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Please visit [www.sternpinball.com](http://www.sternpinball.com)  
For part numbers and mechanical drawings.

Stern Pinball machines are assembled in Melrose Park, Illinois, USA; each pinball machine has unique characteristics that make it a one of a kind American made product. Each machine will have variations in appearance resulting from differences in the machine's particular wood parts, individual silk screened art and mechanical assemblies. Stern Pinball has inspected each game element to insure it meets our quality standards.

### Pinball Service Game Manual

Please call, eMail or visit us online for technical support, questions or comments regarding this pinball game.

Go to [www.sternpinball.com](http://www.sternpinball.com) and click Tech. Support & Parts Sales



Find Service Game Manual (with updates), Game Code, Appendixes, Coin Cards, Service Bulletins and much more!

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\* Toll-Free: 1-800-KICKERS (542-5377) or 1-708-345-7700 • eMail: [parts.service@sternpinball.com](mailto:parts.service@sternpinball.com) •

SPI Part Number  
780-50C7-01 -02 & -03

# HOW TO UPDATE YOUR GAME CODE FOR S.A.M. SYSTEM MACHINES

USB Compatible Data Storage Device (Thumb, Flash or Jump Drives) required to copy game code into system.  
S.A.M. System compatible, tested & SPI approved USB Data Storage Devices 128MB+ available through your local distributor: Ask for **SPI Part Number 970-0128-00**

\* to get the Data Storage Device with the latest Game Code copied to it, add "game title" to above part number.

STYLE, COLOR, SIZE AND MANUFACTURER SUBJECT TO CHANGE.

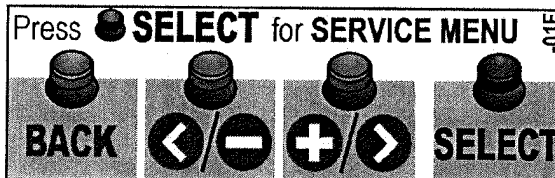
Game Code is subject to change. Update this game with the latest code downloaded from our website, from another game or order through your local distributor (use SPI PN + name above).

Upon power-up the display will describe the version of code installed in your game. When directed to do so (via Service Bulletin or website announcement) you will need to update your code ... with the **BOOT FLASH EPROM\*** installed, here's how:

- STEP 1** Open the Back Box and locate the **8-Position Dip Switch (SW1 on the CPU/Sound Board)**.
- STEP 2** Switch Dip Switch #8 to 'ON'.  
(\***BOOT FLASH EPROM** must be installed.)
- STEP 3** Press the **White Reset Button (S1 RESET on the CPU/Sound Board)** or Power Cycle the game **OFF/ON** (ON/OFF Switch is located on the outside of the cabinet bottom, front right).

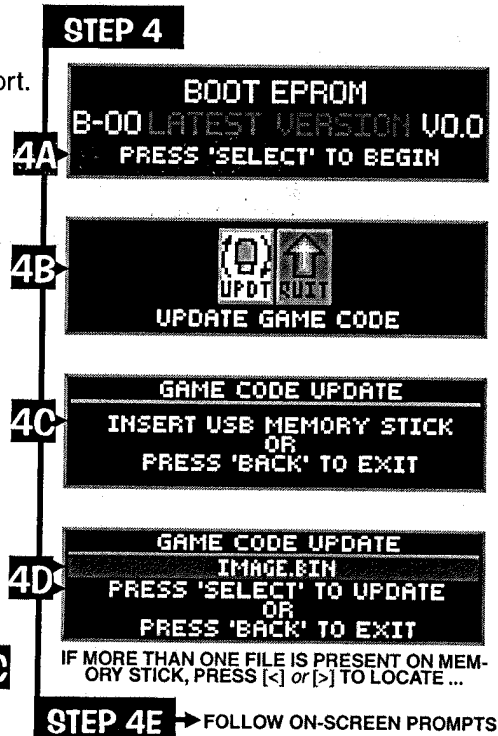
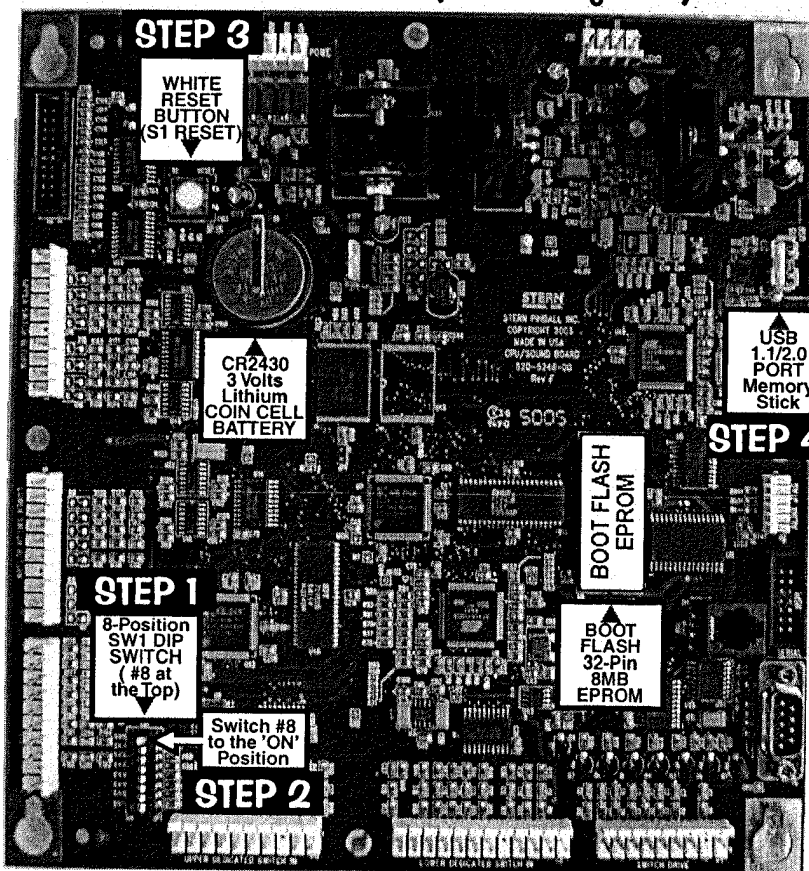
**STEP 4** Using the **4-Button Service Switch Set** (inside the Coin Door):

- 4A } Press [SELECT] to begin.
- 4B } With the "UPDT" Icon highlighted, press [SELECT].
- 4C } Insert the Data Storage Device [w/latest file(s)] into the USB Port.
- 4D } If more than one file is present on the Data Storage Device, press [<] or [>] to locate your file. Press [SELECT] to update.
- 4E } Follow on-screen prompts.



- **Green Button**  
Press to **Escape Back** (or **Exit**).
- **Red Buttons**  
Press to move **< Left, Right >**.  
Press to **- Decrease** or **+ Increase** values or to change settings.
- **Black Button**  
Press to **Enter Select** (or **OK**).

## CPU/Sound Board (S.A.M. System)

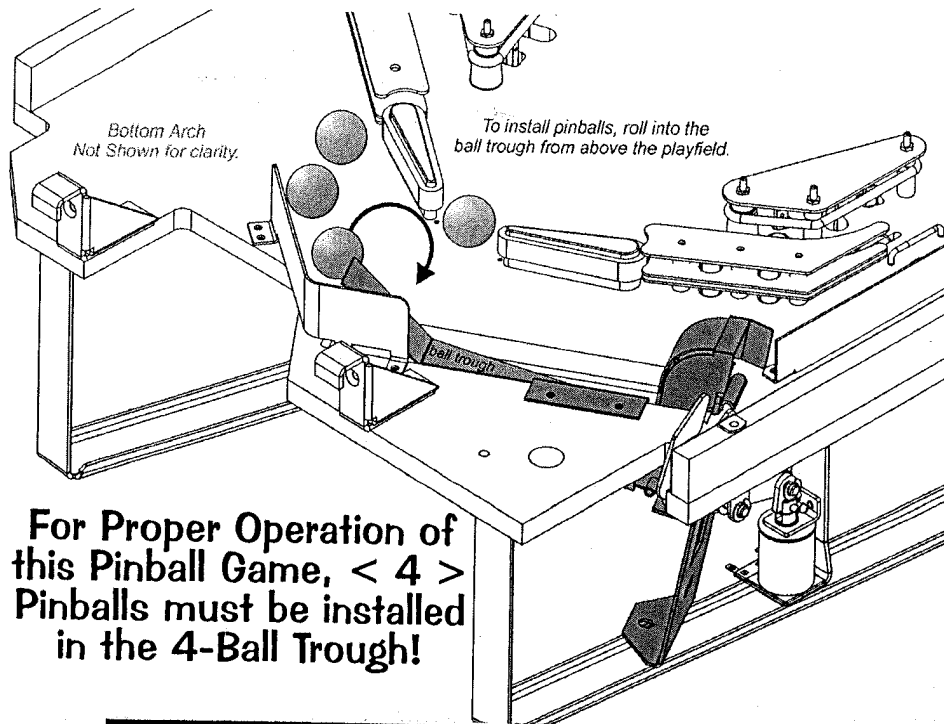


You can also retrieve your latest code from another game! From the **USB MENU** via the **UTILITIES MENU**, select the "BKUP" Icon instead and download to your Data Storage Device.



**! Quick Tip ~ Try backing up your current code prior to installing your new code, just in case your Data Storage Device file was corrupted by a computer glitch while you were copying /**

Got confused? Comments? Questions? Call Technical Support at 800-542-5377 or 708-345-7700 (Option 1).



For Proper Operation of this Pinball Game, < 4 > Pinballs must be installed in the 4-Ball Trough!

**Backbox Fuses\*, Cabinet Fuses, Playfield Fuses and Cabinet Switches**

\*Note: The CPU/Sound PCB does not have fuses.

**QUICK REFERENCE FUSE CHART**

3/4A S.B. 200-5000-17 | 3A S.B. 200-5000-08 | 4A S.B. 200-5000-06 | 5A S.B. 200-5000-01 | 7A S.B. 200-5000-03 | 8A S.B. 200-5000-05

**BACKBOX FUSES**

**I/O POWER DRIVER BOARD**

with RED LED STATUS INDICATORS (if any RED LED is OFF, check the fuse)

F1	5A S.B.	5.7VAC-G.I. Lamps	[BROWN-WHITE ↔ WHT-BRN]
F2	5A S.B.	5.7VAC-G.I. Lamps	[YELLOW ↔ WHITE-YEL Circuit]
F3	5A S.B.	5.7VAC-G.I. Lamps	[GREEN ↔ WHITE-GRN Circuit]
F4	5A S.B.	5.7VAC-G.I. Lamps	[VIOLET ↔ WHITE-VIO Circuit]
F5	7A S.B.	50VDC Coils / Flippers	[48VAC feed to BRDG 1]
F6	3A S.B.	24VAC- Motor or Special Application	
F7	4A S.B.	50VDC Magnet(s) or Special Application	
F8	3A S.B.	50VDC Coils	
F9	5A S.B.	5VDC Logic Power	[13VAC feed to BRDG 4]
F10	5A S.B.	20VDC Coils / Flashers	[16VAC feed to BRDG 2]
F12	5A S.B.	12VDC Audio	[19VAC feed to BRDG 3]
F13	5A S.B.	12VDC Audio	[19VAC feed to BRDG 3]

**CABINET FUSES**

**POWER (SERVICE OUTLET) BOX**

(Access through Coin Door inside cabinet, front bottom.)

