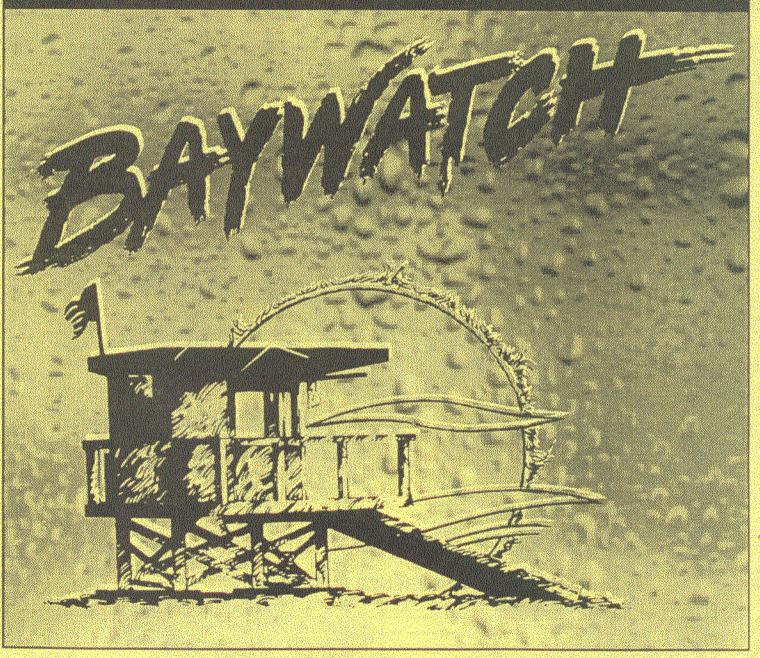
SEGA

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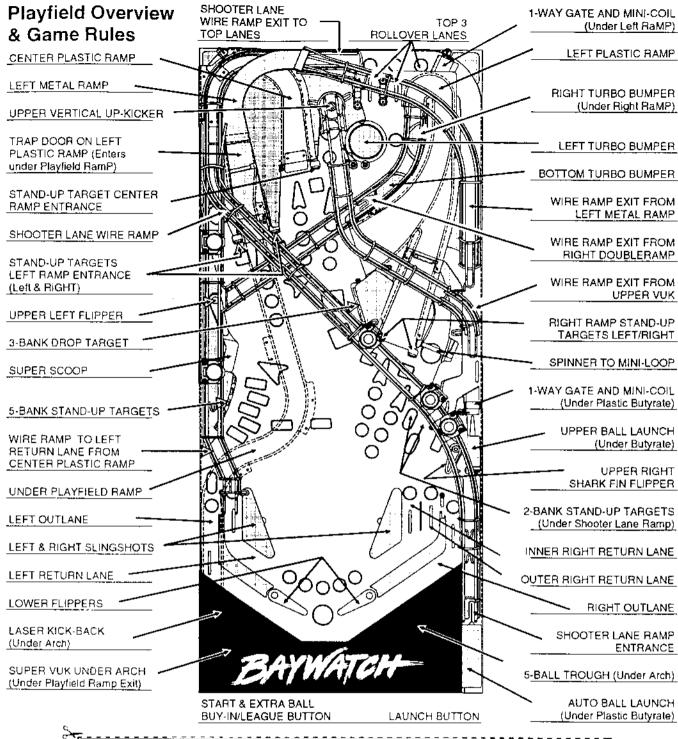
Joe Blackwell Technical Support Manager

All Flights Reserved

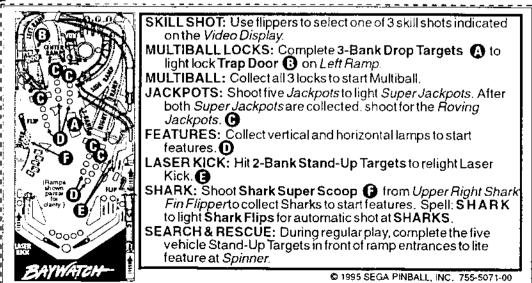
All American Television, Inc.,

Eric Winston Technical Support Engineer Ted Kilpin Technical Support Ensineer Jay Alfer Tech Documentation Admin.

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Copy & Cut





Skill Shot

Use flippers to select one of three skill shots: A: Hit flashing SPF Lane(s) (steer

with flippers) for 10M. B: Shoot SHARK Super Scoop from Shark Fin Flipper for 20M. C: Shoot Side Ramp from Upper Left Flipper for 50M; each of these values is boosted by 10M for each successful Skill Shot. Completing one of each Skill Shot, or the same Skill Shot on all three balls, awards an additional 50M.



SPF Letters (Top Lanes)

Spell **SPF** to advance the bonus multiplier: 2X, 4X, 6X, 8X, 10X. Next completion

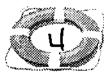
scores 20M and lights Extra Ball at the upper Vertical Up-Kicker (**VUK**). All subsequent completions score *only* 20M. Bonus multiplier is never held between balls.



Turbo Bumpers

Turbo Bumpers start at 250K per hit on each ball, and increase by 250K after

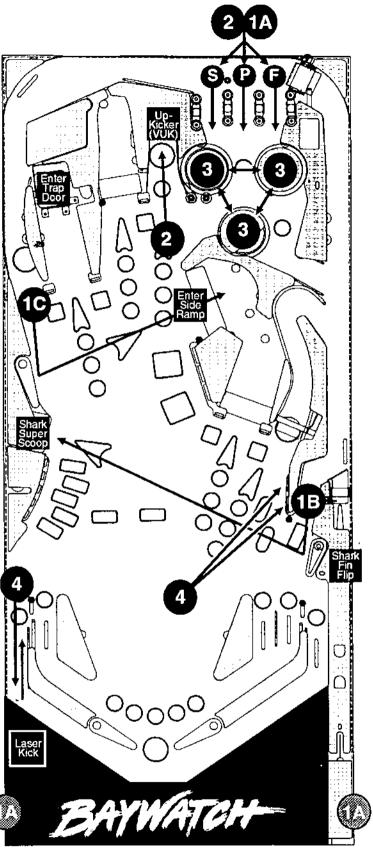
every 10 hits, to a maximum of 1M. **SQUID POPS** score 2M per bumper.



Laser Kick

The Laser Kick is lit at the beginning of each ball. It is relit by hitting the 2-Bank

Stand-Up Targets above the Upper Right Shark Fin Flipper (multiple hits may be necessary).



Shown without ramps for clarity.



Side Ramp

During regular play, the Side Ramp spots a letter in RESCUE. When RESCUE

is completed, 25M is awarded and a *Video Mode* is lit at the *Spinner Lane*.



Search& Rescue

During regular play, complete the five vehicle Stand-Up Targets (ATV (A)

& Rescue Truck (R) @ Left Ramp Enter; Helicopter (H) @ Center Ramp Enter; Jet Ski (J) & Wave Runner (W) @ Right Ramp Enter) to lite SEARCH & RESCUE at the Spinner Lane. This is a random award, except in Tournament Mode, when awards proceed in a fixed order.



Vertical Modes Definition

The five **Mode Shots** on the playfield are the Left Ramp, the Center Ramp, the Upper

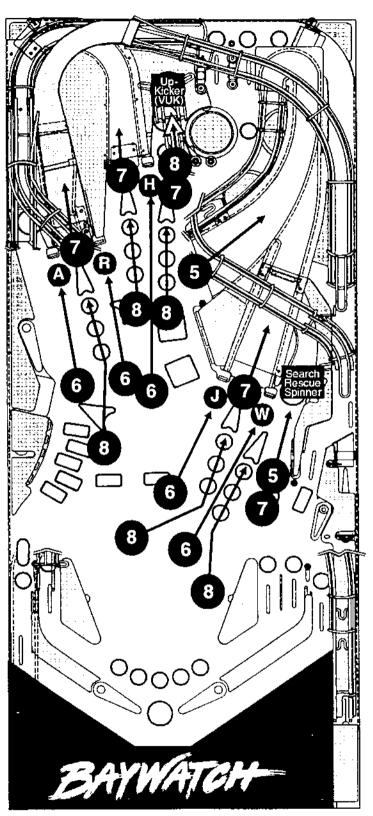
VUK, the Right Ramp, and the Spinner Lane. Shooting any Mode Shot four times (cumulative throughout the game) will start a Vertical Mode, each of which is described on the next page.



