

featuring our Portable Service Menu
and our unique

**Find-It-In-Front:
Dr. Pinball Section**



NEW YEAR'S PINBALL CHALLENGE

SEGA™
PINBALL, INC.

11th
ANNIVERSARY

LOST IN SPACE



FLIPPERSPILL.COM

SEGA

WARNING

Joe Blackwell
Technical Support
Manager



Eric Winston
Technical Support
Engineer



Doug Lemons
Technical Support
Engineer



Jay Alfer
Technical Support
Documentation
Administrator

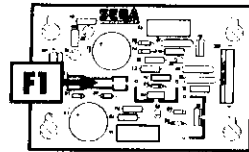


This is a Sample Game Manual. At time of printing, some technical information, schematics and/or drawings may not have been included. Call 1-800-542-5377 (USA & Canada) or 1-708-345-7700 for Technical Support and/or Information.

Sega Pinball, Inc. TM & © 1998.
All Rights Reserved. ③

SPI PN^o: 780-5060-SP

BACKBOX LAYOUT LOCATIONS: Fuses, Bridges, Relays & ROMs



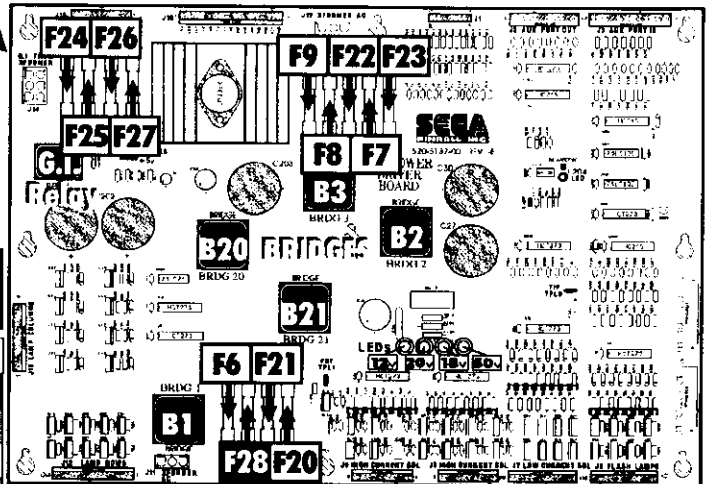
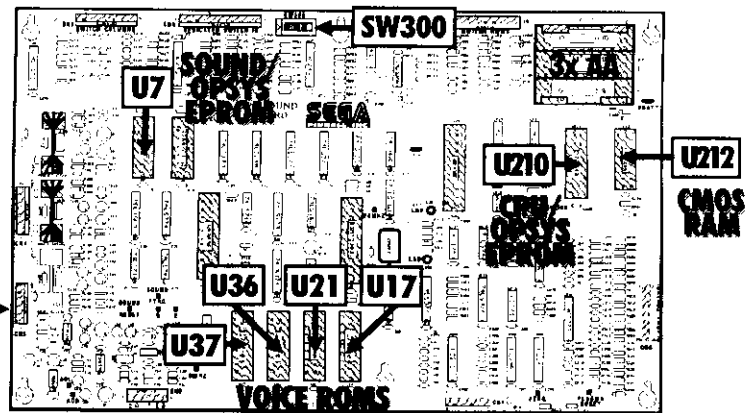
Display Power Supply Bd.

CPU / Sound Board
No Fuses

I/O Power Driver Board

*** All BRIDGES rated 35A @ 100v ***

B1	+50v DC High Current Coils
B2	+20v DC Low Current Coils
B3	+/- 12v DC Sound/Display/Logic
B20	+18v DC Illumination
B21	+5v DC Logic Voltage



CAUTION: For continued protection against risk of fire, replace only with same type of fuse having the same electrical rating!

QUICK REFERENCE FUSE CHART

Backbox Fuses

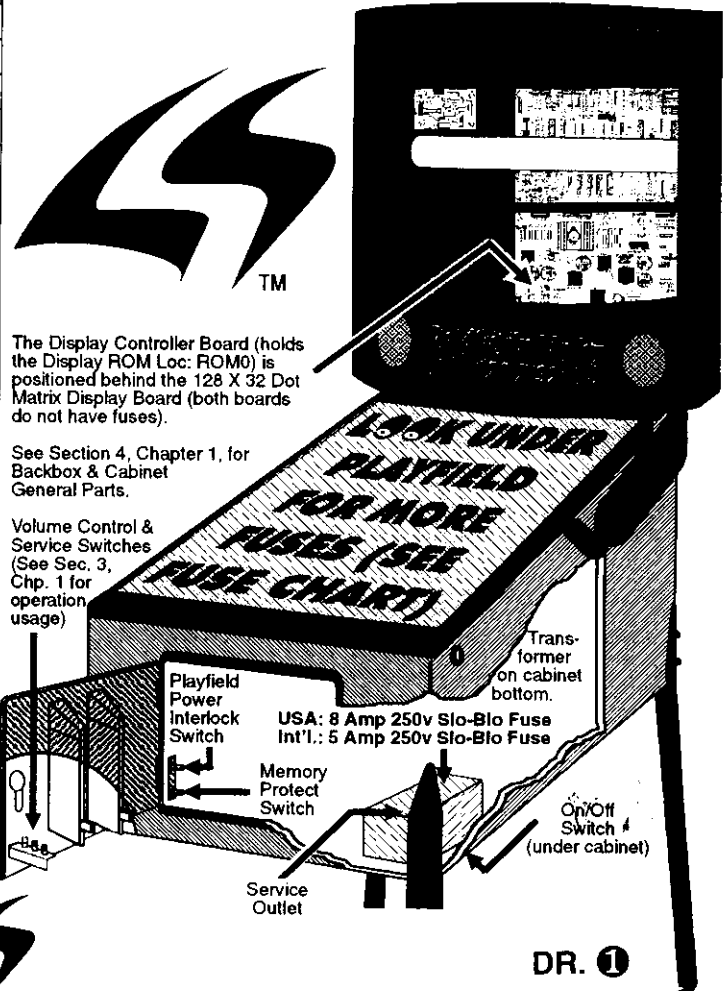
F1	3/4A 250v S.B.	90v DC	High Voltage Display
F6	7A 250v S.B.	50v DC	Primary High Power Coils/Flippers
F7	5A 250v S.B.	20v DC	Low Power Coils
F8	5A 250v S.B.	12v DC	Logic Power
F9	5A 250v S.B.	12v DC	Logic Power
F20	3A 250v S.B.	50v DC	Magnets
F21	3A 250v S.B.	50v DC	Coils
F22	8A 250v S.B.	18v DC	Controlled Lamps
F23	4A 250v S.B.	5v DC	Logic
F24	5A 250v S.B.	6.3v AC	G.I. Lamps (BRN-WHT to WHT-BRN)
F25	5A 250v S.B.	6.3v AC	G.I. Lamps (YEL to WHT-YEL)
F26	5A 250v S.B.	6.3v AC	G.I. Lamps (GRN to WHT-GRN)
F27	5A 250v S.B.	6.3v AC	G.I. Lamps (VIO to WHT-VIO)
F28	3A 250v S.B.	24v AC	Not Used / Spare

Cabinet Fuses

n/a	8A 250v S.B.	115v AC	Main Fuse Line (Domestic or USA)
n/a	5A 250v S.B.	220v AC	Main Fuse Line (International)

Game Playfield Fuses

n/a	3A 250v S.B.	50v DC	Rt. Flipper (BLU-YEL↔RED-YEL)
n/a	3A 250v S.B.	50v DC	Lt. Flipper (GRY-YEL↔RED-YEL)
n/a	3A 250v S.B.	50v DC	Top Left Magnet (VIO-YEL↔BLK)
n/a	3A 250v S.B.	50v DC	Top Right Magnet (VIO-YEL↔BLK)
n/a	3A 250v S.B.	50v DC	Motor Magnet (VIO-YEL↔BLK)



The Display Controller Board (holds the Display ROM Loc: ROM0) is positioned behind the 128 X 32 Dot Matrix Display Board (both boards do not have fuses).

See Section 4, Chapter 1, for Backbox & Cabinet General Parts.

Volume Control & Service Switches (See Sec. 3, Chp. 1 for operation usage)

Transformer on cabinet bottom.

USA: 8 Amp 250v Slo-Blo Fuse
Int'l: 5 Amp 250v Slo-Blo Fuse

Service Outlet

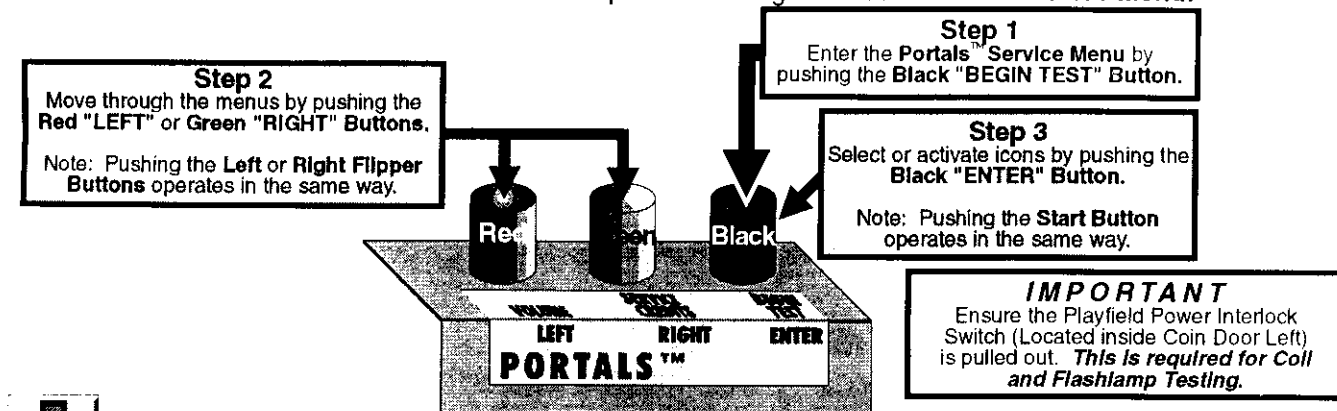
On/Off Switch (under cabinet)



Find-It-In-Front:
Dr. Pinball

* FIND-IT-IN-FRONT: DR. PINBALL SECTION EXPLAINED *

The key technical data from various parts of the manual were extracted and combined into the "Find-It-In-Front: Dr. Pinball Section." This section (pages DR. ① - ⑩) will assist the technician in locating important technical information needed to troubleshoot the Pinball Machine. Dr. Pinball is also available on the game in the **Portals™ Service Menu**. This variation is in a Flow Chart Help Format. To get into the **Portals™ Service Menu**:



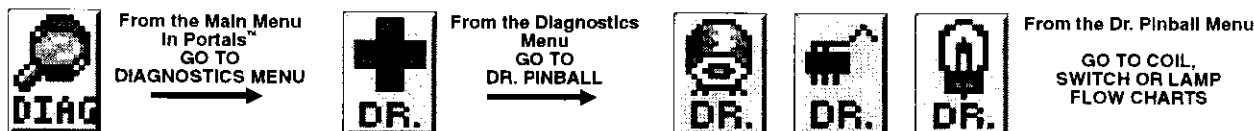
In our **Portals™ Service Menu**, selecting the "DR." *Icon* will bring the operator/technician into **Dr. Pinball** (Flow Chart Menus), the "on-screen" diagnostic aide. This is a feature that will allow you to utilize the power of the micro-processor assisting in troubleshooting a problem with the machine in a Flow Chart format (*Just follow along & answer the questions.*).