8A S.B.	110-120V Main Line	US / Canada / Japan
5A S.B.	220-240V Main Line	International

**PLAYFIELD FUSES**

**FLIPPER OR SPECIAL APPLICATION**

(Coil Fuses are located under the playfield near assembly.)

3A S.B.	50VDC R. Flipper	[BLU-YEL ↔ RED-YEL]
3A S.B.	50VDC L. Flipper	[GRY-YEL ↔ RED-YEL]
3A S.B.	50VDC Additional Flipper Coil, if used.	
3A S.B.	50VDC Spcl. Application Coil, if used.	

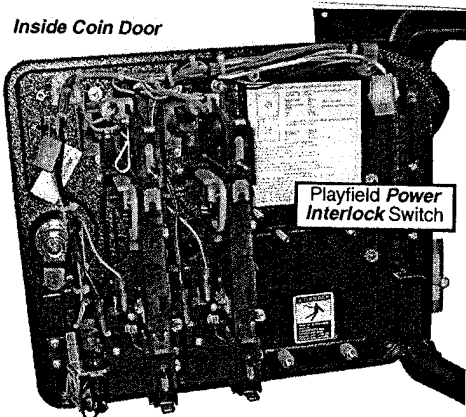
For location & more details on fuses, see Sec. 5, Chp. 2.

**ALL FUSES ARE 250V S.B. (SLO-BLO)**  
**SEE FUSE OR TABLES FOR AMP RATING**  
**CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE WITH IDENTICAL ELECTRICAL RATING!**

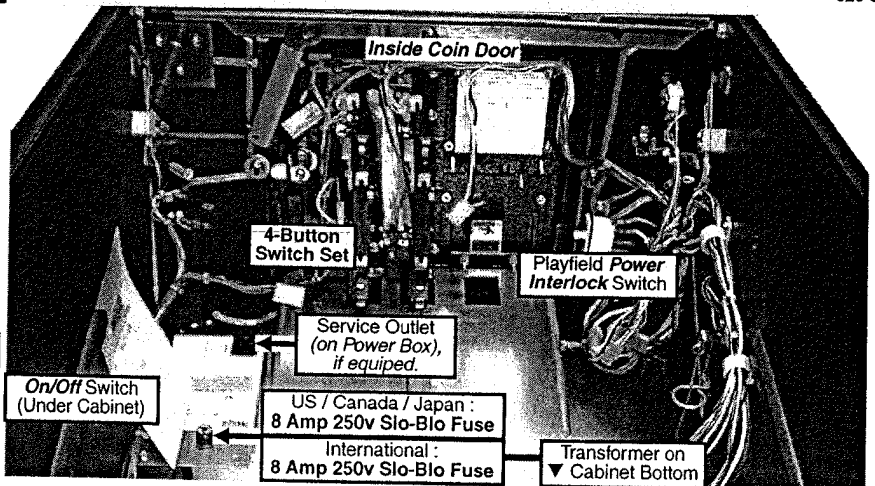
Stern Pinball®, Inc. ©2012

820-8020-00

Inside Coin Door



4-Button Switch Set:



On/Off Switch (Under Cabinet)

4-Button Switch Set

Service Outlet (on Power Box), if equipped.

US / Canada / Japan : 8 Amp 250v Slo-Blo Fuse  
 International : 8 Amp 250v Slo-Blo Fuse

Playfield Power Interlock Switch

Transformer on Cabinet Bottom

# OPEN THE COIN DOOR TO ACCESS THE SERVICE SWITCH X4 SET.

## ● ● ● ● Service Switch X4 Set Overview

The four buttons (*inside Coin Door*) have dual functions depending if you have entered the **Service Menu** or not.

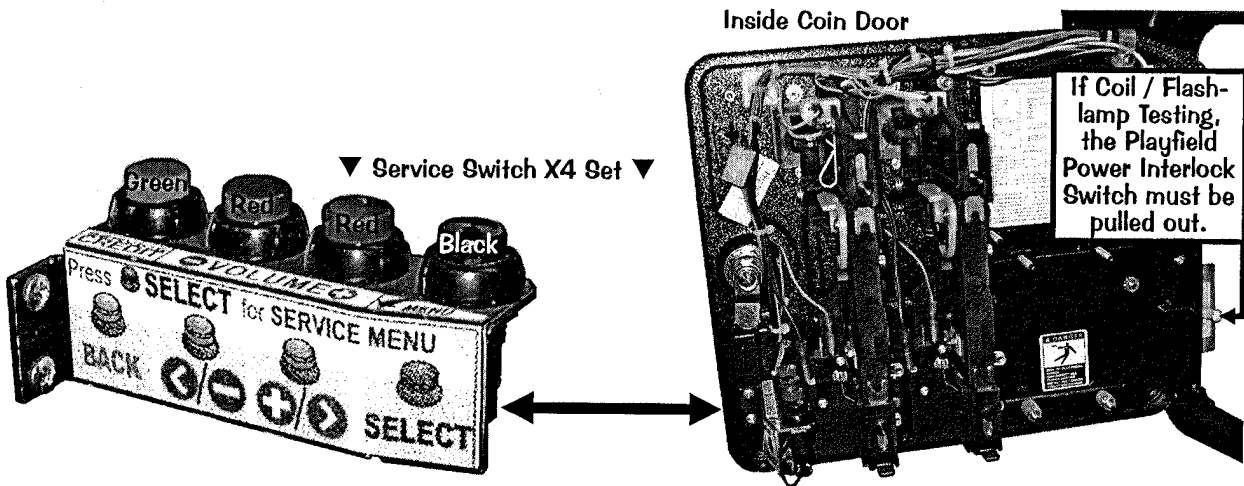
### Functions in Game or Attract Mode

- **Green Button**  
Press for Service Credit(s).
- **Red Buttons**  
Press for Volume Adjustment - for less (quieter), + for more (louder)
- **Black Button**  
Press for Service Menu entry.

### Functions in the Service Menu

Press ● **SELECT** for SERVICE MENU

- **Green Button**  
Press to Escape Back (or Exit).
- **Red Buttons**  
Press to move < Left , Right >. Press to - Decrease or + Increase values or to change settings.
- **Black Button**  
Press to Enter Select (or 'OK').



#### EXAMPLE:

To enter the **SERVICE MENU**, then enter the **SWITCH TEST MENU** via the **DIAGNOSTIC MENU**, perform the below steps.

**Step 1** Press [ **SELECT** ].

**Step 2** With the "DIAG" *Icon* highlighted, press [ **SELECT** ].

**Step 3** With the "SW" *Icon* highlighted, press [ **SELECT** ].

**Step 4** With the "TEST" *Icon* highlighted, press [ **SELECT** ].

Press any switch. If wired correctly, the information in the display will match the information in the Switch Matrix (see DR. 4).

Press [ < ] or [ > ] to move left or right through the menus.

Press [ **BACK** ] to go back a menu, exit or escape at any time.

Continue through the other menus.



The Service Menu is subject to change. Update this game with the latest code downloaded from our website with a USB Data Storage Device (64MB min., recommendation 128MB or higher). See the inside front cover for directions or in the Service Menu "Go To Utilities Menu" then "Go To USB Menu" and follow prompts.

## DIAGNOSTIC AIDS

**50V / 20V DISABLED**  
CLOSE COIN DOOR  
OR PULL INTERLOCK SWITCH  
TO RESTORE POWER

This **audible / visual alert display** is shown when the 50V / 20V Power is disabled (by opening the Coin Door). **PULL OUT THE INTERLOCK SWITCH ONLY WHILE IN THE SERVICE MENU FOR COIL, SWITCH OR PLAY TESTING WHEN THE COIN DOOR IS REQUIRED TO STAY OPEN FOR SERVICE BUTTON USE!** Pulling out the Power Interlock Switch or pressing the

'escape' Green [ BACK ] Button will remove the alert display. Initial display presentation is accompanied by 3 audible tones (the bright display warning will go dim after approximately 30 seconds).

**OPERATOR ALERT!**  
AUTO PLUNGER  
DEVICE MALFUNCTION

This **alert display** is shown momentarily during **Game Mode** or **Power-Up** to alert the operator of a device malfunction (device or mechanism doesn't energize or is energized repeatedly).

**OPERATOR ALERT!** works by monitoring any switch activated device that has the potential to trap a ball when disabled (e.g. in the Shooter Lane, Scoop or Eject Holes, etc.). This alert can also appear if a switch associated with a device (e.g. Ball Trough, Auto Plunger, etc.) is stuck closed (caused by a switch jam or stuck ball); the game will activate the device a predetermined number of times and if the problem is still detected, this device or switch will be noted in **Switch Alerts** and/or **Technician Alerts**.

V0.00      GAME NAME      HDW. 0  
SYS. 0.00  
**SERVICE MENU \***  
USE -/+ TO VIEW TECH. ALERTS

Upon entering the **SERVICE MENU**, if an asterisk " \* " is displayed after the words "SERVICE MENU," the game has detected possible faulty devices, switches and/or missing pinballs. Press the either of the **Red Buttons** (short-cut to the **TECHNICIAN ALERTS MENU**) or continue into the **SERVICE MENU** (press the **Black Button** again), select the "DIAG" Icon and "TECH" Icon for the Technician Alerts information.

## CPU DIP SWITCH SETTINGS

The 8-Pos. Dip Switch [SW1] is on the CPU/Sound Board (between Conn. J3 & J13, lower left corner)

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>USA</b>	ON								
	OFF	▲	▲	▲	▲	▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Germany</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Russia</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Australia</b>	ON	▲	▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Greece</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>So. Africa</b>	ON			▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Austria</b>	ON	▲							
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Italy</b>	ON				▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Spain</b>	ON			▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Belgium</b>	ON		▲						
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Japan</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Sweden</b>	ON	▲	▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Canada 1</b>	ON	▲	▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Lithuania</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Switzerland</b>	ON			▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Canada 2</b>	ON		▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Middle East</b>	ON	▲	▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Taiwan</b>	ON			▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Croatia</b>	ON		▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Netherlands</b>	ON			▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>UK</b>	ON		▲	▲	▲				
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Denmark</b>	ON	▲		▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>New Zealand</b>	ON				▲				
	OFF					▲	▲	▲	▲

CPU/SND PCB SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>UPDATE CODE</b>	ON								▲
	OFF								

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Finland</b>	ON	▲	▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Norway</b>	ON		▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>France</b>	ON		▲	▲					
	OFF					▲	▲	▲	▲

CPU COUNTRY SETTING:	Pos.	1	2	3	4	5	6	7	8
<b>Portugal</b>	ON	▲		▲					
	OFF					▲	▲	▲	▲

**Note:** Slide Dip Switch 8 to Position ON (with Dip Switches 1-7 in the OFF Position) only to reboot the game with the latest version BOOT EPROM installed at U9 on the CPU/Sound Board (S.A.M. System only). Currently, this is also the procedure to update your game with the latest software code update file. For the latest version, visit our website. If you have questions about updating your game code, call Technical Support for assistance.