Horizontal Modes Definition

There are three lamps on each of the five *Mode*Shots. When the first lamp

of each shot is solidly lit (one shot to each), the first *Horizontal Mode* begins. When the second lamp is solidly lit (three shots to each), the second *Horizontal Mode* begins. When the third lamp is solidly lit, the final mode *Earth Quake* is lit at the upper VUK.



Shown with partial ramps for clarity.

Vertical & Horizontal Modes Described:



CPR

This *Vertical Mode* starts from the *Left Ramp*. During the 30-second round, the

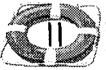
Left Ramp, Center Ramp, and Right Ramp are lit. The first shot is 50M, the second 60M, and the third 70M, plus a 50M **Completion Bonus**. Each shot can only be made once.



Copter Rescue

This **Vertical Mode** starts from the *Center Ramp*. During the 30-second round,

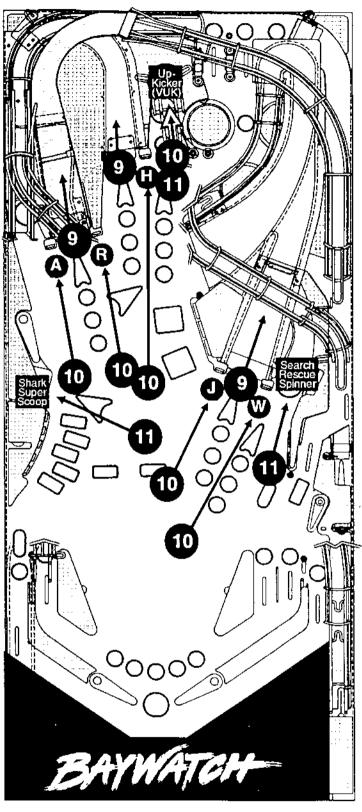
the five vehicle Stand-Up Targets (ATV (A) & Rescue Truck (R) @ Left Ramp Enter; Helicopter (H) @ Center Ramp Enter; Jet Ski (J) & Wave Runner (W) @ Right Ramp Enter) are lit for 20M, each hit rescuing one person from the Sinking Ship. When all ten people have been rescued, the Upper VUK is lit for Extra Ball for only 15 seconds.



Diver Trapped

This *Vertical Mode* starts from the **Upper VUK**. During the 30-second round,

the SHARK Super Scoop, the Upper VUK, and the Spinner Lane are lit. The first shot is 20M, the second 30M, the third 40M, and the fourth 50M. Shots are repeatable, and shooting the same shot twice in a row awards an additional 30M Fast Forward Bonus. There is a 50M Completion Bonus.



Shown with partial ramps for clarity.

Vert. & Horz. Modes. cont. on the next page.

Vertical & Horizontal Modes Described:



Shark Attack

This *Vertical Mode* starts from the *Right Ramp*. During the 30-second round,

the SHARK Targets and the SHARK SUPER SCOOP are lit. Each hit on the bank of SHARK Targets kills one shark. There is one shark at first, then a set of two, then a set of three, and finally a set of four. The first time the SHARK SUPER SCOOP is shot, all of the sharks currently on-screen are killed. Subsequent shots to the SCOOP will only kill one shark. Each shark is worth 10M, plus a 50M Completion Bonus.



Tidal Wave

This **Vertical Mode** starts from the **Spinner Lane**. During the 30-second round.

the Left Orbit, Upper VUK, and Spinner Lane feed the ball to the Upper Ball Launch and award 10M. The ball is then kicked up (Right Orbit) to the Upper Left Flipper, from which the Side Ramp can be shot for a Rescue Award of 50M. This sequence can be completed three times, and there is a 50M Completion Bonus.

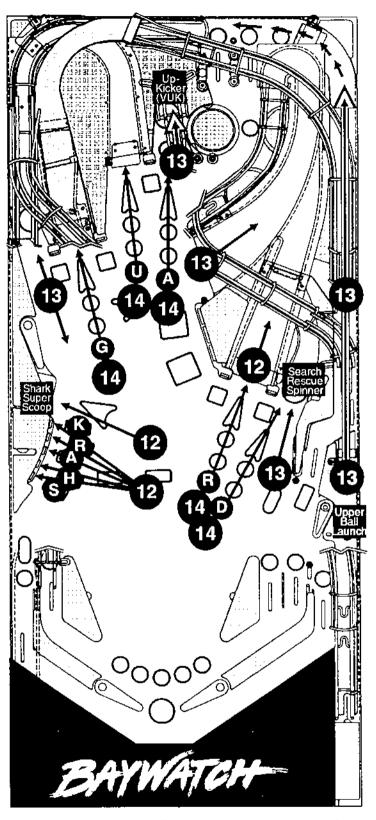


Guard

This is the *First Horizontal Mode*. During the 30-second round, each of

the five *mode shots* are lit (**GUARD**) for 50M, counting down to 20M. Collecting any shot awards its value and disables that shot.

Vert.&Horz.Modes cont. on the next page.



Shown with partial ramps for clarity.

Vertical & Horizontal Modes Described:

15

Tourist Season

This is the **Second Horizontal Mode**. This round is a **2-Ball Multiball**

with a *Ball Saver*. The *Right Ramp* is fit to collect countries. The six countries are **Germany**, **Italy**, **France**, **Spain**, **Holland**, and **England**. Each country is worth 25M. After all six countries have been collected, 100M Jackpots can be collected from the *Side Ramp* for the remainder of the Multiball.



Shark Features

During regular play, shooting the SHARK SUPER SCOOP from the

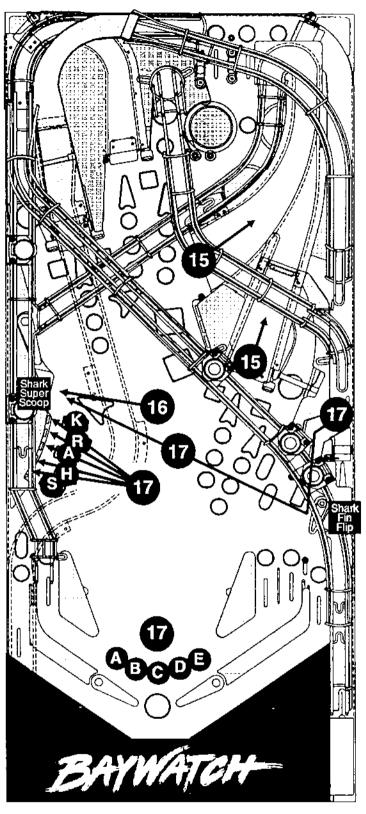
Upper Right Shark Fin Flipper (determined by the rollover switch above that flipper) awards one Shark. After a certain number of Sharks, the following awards are given (denoted by the five Lamp Inserts just above the Lower Flippers): • 10M + LITE VIDEO MODE (A) (lit at the spinner lane) • 20M + (SUPER) LASER KICK (B) (laser kick for remainder of ball) • 30M + SHARK (FRENZY) (C) (Shark Flips for remainder of ball) • 50M + LITE EXTRA BALL (D) (by Upper VUK) • 100M + (LITE) EARTH QUAKE (E) (by Upper VUK).



Shark Flips

When the SHARK Stand-Up Targets are completed to spell SHARK, Shark

Flips is enabled. During regular play, when the ball crosses the Rollover Switch above the Upper Right Shark Fin Flipper, the game will take control of the upper flippers and automatically shoot for the SHARK VUK. If successful, this awards a Shark and 25M.



Shown with partial ramps for clarity.