★ ★ ★ ★ HOW IT WORKS ★ ★ ★ ★

First, the operator/technician must enter the Service Mode (for a complete description of the **Portals™ Service Menu** and **ICONS** see Section 3, Chapter 1). To get into the Service Menu Mode: • Power-up game (if not already) & open the Coin Door. • On the Coin Door is the **Portals™ Service Switch Set (Red, Green & Black Buttons)**. Push down the **Black "BEGIN TEST" Button**. Looking at the Video Display you will momentarily see the introductory screen "Service Menu" with a satellite flying from right to left pulling a banner "**Portals™ © SEGA PINBALL, INC.,**" followed by the **MAIN MENU**.

While in the **MAIN MENU**, select the "DIAG" *Icon*, then select the Cross "DR." *Icon*. This will bring you (the operator / technician) into **DR. PINBALL** (Flow Chart Menus) which offers you a choice of three (3) Sub-Menus: Coil "DR.," Switch "DR." and Lamp "DR." *Icons*. Selecting a particular sub-menu will give you a choice of which specific Flipper, Coil, Switch or Lamp circuit needs to be diagnosed. The display will now ask a question or give a procedure to follow such as "Does the lamp turn on?" or "Check bridge rectifier BR-20, if short replace." When Dr. Pinball asks a question or request a procedure the Dr. will expect a response such as "no" or "yes" (see below examples of the *Mini-Icons* which will prompt the operator). You the operator/technician must respond by using your **Flipper Buttons** to "SELECT" a *Mini-Icon* and the **Start Button** to "ENTER" your selection.

Note: The "Portals" service switches located on the coin door can also be used to select and enter *Mini-Icons*. In switch test this is required since flipper and start switches are part of the test.



The following are the *Mini-Icons* with explanations for the Dr. Pinball Sub-Menus:



Select a Coil, Lamp, Switch or Flipper to diagnose with "-" or "+" *Icon*; Then select the "RUN" *Icon* to activate the choice. "PREV" goes back to previous question. "QUIT" exits Portals completely.



Seen when question is being asked on the Display. Select "YES" or "NO" to answer question given. "END" lets you select a new item to test.



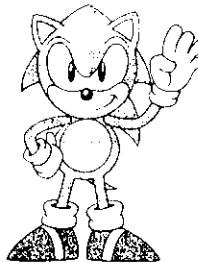
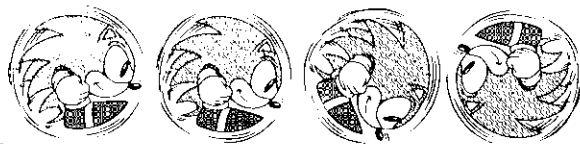
Seen when diagnosis is given. Select any *Icon* for your next step. "?" gives Help.



In Coil Flow Chart Menu, select "PULSE" to pulse the coil selected.



INSTALL 4 BALLS!



is a 4-Ball™ Game!

* DIAGNOSTIC AIDS *

The *display reads* "OPERATOR ALERT..." — A message displayed during Game Mode or Power-Up to alert the operator of a problem.

OPERATOR ALERT works by monitoring any *switch activated coil* that has the potential to trap a ball when disabled (e.g. in the Auto Launch, Scoop, Eject, etc.). If this assembly has a closed switch indicating a ball is stuck or the switch is *stuck closed*, the CPU Board will activate the coil ten times. If the switch remains closed, the game will display a message indicating there is a problem (e.g. "OPERATOR ALERT AUTO LAUNCH NOT WORKING"). This not only warns the operator of a problem immediately, but indicates exactly where the operator should look to resolve it.

The *display flashes* "OPEN THE COIN DOOR" — This indicates that CMOS RAM memory (CPU Loc. U212) has been corrupted.

This is caused by either failure in memory (e.g. batteries are dead or faulty RAM) or upon installation of updated version of code. Opening the Coin Door will initiate a Factory Restore, by opening the Memory Protect Switch. Check battery voltage at CMOS RAM with power off.

CPU DIP SWITCH SETTINGS, LOC. SW300 CPU/SOUND BOARD CUSTOM FACTORY ADJUSTMENTS BY COUNTRY*

CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 USA * ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 FRANCE ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 NORWAY ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []
CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 AUSTRIA ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 GERMANY ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 SWEDEN ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []
CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 BELGIUM ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 ITALY ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 SWITZERLAND ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []
CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 BRAZIL ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 JAPAN ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 UK ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []
CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 CANADA ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 NETHERLANDS (Holland / Dutch) ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []	CPU COUNTRY SETTING: Pos. 1 2 3 4 5 6 7 8 UK (New 50p, 2£ Coin Mech) ON: [X] [X] [X] [X] [X] [X] [X] [X] OFF: [] [] [] [] [] [] [] []

*All countries not noted use the "USA Setting"

ROM SUMMARY TABLE

I.C. NAME	TYPE	BOARD NAME	LOC.	PART N°
Game ROM	1MB	CPU / Sound Board	U210	965-0282-60
Voice ROM 1	4MB	CPU / Sound Board	U17	965-0283-60
Voice ROM 2	4MB	CPU / Sound Board	U21	965-0284-60
Voice ROM 3	4MB	CPU / Sound Board	U36	965-0285-60
Voice ROM 4	4MB	CPU / Sound Board	U37	965-0286-60
Sound EPROM	512K	CPU / Sound Board	U7	965-0287-60
Display EPROM	4MB	Display Controller Bd.	ROM Ø	965-0288-60
Display EPROM	Not Used	Display Controller Bd.	ROM 3	Not Used

FOR:



Find-It-In-Front:
Dr. Pinball



DR. ③



From the Main Menu
In Portals™
GO TO DIAGNOSTICS
MENU



From the Diagnostics
Menu
GO TO SWITCH
MENU



From the Switch
Menu
GO TO SWITCH OR
ACTIVE SWITCH TEST



From the Switch
Menu
GO TO DEDICATED
SWITCH TEST

SWITCH MATRIX GRID & DEDICATED SWITCHES

Diods On Terminal Strip									GND	
Column (Drive)	1: Q1	2: Q2	3: Q3	4: Q4	5: Q5	6: Q6	7: Q7	8: Q8	IC U206 INPUTS	Ground BLK CN6-P11
Row (Return)	GRN-BRN CN5-P1	GRN-RED CN5-P3	GRN-ORG CN5-P4	GRN-YEL CN5-P5	GRN-BLK CN5-P6	GRN-BLU CN6-P7	GRN-VIO CN5-P8	GRN-GRY CN5-P9		
1: U400 WHT-BRN CN7-P9	LEFT BUTTON (UK ONLY) 1	NOT USED 9	GREEN 3-BANK TOP 17	RED 3-BANK LT 25	YELLOW 3-BANK TOP 33	UTROUGH: POP EXIT HOLE 41	LEFT SPINNER 49	LEFT OUTLANE 57	1: U206 GRY-BRN CN6-P2	#1 LEFT FLIPPER BUTTON in Cabinet side DS-1
2: U400 WHT-RED CN7-P8	4TH COIN SLOT on Coin Door 2	NOT USED 10	GREEN 3-BANK MID 18	RED 3-BANK MID 26	YELLOW 3-BANK MID 34	NOT USED 42	RIGHT SPINNER 50	LEFT RETURN LANE 58	2: U206 GRY-RED CN6-P3	#2 LEFT FLIPPER E.O.S (End-of-Stroke) in Cabinet side DS-2
3: U400 WHT-ORG CN7-P7	6TH COIN SLOT on Coin Door 3	4-BALL TROUGH #1 (LEFT) Under F/F 11	GREEN 3-BANK BOT 19	RED 3-BANK RT 27	YELLOW 3-BANK BOT 35	NOT USED 43	LEFT ORBIT Under F/F 51	LEFT SLINGSHOT 59	3: U206 GRY-ORG CN6-P4	#3 RIGHT FLIPPER BUTTON in Cabinet side DS-3
4: U400 WHT-YEL CN7-P6	RIGHT COIN SLOT on Coin Door 4	4-BALL TROUGH #2 Under F/F 12	LEFT RAMP ENTER 20	NOT USED 28	TOP LT TURBO BUMPER Under F/F 36	NOT USED 44	RIGHT ORBIT Under F/F 52	RIGHT OUTLANE 60	4: U206 GRY-YEL CN6-P6	#4 RIGHT FLIPPER E.O.S (End-of-Stroke) in Cabinet side DS-4
5: U401 WHT-GRN CN7-P5	CENTER COIN SLOT / DBA on Coin Door 5	4-BALL TROUGH #3 Under F/F 13	LEFT RAMP EXIT Above F/F 21	NOT USED 29	TOP RT TURBO BUMPER Under F/F 37	UTROUGH: ROBOT Center F/F 45	LAUNCH BUTTON Cabinet Front 53	RIGHT RETURN LANE 61	NOT USED	NOT USED DS-5
6: U401 WHT-BLU CN7-P3	LEFT COIN SLOT on Coin Door 6	4-BALL TROUGH VUK OPTO Under F/F 14	NOT USED 22	LEFT TOP LANE Under F/F 30	BOT LT TURBO BUMPER Under F/F 38	CENTER SUPER VUK Under F/F 46	START BUTTON Cabinet Front 54	RIGHT SLINGSHOT 62	6: U206 GRY-BLU CN6-P8	#6 VOLUME (RED BUTTON) (In Test: LEFT) on Coin Door DS-6
7: U401 WHT-VIO CN7-P2	5TH COIN SLOT on Coin Door 7	4-BALL STACKING OPTO Under F/F 15	NOT USED 23	MIDDLE TOP LANE Under F/F 31	BOT CTR TURBO BUMPER Under F/F 39	TOP RT VUK Under F/F 47	SLAM TILT On Coin Door 55		7: U206 GRY-VIO CN6-P9	#7 SERV. CRED. (GREEN BUTTON) (In Test: RIGHT) on Coin Door DS-7
8: U401 WHT-GRY CN7-P1	RIGHT BUTTON (UK ONLY) 8	SHOOTER LANE Under F/F 16	NOT USED 24	RIGHT TOP LANE Under F/F 32	BOT RT TURBO BUMPER Under F/F 40	BOT RT SUPER VUK Under F/F 48	PLUMB BOB TILT Inside Cabinet 56		8: U206 GRY-BLK CN6-P10	#8 BEGIN TEST (BLACK BUTTON) (In Test: ENTER) on Coin Door DS-8



