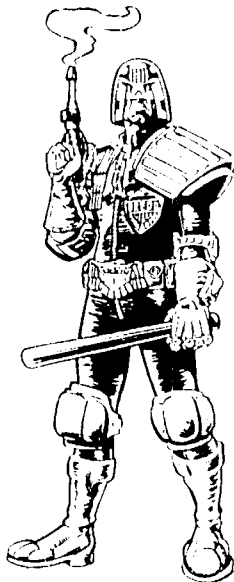


*Bally*<sup>®</sup>

August 1993  
16-20020-103

# JUDGE DREDD<sup>™</sup>



## Operators Handbook

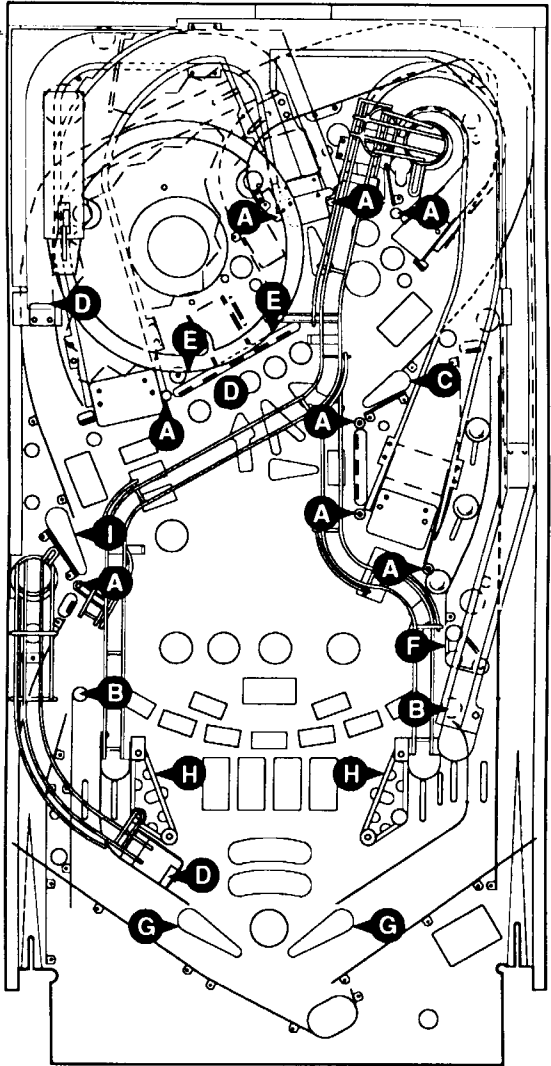
Midway Manufacturing Company  
3401 North California Avenue  
Chicago, Illinois 60618

## TABLE OF CONTENTS

|                                      |        |
|--------------------------------------|--------|
| RUBBER RINGS.....                    | 1      |
| RAMPS.....                           | 2      |
| LOWER PLAYFIELD PARTS.....           | 3      |
| UPPER PLAYFIELD PARTS.....           | 4      |
| UPPER PLAYFIELD PARTS LOCATIONS..... | 5      |
| SOLENOID TABLE.....                  | 6      |
| SOLENOID LOCATIONS.....              | 7      |
| LAMP MATRIX.....                     | 8      |
| LAMP LOCATIONS.....                  | 9      |
| SWITCH MATRIX.....                   | 10     |
| SWITCH LOCATIONS.....                | 10, 11 |
| MAIN MENU.....                       | 12     |
| FUSE LIST.....                       | 13     |