Earth Quake

When all five *Vertical Modes* and both *Horizontal Modes* have been

completed, EARTH QUAKE (E) is lit at the Upper VUK. EARTH QUAKE (E) can also be lit from the fifth Shark Feature. When EARTH QUAKE (E) begins, the bonus multiplier is set to maximum (10X), Mega Pops is enabled (3M per hit), Super Shark is awarded (20M per SUPER SCOOP Shot, 10M per SHARK Stand-Up Target), Super Laser Kick (L) is enabled, and for 30 seconds, all balls are Auto-Launched into play repeatedly. During the round, each of the five Mode Shots is lit to recollect the total value of the modes that have been played from that shot. For example, the Left Ramp is lit for the total of all CPR Rounds that the current player has played, while the Spinner Lane is lit for the total of all Tidal Wave Rounds (T). The minimum value of any of these awards is 25M. These shots remain lit throughout the 30-second round. When the timer expires, the flippers die and all balls drain. Modes are reset to their beginning status.

MULTIBALL & JACKPOT FEATURES

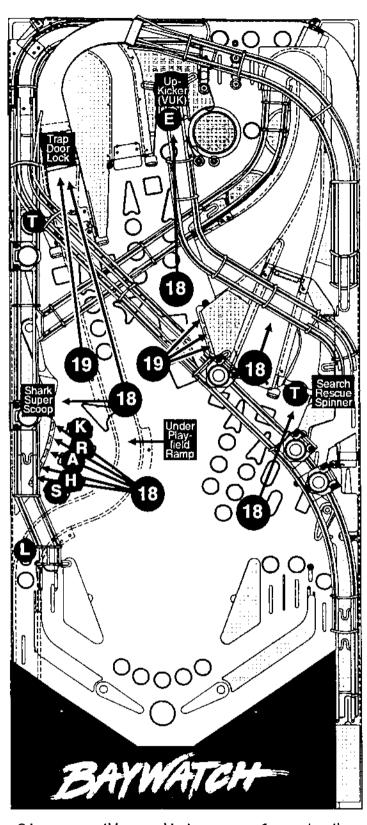


Multiball Locks
Completing the 3-Bank
Drop Targets lights one or

more locks on the *Left*

Ramp. Locked balls are diverted into the Under Playfield Ramp via a TRAP DOOR on the Left Ramp and another ball is launched into play.

M-Ball & Jackpots cont. on the next page.



Shown with partial ramps for clarity.

MULTIBALL & JACKPOT FEATURES



Multiball

Collecting all three locks starts **Multiball**. Five balls are *Auto-Launched* into

play, and a *Ball Save*r is active. All five *Mode Shots* are lit for **SWIMMER JACKPOTS**. The value of each Jackpot is: 15M + 5M multiplied (X) by Balls-In-Play + 10M X Jackpots collected + 1M X Drops. Each *Drop Target* hit will boost the *Jackpot Value*, to a maximum boost of 20M. An additional boost is available from *Sneaky Shark* (see next rule). Any ball shot into the *Spinner Lane* will be fed into the Upper Ball Launch, where it will remain for ten seconds. During this time, all *Jackpot Values* are doubled.



Sneaky Shark Shooting the SHARK SUPER SCOOP from the Upper Right Shark Fin

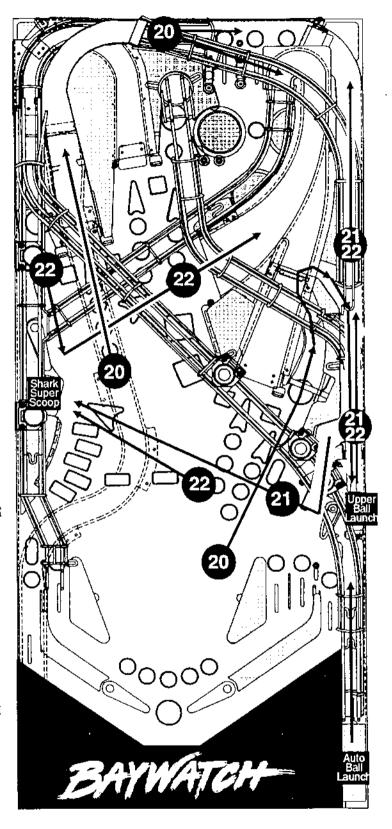
Flipper (detected via the Rollover Switch) during Multiball with regular Jackpots boosts the Jackpot by 10M. This does not collect an additional Shark. This boost is only allowed five times per Multiball Sequence.



SuperJackpots

After collecting all five Jackpots, a Super Jackpot is lit at the SHARK SUPER

SCOOP, and a *Double Super Jackpot* at the *Side Ramp*. The value of the *Super Jackpot* is 50M X Balls-In-Play. The *Double Super Jackpot* is, imaginatively enough, double this value. The Upper Ball Launch does not double *Jackpot Values* at this stage; instead, it launches balls to the *Upper Left Flipper* via the *Right Orbit* for a shot at the *Side Ramp*.



M-Ball & Jackpots cont.

23

Baywatch Jackpot

After both Super Jackpots are collected, a Roving Jackpot (Surf Board) is lit

at each of the five *mode shots*. The value of this *Jackpot* is 500M. The sequence of shots is: *Left Ramp, Center Ramp, Upper VUK, Right Ramp,* and *Spinner Lane*. If the sequence finishes twice or the *Jackpot* is collected, *Regular Jackpots* resume. If **Multiball** ends, this *Jackpot* sequence continues until it expires (last chance). Collecting the *Baywatch Jackpot* qualifies the player to enter his/her initials to be featured prominently during the game.



Multiball Restart

If no *Jackpots* are collected during **Multiball**, a *Restart* is lit at the *Left Ramp*. The

restart provides only two balls into play, with a starting *Jackpot Value* of 25M.

Other Bay Features

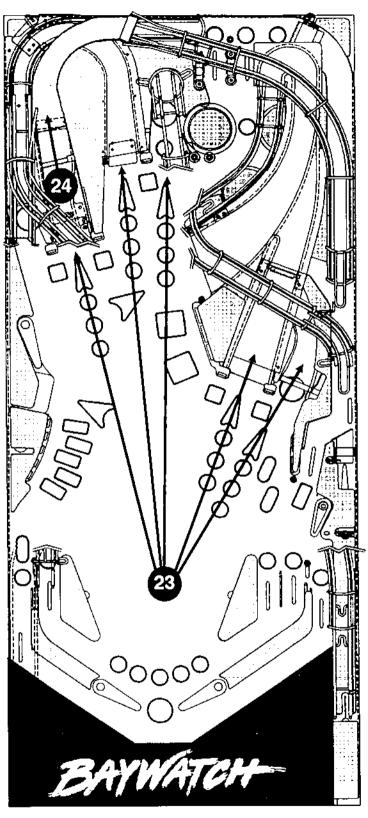


Video Mode (Not Finalized)

There are four *Video Modes*. - One is lit by spelling **RESCUE** on the

Side Ramp. - One is lit by the first XXX??? Feature. - One is lit by a Mystery Award. - One is lit (and immediately collected) by either 3-Way Combo (see Combos). All Video Modes are collected from the Spinner Lane, but only if the ball properly feeds to the Upper Ball Launch.

******The details of each video mode are not finalized in this document yet. *TBA* *******



Shown with partial ramps for clarity.

Other Bay Features cont.



Inlanes

The Left Inlane briefly lights the Spinner Lane for an Automatic Shark Flips.

The Outer Right Inlane lights the Left Orbit for an Automatic Shark Flips. The Inner Right Inlane lights the SHARK SUPER SCOOP briefly for a Shark.



End-Of-Ball Bonus

This is calculated as the sum of: 1M X *Mode Lamps* collected (there are three

lamps on each of the five shots) + 3M X Sharks collected + 250K X Stand-Up Targets hit; This total is multiplied by the SPF Factor (1,2,4,6,8,10). The first two values are cumulative over the course of the game for each player, while the third applies only to the current ball.