From the Diagnostics
Menu
GO TO LAMP
MENU



From the Lamp
Menu
GO TO SINGLE
LAMP TEST



From the Lamp
Menu
GO TO TEST
ALL LAMPS



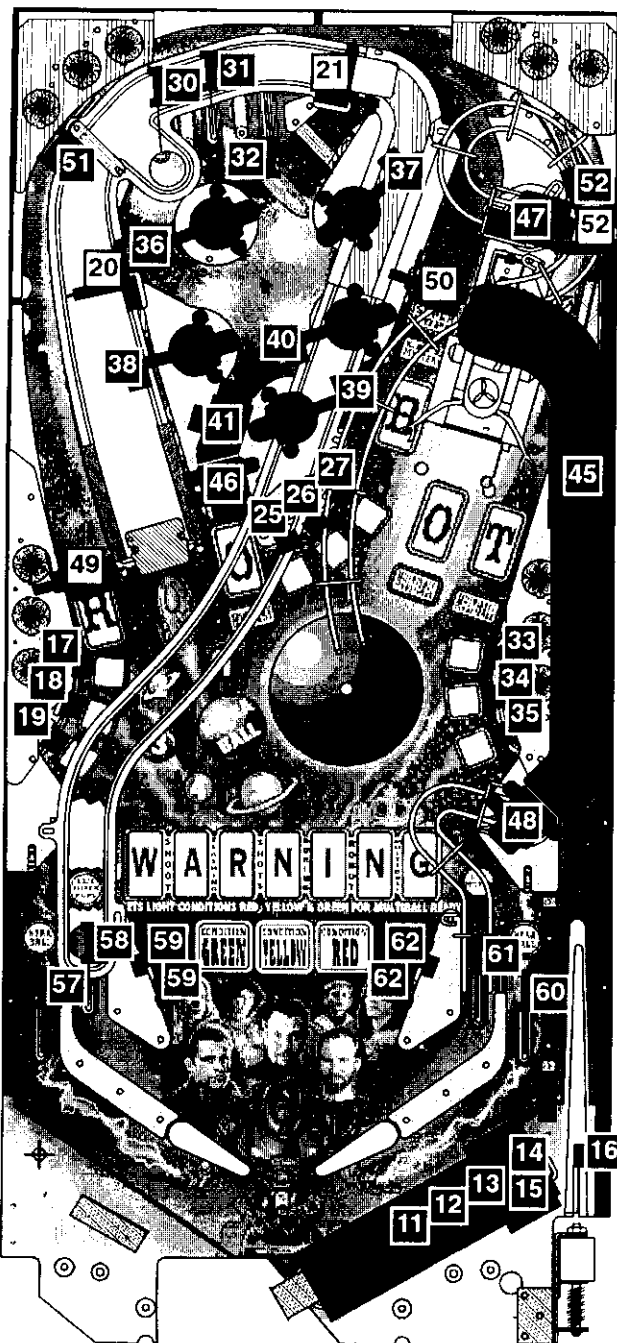
From the Lamp
Menu
GO TO ROW OR
COLUMN TEST

LAMP MATRIX GRID

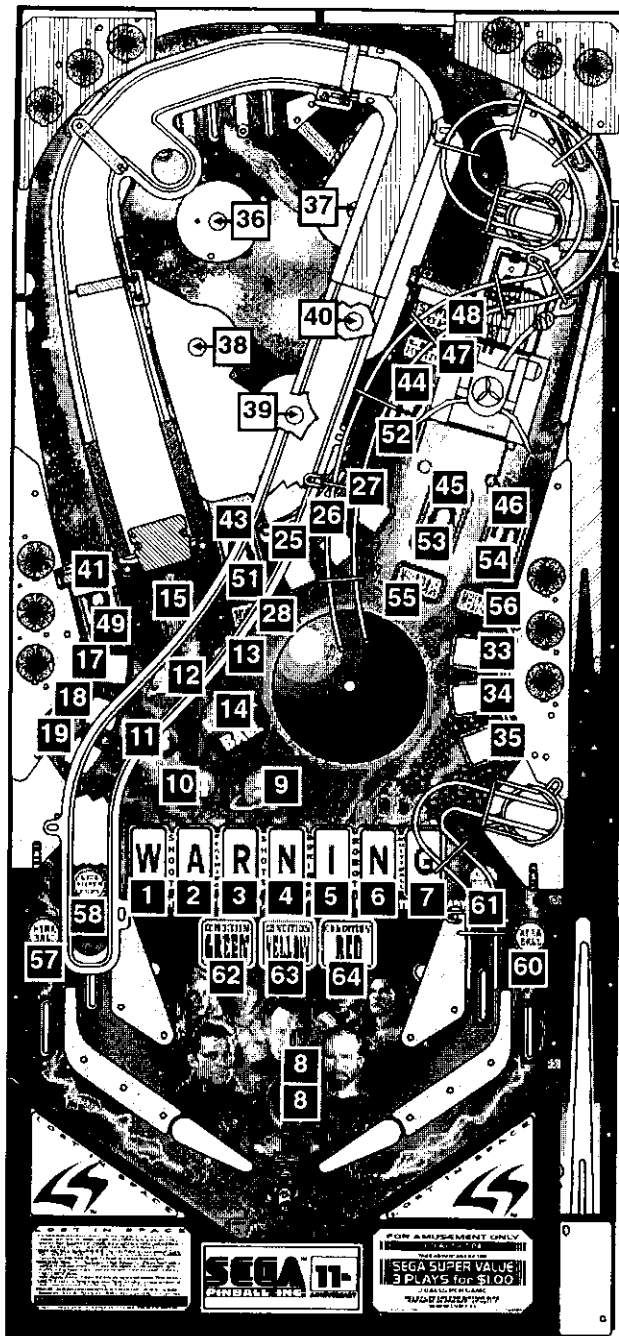
Diods On Terminal Strip								
Column (18v)	1: U17	2: U16	3: U15	4: U14	5: U13	6: U12	7: U11	8: U10
Row (GND)	YEL-BRN J13-P9	YEL-RED J13-P8	YEL-ORG J13-P7	YEL-BLK J13-P6	YEL-GRN J13-P5	YEL-BLU J13-P4	YEL-VIO J13-P3	YEL-GRY J13-P1
1: Q33 RED-BRN J12-P1	(W) ARNING #555 Bulb 1	W (A) RNING #555 Bulb 2	WA (R) NING #555 Bulb 3	WAR (N) ING #555 Bulb 4	WARN (I) NG #555 Bulb 5	WARNI (N) G #555 Bulb 6	WARNIN (G) #555 Bulb 7	SHOOT AGAIN #555 Bulb 8
2: Q34 RED-BLK J12-P2	PLANET 5 #555 Bulb 9	PLANET 4 #555 Bulb 10	PLANET 3 #555 Bulb 11	PLANET 2 #555 Bulb 12	PLANET 1 #555 Bulb 13	EXTRA BALL #555 Bulb 14	JUPITER SPACESHIP # Bulb 15	LAUNCH BUTTON #555 Bulb 16
3: Q35 RED-ORG J12-P3	GREEN 3-BANK TOP #555 Bulb 17	GREEN 3-BANK MID #555 Bulb 18	GREEN 3-BANK BOT #555 Bulb 19					
4: Q36 RED-YEL J12-P4	RED 3-BANK LT #555 Bulb 25	RED 3-BANK MID #555 Bulb 26	RED 3-BANK RT #555 Bulb 27	MYSTERY #555 Bulb 28				
5: Q37 RED-GRN J12-P5	YELLOW 3-BANK TOP #555 Bulb 33	YELLOW 3-BANK MID #555 Bulb 34	YELLOW 3-BANK BOT #555 Bulb 35	TOP LT TURBO BUMPER #555 Bulb 36	TOP RT TURBO BUMPER #555 Bulb 37	BOT LT TURBO BUMPER #555 Bulb 38	BOT CTR TURBO BUMPER #555 Bulb 39	BOT RT TURBO BUMPER #555 Bulb 40
6: Q38 RED-BLU J12-P6	(R) OBOT (RED) #555 Bulb 41		R (O) BOT (RED) #555 Bulb 43	RO (B) OT (RED) #555 Bulb 44	ROB (O) T (RED) #555 Bulb 45	ROBO (T) (RED) #555 Bulb 46	LITE MYSTERY (SPINNER) #555 Bulb 47	SUPER POPS #555 Bulb 48
7: Q39 RED-VIO J12-P8	(R) OBOT (GRN) #555 Bulb 49		R (O) BOT (GRN) #555 Bulb 51	RO (B) OT (GRN) #555 Bulb 52	ROB (O) T (GRN) #555 Bulb 53	ROBO (T) (GRN) #555 Bulb 54	ROBOT MULTIBALL #555 Bulb 55	CONDITION RED MBALL #555 Bulb 56
8: Q40 RED-GRY J12-P9	SPECIAL (LT) #555 Bulb 57	LEFT RE-TURN LANE #555 Bulb 58		SPECIAL (RT) #555 Bulb 60	RIGHT RE-TURN LANE #555 Bulb 61	CONDITION GREEN #555 Bulb 62	CONDITION YELLOW #555 Bulb 63	CONDITION RED #555 Bulb 64
NOT USED								
NOT USED								



SWITCH MATRIX GRID LOCATIONS

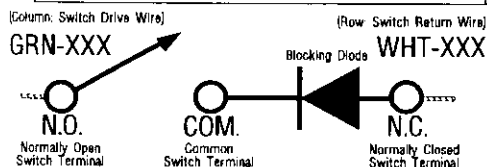


LAMP MATRIX GRID LOCATIONS

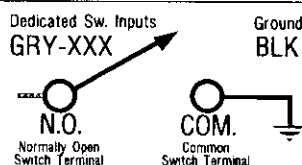


Legend Note: = Switches/Lamps mounted above playfield. = Switches/Lamps mounted below the playfield.

