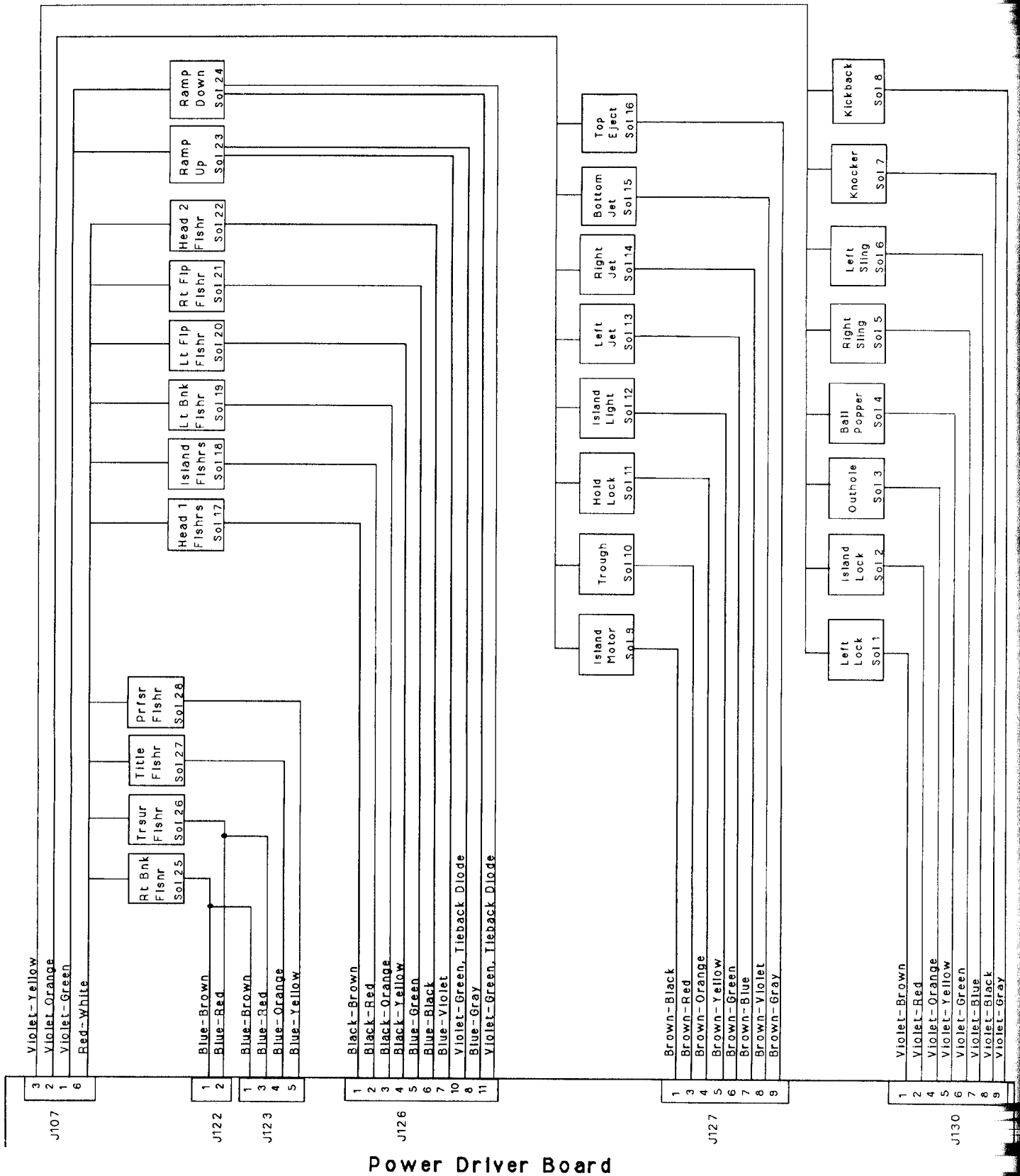


Opto Switch Circuit

Opto Board Layout and Schematic



Solenoid Wiring



Interboard Wiring

Switch Circuits

Wire Color	Function	Connector from CPU		
		To Playfield	To Cabinet	Transistor
Green/Brown	Column 1	J207-1	J212-1	U20-18
Green/Red	Column 2	J207-2	J212-2	U20-17
Green/Orange	Column 3	J207-3		U20-16
Green/Yellow	Column 4	J207-4		U20-15
Green/Black	Column 5	J207-5		U20-14
Green/Blue	Column 6	J207-6		U20-13
Green/Violet	Column 7	J207-7		U20-12
Green/Gray	Column 8	J207-9		U20-11
White/Brown	Row 1	J209-1	J212-4	U18-11
White/Red	Row 2	J209-2	J212-6	U18-9
White/Orange	Row 3	J209-3	J212-7	U18-5
White/Yellow	Row 4	J209-4	J212-8	U18-7
White/Green	Row 5	J209-5		U19-11
White/Blue	Row 6	J209-7		U19-9
White/Violet	Row 7	J209-8		U19-5
White/Gray	Row 8	J209-9		U19-7
Orange/ Brown	Direct 1	Left Coin	J205-1	U17-5
Orange/Red	Direct 2	Center Coin	J205-2	U17-7
Orange/Black	Direct 3	Right Coin	J205-3	U17-11
Orange/Yellow	Direct 4	4th Coin	J205-4	U17-9
Orange/Green	Direct 5	Escape/Service	J205-6	U16-9
Orange/Blue	Direct 6	Down/Vol Down	J205-7	U16-11
Orange/Violet	Direct 7	Up/ Vol Up	J205-8	U16-7
Orange/Gray	Direct 8	Enter/Test	J205-9	U16-5
Black		Ground	J205-10	
Orange/White		Enable	J205-12	

Lamp Circuits

Wire Color	Function	Connectors from Power Driver Board		Transistor
		To Playfield	To Cabinet	
Yellow/Brown	Column 1	J138-1		Q98
Yellow/Red	Column 2	J138-2		Q97
Yellow/Orange	Column 3	J138-3		Q96
Yellow/Black	Column 4	J138-4		Q95
Yellow/Green	Column 5	J138-5		Q94
Yellow/Blue	Column 6	J138-6		Q93
Yellow/Violet	Column 7	J138-7		Q92
Yellow/Gray	Column 8	J136-3		Q91
Red/Brown	Row 1	J133-1		Q90
Red/Black	Row 2	J133-2		Q89
Red/Orange	Row 3	J133-4		Q88