28

Combination Shots

There are two 3-Way
Combos which light the
fourth Video Mode (and

immediately collects it, as the combos end in the *Spinner Lane*). This *Video Mode* is available only once per player. These *3-Way Combos* are: "Center Ramp - Right Ramp - Spinner Lane" and "Side Ramp - Right Ramp - Spinner Lane". The game does contain other hidden combos!

Special Notes:

Extra Ball Buy-In/League Button

Pressing the EXTRA BALL BUY-IN/
LEAGUE BUTTON at ay time during the course of a game activates the Extra Ball Buy-In Feature at the end of game play. Once the game ends, Extra Ball(s) may be purchased for one credit before the Buy-In Timer Expires. Cancel the Buy-In Feature by pressing the Start or both Flippers simultaneously.

Pressing the EXTRA BALL BUY-IN/ LEAGUE BUTTON simoultaneously with the START BUTTON activates League (Tournament) Play.

Entering Your Initials

The player may enter their initials if a High Score was achieved by using the Left or Right Flipper Buttons to choose a letter or character as seen on the Video Display. Hitting the Start Button locks the character in. Precede with the 2nd and 3rd letter. Also, the player who was able to get the **Baywatch Jackpot** can enter initials!

Lifeguard Note:

Valr Natasi

Just like the weather on any beach, rules and point values are subject to change without notice!

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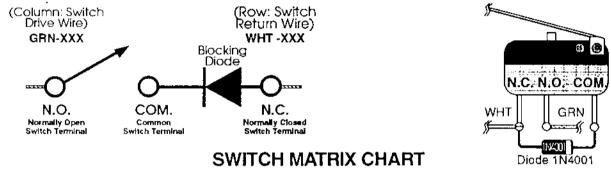
Switches are configured in an 8 x 8 matrix of columns (switch drives) and rows (switch returns) with up to 64 switches possible. The switch tests include two parts: Switch Test & Active Switches. Column and Row wire colors are indicated in each test using corresponding resistor color code numbers.

Switch Test

To initiate, push the STEP push-button switch, until the display indicates **SWITCH TEST**. Close each switch and observe the display. The display will indicate the switch name, column wire colors, row wire colors and the switch number. When a switch is released, the name and number disappear until another switch is closed or the test is exited.

Active Switches

Push the STEP push-button switch from the Switch Test. The display will indicate ACTIVE SWITCHES. If any switches are stuck closed (or made from the presence of a ball), the display sequences through switch names, and indicates the row and column wire colors, and the switch numbers are indicated in the display. This cycle continues until all switches are cleared or until the STEP push-button switch is depressed.



Column (Drive) Row (Return)	1 Q55 GRN-BRN CN8-1	2 Q54 GRN-RED CN8-2	3 Q53 GRN-ORG CN8-3	4 Q52 GRN-YEL CN8-4	5 Q51 GRN-BLK CN8-5	6 Q50 GRN-BLU CN8-7	7 Q49 GRN-VIO CN8-8	8 Q48 GRN-GRY CN8-9
1 WHT-BRN CN10-9	PLUMB BOB TILT	2-BANK STAND-UP (TOP)	5-BANK S-U (S)HARK (BOTTOM) 17	LEFT RAMP ENTER 25	LEFT RETURN LANE	LEFT TURBO BUMPER	CENTER RAMP EXIT	LEFT OUTLANE 57
2 WHT-RED CN10-8	4TH COIN SLOT	#1 BALL TROUGH (LEFT)	5-8ANK S-U S(H)ARK (MIDDLE BOTTOM) 18	LEFT RAMP EXIT	NOT USED	BOTTOM TURBO BUMPER	BALL LAUNCH BUTTON 50	RIGHT OUTLANE 58
3 WHT-ORG CN10-7	START BUTTON 3	#2 BALL TROUGH	5-BANK S-U SH(A)RK (MIDDLE)	NOT USED	NOT USED	RIGHT TURBO BUMPER 43	NOT USED	RIGHT OUTER RETURN LANE 59
4 WHT-YEL CN10-6	RIGHT COIN SLOT	#3 BALL TROUGH	5-BANK S-U SHA(R)K (MIDDLE TOP) 20	RIGHT RAMP ENTER	LEFT RAMP STAND-UP (LEFT) 36	UPPER VUK	SPINNER 52	RIGHT INNER RETURN LANE 60
5 WHT-GRN CN10-5	CENTER COIN SLOT	#4 BALL TROUGH	5-BANK S-U SHAR(K) (TOP)	NOT USED	LEFT RAMP STAND-UP (RIGHT) 37	LEFT ORBIT ROLLOVER 45	2-BANK STAND-UP (BOTTOM)	LEFT SLINGSHOT
6 WHT-BLU CN10-3	LEFT COIN SLOT	#5 BALL TROUGH (RIGHT)	3-BANK DROPS (TOP)	RIGHT RAMP EXIT	TOP LANE ROLLOVER (LEFT) 38	LOWER SUPER VUK (UNDER ARCH) 46	UPPER RIGHT SHARK FIN	RIGHT SLINGSHOT
7 WHT-VIO CN10-2	SLAM TILT	5-BALL TROUGH VUK OPTO 15	3-BANK DROPS (MIDDLE)	RIGHT RAMP STAND-UP (LEFT) 31	TOP LANE ROLLOVER (MIDDLE) 39	UPPER BALL LAUNCH 47	UNDER PLAYFIELD RAMP ENTER 55	LT FLIPPER BUTTON VIA Q7, ON SSFB X2 63
8 WHT-GRY CN10-1	EXTRA BALL BUY-IN/ LEAGUE BUTTON 8	SHOOTER LANE	3-BANK DROPS (BOTTOM) 24	RIGHT RAMP STAND-UP (RIGHT) 32	TOP LANE ROLLOVER (RIGHT) 40	CENTER RAMP STAND-UP 48	SHARK SUPER SCOOP	RT FLIPPER BUTTON VIA Q5, ON SSFB X2 64

Switch Matrix Locations, Descriptions & Switch Part Numbers†

S	witch Matrix No. & Description	Part No.			
1* PLUMB BOB TILT (See Item 17, Cabinet Parts, Pg. 43)					
2*	4TH COIN SLOT (On Coin Door)				
3*	START BUTTON (Left of Coin Door)	500-5097-02			
4*	RIGHT COIN SLOT (On Coin Door)	180-5024-00			
5*	CENTER COIN SLOT (On Coin Door)	180-5024-00			
ó*	LEFT COIN SLOT (On Coin Door)	180-5024-00			
7*	SLAM TILT	180-5022-00			
8*_	EXTRA BALL BUY-IN/LEAGUE BUTTON	180-5073-00			
9	2-BANK STAND-UP (TOP)	180-5133-00			
10	#1 BALL TROUGH (LEFT)	180-5119-00			
11	#2 BALL TROUGH	180-5119-00			

S	witch Matrix No. & Description	Part No.
12	#3 BALL TROUGH	180-5119-00
13	#4 BALL TROUGH	180-5119-00
14	#5 BALL TROUGH (RIGHT)	180-5119-00
15	5-BALL TROUGH VUK OPTO (TRANS)	520-5124-00
13	(REC)	520-5125-00
16	SHOOTER LANE	180-5100-01
17	5-BANK STAND-UP (S)HARK (BOTTOM)	180-5132-00
18	5-BANK STAND-UP S(H)ARK	180-5132-00
19	5-BANK STAND-UP SH(A)RK	180-5132-00
20	5-BANK STAND-UP SHA(R)K	180-5132-00
21	5-BANK STAND-UP SHAR(K) (TOP)	180-5132-00
22	3-BANK DROPS (TOP)	180-5104-00
23	3-BANK DROPS (MIDDLE)	180-5104-00
-2 4	3-BANK DROPS (BOTTOM)	180-5104-00
25	LEFT RAMP ENTER	180-5090-00
26	LEFT RAMP EXIT	180-5057-00
27	NOT USED	
28	RIGHT RAMP ENTER	

RIGHT RAMP EXIT (Not Shown) RIGHT RAMP STAND-UP (LEFT)