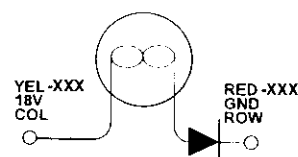
TYPICAL SWITCH SCHEMATIC



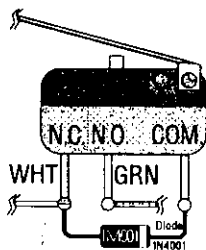
DEDICATED SWITCH SCHEMATIC



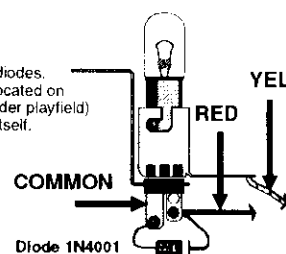
TYPICAL LAMP SCHEMATIC



Note:
All Switches require diodes.
Some diodes are located on
Terminal Strips (under playfield)
& not on the switch itself.
D iode
O n
T ermi-
S trip



Note:
All Lamps require diodes.
Some diodes are located on
Terminal Strips (under playfield)
& not on the lamp itself.
D iode
O n
T ermi-
S trip



Find-It-In-Front:
Dr. Pinball



DR. 6



From the Main Menu
In Portals
GO TO DIAGNOSTICS
MENU



From the Diagnostics
Menu
GO TO COIL
MENU



From the Coil
Menu
GO TO COIL
TEST



From the Coil
Menu
GO TO CYCLING
COILS

COILS DETAILED CHART TABLE

High Current Coils Group 1	Drive Transistor (D.T.)	Driver Output Board	D.T. Control Line Color	D.T. Control Line Connect	Power Line Color	Power Line Connection	Power Voltage	Coil GA/Turn
#1 TROUGH UP-KICKER	Q1	I/O Pwr. Drvr.	BRN-BLK	J8-P1	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#2 AUTO LAUNCH	Q2	I/O Pwr. Drvr.	BRN-RED	J8-P3	YEL-VIO	J10-P4/5	50v DC	24-940 090-5038-00B
#3 TOP RT VUK	Q3	I/O Pwr. Drvr.	BRN-ORG	J8-P4	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#4 BOT RT SUPER VUK	Q4	I/O Pwr. Drvr.	BRY-YEL	J8-P5	YEL-VIO	J10-P4/5	50v DC	23-800 090-5001-00B
#5 TOP LEFT MAGNET	Q5	I/O Pwr. Drvr.	BRN-GRN	J8-P6	VIO-YEL	J10-P3	50v DC	22-650 090-5042-01
#6 LEFT SUPER VUK	Q6	I/O Pwr. Drvr.	BRN-BLU	J8-P7	YEL-VIO	J10-P4/5	50v DC	23-800 090-5001-00b
#7 TOP RIGHT MAGNET	Q7	I/O Pwr. Drvr.	BRN-VIO	J8-P8	VIO-YEL	J10-P3	50v DC	22-650 090-5042-01
#8 EUROPEAN TOKEN DISPENSER	Q8	I/O Pwr. Drvr.	BRN-GRY	J8-P9	YEL-VIO	J10-P4/5	50v DC	DL4SS 515-6078-01

High Current Coils Group 2	Drive Transistor (D.T.)	Driver Output Board	D.T. Control Line Color	D.T. Control Line Connect	Power Line Color	Power Line Connection	Power Voltage	Coil GA/Turn
#9 BOT LT TURBO BUMPER	Q9	I/O Pwr. Drvr.	BLU-BRN	J9-P1	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#10 BOT CTR TURBO BUMPER	Q10	I/O Pwr. Drvr.	BLU-RED	J9-P2	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#11 BOT RT TURBO BUMPER	Q11	I/O Pwr. Drvr.	BLU-ORG	J9-P4	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#12 TOP LT TURBO BUMPER	Q12	I/O Pwr. Drvr.	BLU-YEL	J9-P5	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#13 TOP RT TURBO BUMPER	Q13	I/O Pwr. Drvr.	BLU-GRN	J9-P6	YEL-VIO	J10-P4/5	50v DC	26-1200 090-5044-00T
#14 DISC MAGNET	Q14	I/O Pwr. Drvr.	BLU-BLK	J9-P7	VIO-YEL	J10-P3	50v DC	22-650 090-5042-01
#15 LEFT FLIPPER (50v RED/YEL)	Q15	I/O Pwr. Drvr.	ORG-GRY	J9-P8	RED-YEL GRY-YEL	J10-P1/2	50v DC	23-1100 090-5030-00T
#16 RIGHT FLIPPER (50v RED/YEL)	Q16	I/O Pwr. Drvr.	ORG-VIO	J9-P9	RED-YEL BLU-YEL	J10-P1/2	50v DC	22-1080 090-5032-00T

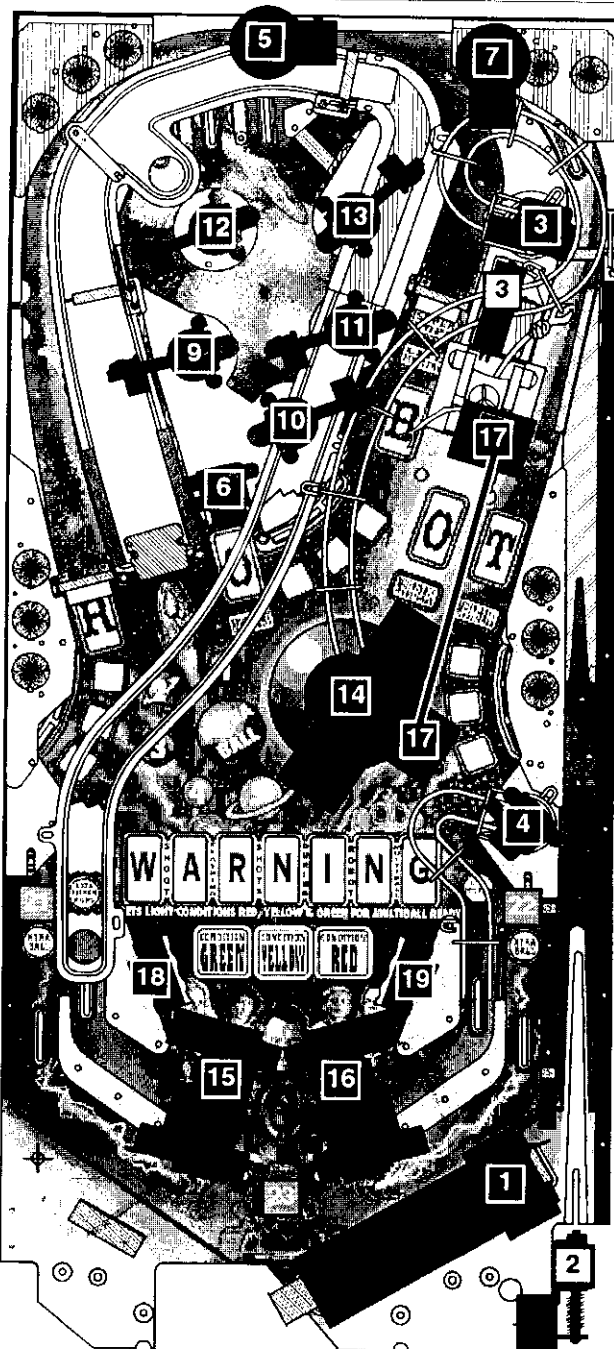
Low Current Coils Group 1	Drive Transistor (D.T.)	Driver Output Board	D.T. Control Line Color	D.T. Control Line Connect	Power Line Color	Power Line Connection	Power Voltage	Coil GA/Turn or Meter #
#17 DISC MOTOR RELAY	Q17	I/O Pwr. Drvr.	VIO-BRN	J7-P2	BRN	J7-P1	20v DC	Relay Bd. 520-5010-00
#18 LEFT SLINGSHOT	Q18	I/O Pwr. Drvr.	VIO-RED	J7-P3	BRN	J7-P1	20v DC	23-800 090-5001-00T
#19 RIGHT SLINGSHOT	Q19	I/O Pwr. Drvr.	VIO-ORG	J7-P4	BRN	J7-P1	20v DC	23-800 090-5001-00T
#20 ROBOT (SHAKER)	Q20	I/O Pwr. Drvr.	VIO-YEL	J7-P6	BRN	J7-P1	20v DC	28-1050 090-5046-00
#21 LT OUTLANE (UK ONLY)	Q21	I/O Pwr. Drvr.	VIO-GRN	J7-P7	BRN	J7-P1	20v DC	28-1050 090-5046-00
#22 RT OUTLANE (UK ONLY)	Q22	I/O Pwr. Drvr.	VIO-BLU	J7-P8	BRN	J7-P1	20v DC	28-1050 090-5046-00
#23 UP/DOWN POST (UK ONLY)	Q23	I/O Pwr. Drvr.	VIO-BLK	J7-P9	BRN	J7-P1	20v DC	23-1100 090-5030-00T
#24 OPTIONAL COIN METER	Q24	I/O Pwr. Drvr.	VIO-GRY	J7-P10	RED	J16-P7	5v DC	Meter 5v 091-5000-00

Drive On Terminal Strip and Output

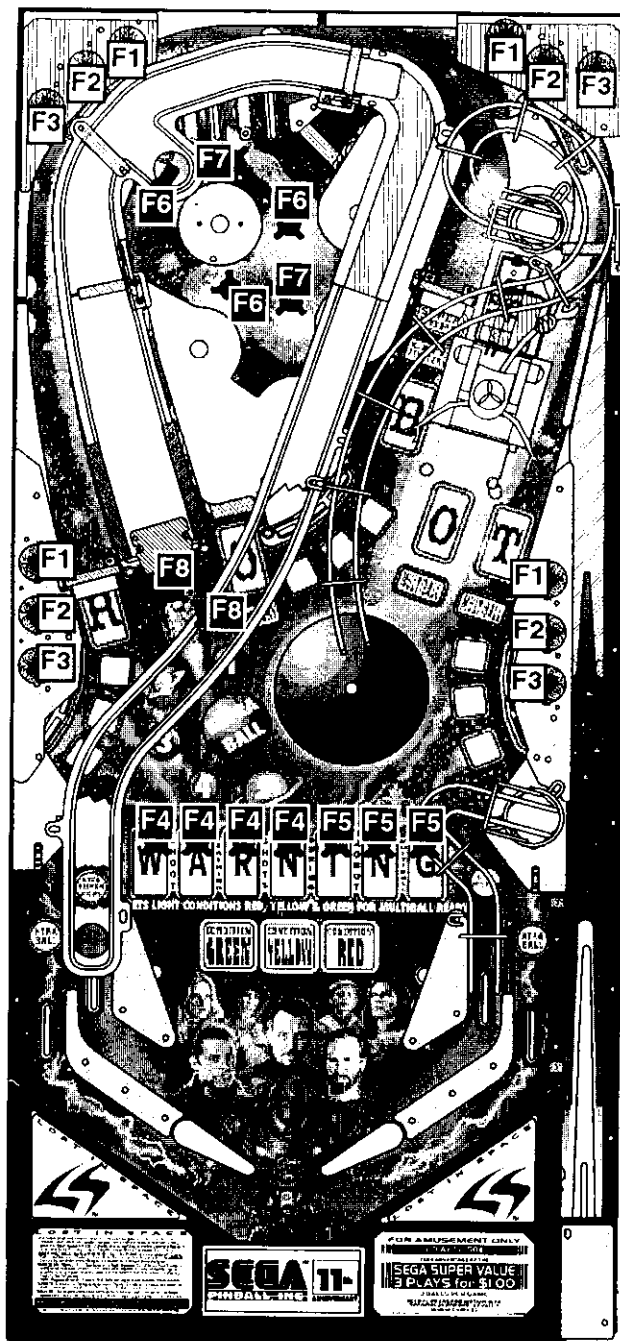
Flash Lamps (FLASH)	Drive Transistor (D.T.)	Driver Output Board	D.T. Control Line Color	D.T. Control Line Connect	Power Line Color	Power Line Connection	Power Voltage	Bulb Type
#F1 FLASH RED*4	Q25	I/O Pwr. Drvr.	BLK-BRN	J6-P1	ORG	J6-P10	20v DC	#906 Bulb 165-5004-00
#F2 FLASH YELLOW*4	Q26	I/O Pwr. Drvr.	BLK-RED	J6-P2	ORG	J6-P10	20v DC	#906 Bulb 165-5004-00
#F3 FLASH GREEN*4	Q27	I/O Pwr. Drvr.	BLK-ORG	J6-P3	ORG	J6-P10	20v DC	#906 Bulb 165-5004-00
#F4 FLASH (WARN) ING*4	Q28	I/O Pwr. Drvr.	BLK-YEL	J6-P4	ORG	J6-P10	20v DC	#89 Bulb 165-5000-89
#F5 FLASH WARN (ING)*3	Q29	I/O Pwr. Drvr.	BLK-GRN	J6-P5	ORG	J6-P10	20v DC	#89 Bulb 165-5000-89
#F6 FLASH POPS*3	Q30	I/O Pwr. Drvr.	BLK-BLU	J6-P6	ORG	J6-P10	20v DC	#89 Bulb 165-5000-89
#F7 FLASH POPS*2	Q31	I/O Pwr. Drvr.	BLK-VIO	J6-P7	ORG	J6-P10	20v DC	#89 Bulb 165-5000-89
#F8 FLASH RAMP*2	Q32	I/O Pwr. Drvr.	BLK-GRY	J6-P8	ORG	J6-P10	20v DC	#89 Bulb 165-5000-89