SWITCH MATRIX GRID [ #1 - #64] (Switch Locations : next page)

CPU/SND Board	01	IC-U22A	IC-U22B	IC-U22C	IC-U22D	IC-U16A	IC-U16B	IC-U16C	IC-U16D	IC-U36A	IC-U36B	IC-U36C	IC-U36D	IC-U40A	IC-U40B	IC-U40C	IC-U40D
	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN
Sound Board	01	IC-U22A	IC-U22B	IC-U22C	IC-U22D	IC-U16A	IC-U16B	IC-U16C	IC-U16D	IC-U36A	IC-U36B	IC-U36C	IC-U36D	IC-U40A	IC-U40B	IC-U40C	IC-U40D
	WHT-BRN	WHT-BRN	WHT-ORG	WHT-YEL	WHT-GRN	WHT-BLU	WHT-YIO	WHT-GRY	TAN-BLK	TAN-RED	TAN-ORG	TAN-YEL	TAN-GRN	TAN-BLU	TAN-VIO	TAN-WHT	TAN-P1
01	S.W. #1	S.W. #2	S.W. #3	S.W. #4	S.W. #5	S.W. #6	S.W. #7	S.W. #8	S.W. #9	S.W. #10	S.W. #11	S.W. #12	S.W. #13	S.W. #14	S.W. #15	S.W. #16	
DRIVE	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D	(A)C/D
01	520-5292-03	520-5292-03	520-5292-03	520-5292-02	520-5292-02	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00	180-5207-00
01	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.
02	S.W. #17	S.W. #18	S.W. #19	S.W. #20	S.W. #21	S.W. #22	S.W. #23	S.W. #24	S.W. #25	S.W. #26	S.W. #27	S.W. #28	S.W. #29	S.W. #30	S.W. #31	S.W. #32	
DRIVE	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH	TROUGH
02	#4 LEFT	#4 LEFT	#3	#2	#1 RIGHT	JAM	SHOOTER LANE	OUTLANE	LEFT RETURN LANE	LEFT SLINGSHOT	RIGHT SLINGSHOT	RIGHT RETURN LANE	RIGHT OUTLANE	LEFT POP BUMPER	RIGHT POP BUMPER	BOTTOM POP BUMPER	SKILL SHOT
02	180-5119-02	180-5119-02	180-5119-02	180-5119-02	515-0173-00	515-0174-00	180-5157-00	500-8227-03	500-8227-03	180-5054-00	180-5054-00	500-8227-03	500-8227-03	180-5015-04	180-5015-04	180-5015-04	180-5015-04
02	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.
03	S.W. #33	S.W. #34	S.W. #35	S.W. #36	S.W. #37	S.W. #38	S.W. #39	S.W. #40	S.W. #41	S.W. #42	S.W. #43	S.W. #44	S.W. #45	S.W. #46	S.W. #47	S.W. #48	
DRIVE	L LOOP	L LOOP	L LOOP	BELL	TOP EJECT	LEFT TOP LANE	CENTER TOP LANE	RIGHT TOP LANE	R RAMP ENTER	R RAMP STANDUP	R RAMP EXIT	LEFT LOOP	CANNON ELECT	DETONATOR TARGET	BELL OPTO	BELL SKILL SHOT	FIRE BUTTON
03	180-5097-00	180-5208-00	180-5208-00	180-5208-00	180-5207-00	500-8227-03	500-8227-03	500-8227-03	180-5087-00	180-5208-00	180-5087-00	180-5087-00	180-5119-02	511-7003-02	520-5292-00	520-5292-00	180-5218-00
03	ABOVE P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.
04	S.W. #49	S.W. #50	S.W. #51	S.W. #52	S.W. #53	S.W. #54	S.W. #55	S.W. #56	S.W. #57	S.W. #58	S.W. #59	S.W. #60	S.W. #61	S.W. #62	S.W. #63	S.W. #64	
DRIVE	LOWER P.F. KICKER OPTO	LOWER P.F. SAU TARGET (LEFT)	LOWER P.F. SAU TARGET (CENTER)	LOWER P.F. SAU TARGET (RIGHT)	LOWER P.F. LOOP (L)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)	LOWER P.F. LOOP (R)
04	500-8773-01	180-5207-00	180-5207-00	180-5207-00	500-8227-04	500-8227-03	500-8227-03	500-8227-03	180-5087-00	180-5208-00	180-5087-00	180-5087-00	180-5087-00	180-5119-02	511-7003-02	520-5292-00	180-5218-00
04	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.	BELOW P.F.

Wire Color Abbreviations used:   
 BLK Black   
 BLU Blue   
 BRN Brown   
 GRV Gray   
 GRN Green   
 LGN Light Green   
 ORG Orange   
 PNK Pink   
 RED Red   
 TAN Tan   
 VIO Violet   
 WHT White   
 YEL Yellow

Dedicated Switches [ #D-1 - #D-32] {Dedicated Switch Locations : next page}

CPU/SND Board	IC-U2	IC-U2	IC-U2	IC-U2	IC-U2	IC-U2	IC-U2	IC-U2	IC-U2	IC-U4	IC-U4	IC-U4	IC-U4	IC-U4	IC-U4	IC-U4	IC-U4
	PNK-BRN	PNK-ORG	PNK-ORG	PNK-GRN	PNK-BLU	PNK-YIO	PNK-GRY	GRN-BRN	GRN-RED	GRN-ORG	GRN-YEL	GRN-BLU	GRN-BLU	GRN-BLU	GRN-BLU	GRN-BLU	GRN-BLU
GROUND (BLU) J12-P1/1 & J13-P1/1	S.W. D-1	S.W. D-2	S.W. D-3	S.W. D-4	S.W. D-5	S.W. D-6	S.W. D-7	S.W. D-8	S.W. D-9	S.W. D-10	S.W. D-11	S.W. D-12	S.W. D-13	S.W. D-14	S.W. D-15	S.W. D-16	
	LEFT COIN SLOT	CENTER COIN SLOT	RIGHT COIN SLOT	FORTH COIN SLOT	FIFTH COIN SLOT	IF USED			LEFT FLIPPER BUTTON	LEFT FLIPPER E.O.S.	RIGHT FLIPPER BUTTON	RIGHT FLIPPER E.O.S.	RIGHT FLIPPER BUTTON	RIGHT FLIPPER E.O.S.	UL FLIPPER BUTTON	UR FLIPPER BUTTON	
	180-5204-00	180-5204-00	180-5204-00	180-5204-00	180-5204-00	IF USED			500-8899-01	180-5148-00	500-8899-01	180-5148-00	500-8899-01	180-5148-00	500-8899-01	500-8899-01	
	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	IF USED			CABINET	FLIP ASSY.	CABINET	FLIP ASSY.	CABINET	FLIP ASSY.	CABINET	CABINET	

CPU/SND Board	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41	IC-41
	LGN-BRN	LGN-RED	LGN-ORG	LGN-YEL	LGN-BLK	LGN-BLU	LGN-YIO	LGN-GRY	GRN-BRN	GRN-RED	GRN-ORG	GRN-YEL	GRN-BLU	GRN-BLU	GRN-BLU	GRN-BLU	GRN-BLU
GROUND (BLU) J13-P1/10	S.W. D-17	S.W. D-18	S.W. D-19	S.W. D-20	S.W. D-21	S.W. D-22	S.W. D-23	S.W. D-24	S.W. D-25	S.W. D-26	S.W. D-27	S.W. D-28	S.W. D-29	S.W. D-30	S.W. D-31	S.W. D-32	
	TILT PENDULUM	SLAM TILT	TICKET NOTCH	IF USED	BACK (GREEN)	MINUS (RED)	PLUS (RED)	SELECT (BLACK)	DIP #1 ON	DIP #2 ON	DIP #3 ON	DIP #4 ON	DIP #5 ON	DIP #6 ON	DIP #7 ON	DIP #8 ON	
	180-5192-04	180-5192-04	180-5192-02	180-5192-02	180-5192-04	180-5192-02	180-5192-02	180-5192-00	(1)2345678	1(2)345678	12(3)45678	123(4)5678	1234(5)678	12345(6)78	123456(7)8	1234567(8)	
	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	COIN DOOR	#1 ON	#2 ON	#3 ON	#4 ON	#5 ON	#6 ON	#7 ON	#8 ON	

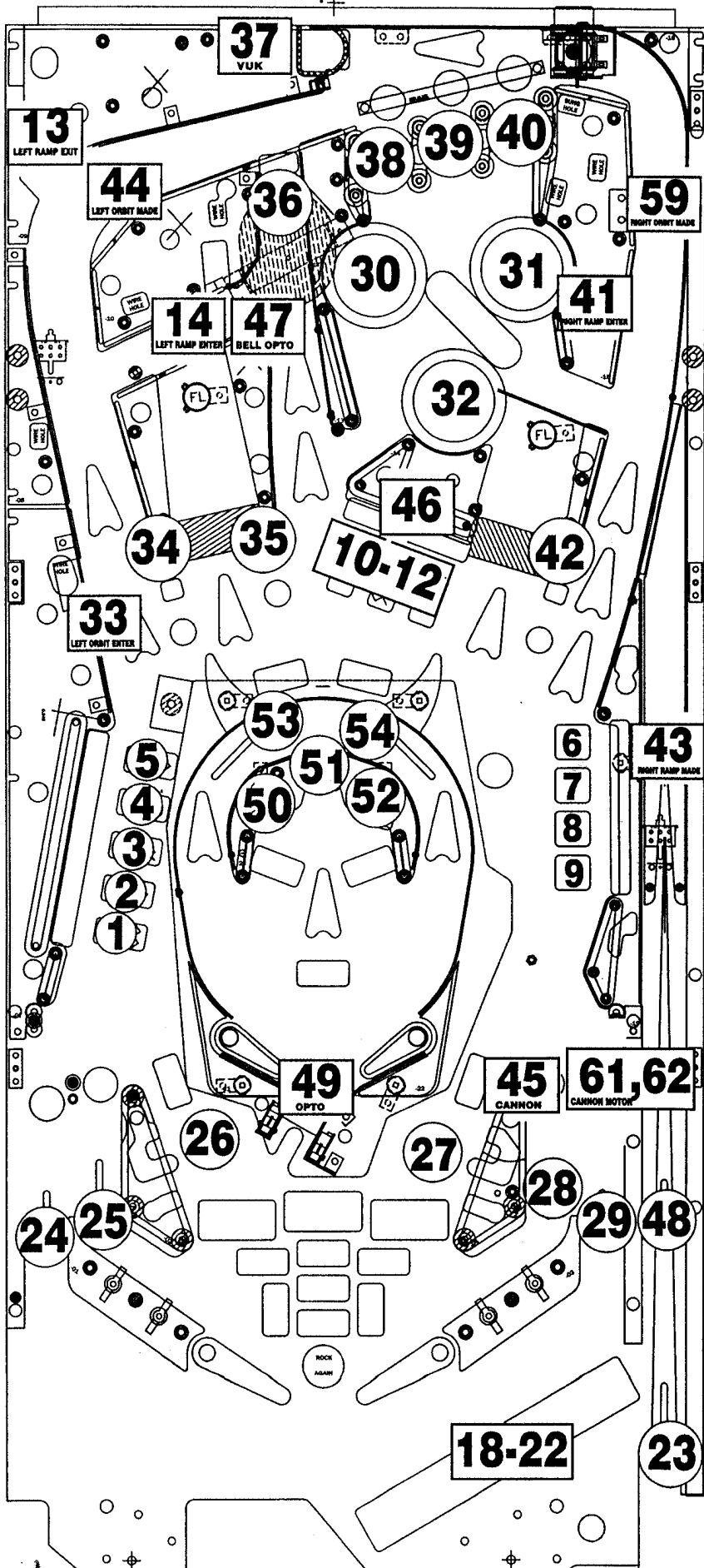
CPU/SOUND BD. SW1 DIP SWITCH (located between Connectors J3/J13)