SHARK SUPER SCOOP

RIGHT OUTER RETURN LANE

RIGHT INNER RETURN LANE

UPPER & LOWER LEFT FLIPPER

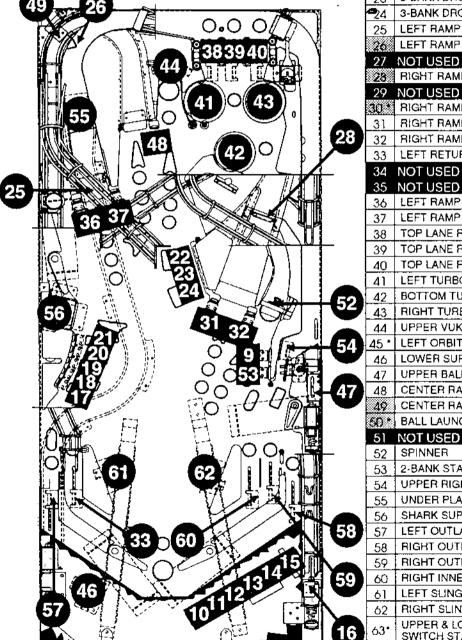
LEFT OUTLANE

RIGHT OUTLANE

LEFT SLINGSHOT

SWITCH STACK

RIGHT SLINGSHOT



2	THOUTH CITATO OF (EET 1)	100-0102-00
32	RIGHT RAMP STAND-UP (RIGHT)	180-5132-00
33	LEFT RETURN LANE	500-5706-00
34	NOT USED	
35	NOT USED	
36	LEFT RAMP STAND-UP (LEFT)	180-5132-00
37	LEFT RAMP STAND-UP (RIGHT)	180-5132-00
38	TOP LANE ROLLOVER (LEFT)	500-5706-00
39	TOP LANE ROLLOVER (MIDDLE)	500-5707-00
40	TOP LANE ROLLOVER (RIGHT)	500-5707-00
41	LEFT TURBO BUMPER	180-5015-02
42	BOTTOM TURBO BUMPER	180-5015-02
43	RIGHT TURBO BUMPER	180-5015-02
44	UPPER VUK (Vertical Up-Kicker)	180-5116-00
45 *	LEFT ORBIT ROLLOVER (Not Shown)	500-5707-00
46	LOWER SUPER VUK (UNDER ARCH)	180-5116-00
47	UPPER BALL LAUNCH	500-5707-00
48	CENTER RAMP STAND-UP	180-5132-00
49	CENTER RAMP EXIT	
50 °	BALL LAUNCH BUTTON	
51	NOT USED	
52	SPINNER	180-5010-04
53	2-BANK STAND-UP (BOTTOM)	180-5133-00
54	UPPER RIGHT SHARK FIN FLIPPER	500-5706-00
55	UNDER PLAYFIELD RAMP ENTER	180-5093-00

Note: Partial Ramps not shown for clarity.

Location - In or On Cabinet

Specify Game Nº (33) & decal description if applicable.

180-5116-00

500-5707-00

500-5706-00

500-5706-00

500-5706-00

180-5054-00

180-5054-00

180-5122-00

180-5132-00

LAMP TESTS

Controlled lamps are configured in an 8 x 8 matrix of columns (lamp drives) and rows (lamp returns) with up to 64 lamps possible. The lamp tests include four parts, all lamps, lamp return (row), lamp drive (column), and discrete (individual) lamps. Row and column wire colors are indicated in the discrete lamp test using corresponding resistor color code numbers.

All Lamps

From the Active Switch test, operate the STEP push-button switch. The dot matrix display will indicate ALL LAMPS and all controlled lamps will light.

Lamp Returns (Row)

From the ALL LAMPS test, depress the STEP push-button switch. The display indicates LAMP RETURNS, wire color and the LAMP RETURN driver transistor. All controlled lamps in row 1 should be lit. Operating the Game Start push-button switch cycles through each of the rows separately.

Lamp Drives (Column)

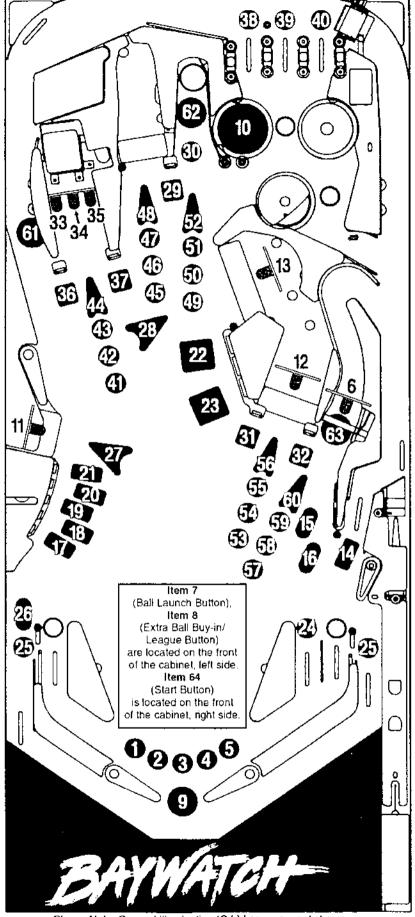
From the LAMP RETURNS test, depress the STEP push-button switch. The display will indicate LAMP COLUMNS, wire color and the LAMP DRIVES driver transistor. All controlled lamps in column 1 should be lit. Operating the Game Start push-button switch, cycles through each of the columns separately.

Lamp Test Continued of page 36

LAMP MATRIX CHART

Column (18v) Row (GND)	071 YEL-BRN CN7-1	Q70 YEL-RED CN7-2	3 Q69 YEL-ORG CN7-3	4 Q68 YEL-BLK CN7-4	5 Q67 YEL-GRN CN7-5	6 Q66 YEL-BLU CN7-7	7 Q65 YEL-VIO CN7-8	8 Q64 YEL-GRY CN7-9
1 Q72 RED-BRN CN6-1	10 MIL + VIDEO MODE	SHOOT AGAIN	5-BANK S-U (S)HARK (BOTTOM)	SPECIAL (LT & RT OUTLANES) 25	LOCK 1 (LEFT RAMP ENTER)	(G)UARD	GU(A)RD	GUAR(D)
2 Q73 RED-BLK CN6-2	20 MIL + LASER KICK	LEFT TURBO BUMPER 10	5-BANK S-U S(H)ARK (MIDDLE BOTTOM) 18	LASER KICK (LEFT OUT- LANE) 26	LOCK 2 (LEFT RAMP ENTER) 34	MITCH 42	C.J.	STEPHANIĘ 58
3 Q74 RED-ORG CN6-3	30 MIL + SHARK	SHARK SUPER VUK (MIDDLE LEFT) 11	5-BANK S-U SH(A)RK (MIDDLE)	SHARK JACKPOT 27	LOCK 3 (LEFT RAMP ENTER) 35	CPR	DIVER TRAPPED	TIDAL WAVE
4 Q75 RED-YEL CN6-5	50 MIL + LITE EXTRA BALL 4	RIGHT RAMP ENTER 12	5-BANK S-U SHA(R)K (MIDDLE TOP) 20	JACKPOT (SIDE RAMP)	ATV (STAND-UP LEFT RAMP LEFT) 36	SURF BOARD (LEFT RAMP) 44	SURF BOARD (UPPER VUK) 52	SURF BOARD (SPINNER) 60
5 Q76 RED-GRN CN6-6	100 MIL + EARTH QUAKE	SPELL RESCUE	5-BANK S-U SHAR(K) (TOP)	HELICOPTER (STAND-UP CENTER RAMP) 29	RESCUE TRUCK (S-U LEFT RAMP RIGHT) 37	G(U)ARD	GUA(R)D	TIDAL WAVE (LEFT ORBIT) 61
6 Q77 RED-BLU CN6-7	SEARCH & RESCUE MYSTERY	SHARK FLIP	LITE (3-BANK DROPS) 22	EXTRA BALL (UPPER VUK) 30	S (TOP LANE LEFT ROLLOVER) 38	MATT 46	CAROLINE 54	EARTH QUAKE (UPPER VUK) 62
7 Q78 RED-VIO CN6-8	BALL LAUNCH BUTTON	LASER (2-BANK S-U TOP)	LOCK (3-BANK DROPS) 23	JET SKI (STAND-UP RT RAMP LEFT) 31	P (TOP LANE MID ROLLOVER) 39	COPTER RESCUE	SHARK COVE	TIDAL WAVE (SPINNER)
8 Q79 RED-GRY CN6-9	EXTRA BALL BUY-IN/ LEAGUE BUTTON 8	KICK (2-BANK S-U BOTTOM)	SOUID POPS (INNER RT RETURN LANE) 24	NER (S-U RT RAMP	F (TOP LANE RIGHT ROLLOVER) 40		SURF BOARD (RIGHT RAMP) 56	START BUTTON 64