Red/Yellow	Row 4	J133-5		Q87
Red/Green	Row 5	J133-6		Q86
Red/Blue	Row 6	J133-7		Q85
Red/Violet	Row 7	J133-8		Q84
Red/Gray	Row 8	J133-9	J135-9	Q83

Interboard Wiring

Solenoid Circuits

Connectors from Power Driver Board

Wire Color	Function	To Backbox	To Playfield	Transistor
Violet/Brown	Solenoid 1, High Power		J130-1	Q82
Violet/Red	Solenoid 2, High Power		J130-2	Q80
Violet/Orange	Solenoid 3, High Power		J130-4	Q78
Violet/Yellow	Solenoid 4, High Power		J130-5	Q76
Violet/Green	Solenoid 5, High Power		J130-6	Q64
Violet/Blue	Solenoid 6, High Power		J130-7	Q66
Violet/Black	Solenoid 7, High Power		J130-8	Q68
Violet/Gray	Solenoid 8, High Power		J130-9	Q70
Brown/Black	Solenoid 9, Low Power		J127-1	Q58
Brown/Red	Solenoid 10, Low Power		J127-3	Q56
Brown/Orange	Solenoid 11, Low Power		J127-4	Q54
Brown/Yellow	Solenoid 12, Low Power		J127-5	Q52
Brown/Green	Solenoid 13, Low Power		J127-6	Q50
Brown/Blue	Solenoid 14, Low Power		J127-7	Q48
Brown/Violet	Solenoid 15, Low Power		J127-8	Q46
Brown/Gray	Solenoid 16, Low Power		J127-9	Q44
Black/Brown	Sol. 17, Flasher 1, No Diode	J126-1	J125-1	Q42
Black/Red	Sol. 18, Flasher 2, No Diode	J126-2	J125-2	Q40
Black/Orange	Sol. 19, Flasher 3, No Diode	J126-3	J125-3	Q38
Black/Yellow	Sol. 20, Flasher 4, No Diode	J126-4	J125-5	Q36
Blue/Green	Sol. 21, Special 1 Drive	J126-5	J125-6	Q28
Blue/Black	Sol. 22, Special 2 Drive	J126-6	J125-7	Q30
Blue/Violet	Sol. 23, Special 3 Drive, Tieback Diode	J126-7		Q34
Blue/Gray	Sol. 24, Special 4 Drive, Tieback Diode	J126-8		Q32
Blue/Brown	Sol. 25, Special 5 Drive		J122-1	Q26
			J123-1	
Blue/Red	Sol. 26, Special 6 Drive		J122-2	Q24
			J123-3	
Blue/Orange	Sol. 27, Special 7 Drive		J123-4	Q22
Blue/Yellow	Sol. 28, Special 8 Drive		J123-5	Q20