COIL LOCATIONS

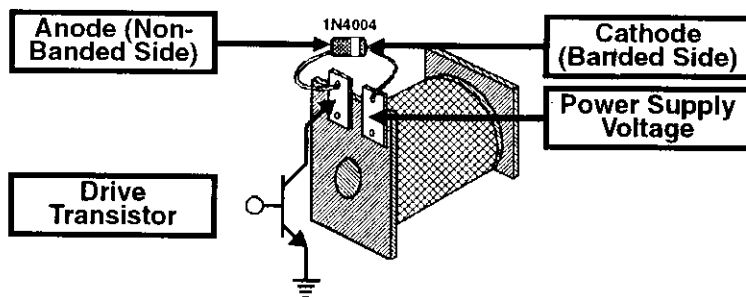


FLASH LAMP LOCATIONS



Legend Note: = Coils/Flashes mounted above playfield. = Coils/Flashes mounted below the playfield. = UK Optional

TYPICAL COIL WIRING



Note:
All Coils require diodes. Some diodes are located on Terminal Strips (under playfield) & not on the coil itself.

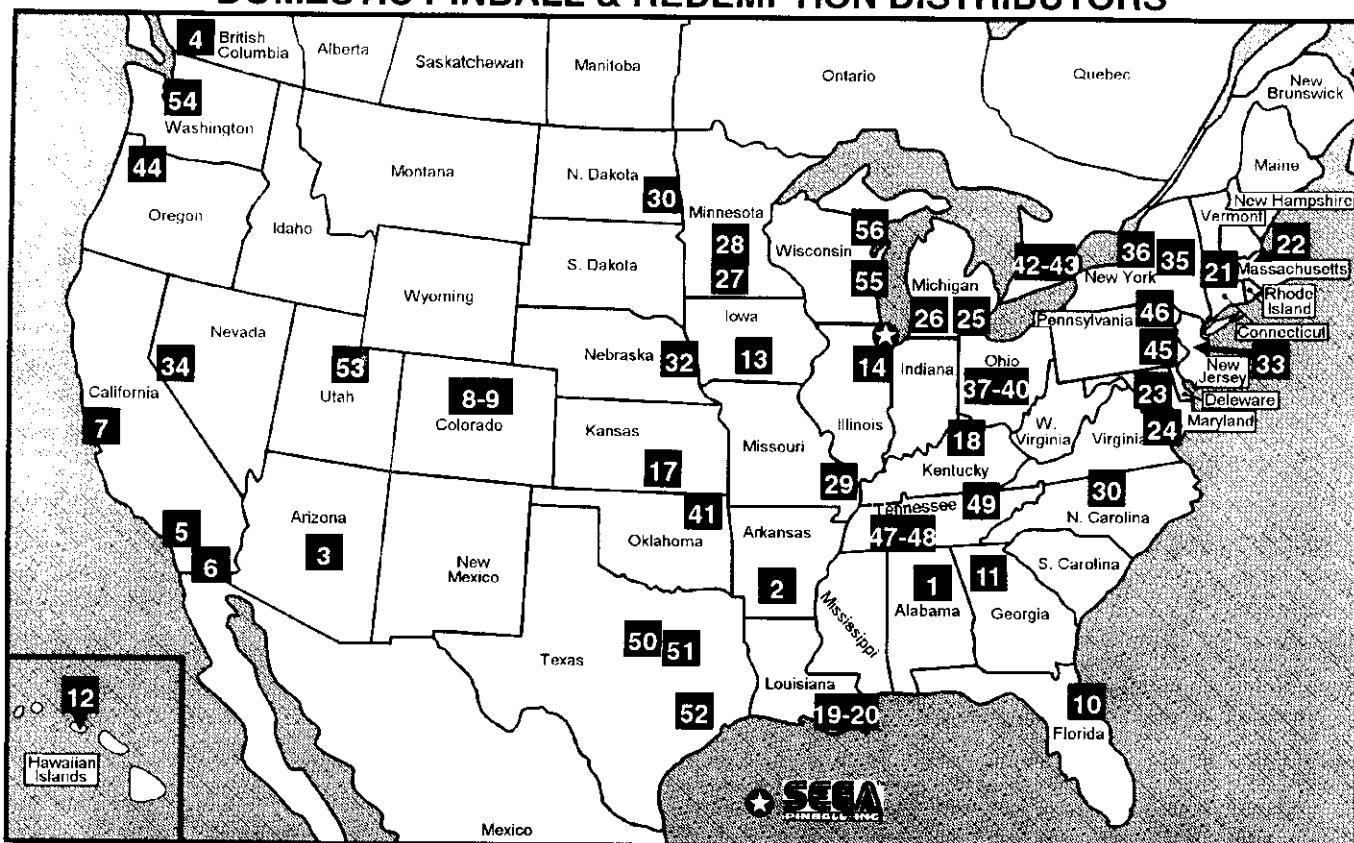
D iode
O n
T ermi-
S trip



Find-It-In-Front:
Dr. Pinball



DOMESTIC PINBALL & REDEMPTION DISTRIBUTORS



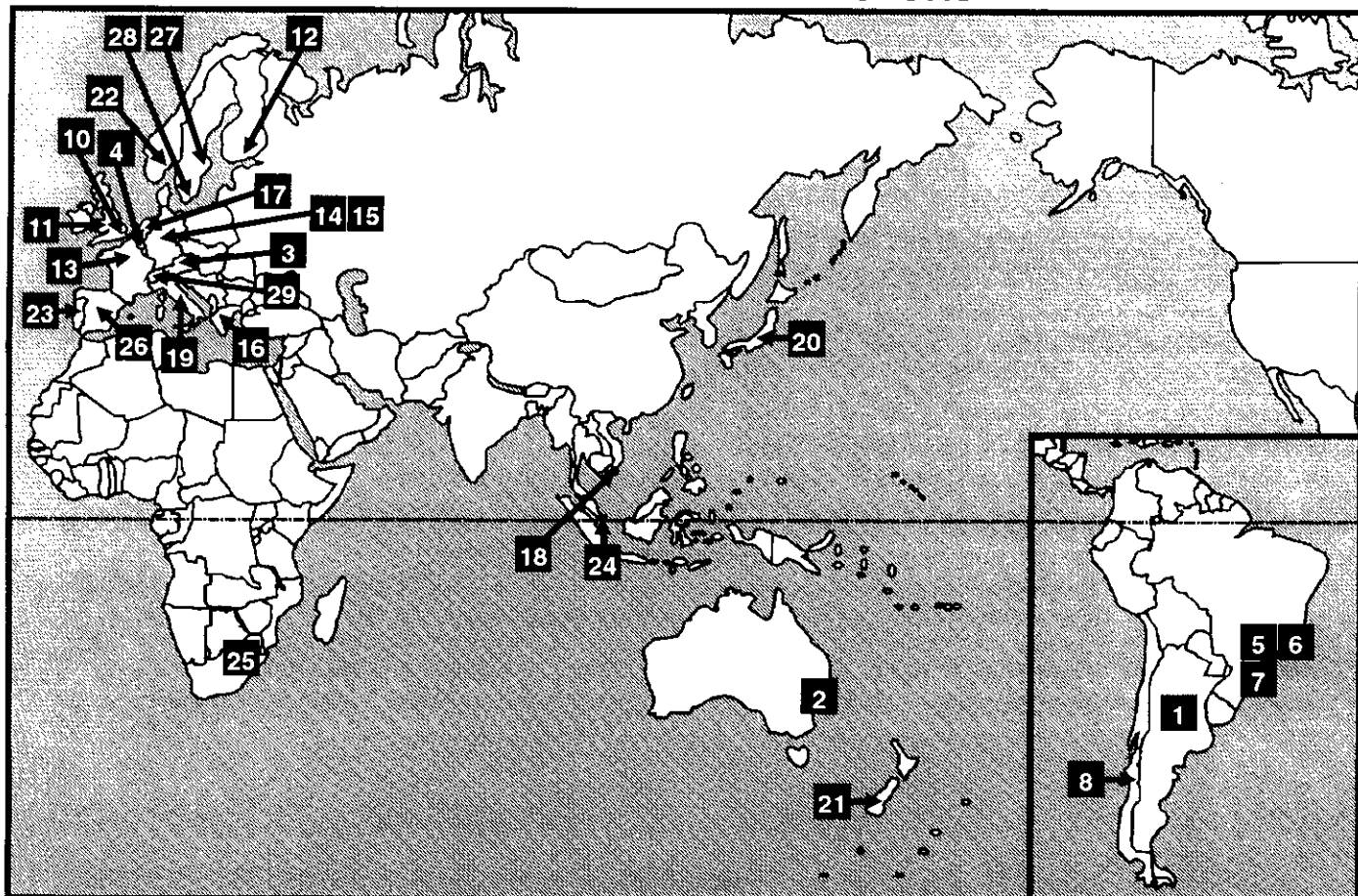
#	STATE/PROVINCE AND CITY	NAME	PHONE	#	STATE/PROVINCE AND CITY	NAME	PHONE
1	AL Birmingham	Birmingham Vending	205-324-7526	29	MO St. Louis	Shaffer Distributing, Co.	314-645-3393
2	AR N. Little Rock	Godwin Distributing	501-753-1138	30	NC Archdal	Operators Distributing	910-884-5714
3	AZ Phoenix	Betson West	602-233-0190	31	ND Fargo	M.H. Associates, Inc.	701-282-7877
4	BC Burnaby (Can.)	Can. Coin Machine	604-420-4008	32	NE Omaha	Greater American Dist.	402-553-2812
5	CA Buena Park	Betson West	714-228-7500	33	NJ Springfield	Mondial Int'l. Dist.	973-467-9700
6	CA San Diego	Betson West	619-459-0871	34	NV Reno	Reno Game Sales	702-829-2080
7	CA S. San Francisco	Betson West	415-952-4220	35	NY Garden City Park	T & M Distributing	516-747-0034
8	CO Denver	Col. Game Exchange	303-893-4300	36	NY Rochester	Mondial Dist.	716-586-1100
9	CO Denver	Mountain Coin	303-427-2133	37	OH Cincinnati	Atlas Distributing	513-771-1909
10	FL Orlando	Birmingham Vending	407-425-1505	38	OH Cleveland	Atlas Distributing	800-278-8282
11	GA Marietta	Game Exchange/SE, Inc.	770-594-7215	39	OH Columbus	Shaffer Distributing, Co.	614-421-6800
12	HI Ewa Beach	50th State Coin Op.	808-682-4561	40	OK Macedonia	Shaffer Distributing, Co.	330-467-4850
13	IA Des Moines	Greater American Dist.	515-244-2828	41	OK Tulsa	Galaxy Distributing, Co.	918-835-1166
14	IL Chicago	Atlas Distributing	773-276-5005	42	ON Rexdale (Can.)	New Way Sales	416-674-8000
15	IN Indianapolis	Atlas Distributing	317-786-6892	43	ON Toronto (Can.)	Starburst Coin Machines	416-251-2122
16	IN Indianapolis	Shaffer Distributing, Co.	317-899-2530	44	OR Portland	American Coin	503-233-7000
17	KS Wichita	United Distributors, Inc.	316-263-6181	45	PA Bensalem	Mondial Int'l. Dist.	215-638-1122
18	KY Louisville	Atlas Distributing	502-966-5266	46	PA Wilkes-Barre	Roth Novelty	717-824-9994
19	LA Metairie	AMA Distributors, Inc.	504-835-3232	47	PA Wilkes-Barre	Games Sales Co., Inc.	901-525-8351
20	LA Metairie	New Orleans Novelty	504-888-3500	48	TN Memphis	Green G.A.M.E.S.	901-353-1000
21	MA E. Long Meadow	Gekay Sales	413-525-2700	49	TN Nashville	Sammons-Pennington	615-244-3020
22	MA Norwood	Mondial Int'l. Dist.	781-769-9966	50	TX Corsicana	Master Sales	903-874-4740
23	MD Baltimore	State Sales	410-646-4100	51	TX Dallas	Commercial Music	214-741-6381
24	MD Baltimore	Weiner Distributing	410-525-2600	52	TX Houston	H.A. Franz, & Co.	713-523-7366
25	MI Redford	Atlas Distributing	313-794-4880	53	UT Salt Lake City	Struve Distributing	801-328-1636
26	MI Wyoming	Atlas Distributing	616-241-1472	54	WA Seattle	American Coin	206-764-9020
27	MN Bloomington	Hanson Distributing	612-884-6604	55	WI Green Bay	Pioneer Sales & Svc.	920-468-5200
28	MN Minneapolis	Sandler Vending	612-996-0010	56	WI Menomonee Falls	Pioneer Sales & Svc.	414-781-1420