Lamp Matrix Location and Descriptions



Please Note: General Illumination (G.I.) Lamps are not shown. For Bulb Types & Sockets, see pages 52 & 53

Lamp Matrix No. & Description

y LL	imp Matrix No. & Description
1	10 MIL + VIDEO MODE
	20 MIL + LASER KICK
2_	30 MIL + SHARK
3	50 MIL + LITE EXTRA BALL
4	100 MIL + EARTH QUAKE
5	
<u>4</u>	SEARCH & RESCUE MYSTERY
7	BALL LAUNCH BUTTON
8_	EXTRA BUTTON
9	SHOOT AGAIN
70	LEFT TURBO BUMPER
	SHARK SUPER VUK
12	RIGHT RAMP ENTER
13	SPELL RESCUE
14	SHARK FLIP
15_	LASER (2-BANK STAND-UP TOP)
lo	KICK (2-BANK STAND-UP BOTTOM)
17	5-BANK STAND-UP S OF SHARK
18	5-BANK STAND-UP H OF SHARK
19	5-BANK STAND-UP A OF SHARK
20	5-BANK STAND-UP R OF SHARK
21	5-BANK STAND-UP K OF SHARK
22	LITE (3-BANK DROP TARGETS)
23	LOCK (3-BANK DROP TARGETS)
24	SQUID POPS (INNER RT RETURN LANE)
25	SPECIAL (LEFT & RIGHT OUTLANES)
26	LASER KICK (LEFT OUTLANE)
.27	SHARK JACKPOT
28	JACKPOT (SIDE RAMP)
29	HELICOPTER (S-U CENTER RAMP)
30	EXTRA BALL (UPPER VUK)
31	JET SKI (S-U RT RAMP LEFT SIDE)
32	WAVE RUNNER (S-U RT RAMP RT)
33	LOCK 1 (OVER LEFT RAMP ENTER)
34	LOCK 2 (OVER LEFT RAMP ENTER)
35	LOCK 3 (OVER LEFT RAMP ENTER)
36	ATV (STAND-UP LEFT RAMP LEFT SDE)
37	RESCUE TRUCK (S-U LEFT RAMP RT)
38	S OF SPF (TOP LANE LEFT ROLLOVER)
39	P OF SPF (TOP LANE MID ROLLOVER)
40	F OF SPF (TOP LANE RIGHT ROLLOVER)
41	G OF (G)UARD
42	МІТСН
43	CPR
44	SURF BOARD (LEFT RAMP)
45	U OF G(U)ARD
46	MATT
47	COPTER RESCUE
48	SURF BOARD (CENTER HAMP)
49	A OF GU(A)RD
50	C.J.
51	DIVER TRAPPED
52	SURF BOARD (UPPER VUK)
53	R OF GUA(R)D
54	CAROLINE
55	SHARK COVE
56	SURF BOARD (RIGHT RAMP)
57	D OF GUAR(D)
58	STEPHANIE
59	TIDAL WAVE
60	SURF BOARD (SPINNER)
61	TIDAL WAVE (LEFT ORBIT)
62	EARTH QUAKE (UPPER VUK)
63	TIDAL WAVE (SPINNER)
64	START BUTTON
<u> 04</u>	TOTALL DOLLOW

LAMP TESTS CONTINUED

Single Lamp

From the LAMP DRIVES test, depress the STEP push-button switch. The display will indicate the lamp name. The display indicates the row and column wire colors and the lamp matrix number. Lamp 01 should light. With the FORWARD/REVERSE push-button switch in the FORWARD (up) position, operating the Game Start push-button switch selects higher-numbered lamps; with it in the REVERSE (down) position, Game Start selects lower-numbered lamps.

FLASH LAMP / COIL TESTS

Twenty-Two regular (pulsed under microprocessor control) coil drivers are provided to switch ground to coils. The Left/Right Relay is used in conjunction with drives 1 through 8 to switch +32 volts between coils or flash lamps; these sets are termed "left" and "right". This relay is located on the PPB board which provides isolation diodes and current limiting resistors. This effectively provides 29 legular coils.

Flash Lamp

From the Single Lamp test, depress the STEP push-button switch. All Flash lamps will fire randomly. This allows the Technician to easily spot any burned out bulbs and replace them without stepping through the tests below.

Automatic Test

From the Flash Lamps test, depress the STEP push-button switch. The dot matrix display will indicate ALL COILS. The test pulses each regular solenoid or flash lamp sequentially with the coil/flash lamp names and the wire colors indicated in the display.

Select Coil

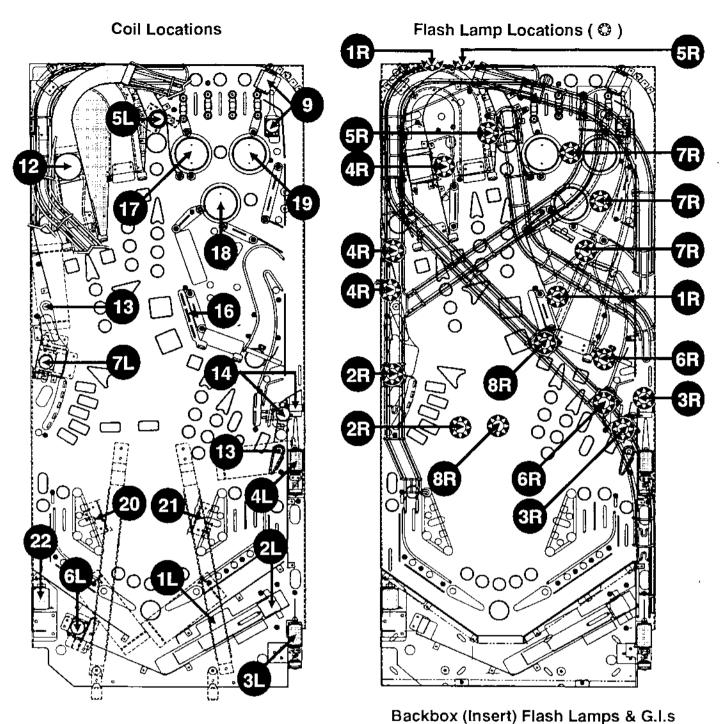
From the Coil Test, depress the STEP push-button switch. The display will indicate SELECT COIL and then the name of 1st drive and the wire colors. Operate either Flipper push-button switch to select the coil or flash lamp to be tested. With the desired drive number indicated in the display, depress the START push-button switch to cause it to be pulsed repeatedly.

Return To Game Over

From the Select Coil test, depress the STEP push-button switch once. The game returns to the game-over mode.

PLAYFIELD COILS / BACKBOX & PLAYFIELD FLASH LAMP LOCATIONS

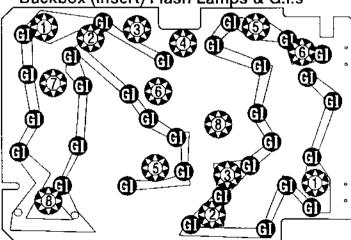
The remaining pages of this section will identify the coils and flash lamp locations on the playfield and back box. The next page illustrates this with a mini-table naming each one. The last two pages of this section describe in detail both coils & flash lamps in the "Switched, CPU Controlled Auxillary & Constant Power Solenoids" Table and the "Flipper Solenoids" Table. The page after next is the Coil Chart Schematic. For more information see the "Schematics / Troubleshooting" Yellow Section at the end of this manual.