Flipper Circuits

Connectors from Power Driver Board

Wire Color	Function	To Playfield
Gray/Yellow	Left Flipper Power	J109-5
Blue/Yellow	Right Flipper Power	J109-7
Black/Blue	Upper Left Flipper	Not Used
Blue/Gray	Lower Left Flipper	J109-3
Black/Yellow	Upper Right Flipper	Not Used
Blue/Violet	Lower Right Flipper	J109-4
Black/Blue	Upper Left Flipper	J110-9, Not Used
Blue/Gray	Lower Left Flipper	J110-7
Black/Yellow	Upper Right Flipper	J110-8, Not Used
Blue/Violet	Lower Right Flipper	J110-6
Orange/Gray	Left Flipper Ground	J110-2, 1
Orange/ Violet	Right Flipper Ground	J110-4, 3

Interboard Wiring

General Illumination Circuits

Wire Color	Function	Connectors from Power Driver Board			Transistor
		To Playfield	To Cabinet	To Insert	
Green	Feed 1			J121-5	Q12
Violet	Feed 2	J120-6	J119-3		Q10
Brown	Feed 3			J121-1	Q18
Yellow	Feed 4	J120-3			Q14
Orange	Feed 5	J120-2		J121-2	Q16
White/Green	Return 1			J121-10	F7
White/Violet	Return 2	J120-11	J119-1		F6
White/Brown	Return 3			J121-7	F10
White/Yellow	Return 4	J120-9			F8
White/Orange	Return 5	J120-8		J121-8	F9

Power Circuits

Wire Color	Function	Connectors from Power Driver Board		
		To Cabinet	To Dot Matrix Controller	To Playfield
Gray	Digital +5V		J117-4	
Gray/Green	Switch +12V			
Gray/Yellow	Analog +12V	J116-2	J117-2	J118-2
Black	Ground	J116-3	J117-3	J118-3

Power Circuits

Wire Color	Function	Connectors from Power Driver Board	
		To Playfield	To Insert
Violet/Yellow	High Power 50V	J107-3	
Violet/Orange	Low Power 50V	J107-2	
Violet/Green	Other 50V	J107-1	
Red	Flasher 20V	Not Used	
Red/White	Flasher 20V	J107-6	
White/Blue	50VAC	J104-1	
White/Blue	50VAC	J104-2	
Black	Ground	J103-1, 2	

Logic Circuits

Wire Color	Function	
Ribbon Cable	Data	J201 To /from Dot Matrix Controller
Ribbon Cable	Data	J202 To /from Sound Board & Dot Matrix Controller
Ribbon Cable	Data	J204 Not Used

Connectors from Power Driver Board		
Black	Ground	J210-1
Black	Ground	J210-3
Gray	+5VDC	J210-4
Gray	+5VDC	J210-5
Gray/Green	+12VDC	J210-6
Gray/Green	+12VDC	J210-7
Ribbon Cable	Data	J211

Interboard Wiring

Display Circuits

Wire Color	Function	
Ribbon Cable	Data	J601 To/from CPU & Sound Board
Ribbon Cable	Data	J602 To/from CPU Board
Ribbon Cable	Data	J603 To/from Dot Matrix Display/Driver Board

Connector to Dot Matrix Display/Driver

Orange	-125V	J604-1
Blue	-113V	J604-2
Black	Ground	J604-4
Black	Ground	J604-5
Gray	+5V	J604-6
Gray/Yellow	+12V	J604-7
Brown	+62V	J604-8

Connector from Transformer (AC)

White	80VAC	J605-1
White	80VAC	J605-2
Violet	100VAC	J605-3
Violet	100VAC	J605-5

Connector from Power Driver Board

Black	Ground	J606-1
Black	Ground	J606-3
Gray	+5V	J606-4
Gray	+5V	J606-5
Gray/Yellow	+12V	J606-6
Gray/Yellow	+12V	J606-7

Sound Circuits

Wire Color	Function	
Ribbon Cable	Data	J506 To/from CPU Board & Dot Matrix Controller

Connector From Transformer Secondary

Gray/Green	+12VDC	J501-1
Gray/Green	+12VDC	J501-2
Gray	+5VDC	J501-4
Gray	+5VDC	J501-5
Gray/White	-12VDC	J501-6
Gray/White	-12VDC	J501-7