## RUBBER PARTS

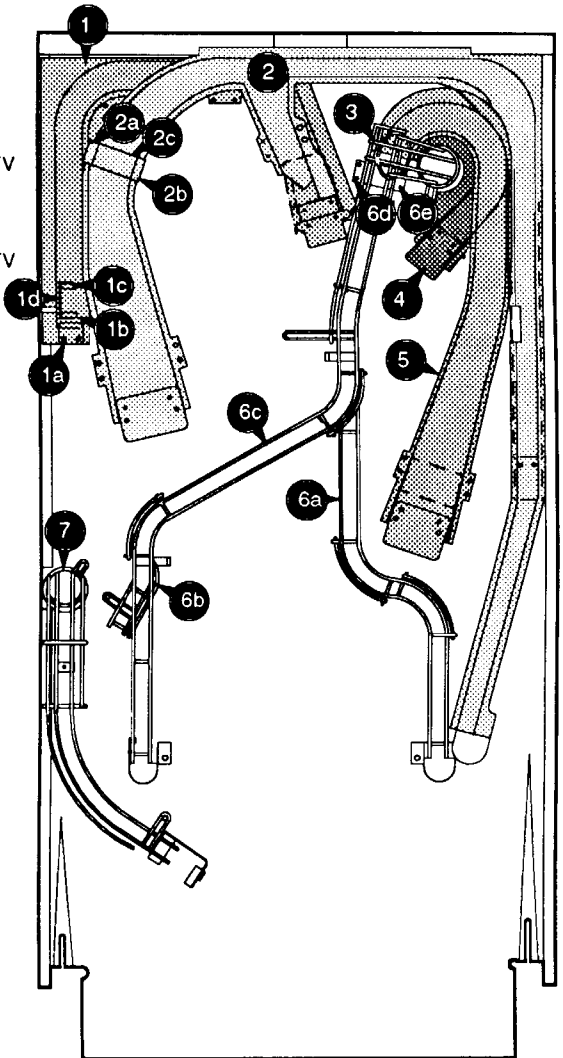
| ITEM | PART NUMBER | DESCRIPTION                 | QTY. |
|------|-------------|-----------------------------|------|
| A    | 23-6556     | Black Bumper Sleeve         | 8    |
| B    | 23-6641     | Rubber Bumper               | 2    |
| C    | 23-6696     | 1" Black Flipper Rubber     | 1    |
| D    | 23-6686     | Round Rubber Pad            | 3    |
| E    | 23-6694-5   | 3/4" Black Ring             | 4    |
| F    | 23-6694-6   | 1" Black Ring               | 1    |
| G    | 23-6694-10  | 2 1/2" Black Ring           | 2    |
| H    | 23-6695     | 1 1/2" Black Flipper Rubber | 3    |



## RAMPS

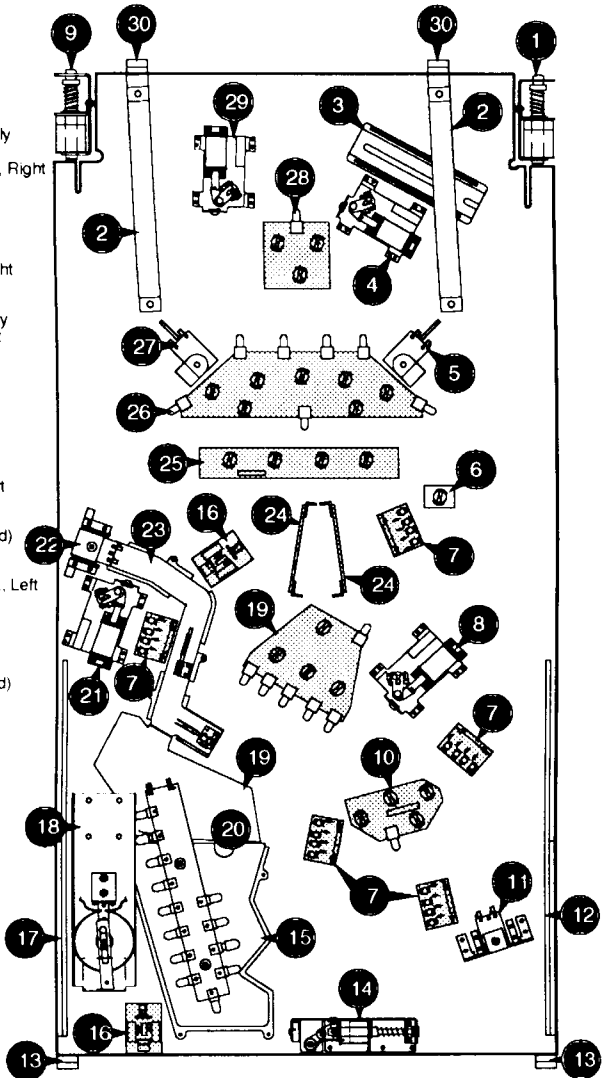
| <u>Item</u> | <u>Part Number</u> | <u>Description</u> |
|-------------|--------------------|--------------------|
|-------------|--------------------|--------------------|