**GO TO DIAGNOSTICS MENU**

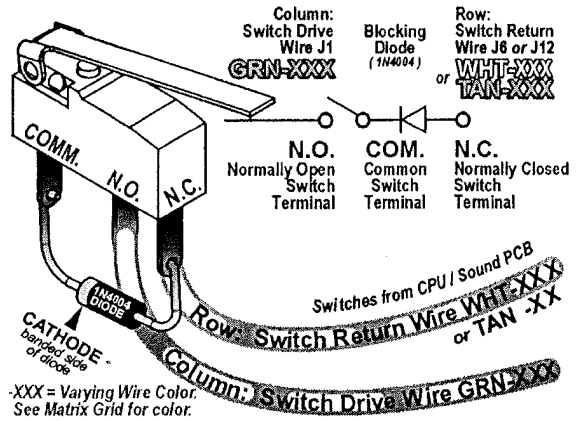
**GO TO SWITCH MENU**

**SWITCH TEST**

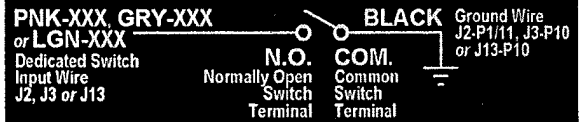
SWITCH MENU: SWITCH, ACTIVE, SINGLE & SERVICE



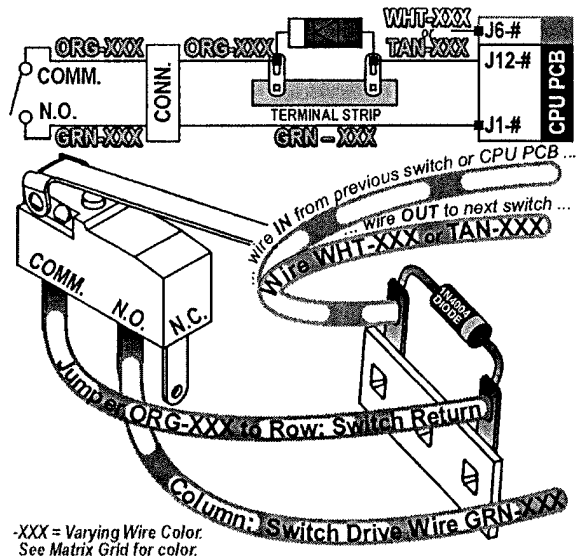
**Typical Switch Wiring & Schematic**



**Dedicated Switch Schematic**



**Typical Switch Wiring & Schematic ... with Switch Diode on a Terminal Strip (DOTS)**



For more about Diode on Terminal Strips (DOTS), see the Yellow Pages (Schematics & Wiring).

LAMP MATRIX GRID I #1 - #80 (Lamp Locations : next page)

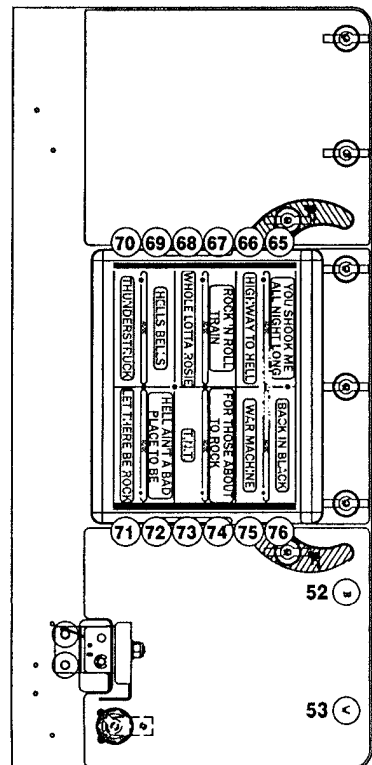
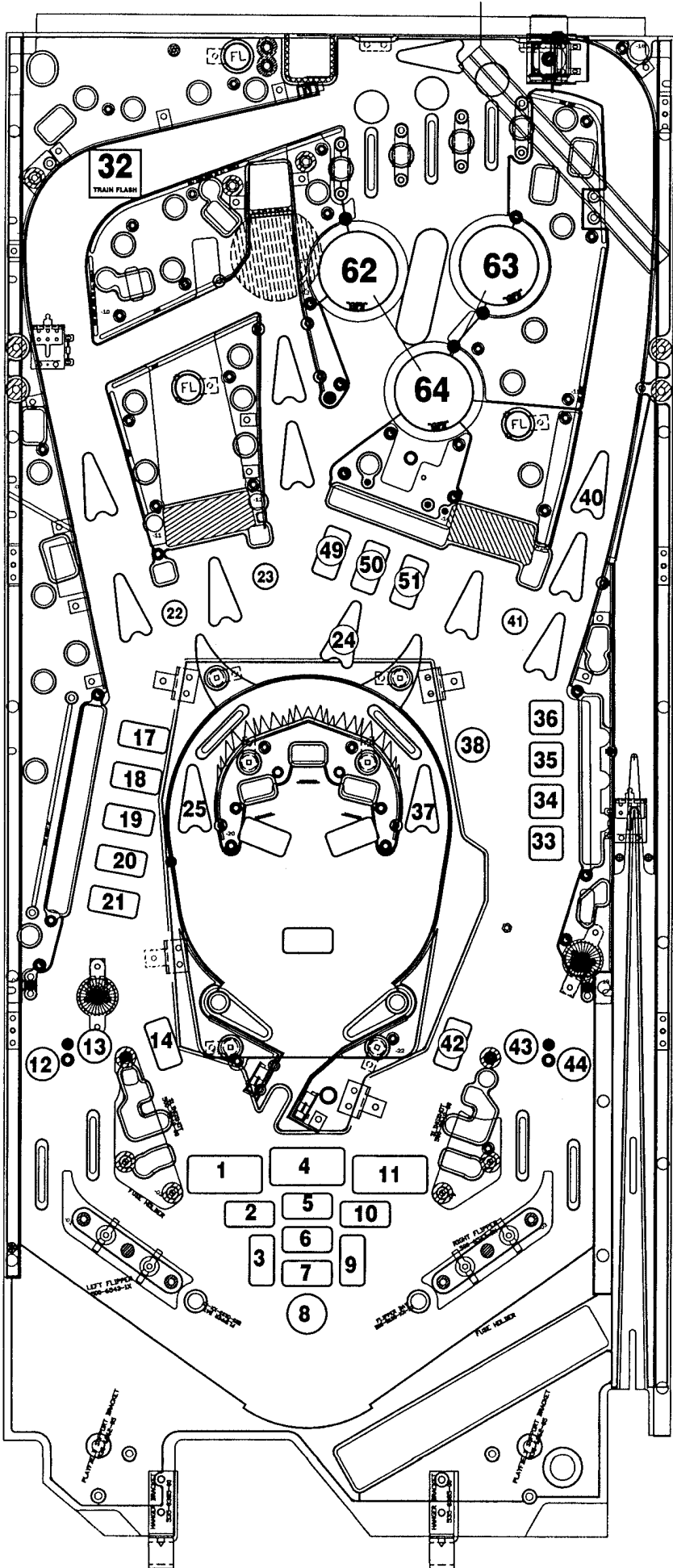
LED BD. L.P. #1	LED BD. L.P. #2	LED BD. L.P. #3	LED BD. L.P. #4	LED BD. L.P. #5	LED BD. L.P. #6	LED BD. L.P. #7	LED BD. L.P. #8
JAM MULTIBALL 520-5324-01	SUPER TARGETS 520-5324-01	SUPER LANES 520-5324-01	ALBUM MULTIBALL 520-5324-01	CANNON FODDER 520-5324-01	CANNON VOLLEY 520-5324-01	CANNON CHAOS 520-5324-01	ROCK AGAIN 520-5324-01
LED BD. L.P. #9	LED BD. L.P. #10	LED BD. L.P. #11	LED BD. L.P. #12	LED BD. L.P. #13	LED BD. L.P. #14	L.P. #15	L.P. #16
SUPER LOOPS 520-5324-01	SUPER COMBO 520-5324-01	TOUR MULTIBALL 520-5324-01	LEFT OUTLANE 520-5307-00	LEFT RETURN LANE 520-5307-00	2X 520-5307-00		L.P. #16
LED BD. L.P. #17	LED BD. L.P. #18	LED BD. L.P. #19	LED BD. L.P. #20	LED BD. L.P. #21	LED BD. L.P. #22	LED BD. L.P. #23	LED BD. L.P. #24
AC/D(C) AC/(D)C AC(/)DC A(C)/DC (A)C/DC 520-5324-05	520-5324-05	520-5324-05	520-5324-05	520-5324-05	L. RAMP STANDUP (L.) 520-5307-00	L. RAMP STANDUP (R.) 520-5307-00	T.N.T. ARROW (WHT./NOTE) 520-5307-00
LED BD. L.P. #25	L.P. #26	L.P. #27	L.P. #28	L.P. #29	L.P. #30	L.P. #31	L.P. #32
LOWER PLFD. L. LOOP ARROW 520-5307-00							TRAIN 112-5039-05
LED BD. L.P. #33	LED BD. L.P. #34	LED BD. L.P. #35	LED BD. L.P. #36	LED BD. L.P. #37	LED BD. L.P. #38	L.P. #39	LED BD. L.P. #40
ROCK(K) RO(C)K R(O)CK (R)OCK 520-5324-04	520-5324-04	520-5324-04	520-5324-04	LOWER PLFD. R. LOOP ARROW 520-5307-00	SPECIAL 520-5307-00		EXTRA BALL 520-5307-00
LED BD. L.P. #41	LED BD. L.P. #42	LED BD. L.P. #43	LED BD. L.P. #44	L.P. #45	L.P. #46	L.P. #47	L.P. #48
R. RAMP STANDUP 520-5307-00	3X 520-5307-00	RIGHT RETURN LANE 520-5307-00	RIGHT OUTLANE 520-5307-00				
LED BD. L.P. #49	LED BD. L.P. #50	LED BD. L.P. #51	L.P. #52	LED L.P. #53	LED L.P. #54	L.P. #55	L.P. #56
(T.)N.T. T.(N.)T. T.N.(T.) 520-5324-03	520-5324-03	520-5324-03		JUKE BOX HORN R. 112-5034-02	JUKE BOX HORN L. 112-5034-02		
LED L.P. #57	LED L.P. #58	LED BD. L.P. #59	LED BD. L.P. #60	LED BD. L.P. #61	LED L.P. #62	LED L.P. #63	LED L.P. #64
START TOURNEY START 112-5024-08	520-5324-08	FIRE BUTTON (RED) 520-5333-00	FIRE BUTTON (GREEN) 520-5333-00	FIRE BUTTON (BLUE) 520-5333-00	LEFT BUMPER 112-5024-08	RIGHT BUMPER 112-5024-08	BOTTOM BUMPER 112-5024-08
LED BD. L.P. #65	LED BD. L.P. #66	LED BD. L.P. #67	LED BD. L.P. #68	LED BD. L.P. #69	LED BD. L.P. #70	LED BD. L.P. #71	LED BD. L.P. #72
YOU SHOOK ME ALL NIGHT 520-5324-02	HIGHWAY TO HELL 520-5324-02	ROCK N ROLL TRAIN 520-5324-02	WHOLE LOTTA ROSIE 520-5324-02	HELLS BELLS 520-5324-02	THUNDERSTRUCK 520-5324-02	LET THERE BE ROCK 520-5324-02	HELL AINT A BAD PLACE 520-5324-02
LED BD. L.P. #73	LED BD. L.P. #74	LED BD. L.P. #75	LED BD. L.P. #76	L.P. #77	L.P. #78	L.P. #79	L.P. #80
T.N.T. ABOUT TO ROCK 520-5324-02	FOR THOSE ABOUT TO ROCK 520-5324-02	WAR MACHINE 520-5324-02	BACK IN BLACK 520-5324-02				