For Parts and Service, call your local distributor. The numbered locations are general areas. View table and map for corresponding numbered distributor. If your state/province does not have a distributor, call the nearest state/province. Distributors and phone numbers are subject to change. Call Sega Pinball, Inc. Technical Support with any questions or if your distributor cannot help you, at 1-800-542-5377 (USA or Canada or elsewhere at 1-708-345-7700).



INTERNATIONAL DISTRIBUTORS



#	COUNTRY AND CITY	NAME	PHONE (-011)
1	Argentina, Urquiza	Florencia	54-232-5532
2	Australia, Matraville	Amusement Machine Dist.	61-29-316-6000
3	Austria, Grazerstrasse	Rupp Austria	43-34-528-6105
4	Belgium, Brussels	Splin S.A.	32-43-62-7677
5	Brazil, Sao Paulo	Parkland	55-11-792-42864
6		Unimax	55-11-533-5615
7		Universe	55-11-575-0731
8	Chile, Santiago	Cuinsa	56-2-696-0167
9	Chile, Santiago	Universe Electronics	56-2-235-7822
10		Electrocoin	44-181-965-2055
11	So. Wales, Cardiff	Electrocoin	44-22-261-5100
12	Finland, Espoo	Pelika Ray Oy	35-8-943-7091
13	France, Aubervilliers	PLF Sa	33-14-811-3131
14	Germany, Berlin	Bally Wulff	49-3-062-0020
15	Germany, Hannover	Bally Wulff	49-511-358-5343

#	COUNTRY AND CITY	NAME	PHONE (-011)
16	Greece, Athens	Greece Coin	30-1-554-1608
17	Holland, Sittart	Veltmeijer Automaten	31-46-452-6444
18	Hong Kong, Kwai Fong	Bondeal Limited	85-2-487-9089
19	Italy (RSM), Serravalle	Technoplay Sa	39-54-990-0361
20	Japan, Tokyo	Data East, Corp.	81-35-370-0708
21	New Zealand, Auckland	Amco Machine Supp.	64-9-846-7606
22	Norway, Oslo	Vendcomatic	47-2-216-0830
23	Portugal, Amadora	Jacinto & Martins	35-11-495-1868
24	Singapore, Singapore	Valibel Technologies	65-748-8404
25	South Africa, Lalucia	Unimac	27-3-152-5544
26	Spain, Madrid	Sente S.A.	34-1-541-7112
27	Sweden, Bromma	Axlon	46-8-704-6580
28	Sweden, Malmo	Truemax AB	46-40-153-635
29	Switzerland, Harkingen	Novomat Ag	41-62-398-4061



For Parts and Service, call your local distributor. The numbered locations are general areas. View table and map for corresponding numbered distributor. If your country does not have a distributor, call the nearest country. Distributors and phone numbers are subject to change. Call Sega Pinball, Inc. Technical Support with any questions or if your distributor cannot help you, at 1-708-345-7700.



Dr. Pinball
Find-It-In-Front:



DR. 9

POWER REQUIREMENTS

! This game *must be connected to a properly grounded outlet to reduce shock hazard* & insure proper game operation. See Sec. 5, Schematics & Troubleshooting, Chp. 3, Cabinet Wiring (Transformer Power Wiring), for transformer connections required for **Normal, High, and Low Line** conditions. **!**

Normal Line:		110v AC - 125v AC @ 60Hz	
Domestic uses an 8AMP 250v Slo-Blo Fuse.	AVG OPERATION		MAX OPERATION
	CURRENT: 2.8AMP WATTAGE: 329w		CURRENT: 8AMP WATTAGE: 940w
High Line:		218v AC - 240v AC @ 50Hz	
Export uses 5AMP 250v Slo-Blo Fuses. (*England & Hong Kong use an 8AMP 250v S/B Fuse.)	AVG OPERATION		MAX OPERATION
	CURRENT: 1.8AMP WATTAGE: 412w		CURRENT: 5AMP 8AMP* WATTAGE: 1145w 1832w*
Low Line:		95v AC - 108v AC @ 50Hz / 60Hz	
Export Japan Only uses an 8AMP 250v Slo-Blo Fuse.	AVG OPERATION		MAX OPERATION
	CURRENT: 2.6AMP WATTAGE: 264w		CURRENT: 8AMP WATTAGE: 812w

BEFORE TRANSPORTING



To reduce the possibility of damage, observe **ALL** precautions whenever transporting the game. **Read & follow Section 1, Chapter 1, Game Assembly Procedures, & How to Secure the Backbox for Transporting.** Remove the legs & secure the game within the transporting vehicle. *Save and retain all printed information on the game.*

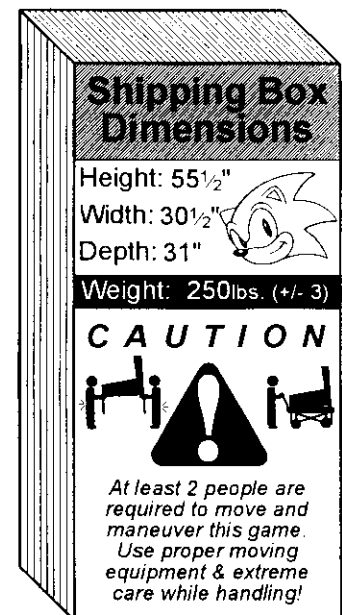
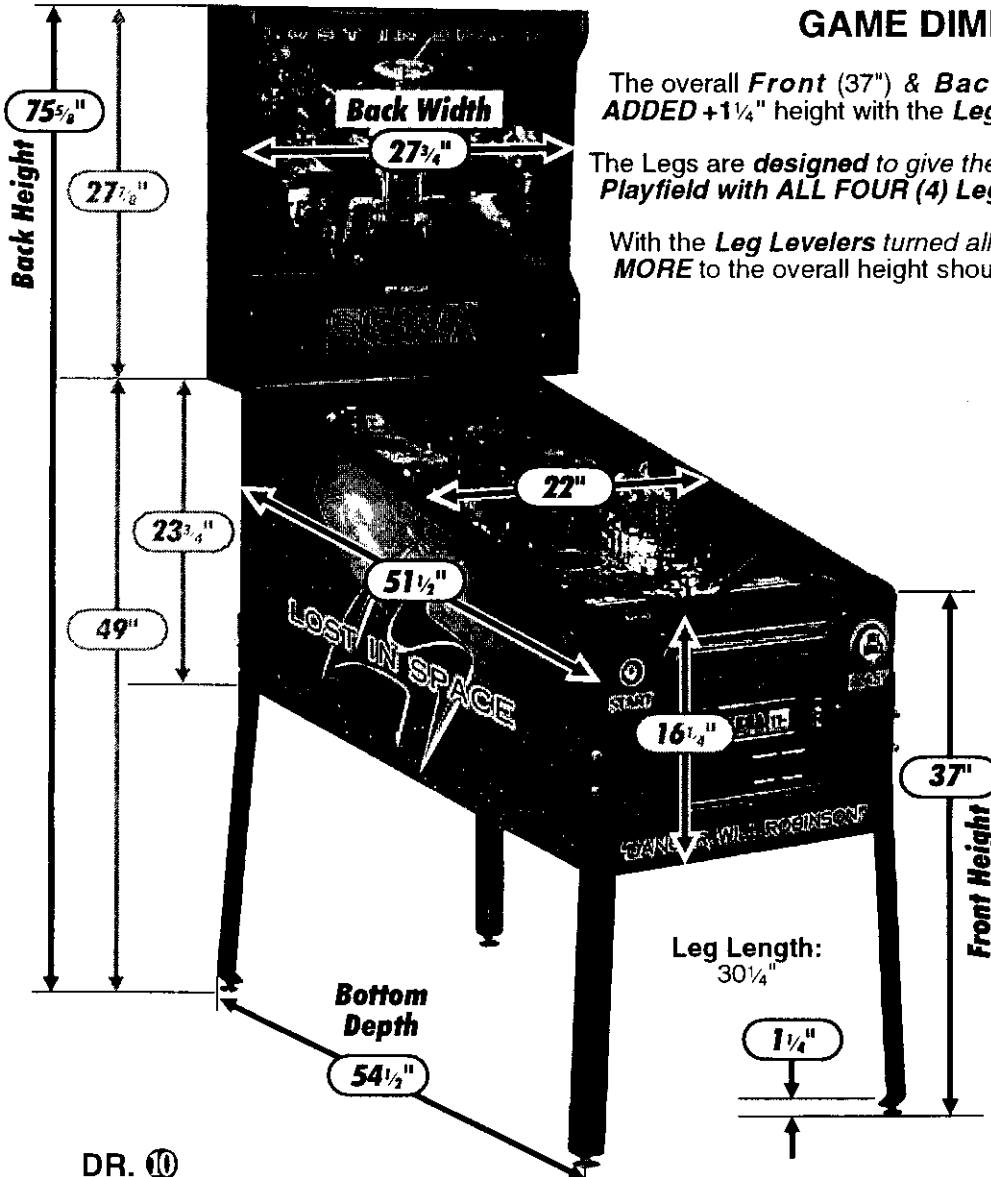
TRANSPORTATION

GAME DIMENSIONS

The overall **Front** (37") & **Back** (75 $\frac{5}{8}$ ") dimensions reflect the **ADDED +1 $\frac{1}{4}$ "** height with the **Leg Levelers** turned all the way in;

The Legs are **designed** to give the recommended **6.5° pitch to the Playfield with ALL FOUR (4) Leg Levelers** turned all the way in.