- |    |          |                       |
|----|----------|-----------------------|
| 1. | A-17170  | Ramp Assembly         |
| a) | 01-11424 | Bracket               |
| b) | A-16908  | Opto LED Assembly-RTV |
| c) | A-16909  | Opto Photo Trans.-RTV |
| d) | 01-11784 | Opto Switch Bracket   |
| 2. | A-17231  | Ramp Assembly         |
| a) | A-16908  | Opto LED Assembly-RTV |
| b) | A-16909  | Opto Photo Trans.-RTV |
| c) | 01-12026 | Opto Mounting Plate   |
| 3. | A-16932  | Wire Ramp Assembly    |
| 4. | A-16579  | Ramp Assembly         |
| 5. | A-16630  | Ramp Assembly         |
| 6. | A-17132  | Wire Ramp Assembly    |
| 7. | A-16987  | Wire Ramp Assembly    |



## LOWER PLAYFIELD PARTS

| Item | Part Number | Description                         |
|------|-------------|-------------------------------------|
| 1.   | A-14525     | Kicker Bracket Assembly             |
| 2.   | 01-11781    | Leg Support (2 Used)                |
| 3.   | A-16765     | Outhole Ball Trough Assembly        |
| 4.   | A-15205-R-2 | Flipper Assembly, Lwr. Right        |
| 5.   | B-12665     | Kicker Arm (Slingshot) Assy., Right |
|      | A-14369-R   | Coil & Bracket Assembly             |
|      | 10-128      | Spring                              |
|      | B-8284-1    | Kicker Switch Assembly              |
| 6.   | B-12224     | Single Lamp Board                   |
| 7.   | A-16843     | 4-Lamp Board                        |
| 8.   | A-15205-R   | Flipper Assembly, Upper Right       |
| 9.   | A-16936     | Kicker Bracket Assembly             |
| 10.  | A-16841     | 5-Lamp Board                        |
| 11.  | A-15769     | Ball Popper & Opto Assembly         |
| 12.  | A-16637-2   | Pfhd. Slide Mechanism, Right        |
| 13.  | 01-10726    | Rear Guide Leg (2 Used)             |
| 14.  | A-16802     | Diverter Assembly                   |
| 15.  | A-16947     | Trough Assembly                     |
| 16.  | A-15542     | Motor EMI (2 Used)                  |
| 17.  | A-16637-1   | Pfhd. Slide Mechanism, Left         |
| 18.  | A-17247     | Lifter Assembly                     |
| 19.  | A-16968     | Trough Assembly                     |
| 20.  | A-16478     | Planet Assembly                     |
| 21.  | A-16976-L   | Flipper Assembly, Upper Left        |
| 22.  | A-16580     | Ball Popper Assembly                |
| 23.  | A-16833     | Trough Assembly                     |
| 24.  | A-15576     | 7-Opto Switch Board (2 Used)        |
| 25.  | A-16844     | 4-Lamp Board                        |
| 26.  | A-16839     | 14-Lamp Combo PCB                   |
| 27.  | B-12665     | Kicker Arm (Slingshot) Assy., Left  |
|      | A-14369-L   | Coil & Bracket Assembly             |
|      | 10-128      | Spring                              |
|      | B-8284-1    | Kicker Switch Assembly              |
| 28.  | A-16929     | 4-Lamp Board                        |
| 29.  | A-15205-L-2 | Flipper Assembly, Lwr. Left         |
| 30.  | 01-8419     | Pfhd. Hanger Bracket (2 Used)       |