# AC-DC PREMIUM SINGLE LED MAP

57 = Start  
56 = Tournament

59 = Fire: RED  
60 = Fire: GRN  
61 = Fire: BLU

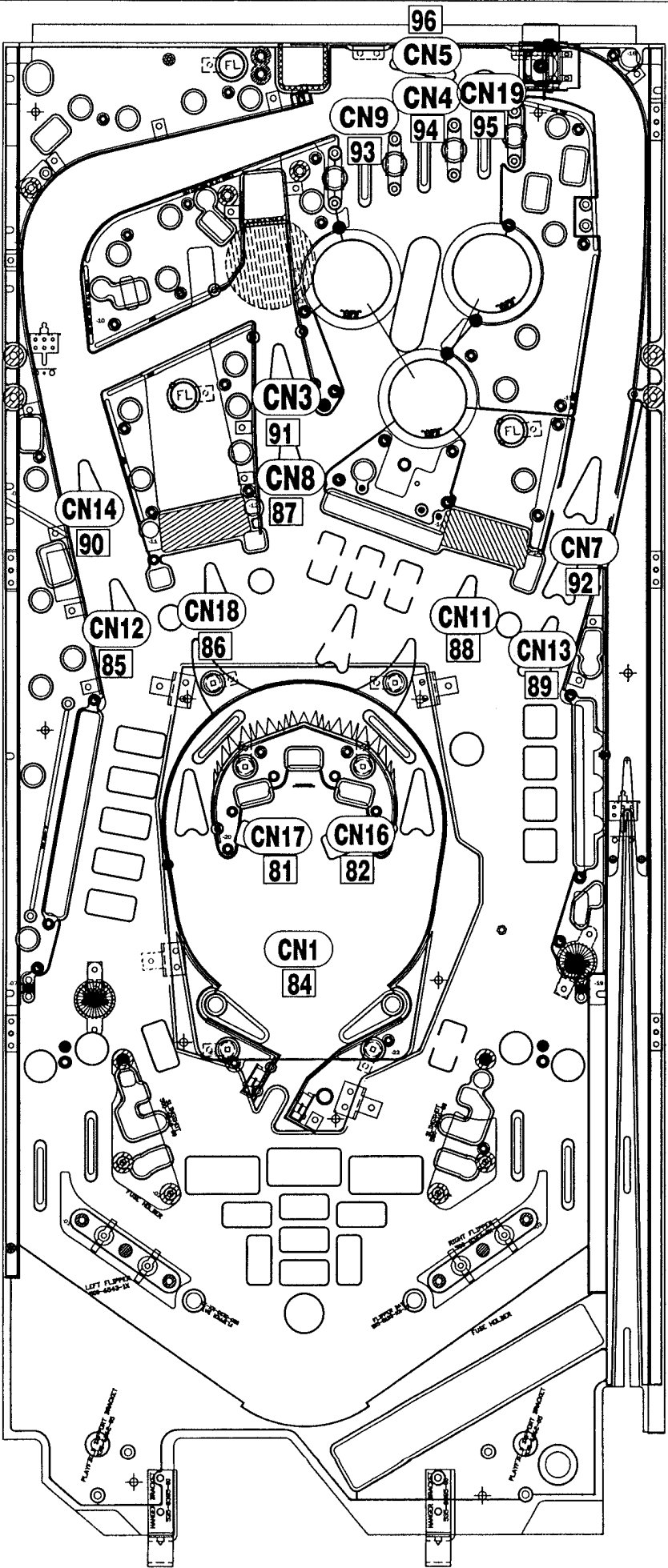
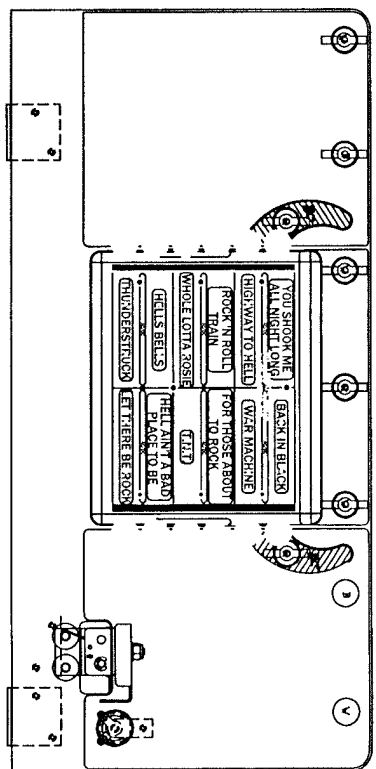


LAMP NUMBER	LAMP NAME	CONNECTOR NUMBER ON DRIVER BD. 520-5331-00
-------------	-----------	--------------------------------------------

81	FACE LEFT EYE	CN17
82	FACE RIGHT EYE	CN16
84	FACE MOUTH	CN1
85	L. LOOP ARROW (BOT.)	CN12
86	L. RAMP ARROW	CN18
87	BELL ARROW (BOT.)	CN8
88	R. RAMP ARROW	CN11
89	R. LOOP ARROW (BOT.)	CN13
90	L. LOOP ARROW (TOP.)	CN14
91	BELL ARROW (TOP.)	CN3
92	RIGHT LOOP ARROW (MID.)	CN7
93	LEFT TOP LANE	CN9
94	CENTER TOP LANE	CN4
95	RIGHT TOP LANE	CN19
96	TUNES - N - STUFF	CN5

# AC-DC PREMIUM TRI-COLOR LED MAP

- CN1** = Connector number on driver board 520-5331-00
- 84** = Matrix number on Dot Matrix display