With the **Leg Levelers** turned all the way **out**, an additional **1 $\frac{3}{4}$ "** **MORE** to the overall height should be added to the dimensions.



DR. ⑩

LOST IN SPACE™

Find-It-In-Front:
Dr. Pinball





General Table of Contents

See Sections 3 & 5, Table Of Contents, for details of that Section and it's Chapters.

Playfield Magnets: Theory & Explanation.....Inside Front

* Backbox Layout Locations: Fuses, Bridges, Relays & ROMs.....	DR. ①
* Find-It-In-Front: Dr. Pinball Section Explained.....	DR. ②
* Install 4-Balls * Diagnostic Aides * CPU DIP Switch Settings * ROM Summary Table.....	DR. ③
* Switch Matrix Grid & Dedicated Switches * Lamp Matrix Grid	DR. ④
* Switch & Lamp Matrix Grid Locations * Typical Switch, Dedicated Switch & Lamp Schematics.....	DR. ⑤
* Coils Detailed Chart Table	DR. ⑥
* Coil & Flash Lamp Locations * Typical Coil Wiring	DR. ⑦
* Domestic Pinball & Redemption Distributors	DR. ⑧
* International Distributors	DR. ⑨
* Power Requirements * Transportation * Game Dimensions.....	DR. ⑩

Game Manual General Table of Contents i-ii

SECTION 1 1

Chapter 1, Game Set-Up.....	1
Game Assembly Procedures.....	1
> * How to Secure the Backbox for Transporting * Leg Leveler Adjustment * Easy Access Service System - 3 Positions.....	2

SECTION 2.....3

Chapter 1, Game Operation & Features.....	3
* Start of Game Features * During Game Features * End of Game Features	3-4
* Instruction Card	4
Chapter 2, Playfield Overview.....	5
Overview	5
Playfield Top Ball Shots:	7-9
Playfield Bottom Ball Shots:	10

SECTION 3..... 11

Chapter 1, Portals™ Service Menu Introduction	11
Portals™ Service Menu Table of Contents (View for an outline of this section)	11
> * Portals™ Service Menu Access & Use * How to Use This Section.....	12-13
> Portals™ Service Menu Icon Tree	14-15
> Portals™ Service Menu Example	16-18
Chapter 2, Go To Diagnostics Menu	19
Chapter 3, Go To Audits Menu	32-33
Chapter 4, Go To Adjustments Menu	38-39
Chapter 5, Go To Reset Menu	47
Chapter 6, Go To Fuses List	49
Chapter 7, Go To Help Screen	51

General Table of Contents Continued on the Next Page





Game Set-Up

Game Assembly Procedures

(Reference Find-It-In-Front: Dr. Pinball)

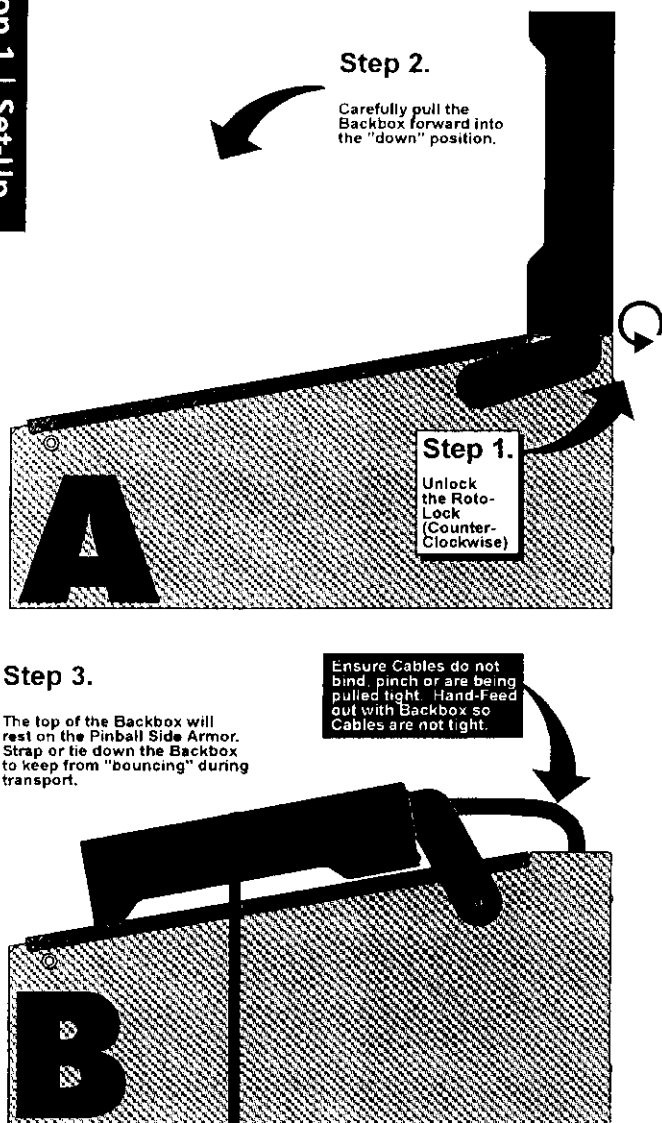
1. Open the top of the carton and lay it on its side with the bottom of the cabinet down. Using the plastic banding strip as a handle, slide the game out of the carton. **CAUTION:** At least 2 people are required to move and maneuver game. Use proper moving equipment & extreme care when handling. **Pinball game is 300 lbs.+.**
2. Remove all packing material. The four (4) Cabinet Leg Assemblies (Leg Levelers are attached) are in the corner packing material of the crate. A large Allen Wrench (use for securing the backbox) is inserted and taped to the rear of the cabinet. Leg Bolts, Steel Balls and any miscellaneous parts are in the cash box.
3. Support rear of cabinet and attach rear legs using two leg bolts for each leg. Support front of cabinet and attach front legs using two leg bolts for each leg. ➡ Per CE: "The appliance has to be placed in a horizontal position."
4. While assuring that no cables are being pinched, carefully raise the backbox and secure it in its upright position with the Allen Wrench in the hole in the back of the cabinet and rotating the wrench 270° (¾ turn).
5. Remove the Coin Door Keys from the playfield glass, and open the Coin Door. Remove the Backbox Keys hanging inside the Coin Door, unlock the Backbox and open.
6. Check all connectors in the backbox for loose wire terminations. Reseat any loose wire by pushing in on the terminal. Push on all connectors plugged into the CPU/Sound Board, I/O Power Driver Board, and the Display Power Bd. to check that they are properly seated. Ensure Fluorescent Light Tube is seated correctly. Check that all fuses are seated properly. Close and lock the Backbox and secure its' keys back inside the Coin Door.
7. Remove the Front Molding & carefully remove the playfield glass and set it aside.
8. Remove all shipping tie downs, shipping blocks, packing foam, shipping instruction pages, etc. (if any) inside the cabinet. **READ ALL PRINTED INFORMATION!** Shipping instructions, labels and/or decals describe warnings, cautions, and/or important information specific to the game. **This Game: Before** you move to **Step 9** - There is a **Playfield Shipping Bracket** attached to the playfield and secured to the cabinet by three (3) #8 x 5/8" Green screws. *Access through the Coin Door.* These **screws must be removed.** **Do not remove** the Shipping Bracket from the playfield (use for future shipping). Save these screws by taping to the side of the cabinet (by holes) or putting the screws into the cash box (save them with the shipping notice regarding this procedur
9. Raise the playfield and support it, by lifting the Prop Rod (located either on the left or right side, inside the cabinet) and placing the notched end into the hole on the under playfield. See the illustration "Easy Access Service System" opposite this page.
10. Visually inspect all cabinet cables and connector terminations; ensure no wires or cables are pinched and that cable harnesses are not pulled tight.
11. Remove the Plumb Bob tilt from the parts package and install on the pendulum wire on the inside left of the cabinet. Check the plumb tilt and adjust as required. See Section 4, Chapter 1, Parts Identification & Location.
12. Lower the playfield and ensure game is level side-to-side by adjusting Leg Levelers, if required. See the illustration "Leg Leveler Adjustment" opposite this page.
13. With the Leg Levelers turned all the way in (1.25" from floor to bottom of leg), the game pitch is 6.5°; depending on the condition of the floor, adjust the Leg Levelers as required.

The playfield incline affects difficulty of play. Use the recommended incline; Game difficulty is best varied using game adjustments.

14. If desired, perform any self tests at this time. See Section 3, Chapter 1, Portals™ Service Menu Introduction, and Chapter 2, Go To Diagnostics Menu, for instructions on how to enter "Begin Play Test" and "Game Specific" to test components on the game.
15. **INSTALL 4 BALLS** on the playfield near the outhole and carefully reinstall the playfield glass. (Amount of balls are always specified on decal attached to the lock down assembly.)
16. If desired, make Game Pricing (Standard and/or Custom) and Add-A-Ball, Novelty, or X-Ball Play adjustments at this time. See Section 3, Chapter 4, Go To Adjustments Menu, for instructions on how to enter adjustments. Follow instructions in the tables provided in the manual for suggestions of customizing changes.



How to Secure the Backbox for Transporting



See Section 4, Chapter 1, Backbox (Back Side/ Front Side) Assemblies, for part numbers.