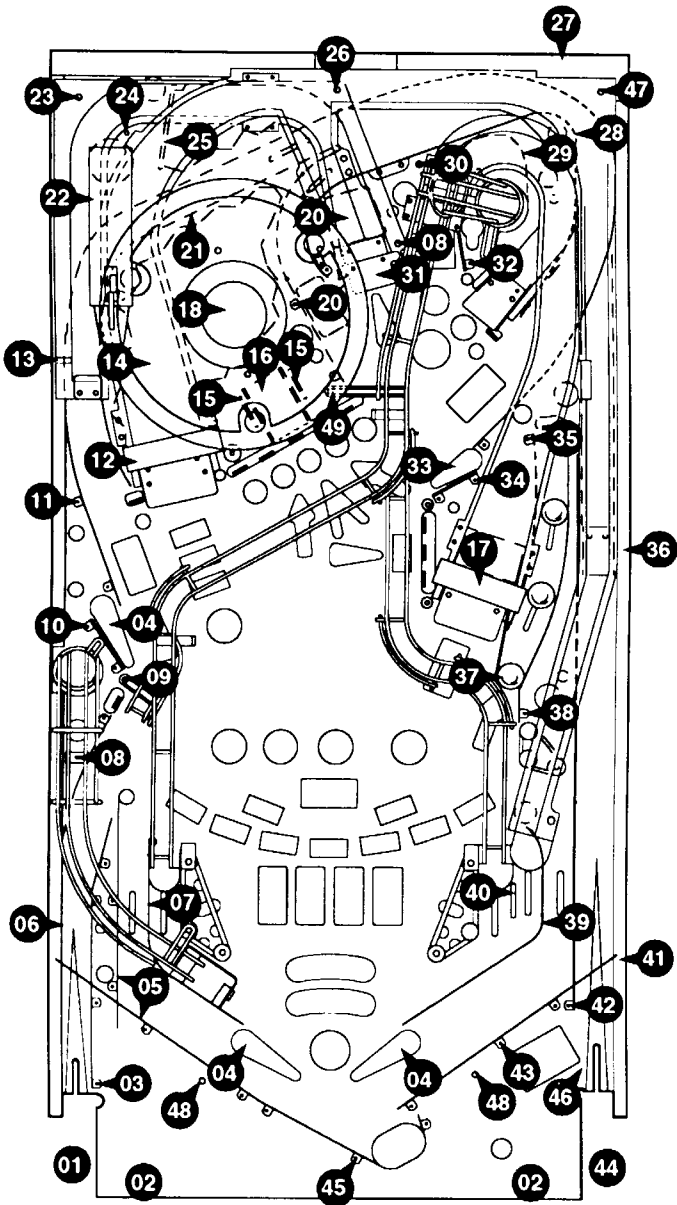
*Underside of Playfield, Viewed In Raised Position*

## UPPER PLAYFIELD PARTS LIST

| <u>Item</u> | <u>Part Number</u> | <u>Description</u>       | <u>Not Shown:</u>                       |
|-------------|--------------------|--------------------------|---|
| 1           | A-16936            | Kicker Bracket Assembly  |   |
| 2           | 01-8419            | Playfield Hanger Bracket | A-13204-20020 Bottom Arch Assembly      |
| 3           | 01-11360           | Ball Guide               | A-13769-20020 Playfield Screened        |
| 4           | 20-9250-6          | Flipper & Shaft-Yellow   | A-16940 Playfield Plastic Assembly      |
| 5           | A-16585            | Ball Guide Assembly      | A-17134-2 Mtg. Bracket Clamp Assy. 1/2" |
| 6           | A-16590            | Ball Guide Assembly      | A-17134-3 Mtg. Bracket Clamp Assy. 3/4" |
| 7           | A-16587            | Ball Guide Assembly      | A-17134-4 Mtg. Bracket Clamp Assy. 1"   |
| 8           | 02-4825-20         | Spacer 1 1/4"            | A-17171 Playfield Plastic Assembly      |
| 9           | 02-4827-4          | Spacer 1/4"              | A-17185 Playfield Plastic Assembly      |
| 10          | 01-11356           | Ball Guide               | 12-7127 Wire Ball Rail                  |
| 11          | A-16592            | Ball Guide Assembly      |   |
| 12          | A-16790            | Lamp Assembly-Left       |   |
| 13          | A-12258-1          | Nut Plate                |   |
|             | 02-4826-18         | Spacer 1 1/8"            |   |
| 14          | A-16477            | Ring Assembly            |   |
| 15          | 12-6466-5          | Wire Guide 1 1/4"        |   |
| 16          | A-16958            | Scoop Assembly           |   |
| 17          | A-16791            | Lamp Assembly-Right      |   |
| 18          | A-16478            | Planet Assembly          |   |
| 19          | A-16584            | Ball Guide Assembly      |   |
| 20          | A-16775            | Bracket Assembly         |   |
| 21          | A-16586            | Ball Guide Assembly      |   |
| 22          | A-16769            | Lifter Arm Assembly      |   |
| 23          | 02-4825-40         | Spacer 2 1/2"            |   |
| 24          | 02-4825-60         | Spacer 3 3/4"            |   |
| 25          | 12-6466-14         | Wire Guide 3 1/2"        |   |
| 26          | 02-4841            | Spacer 3"                |   |
| 27          | A-16955            | Back Panel Assembly      |   |
| 28          | A-16589            | Ball Guide Assembly      |   |
| 29          | 01-11358           | Ball Guide               |   |
| 30          | 02-4825-44         | Spacer 2 3/4"            |   |
|             | 02-4176-24         | Spacer 1 1/2"            |   |
| 31          | 01-11716           | Deflector                |   |
| 32          | A-16591            | Ball Guide Assembly      |   |
| 33          | 20-9732-6          | Small Flipper-Yellow     |   |
| 34          | 01-11355           | Ball Guide               |   |
| 35          | A-16583            | Ball Guide Assembly      |   |
| 36          | 01-10905           | Bracket                  |   |
| 37          | 20-6500            | Steel Ball 1 1/16"       |   |
| 38          | A-16588            | Ball Guide Assembly      |   |
| 39          | A-16582            | Ball Guide Assembly      |   |
| 40          | 01-11306           | Ball Guide               |   |
| 41          | 01-3575            | Strike Plate             |   |
| 42          | A-16593            | Ball Guide Assembly      |   |
| 43          | 01-11367           | Ball Guide               |   |
| 44          | A-14525            | Kicker Bracket Assembly  |   |
| 45          | 01-11687           | Ball Guide               |   |
| 46          | 01-11384           | Ball Guide               |   |
| 47          | 02-4825-64         | Spacer 4"                |   |
| 48          | 02-4825-30         | Spacer 1 7/8"            |   |
| 49          | 02-4778            | Spacer                   |   |