### COILS DETAILED CHART TABLE

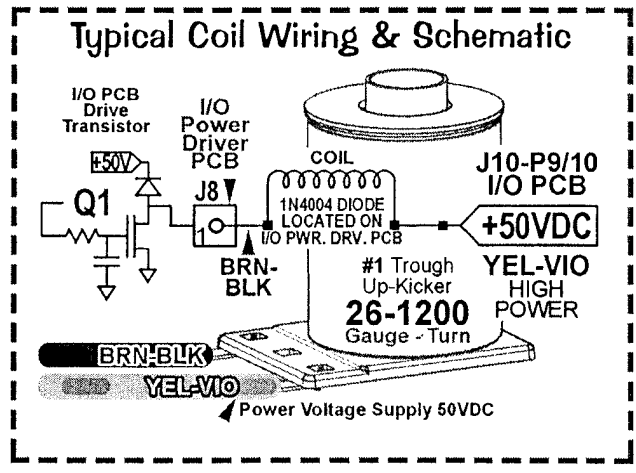
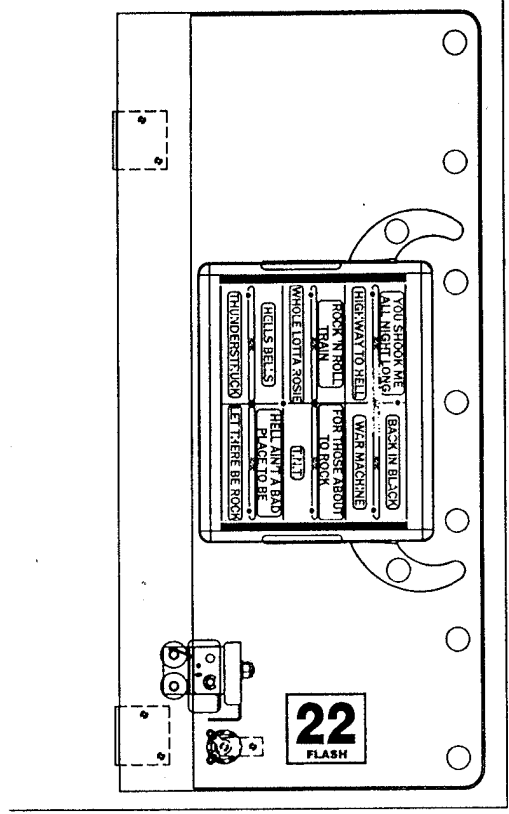
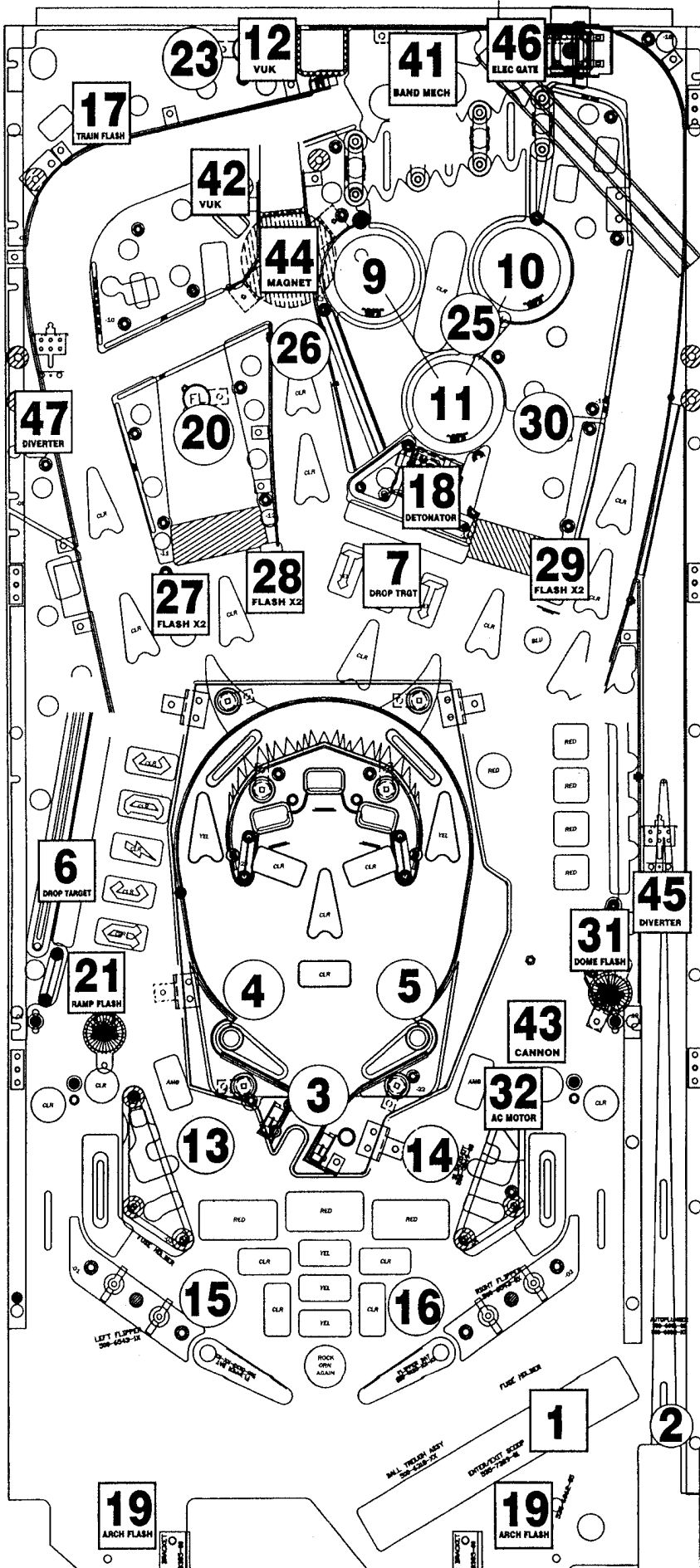
High Current Coils Group 1		Drive Transistor	Driver Output PCB	Power Line Color	Power Line Connection	Power Voltage	Drive Transistor Control Line Color	D.T. Control Line Connect	Coil GA-Turn or Bulb Type
#1	TROUGH UP-KICKER	Q1	▲ I/O Power Driver ▼	YEL-VIO	J10-P9/10	50VDC	BRN-BLK	J8-P1	28-1200 090-5044-NB
#2	AUTO LAUNCH	Q2		YEL-VIO	J10-P9/10	50VDC	BRN-RED	J8-P3	24-940 090-5038-NB
#3	LOWER PLAYFIELD EJECT	Q3		YEL-VIO	J10-P9/10	50VDC	BRN-ORG	J8-P4	28-1200 090-5044-NB
#4	LOWER PLAYFIELD LEFT FLIPPER	Q4		GRY-YEL	J10-P9/10	50VDC	BRN-YEL	J8-P5	22-1080 090-5032-NB
#5	LOWER PLAYFIELD RIGHT FLIPPER	Q5		BLU-YEL	J10-P9/10	50VDC	BRN-GRN	J8-P6	22-1080 090-5032-NB
#6	LEFT 5- BANK DROP RESET (X2)	Q6		YEL-VIO	J10-P9/10	50VDC	BRN-BLU	J8-P7	25-1240 090-5034-NB
#7	CENTER 3- BANK DROP RESET	Q7		YEL-VIO	J10-P9/10	50VDC	BRN-VIO	J8-P8	25-1240 090-5034-NB
#8	SHAKER MOTOR (OPTIONAL)	Q8		RED-WHT	J17-P7	16VAC	BRN-GRY	J8-P9	502-5027-00
High Current Coils Group 2		Drive Transistor	Driver Output PCB	Power Line Color	Power Line Connection	Power Voltage	Drive Transistor Control Line Color	D.T. Control Line Connect	Coil GA-Turn or Bulb Type
#9	LEFT POP BUMPER	Q9	▲ I/O Power Driver ▼	YEL-VIO	J10-P9/10	50VDC	BLU-BRN	J8-P1	28-1200 090-5044-NB
#10	RIGHT POP BUMPER	Q10		YEL-VIO	J10-P9/10	50VDC	BLU-RED	J8-P2	28-1200 090-5044-NB
#11	BOTTOM POP BUMPER	Q11		YEL-VIO	J10-P9/10	50VDC	BLU-ORG	J8-P4	28-1200 090-5044-NB
#12	TOP EJECT	Q12		YEL/VIO	J10-P9/10	50VDC	BLU-YEL	J8-P5	23-800 090-5001-NB
#13	LEFT SLINGSHOT	Q13		YEL-VIO	J10-P9/10	50VDC	BLU-GRN	J8-P6	28-1200 090-5044-NB
#14	RIGHT SLINGSHOT	Q14		YEL-VIO	J10-P9/10	50VDC	BLU-BLU	J8-P7	28-1200 090-5044-NB
#15	LEFT FLIPPER (50V RED/YEL)	Q15		GRY-YEL-3A Fuse-RED-YEL	J10-P6/7	50VDC	ORG-GRY	J8-P8	22-1080 090-5032-NB
#16	RIGHT FLIPPER (50V RED/YEL)	Q16		BLU-YEL-3A Fuse-RED-YEL	J10-P6/7	50VDC	ORG-VIO	J8-P9	22-1080 090-5032-NB
Low Current Coils Group 1		Drive Transistor	Driver Output PCB	Power Line Color	Power Line Connection	Power Voltage	Drive Transistor Control Line Color	D.T. Control Line Connect	Coil GA-Turn or Bulb Type
#17	TRAIN FLASHER	Q17	▲ I/O Power Driver ▼	ORG	J6-P10	20VDC	VIO-BRN	J7-P2	# 89 BULB 165-5000-89
#18	DETONATOR	Q18		BRN	J7-P1	20VDC	VIO-RED	J7-P3	28-1400 090-5072-0S
#19	BOTTOM ARCH FLASHER (X2)	Q19		ORG	J6-P10	20VDC	VIO-ORG	J7-P4	LED BD. 520-5328-00
#20	LEFT RAMP FLASHER	Q20		ORG	J6-P10	20VDC	VIO-YEL	J7-P6	#89 BULB 165-5000-89
#21	LEFT SIDE FLASHER	Q21		ORG	J6-P10	20VDC	VIO-GRN	J7-P7	# 89 BULB 165-5000-89
#22	BACK PANEL FLASHER	Q22		ORG	J6-P10	20VDC	VIO-BLU	J7-P8	# 89 BULB 165-5000-89
#23	TOP EJECT FLASHER	Q23		ORG	J6-P10	20VDC	VIO-BLK	J7-P9	# 89 BULB 165-5000-89
#24	OPTIONAL (e.g. COIN METER)	Q24		RED	J16-P4-8	5VDC	VIO-GRY	J7-P10	COIN METER
Low Current Coils Group 2		Drive Transistor	Driver Output PCB	Power Line Color	Power Line Connection	Power Voltage	Drive Transistor Control Line Color	D.T. Control Line Connect	Coil GA-Turn or Bulb Type
#25	POP BUMPERS FLASH (X3)	Q25	▲ I/O Power Driver ▼	ORG	J6-P10	20VDC	BLK-BRN	J6-P1	# 89 BULB 165-5000-89
#26	BELL ARROW FLASHER	Q26		ORG	J6-P10	20VDC	BLK-RED	J6-P2	# 89 BULB 165-5000-89
#27	LEFT RAMP LEFT SIDE FLASHER	Q27		ORG	J6-P10	20VDC	BLK-ORG	J6-P3	# 181 BULB 165-5032-00
#28	LEFT RAMP RIGHT SIDE FLASHER	Q28		ORG	J6-P10	20VDC	BLK-YEL	J6-P4	# 181 BULB 165-5032-00
#29	RIGHT RAMP RIGHT SIDE FLASHER	Q29		ORG	J6-P10	20VDC	BLK-GRN	J6-P5	# 181 BULB 165-5032-00
#30	RIGHT RAMP FLASHER	Q30		ORG	J6-P10	20VDC	BLK-BLU	J6-P6	# 89 BULB 165-5000-89
#31	RIGHT SIDE FLASHER	Q31		ORG	J6-P10	20VDC	BLK-VIO	J6-P7	# 89 BULB 165-5000-89
#32	CANNON MOTOR	Q32		BRN	J7-P1	20VDC	BLK-GRY	J6-P8	MOTOR 041-5111-00

**GO TO DIAGNOSTICS MENU**

**GO TO COIL MENU**

**SINGLE COIL TEST**

COIL MENU: SINGLE COIL & CYCLING COIL



**48**  
 TOP MECH

**27-29**  
 3 TARGET FLASHERS

**FOR FUTURE OPTIONAL TOP BOX**

Coil Q24 is Optional. If either a Coin Meter, Token Dispenser or Knocker (all optional equipment) is required, call Technical Support for more information, 1-800-542-5377 or 1-708-345-7700.