		,	
11	5-Ball Ass'y Lockout	8R	Lower P/F & Ramp Flash
1R	3-Bank D.T. Flash	09	Upper Control Gate
2L	5-Ball Trough Up-Kicker	10	Left/Right (A/B) Relay
[2R]	Lower Lt. P/F Flashes	11	G.I. Relay
3L	Auto Launch 50v	12	Lock Trap (Under P/F Ramp)
3R	Lower Rt. P/F Flashes	13	Up. Rt & Lt. Flippers
41	Upper Ball Launch	14	Lower Control Gate
4R	Upper Lt. P/F Flashes	15	Not Used
5L	Upper VUK 50v	1.6	3-Bank Drop Target Reset
5R	Top Mid. P/F Flash	17	Left Turbo Bumper
6L	Super VUK (Under Arch) 50v	18	Bottom Turbo Bumper
6R	Playfield Flashes	19	Right Turbo Bumper
7L	Shark Super Scoop 50v	20	Left Slingshot
7R	Turbo Bumpers Flahses	21	Right Slingshot
81	Knocker 32v	22	Laser Kick 50v

Note: Shaded areas not shown on Diagrams.

G.l. = General Illumination Lamps



	Switched, CPU Controlled Auxillary & Constant Power Solenoids									
Coll	Coll or Flashiamp Description	Drive Trans- Istor (D.T.)	On Which Board?	D.T. Control	D.T. Control Line Connect	Power Line	Power Line Connection	Power	Coll or Flash Type	
No. 1L	COIL: 5-BALL TROUGH LOCK BALL		Bothas	VIO-BRN	PPB J 2-1	BAN	PPB J 6-1, 2	32v L	25-1240	
1R	Flashlamp: X1 P/F, Insert X2, X1 B/P Flash above 3-Bank Drop Target	Q46	CPU	BLK-BRN	PPB J 9-1	ORN	PPB J 6-4, 5	32v R	Bulb #89	
2L	COIL: TROUGH UP-KICKER			VIO-RED	PPB J 2-2	BRN	PPB J 6-1, 2	32v L	23-800	
2Ħ	Flashlamp: X2 P/F, Insert X2 Flashes above 5-Bank S/U/Siingshot	Q45	CPU	BLK-RED	PPB J 9-2	ORN	PPB J 6-4, 5	32v R	Bulb #89	
3L	COIL: AUTO BALL LAUNCH 50V	Q44/Q5	СРИ/РРВ	VIO-ORN	PPB J8-2	YEL-VIO	PP8 J7-8	50v L	23-800	
ЗR	Flashlamp: X2 P/F, Insert X2 Flashes by Upper Right Flipper	Q44	CPU	BLK-ORN	PPB J 9-3	ORN	PP8 J 6-4, 5	32v R	Bulb #89	
4L	COIL: UPPER BALL LAUNCH 50V	0.42	CBU	VIO-YEL	PP8 J 2-4	BRN	PPB J 6-1, 2	32v L	23-800	
4R	Flashlamp: X3 P/F, Insert X1 Flashes by Upr. Lt. Flip /Lt. Ramp	Q43	CPU	BLK-YEL	PP8 J 9-4	ORN	PPB J 6-4, 5	32v R	Bulb #89	
5L	COIL: UPPER VUK 50V	Q42/Q4	СРИ/РРВ	VIO-GRN	PPB	YEL-VIO	PPB J 7-8	50v L	24-940	
5R	Flashlamp: X2 P/F, Insert X2 Flash on Backpanel & over SVUK	Q42	CPU	BLK-GRN	PPB J 9-5	ORN	PPB J 6-4, 5	32v R	Bulb #89	
6L	COIL: SUPER VUK 50V (UNDER ARCH)	Q41/Q3	PPB	VIO-BLU	PPB J 8-6	BRN	PPB J 6-1, 2	32v L	24-940	
6R	Flashlamp: X2 P/F, Insert X2 Flashes over Spinner Enter	Q41	СРИ	BLK-BLU	PPB J 9-6	ORN	PPB J 6-4.5	32v R	Bulb #89	
7L	COIL: SHARK SUPER SCOOP 50V	Q40/Q2	CPU/PPB	VIO-BLK	PPB J 8-9	YEL-VIO	PPB J 7-8, 2	50v L	24-940	
7R	Flashlamp: X3 P/F, Insert X1 Flashes around Turbo Bumpers	Q40	CPU	BLK-VIO	PPB J 9-7	ORN	PPB J 6-4, 5	32v R	Bulb #89	
8L	COIL: KNOCKER 32V (IN CABINET)			VIO-GRY	PPB J 2-8	BRN	PPB J 6-1, 2	32v L	23-800	
8R	Flashlamp: X2 P/F, Insert X2 Flashes by Rt. Slingshot/Rt. Ramp	Q39	CPU	BLK-GRY	PPB J 9-8	ORG	PPB J 6-4, 5	32V R	Bulb #89	
09	COIL: UPPER CONTROL GATE	Q30	CPU	BRN-BLK	CPU CN 12-1	RED	PS CN 3-6.7	32ν	32-1800	
10	COIL: LEFT & RIGHT (A/B) RELAY Loc: PPB	Q29	CPU	BLK-RED	CPU CN 12-2	RED	PS CN 6-7	32v	24v DC 10A DPDT	
11	COIL: G.I. RELAY Loc: Power Supply	Q28	CPU	BRN-ORN	CPU CN 12-4	RED	PS CN 3-6.7	32v	24V DC 10A DPDT	
12	COIL: LOCK TRAP TO UNDER PLAYFIELD RAMP	Q27	CPU	BRN-YEL	CPU CN 12-5	RED	PS . CN 3-6.7	32v	27-950	
13	COIL: UPPER LEFT & RIGHT FLIPPERS (via SSFB CN1)	Q26	CPU	BRN-GRN	CPU CN 12-6	RED	PS CN 3-6.7	32v	LT 24-1570 RT 23-1100	
14	COIL: LOWER CONTROL GATE	Q25	CPU	BRN-BLU	CPU CN 12-7	RED	PS CN 3-6, 7	32y	28-1050	
15	COIL: NOT USED									
16	COIL: 3-BANK DROP TARGET RESET	Q23	CPU	BRN-GRY	PPB J8-12	RED	PS CN 3-6. 7	32v	23-800	
17	COIL: LEFT TURBO BUMPER	Q11	CPU	BLU-BRN	CPU CN 19-7	RED	PS CN 3-6	32v	23-700	
18	COIL: BOTTOM TURBO BUMPER	Q9	CPU	BLU-RED	CPU CN 19-4	RED	PS CN 3-6	32v	23-700	
19	COIL; RIGHT TURBO BUMPER	Q8	CPU	BLU-ORN	CPU CN 19-3	RED	PS CN 3-6	32v	23-700	
20	COIL: LEFT SLINGSHOT	© 10	CPU	BLU-YEL	CPU CN 19-6	RED	PS CN 6-6, 7	32v	23-800	
21	COIL: RIGHT SLINGSHOT	Q12	CPU	BLU-GRN	CPU CN 19-8	RED	PS CN 6-6-7	32v	23-800	
22	COIL: LASER KICK 50V	Q13/Q1	СРИ/РРВ	VIO-BLK	PPB J9-12	VIO-YEL	PS CN 6-6.7	32v	23-800	