Power from CPU/Power Driver Board

Gray	+5VDC	J502-1
Gray	+5VDC	J502-3
Black	Ground	J502-4
Black	Ground	J502-5

Cabinet Speaker Connection

Black/Yellow	Speaker	J504-2
--------------	---------	--------

Backbox Speaker Connection

Black/Yellow	Speaker	J505-3
--------------	---------	--------

Lamp Matrix

Yellow (B+)  Red 

Column Row	1 Yellow-Brown J133-1 Q96	2 Yellow-Red J133-2 Q97	3 Yellow-Orange J133-3 Q98	4 Yellow-Black J133-4 Q95	5 Yellow-Green J133-5 Q94	6 Yellow-Blue J133-6 Q93	7 Yellow-Violet J133-7 Q92	8 Yellow-Gray J133-9 Q91
1 Red-Brown J133-1 Q90	Outlane Bonus Ball 11	Lagoon N 31	Left Bank Left 31	Item 1 41	Leaf 1 51	Turtle Top 61	Eject Kicker 71	Not Used 81
2 Red-Black J133-2 Q89	Outlane 2 Million 12	Lagoon O 32	Left Bank Middle 32	Item 2 42	Leaf 2 52	Turtle Bottom 62	Eject Ramp Down 200K 72	Not Used 82
3 Red-Orange J133-4 Q88	Outlane Gift Of Gods 13	Lagoon O 33	Left Bank Right 33	Item 3 43	Leaf 3 53	Turtle 2 63	Eject Spot 73	Not Used 83
4 Red-Yellow J133-5 Q87	Outlane 500K 14	Lagoon G 34	Right Bank Left 34	Item 4 44	Leaf 4 54	Turtle 3 64	Eject Ramp Down 100K 74	Not Used 84
5 Red-Green J133-6 Q86	Outlane 100K 15	Lagoon A 35	Right Bank Middle 35	Item 5 45	Leaf 5 55	Jungle Run Top 65	Not Used 75	Not Used 85
6 Red-Blue J133-7 Q85	Left Return 16	Lagoon L 36	Right Bank Right 36	Item 6 46	Treasure 56	Jungle Run Bottom 66	Rope Top 76	Not Used 86
7 Red-Violet J133-8 Q84	Right Return 17	Top Lock Top 37	Popper Ready Top 37	Item 7 47	Head Hunter 57	Kona Top 67	Rope Bottom 77	Not Used 87
8 Red-Gray J133-9 Q83	Right Outlane 18	Top Lock Bottom 38	Popper Ready Bottom 38	Bonus Ball 48	Bananas 58	Kona Bottom 68	Not Used 78	Start Button 88

Switch Matrix

White  Green 

Dedicated Grounded Switches	Column Row	1 Green-Brown J206-1 U20-18	2 Green-Red J206-2 U20-17	3 Green-Orange J206-3 U20-16	4 Green-Yellow J206-4 U20-15	5 Green-Black J206-5 U20-14	6 Green-Blue J206-6 U20-13	7 Green-Violet J206-7 U20-12	8 Green-Gray J206-8 U20-11
Orange-Brown (1) Left Coin Chute D1	White-Brown J206-1 U18-11	Right Flipper 11	Slam Tilt 21	Payoff Middle Left 31	Left Jet 41	Lagoon N 51	Island Entrance 61	Payoff Top Left 71	Not Used 81
Orange-Red (2) Center Coin Chute D2	White-Red J206-2 U18-9	Left Flipper 12	Coin Door Closed 22	Right 10 Points 32	Right Jet 42	Lagoon O 52	Ramp Status 62	Payoff Top Right 72	Not Used 82
Orange-Black (3) Right Coin Chute D3	White-Orange J206-3 U18-5	Start Button 13	Ticket Opto 23	Left Lock 33	Bottom Jet 43	Lagoon O 53	Left Loop 63	Payoff Bottom Right 73	Top Left Loop 83
Orange-Yellow (4) 4th Coin Chute D4	White-Yellow J206-4 U18-7	Plumb Bob Tilt 14	Always Closed 24	Not Used 34	Left Sling 44	Lagoon G 54	Right Loop 64	Payoff Bottom Left 74	Top Right Loop 84
Orange-Green (5) Normal Function Test Function Service Escape Credits D5	White-Green J206-5 U19-11	Not Used 15	Left Out Lane 25	Left Stand Up 35	Right Sling 45	Lagoon A 55	S Turn 65	Lock Lane 75	Not Used 85
Orange-Blue (6) Normal Function Test Function Volume Down D6	White-Blue J206-7 U19-9	Trough Left 16	Left Return Lane 26	Left Bank Left 36	Right Bank Left 46	Lagoon L 56	Ball Popper 66	Wheel Lock 76	Not Used 86
Orange-Violet (7) Normal Function Test Function Volume Up D7	White-Violet J206-8 U19-5	Trough Right 17	Right Return Lane 27	Left Bank Middle 37	Right Bank Middle 47	Ramp Stand-Up 57	Top Eject 67	Wheel Opto 77	Not Used 87
Orange-Gray (8) Normal Function Test Function Begin Enter Test D8	White-Gray J206-9 U19-7	Outhole 18	Right Out Lane 28	Left Bank Right 38	Right Bank Right 48	Jet 10 Points 58	Top Right 68	Shooter 78	Not Used 88