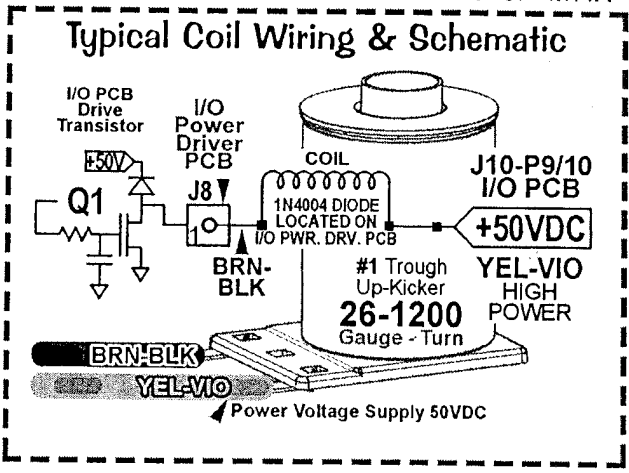
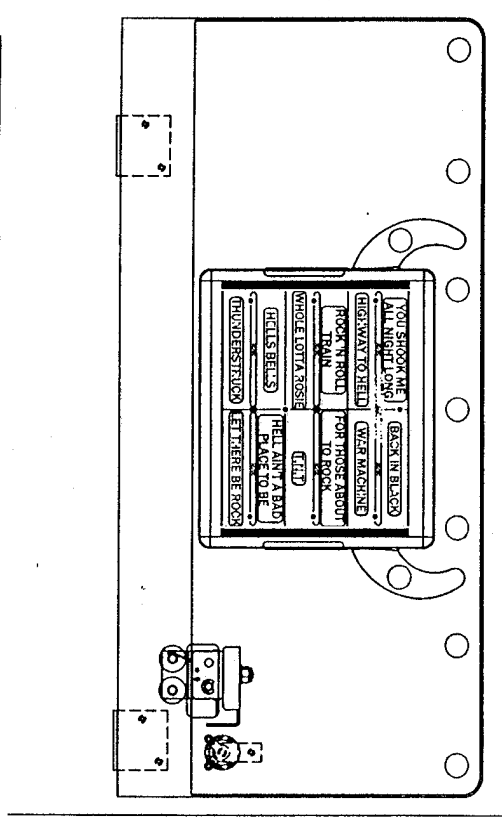
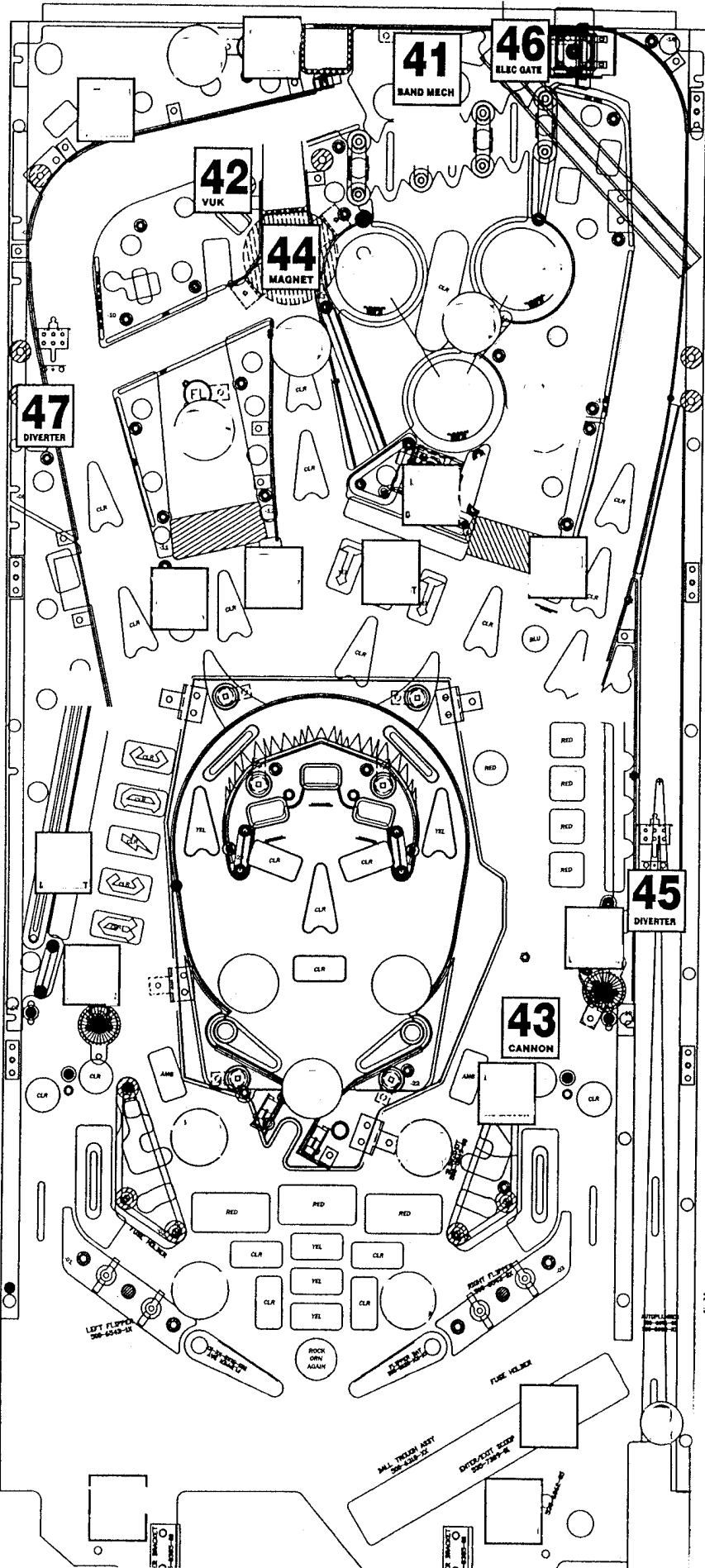
# AUX. COILS 41-48

COILS DETAILED CHART TABLE							
HIGH CURRENT COILS GROUP 1	Drive Transistor	Power Line Color	Power Line Connection	Power Voltage	Driver Transistor Control Line Color	D.T CNTL. LINE CON.	Coil GA-Turn or Bulb Type
BAND MEMBER MECH AUX D/D0	Q1 AUX BD.	YEL-VIO	J2-P10	50VDC	BLU-BRN	J2-P8	29-1400 COIL 090-5073-03
BELL EJECT	Q2 AUX BD.	YEL-VIO	J2-P10	50VDC	BRN-BLK	J2-P7	23-800 COIL 090-5001-ND
CANNON EJECT	Q3 AUX BD.	YEL-VIO	J2-P10	50VDC	VIO-BRN	J2-P6	23-800 COIL 090-5001-ND
BELL MAGNET	Q4 AUX BD.	VIO-YEL	J2-P10	50VDC	BLU-RED	J2-P5	22-600 COIL 090-5076-00
RIGHT RAMP DIVERTER	Q5 AUX BD.	YEL-VIO	J2-P10	50VDC	BRN-RED	J2-P4	32-1800 COIL 515-6595-01-ND
RIGHT CONTROL GATE	Q6 AUX BD.	YEL-VIO	J2-P10	50VDC	VIO-RED	J2-P3	32-1250 090-5060-01-ND
LEFT RAMP DIVERTER	Q7 AUX BD.	YEL-VIO	J2-P10	50VDC	BLU-ORG	J2-P2	32-1800 COIL 515-6595-01-ND

**GO TO DIAGNOSTICS MENU**

**GO TO COIL MENU**

**SINGLE COIL TEST**
  
 COIL MENU: SINGLE COIL & CYCLING COIL



**48**  
 TOP MECH  
**FOR FUTURE  
 OPTIONAL  
 TOP BOX**

Coil Q24 is Optional. If either a Coin Meter, Token Dispenser or Knocker (all optional equipment) is required, call Technical Support for more information, 1-800-542-5377 or 1-708-345-7700.



CHOOSE EARNINGS or STANDARD AUDITS

## GO TO AUDITS MENU: EARNINGS AUDITS [ #1 – #13 ] / STANDARD AUDITS [ #1 – #59 ]

Perform the below steps to review the audits. Enter the **SERVICE MENU**, then enter the **EARNINGS AUDITS** or **STANDARD AUDITS** MENUS. For audit definitions or summary, review the Audits Section (**GO TO AUDITS MENU**). Try the "DUMP AUDITS TO USB" Feature to create a text file of your audits. Don't forget to set the **DATE** & **TIME** in the **UTILITIES MENU**. See the Utilities Section (**GO TO UTILITIES MENU**).

**Step 1** Press [ **SELECT** ].  
Press [ **BACK** ] to exit for escape at any time.

**Step 2** Press [ **>** ]. Go to the "AUD" Icon.  
Press [ **SELECT** ].

**Step 3** Press [ **>** ]. Go to the "EARN" or "S.P.I." Icon.  
Press [ **SELECT** ].

**Step 4** Press [ **<** ] [ **>** ] to move between audits.

Audit Number	→	<b>EARNINGS AUDIT #1</b>
Audit Name	→	<b>TOTAL PAID CREDITS</b>
Audit Result	→	<b>0</b>

### EARNINGS AUDITS [ #1 – #13 ] ▼

Nr.	EARNINGS AUDIT NAME	YOUR RESULT
1	TOTAL PAID CREDITS	
2	FREE GAME PERCENTAGE	
3	AVERAGE BALL TIME	
4	AVERAGE GAME TIME	
5	COINS THROUGH LEFT SLOT	
6	COINS THROUGH RIGHT SLOT	
7	COINS THROUGH CENTER SLOT	
8	COINS THROUGH FOURTH SLOT	
9	COINS THROUGH FIFTH SLOT	
10	TOTAL COINS	
11	TOTAL EARNINGS	
12	METER CLICKS	
13	SOFTWARE METER	

### STANDARD AUDITS [ #1 – #59 ] ▼

Nr.	STANDARD AUDIT NAME	YOUR RESULT
1	TOTAL BALLS PLAYED	
2	TOTAL EXTRA BALLS	
3	EXTRA BALL PERCENTAGE	
4	REPLAY 1 AWARDS	
5	REPLAY 2 AWARDS	
6	REPLAY 3 AWARDS	
7	REPLAY 4 AWARDS	
8	TOTAL REPLAYS	
9	REPLAY PERCENTAGE	
10	TOTAL SPECIALS	
11	SPECIAL PERCENTAGE	
12	TOTAL MATCHES	
13	HIGH SCORE AWARDS	
14	HIGH SCORE PERCENT	
15	TOTAL FREE PLAYS	
16	TOTAL PLAYS	
17	0.0M – 1.99M SCORES	
18	2.0M – 3.99M SCORES	
19	4.0M – 5.99M SCORES	
20	6.0M – 7.99M SCORES	
21	8.0M – 9.99M SCORES	
22	10.0M – 12.49M SCORES	
23	12.5M – 14.99M SCORES	
24	15.0M – 17.49M SCORES	
25	17.5M – 19.99M SCORES	
26	20.0M – 24.99M SCORES	
27	25.0M – 29.99M SCORES	
28	30.0M – 39.99M SCORES	
29	40.0M – 49.99M SCORES	
30	50.0M – 74.99M SCORES	
31	75.0M – 99.99M SCORES	
32	100.0M – 149.99M SCORES	
33	150.0M+ SCORES	
34	AVERAGE SCORES	
35	SERVICE CREDITS	
36	BALL SEARCH STARTED	
37	LOST BALL FEEDS	
38	LOST BALL GAME STARTS	
39	LEFT DRAINS	
40	CENTER DRAINS	
41	RIGHT DRAINS	
42	TILTS	
43	TOTAL BALLS SAVED	
44	LEFT FLIPPER USED	
45	RIGHT FLIPPER USED	
46	0 – 1 MINUTE GAMES	
47	1 – 1.5 MINUTE GAMES	
48	1.5 – 2 MINUTE GAMES	
49	2 – 2.5 MINUTE GAMES	
50	2.5 – 3 MINUTE GAMES	
51	3 – 3.5 MINUTE GAMES	
52	3.5 – 4 MINUTE GAMES	
53	4 – 5 MINUTE GAMES	
54	5 – 6 MINUTE GAMES	
55	6 – 8 MINUTE GAMES	
56	8 – 10 MINUTE GAMES	
57	10 – 15 MINUTE GAMES	
58	15+ MINUTE GAMES	
59	RECENT REPLAY PERCENT	

Note: Audits are subject to change (with or without notice).