Leg Leveler Adjustment

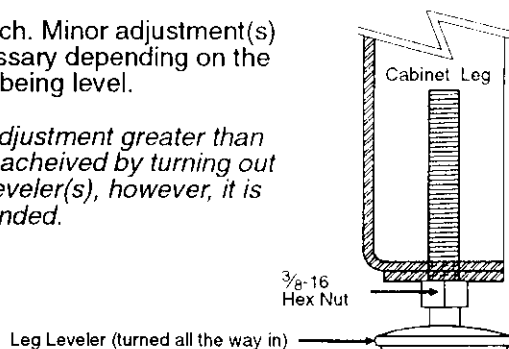
This cabinet is designed to automatically have a 6.5° pitch without any Leg Leveler adjustment!

Attach the four (4) Leg Assemblies to cabinet corners with the eight (8) leg bolts provided. See Section 4, Chapter 1, Cabinet - General Parts, for part numbers.

YOUR PLAYFIELD PITCH IS NOW AT 6.5° AS REQUIRED FOR PROPER GAME PLAY!

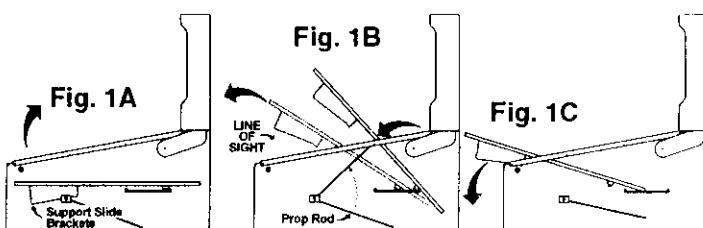
Verify 6.5° pitch. Minor adjustment(s) may be necessary depending on the location floor being level.

For custom adjustment greater than >6.5° can be achieved by turning out the rear leg leveler(s), however, it is not recommended.



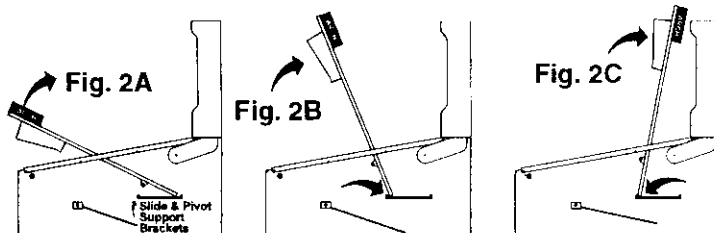
Easy Access Service System - 3 Positions

Carefully lift the playfield *using the Left and Right Ball Guides* upward.



Positions 1 & 2

When lifted high enough, the **Playfield Support Slide Brackets** (Fig. 1A) can be seen & can clear the cabinet front. At this time, pull the playfield toward the front of the cabinet, checking that the mechanical components clear the cabinet front, then rest the playfield on the **Playfield Support Slide Brackets** at the front channel of cabinet (Fig. 1C); Or, the **Prop Rod** (located on the right inside of cabinet) can be used by positioning the **Prop Rod** end into the receiving playfield hole (Fig. 1B).



Position 3

With the playfield at rest, hold the sides & pull toward the front of the cabinet (approx. 6" to 8"), until resistance is felt from **Edge Slide Brackets** stopping against the **Slide & Pivot Support Brackets** located on either side of the cabinet (Fig. 2A). At this time, *swivel the playfield* toward the Backbox, then rest on the top edge (Fig. 2B & 2C).

Game Operation & Features

Start of Game Features

Starting a Normal Game

Insert coin(s). The game generates a sound for the first coin & for each subsequent coin with the display indicating the number of credits posted. Press the **START BUTTON** and a start-up sound is produced, and the posted credits are reduced by one. Subsequent players can be added (**up to 6 can play!**) by pressing the **START BUTTON** before the end of ball 1 (with sufficient credit in the game).

The display now indicates the player or # of players selected from the total depressions of the **START BUTTON**. The display indicates the ball in play, and a ball is served to the *Shooter Lane*. An introduction is shown followed by Skill Shot Graphics and/or instructions. Pressing the **START BUTTON** after ball 1 of any player will start a new game (if credits are available), **but only** if the **START BUTTON** is depressed for 2-3 seconds. This delay is to avoid accidental "re-starts" of a game. (Note: Any 1/2 credit remaining during game play after the end of ball 1, or power down, will be eliminated.)

Starting Team Play (Doubles!)

Team Play is a four player game. The totals for players 1 & 3 (Team 1) and players 2 & 4 (Team 2) are displayed individually as well as the combined score for both teams. Team Play only works in a 4-Player game. In all other cases, the individual scores are shown.

Starting League/Tournament Play

After credit is posted, while holding in the **LEFT FLIPPER BUTTON**, press the **START BUTTON**. League Play has now begun. The differences between Normal Game Play and League/Tournament Play are: There is no "auto-percentageing" (awarding extra balls, specials, etc. to players with very low scores on the second or third ball). Mystery Features are awarded in a set order rather than random in Normal Game Play. Percentage Game Features are not automatically advanced as they are for the Regular Play Features.

Starting Pinball Wizard Play

After credit is posted, while holding in the **RIGHT FLIPPER BUTTON**, press the **START BUTTON**. Pinball Wizard Play has now begun. The same as League/Tournament Play, but oooooooh! so much gosh darn harder!

During Game Features

Feature Mode & Combination Shots

Features are lit on the playfield and started by completing certain play shots (e.g. completion of target banks, orbit(s), ramp(s) and/or any combination of the shots). Combination shots (combos) are a series of shots completed in many different variations. For example, a shot to the Ramp with the ball being returned to the Left Inlane then immediately shot to the Orbit of the playfield returning to a Flipper and then shot to another Ramp would be a hard combo shot worthy of many points. These combinations vary per game. For feature modes & combos certain points or awards are given after completion.

Multiball

Multiball is started after completion of certain Feature Modes or may be a mode itself depending on game rules/play. Multiball may vary with the amount of balls used in Multiball depending on game style. Typically, if Multiball play was short, a "restart" option is given. Watch the Display for instructions on the restart.

Replay Feature

Replay awards are given as the player exceeds a High Score Level during game play. This can be adjusted with Adjustment 3, Replay Awards (Default=**CREDIT**, adjustable). Players exceeding the High Score Levels can receive: **CREDIT**, **EXTRA BALL**, or **SPECIAL**. Adjust to **NONE** if a replay award is not desired.

Video Mode

The video modes *may* require the player to "play on-screen". The interactive video play *may* require the player to use the flipper buttons to play the mode.

End of Game Features

Game Endings

When all player(s) have played all balls (including any Extra Balls), the game ends. If power is interrupted during the course of a game, it will end that game (*see Starting a Normal Game*). Closure of the Plumb Bob Tilt Switch according to the number of tilts set (Default = 2, adjustable) or its prolonged closure will end the current Ball-In-Play. Closure of the Slam Tilt Switch on the coin door ends the current game(s).

Match Feature

At the end of each ball, earned bonuses are collected. At the end of the last ball of a game (including any extra balls, if applicable), earned bonuses are collected, then the system produces a random 2-digit number (a multiple of 10; 00 to 90). Matching the last 2 digits of the player's score with this number awards a credit. In Adj. 11, Match Percentage (Default=7%, adjustable) can be changed from 0-10%. Changing the percentage to 0% displays the "Match Animation" at the end of the game, however, will never match (to award a credit). Changing this adjustment to **OFF** will not display the "Match Animation" nor award a credit.

Continued Next Page.



End of Game Features Continued

Entering Initials

If player achieved a new high score in any of the 3 categories (Regular, Novice or Wizard), the player may enter his/her initials. To enter your initials, use the Left & Right Flipper Buttons to choose letter or character as seen on the Dot Display. Hitting the Start Button locks in the letter or character and proceeds to the next letter. The game then proceeds into the *Game-Over Mode* and then to the *Attract Mode*. (Note: A custom message (adjustable) can be displayed during the *Attract Mode*; enter letters in the same fashion.)

Manual Percentaging

This game is equipped with a Manual Percentage Adjustment. As with our previous games, you can either set operator adjustments for a replay percent or you can set a fixed replay score. See Section 3, Chapter 4, Go To Adjustments Menu, Adjustments 1 & 2. If you set operator adjustments for a particular replay percent, the game will compute a recommended score to keep the game at that replay percentage. If a change is recommended and the game coin door is opened, the display will indicate if the replay is too high or low and make a sound to alert the operator. By pressing the Start Button, the score to beat will be changed to a more appropriate level. If you close the Coin Door or enter the **Portals™ Service Menu**, no score change will be made. You may choose to ignore the recommended change; for example, you may not think last week's players were the usual crowd. Just close the door and the message will disappear without altering the existing level. Or you may choose to make a different score to beat adjustment; this is done by utilizing Adj. 2, Replay Levels.

Instruction Card

Below is a **COPY** of the game instruction card which is included with every game. If your card is lost or damaged, simply **COPY** this page and **cut out** the Instruction Card as a *temporary replacement* until a new card is ordered. (**Suggestion: COPY & CUT** along the dotted line and fold in the center to keep the "COPY" sturdy.)

COPY &
CUT



FOLD
HERE

LOST IN SPACE™

CONDITION RED MULTIBALL Shoot the "Green" Targets until *Condition Green* is reached. Then shoot the "Yellow" Targets until *Condition Yellow* is reached. Finally, shoot the "Red" Targets to light *Multiball*. During *Multiball*, shoot the **Jupiter 2 Ramp** to collect the *Jackpot*. Completing all **Targets** during *Multiball* increases the *Jackpot*.

ROBOT MULTIBALL Spelling **R-O-B-O-T** lights the **Robot** for *Robot Multiball*. During *Robot Multiball*, each *Flashing Shot* collects the *Jackpot* & adds one letter to **WARNING**. Completing **W-A-R-N-I-N-G** lights the **Robot** for unlimited *Super Jackpots*.

FIGHTER MULTIBALL Each **Top Lane** or lit **Right Spinner Shot** ("Super Pops") adds one **Bumper** for increased scoring. Completing all **Bumpers** as indicated begins *Fighter Multiball*. During *Fighter Multiball*, each *Bumper Hit* increases the *Jackpot*. Shoot any *Flashing Shot* to collect.

Note: Playing all three of above Multiballs during one ball awards "Enter Initials".

PLANETS Shooting the **Ramp** advances one *Planet*. Complete the indicated number of shots to receive an award. *Extra Ball* may be obtained from this feature.

MYSTERY The **Right Return Lane** lights *Mystery* for one *Shot*. Completing the **Right Spinner** when lit qualifies *Mystery* until collected. *Mystery* gives player a random award.

Note to Beginners: To score better, shoot at the ((**FLASHING SHOTS**)) !!
Be sure to **LOOK UP** at the Dot Display for instructions when possible.

Sega Pinball, Inc. TM & © 1998 Lost In Space, TM & © 1998 New Line Productions, Inc. All Rights Reserved. Sega Part № 755-5160-00 USA

Playfield Overview

Overview

Below is the **Lost in Space Playfield Map** showing all the Major Items & where the pinball can travel in this game.
The balance of this Chapter will show the playfield as it is built up (with 1 view of underneath).
For component names & parts mentioned, review Sec. 4, Chapters 1 (Pink Section) & Chapter 2 (Blue Section).

Items noted with a † are not shown for clarity