	Flipper Solenoids										
SSFB No. SSFB	Lwr. Rt. Filipper 23-1100	Cabinet Switch BLU-VIO SSFB CN1-7	Switch Drive GRN-GRY CPU CN8-9 TO SSFB CN1-4	Switch Return WHT-GRY CPU CN10-1 TO SSFB CN1-3	BRN-VIO RT, EOS SW. TO CN1-1	GNE BLK CPU CN5 TO CN1-6	Flipper S0vDC Power BLK-WHT PPB J7-1, -S to	Flipper 8vAC Hold GRY-GRN-GRY P/S CN1-10, -11, to SSFB CN2-7, -9	Flipper Coll Curput 50v 8vAC Q2, Q3, SR1 CN2-4,5		
SSFB 1	Lwr. Lt. Flipper 23-1100	BLU-GRY SSFB CN1-10	GRN-GRY	WHT-VIO CPU CN10-2 TO SSFB CN1-5	BRN-GRY LT. EOS SW. TO CN1-9	BLK CPU CN5 TO CN1-6	SSFB CN2-8, -9 : BLK-WHT PP8 J7-1, -5 to SSFB CN2-8, -9	GRY-GRN-GRY P/S CN1-10, -11, to SSFB CN2-7, -8	50v 8VAC Q1, Q10, SR2 CN2-1.2		
SSFB 2	Upr. Rt. Filpper 23-1100	GRY-VIO SSFB CN1-10	GRN-GRY CPU CN8-9 TO SSFB CN1-4	WHT-GRY CPU CN10-1 TO SSFB CN1-3	Not Used	BLK CPU CN5 TO CN1-6	BLK-WHT PPB J7-1, -5 to SSFB CN2-8, -9	GRY-GRN-GRY P/S CN1-10, -11, 10 SSFB CN2-7, -8	50v ! BVAC Q2. Q3. I SR1 CN2-4.5		
SSF8 2	Upr. Lt. Filpper 24-1570	GRY-BLK SSFB CN1-10	GRN-GRY CPU CN8-9 TO SSFB CN1-4	WHT-VIO CPU CN16-1 TO SSFB CN1-3	Not Used	BLK CPU CN5 TO CN1-6	BLK-WHT PPB J7-1, -5 to SSFB CN2-8, -9	GRY-GRN-GRY P/S CN1-10, -11, to SSF8 CN2-7, -8	50v i 8vAC Q9, Q10, 1 SR2 CN2-1,2		

LAMPS

	_(
Yellow (B+)	

LAMPS						Yellow	₁(B+)	
Column	1 Yellow-Brown J137-1 Q98	2 Yellow-Red J137-2 Q97	3 Yellow-Orange J137-3 Q96	4 Yellow-Black J137-4 Q95	5 Yellow-Green J137-5 O94	6 Yellow-Blue J137-6 G93	7 Yellow-Violet J137-7 Q92	8 Yellow-Gray J137-9 Q91
Red-Brown J133-1 1 Q90	Mode Start	Tank Chase 21	Left Ramp Arrow 31	M ne Cart 41	Choose Wisely 51	(I)ndy 61	Mini Top Left 71	Mins Middle Bottom Left 81
Red-Black J133-2 2 Q89	Hand of Fale	Adven(1)ure Light 22	Castle Grunewald 32	Ark Jackpot 42	Right Plane Top 52	l(n)dy 62	M ni Top Right 72	Mini Middle Bottom Right 82
Red-Orange J133-4 3 Q88	Eject Extra Bail	Adv(e)ture Light 23	Left Plane Top 33	Raven Bar 43	Rope Bridge 53	In(d)y	Mini Middle Tap Left 73	Mini Bottom Left 83
Red-Yellow J133-5 4 Q87	Ad(v)enture Light	Adve(n)ture Light 24	Monkey Brains 34	Right Plane Middle 44	Advent(u)re Light 54	Ind(y) 64	Mini Middle Top Right 74	Mini Bottom Right 84
Red-Green J133-6 5 Q86	A(d)venture Light 15	Steal The Stones 25	Left Plane Middle 35	Bonus 6X 45	Adventu(r)e Light 55	Willie 65	M ni Top Arrow 75	Mini Bottom Arrow 85
Red-Blue J133-7 6 Q85	(A)dventure Light 16	Grail Jackpot 2 6	Sallah 36	Right Plane Bottom 46	Adventur(e) Light 56	Bouns 2X 66	Marion 76	Totem Top Arrow 86
Red-Violet J133-8 7 Q84	Shoot Again 17	Streets Of Cairo 27	Bonus 4X 37	We'll Of Souls 47	The 3 Challenges	Shorty 67	Bonus 8X 77	Center Lock 87
Red-Gray 8 J133-9 8 O83	Get The laol 18	Stories Jackpot 28	Left Plane Bottom 38	Left Loop 48	Right Loop 58	Right Ramp Arrow 68	Dr. Jones 78	Start Button 88

SWITCHES

24411 (2111								Green		White	
Dedicated Grounded Switches	Column	1 Green- Brown J207-1 U20-18	2 Green- Red J207-2 U20-17	3 Green- Orange J207-3 U20-16	4 Green- Yellow J207-4 U20-15	5 Green- Black J207-5 U20-14	6 Green- Blue J207-6 U20-13	7 Green- Violet J207-7 U20-12	8 Green- Gray J207-9 U20-11	9 Violet- White Q11 J5-4	Filipper Grounded Switches
Orange-Brown J205-1 Left Coin Chute D1	White- Brown J209-1 U18-11	Single Drop Top	S am Tilt	Left Eject	Left Ramp Enter 41	Advant(u)re Tgt.	(A)dventure Tgt.	Captive Bal Frt. 71	Trough 6	Wheel Position 1	Black-Green J906-1 Lower Right E.O.S. F1
Orange-Red J205-2 Center Coln Chute D2	White- Red J209-2 U18-9	Buy-in Button	Coin Door Closed	Exit Idol	Right Ramp Enter	Adventu(r)e Tgt.		Mini Top Hole	Trough 5	Wheel Position 2	Blue-Violet J905-1 Lower Right Opto F2
Orange-Black J205-3 Right Coin Chute D3	White- Orange J209-3 U18-5	Start Button	Ticket Opto	Left Slingshot	Top Idol Enter	Adventur(e) Tgt.		Mini Battam Hole 73	Trough 4	Wheel Position 3	Black-Blue J906-3 Lower Left E.O.S. F3
Orange-Yellow J205-4 4th Coin Chute D4	White- Yellow J209-4 U18-7	Plums Bos Tilt	Always Ciosed	Gun Trigger	Right Popper	Left Loop Top	Captive Ball Back	Right Ramp Made	Trough 3	Mini Playfield Left Limit 94	Blue-Gray J905-2 Lower Left Opto F4
Orange-Green J205-6 Normal Test Function Service Function Service Function Credite D5	White- Green J209-5 U19-11	Left Outlane	(I)ndy Lane	Left Jet	Center Enter 45	Left Loop Bottom 55	Mini Top Left 65	Mini Top Right 75	Trough 2 85	Mini Playfield Right Limit 95	Black-Violet J906-4 *Center Drop Bank Left F5
Orange-Blue J205-7 Normal Test Function Function Volume Down Down 1 D6	White- Blue J209-7 U19-9	Left Return Lane 16	I(n)dy Lane	Right Jet	Top Post 46	Right Loop Top	Mini Middle Top Left 66	Mini Middle Top Rignt ₇₆	Trough 1		Black-Yellow J905-3 *Center Drop Bank Middle F6
Orange-Violet J205-8 Normat Test Eunchan Function Volume Up D7	White- Violet J209-8 7 U19-5	Right Return Lane	In(d)y Lane 27	Bottom Jet 37	Subway Lockup 47	Right Loop Bottom 57	Mini Middle Bottom Left 67	Mini Middle Bottom Right 77	Top Trough 87		Black-Gray J906-5 *Center Drop Bank Right F7
Orange-Gray J205-9 Normal Test Function Function Begin Enter Test D8	White- Gray J209-9 U19-7	Right Outlane Top 18	Ind(y) Lane 28	Center Standup	Right Slingshot 48	Right Outlane Bottom 58	Mini Bottom Left 68	Mini Bottom Right 78	Shooter 88		Black-Blue J905-5 *Left Ramp Made F8

"Note: Used as switches other than flipper switches in this game.