## GO TO ADJUSTMENTS MENU: STANDARD ADJUSTMENTS [ #1 – #63 ]

Perform the below steps to review the adjustments. Enter the **ADJUSTMENTS MENU**, then enter the **STANDARD ADJUSTMENTS MENU**. For adjustment definitions or summary, review the *Adjustments Section (GO TO ADJUSTMENTS MENU)*. See *Utilities Section (GO TO INSTALLS MENU)*, to easily change all adjustments required depending on the Install Type (Easy, Hard, 5-Ball, Home Play, etc.) desired.

**Step 1** Press [ SELECT ]. Press [ BACK ] to exit or escape at any time.

**Step 2** Press [ > ]. Go to the "ADJ" Icon. Press [ SELECT ].

**Step 3** ... "S.P.I." Icon. Press [ SELECT ].

Adjustment Number  
Adjustment Name  
Adjustment Setting  
Adjustment Comment



**Step 4** **STANDARD ADJUSTMENT #1** appears with the Adjustment Name [ REPLAY TYPE ] flashing. With the Adjustment Name flashing, press [ < ] [ > ] to move between adjustments.

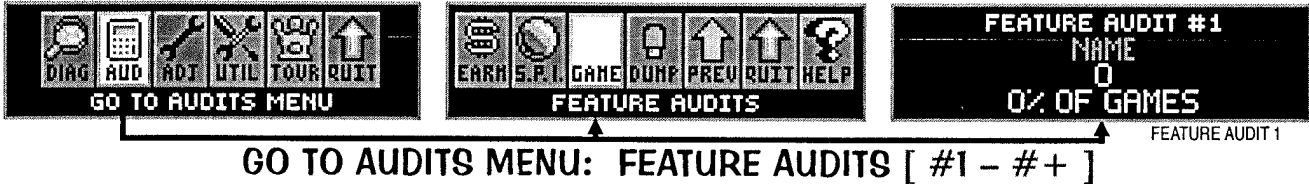
**Step 5** To change the Adjustment Setting, press [ SELECT ]. With the Adjustment Setting flashing, press [ < ] [ > ] repeatedly until the desired setting appears. Press the [ SELECT ] to "install" the change. The Adjustment Comment (bottom text line) will indicate [ INSTALLED/FACTORY DEFAULT ], if the Factory Default Setting is selected or [ INSTALLED ] if the change is not the Factory Default Setting.

## STANDARD ADJUSTMENTS [ #1 – #63 ] ▼

Nr.	STANDARD ADJUSTMENT NAME	USA DEFAULT	YOUR SETTING
1	REPLAY TYPE	AUTO	
2	‡ REPLAY PERCENTAGE	10%	
3	‡ REPLAY AWARD	CREDIT	
4	‡ REPLAY LEVELS	1	
5	‡ AUTO REPLAY START	___,000,000	
6	‡ DYNAMIC REPLAY START	60,000,000	
7	‡ REPLAY LEVEL #1	15,000,000	
8	‡ REPLAY LEVEL #2	30,000,000	
9	‡ REPLAY LEVEL #3	45,000,000	
10	‡ REPLAY LEVEL #4	60,000,000	
11	‡ REPLAY BOOST	YES	
12	SPECIAL LIMIT	1	
13	‡ SPECIAL PERCENTAGE	10%	
14	SPECIAL AWARD	CREDIT	
15	FREE GAME LIMIT	5	
16	EXTRA BALL LIMIT	5	
17	‡ EXTRA BALL PERCENTAGE	25%	
18	GAME PRICING	USA 10	
19	MATCH PERCENTAGE	9%	
20	MATCH AWARD	CREDIT	
21	BALLS PER GAME	3	
22	TILT WARNINGS	2	
23	CREDIT LIMIT	30	
24	ALLOW HIGH SCORES	YES	
25	HIGH SCORE AWARD	CREDIT	
26	GRAND CHAMPION AWARDS	1	
27	HIGH SCORE #1 AWARDS	1	
28	HIGH SCORE #2 AWARDS	0	
29	HIGH SCORE #3 AWARDS	0	
30	HIGH SCORE #4 AWARDS	0	
31	GRAND CHAMPION SCORE	___,000,000	

Nr.	STANDARD ADJUSTMENT NAME	USA DEFAULT	YOUR SETTING
32	HIGH SCORE #1	___,000,000	
33	HIGH SCORE #2	___,000,000	
34	HIGH SCORE #3	___,000,000	
35	HIGH SCORE #4	___,000,000	
36	HSTD INITIALS	3 INITIALS	
37	HSTD RESET COUNT	2000	
38	FREE PLAY	NO	
39	LANGUAGE	ENGLISH	
40	PLAYER LANGUAGE SELECT	YES	
41	CUSTOM MESSAGE	ON	
42	FLASH LAMP POWER	NORMAL	
43	COIL PULSE POWER	NORMAL	
44	KNOCKER VOLUME	NORMAL	
45	GAME RESTART	YES	
46	BILL VALIDATOR	NO	
47	MUSIC VOLUME	1	
48	BALL SAVE TIME	0:05	
49	TIMED PLUNGER	OFF	
50	FLIPPER BALL LAUNCH	OFF	
51	COINDOOR BALL SAVER	NO	
52	COMPETITION MODE	NO	
53	CONSOLATION BALL	YES	
54	FAST BOOT	YES	
55	Q24 OPTION	COIN METER	
56	TICKET DISPENSER	NO	
57	PLAYER COMPETITION	YES	
58	TEAM SCORES	NO	
59	LOCATION ID	0	
60	GAME ID	0	
61	TIME FORMAT	12-HOUR	
62	COIN INPUT DELAY	30	
63	LOST BALL RECOVERY	YES	

Factory Defaults Settings are subject to change during production (especially Standard Adjustments 2, 4, 5, 13, 16-17, 19, 31-35 & 47).  
‡ Not all Standard Adjustments are shown. Depending on the setting (whether Factory Default or if changed by the operator), associated adjustments do not appear, if not required. **Note:** If Game Dip Switch other than USA is installed, different Defaults will appear.



**GO TO AUDITS MENU: FEATURE AUDITS [ #1 - #+ ]**

Perform the below steps to review the audits. Enter the **AUDITS MENU**, then enter the **FEATURE AUDITS MENU**. Try the **"DUMP AUDITS TO USB"** Feature to create a text file of your audits. \*Don't forget to set the **DATE & TIME** in the **UTILITIES MENU**. See **Utilities Section (GO TO UTILITIES MENU)**, for more information.

**Step 1** Press [ **SELECT** ]. Press [ **BACK** ] to exit or escape at any time.

**Step 2** Press [ **>** ]. Go to the "AUD" Icon. Press [ **SELECT** ].



**Step 3** Press [ **>** ]. Go to the "GAME" Icon. Press [ **SELECT** ].

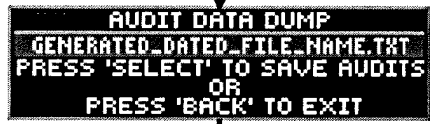
**Step 4** Press [ **<** ] [ **>** ] to move between audits.

% = AUDIT RESULT DIVIDED BY STANDARD AUDIT 16 (TOTAL PLAYS).

Feature Audits are subject to change (with or without notice). View **Feature Audits on the Dot Display only**. To export all audits to your memory stick (creating a text file), perform the following. Enter the **AUDITS MENU**, then enter the **DUMP AUDITS TO USB**. **Note:** The **"DUMP"** Icon can also be accessed in the **USB MENU** via the **UTILITIES MENU** (see the **Utilities Section (GO TO USB MENU)** for details).



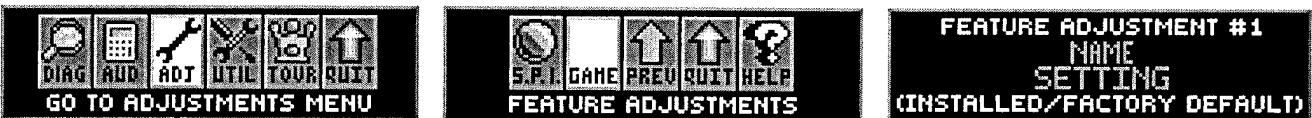
**Step 1** Insert your **USB Compatible Memory Stick** into the USB port on the CPU/Sound Board (S.A.M. System). If the Memory Stick has space available and is free of errors, a dated file\* is generated (\* ensure your Date & Time is set prior to selecting or the dated file will have the default date of 20XX\_01\_01; see Section 3, Chapter 5, SET DATE / TIME via the UTILITIES MENU for details).



**Step 2** Press [ **SELECT** ] to save the file to your Memory Stick. Press [ **SELECT** ] again to continue or [ **BACK** ] to exit or escape at any time.



**Step 3** Remove the Memory Stick and insert into your PC or Mac to save the file (which can then be copied, printed or emailed). The audits are numbered sequentially *without* a number restart between the three types of audits (Earnings, Standard and Feature).



**GO TO ADJUSTMENTS MENU: FEATURE ADJUSTMENTS [ #1 - #+ ]**

Perform the below steps to review the adjustments. Enter the **SERVICE MENU**, then enter the **FEATURE ADJUSTMENTS MENU**. For adjustment definitions or summary, review the **Adjustments Section (GO TO ADJUSTMENTS MENU)**. See **Utilities Section (GO TO INSTALLS MENU)**, to easily change all adjustments required depending on the Install Type (Easy, Hard, 5-Ball, Home Play, etc.) desired.

**Step 1** Press [ **SELECT** ]. Press [ **BACK** ] to exit or escape at any time.

**Step 2** Press [ **>** ]. Go to the "ADJ" Icon. Press [ **SELECT** ].



**Step 3** Press [ **>** ]. Go to the "GAME" Icon. Press [ **SELECT** ].

**Step 4** **FEATURE ADJUSTMENT #1** appears with the Adjustment Name [ **FEATURE ADJ. NAME** ] flashing. With the Adjustment Name flashing, press [ **<** ] [ **>** ] to move between adjustments.

**Step 5** To change the Adjustment Setting, press [ **SELECT** ]. With the Adjustment Setting flashing, press [ **<** ] [ **>** ] repeatedly until the desired setting appears. Press the [ **SELECT** ] to "install" the change. The Adjustment Comment (bottom text line) will indicate [ **INSTALLED/FACTORY DEFAULT** ], if the Factory Default Setting is selected or [ **INSTALLED** ] if the change is not the Factory Default Setting.

Feature Adjustments are subject to change (with or without notice). View **Feature Adjustments on the Dot Display only**. Use the **Installs Menu** (via the **UTILITIES MENU**) to automatically change a select group of Feature Adjustments (see the **Utilities Section**) or adjust them one-by-one.