\*Judge Dredd has a special hardcoat playfield and does not require a full mylar. However, mylars can be purchased through your local Bally Distributor (Part Number 03-7960-20020-1).

# UPPER PLAYFIELD PARTS LOCATIONS



# SOLENOID TABLE

| Sol. No.                    | Function               | Solenooid Type | Voltage Connections |                  |                   | Drive Wires       | Drive Connections |                   |         | Drive Wire Color | Solenooid Part Number |             |
|-----------------------------|------------------------|----------------|---------------------|------------------|-------------------|-------------------|-------------------|-------------------|---------|------------------|-----------------------|-------------|
|                             |                        |                | Playfield           | Backbox          | Cabinet           |                   | Playfield         | Backbox           | Cabinet |                  | Flashlamp Type        | Playfield   |
| 01                          | Globe Magnet           | High Power     | J130-1              |                  |                   | Q82               | J107-3            |                   |         | Vio-Brn          | A-12158-1             |             |
| 02                          | Left Popper            | High Power     | J130-2              |                  |                   | Q80               | J107-3            |                   |         | Vio-Red          | AE-26-1200            |             |
| 03                          | Right Popper           | High Power     | J130-4              |                  |                   | Q78               | J107-3            |                   |         | Vio-Orq          | AE-23-800             |             |
| 04                          | Globe Arm              | High Power     | J130-5              |                  |                   | Q76               | J118-2            |                   |         | Vio-Yel          | 14-7989               |             |
| 05                          | Reset Drop Target      | High Power     | J130-6              |                  |                   | Q64               | J107-3            |                   |         | Vio-Grn          | AE-24-900             |             |
| 06                          | Globe Motor            | High Power     | J130-7              |                  |                   | Q66               | J118-2            |                   |         | Vio-Blu          | 14-7985               |             |
| 07                          | Knocker                | High Power     | J130-8              |                  |                   | Q68               | J107-3            |                   |         | Vio-Blk          | AE-23-800             |             |
| 08                          | Right Shooter          | High Power     | J130-9              |                  |                   | Q70               | J107-3            |                   |         | Vio-Gry          | AE-23-800             |             |
| 09                          | Left Shooter           | Low Power      | J127-1              |                  |                   | Q58               | J107-2            |                   |         | Brn-Blk          | AE-23-800             |             |
| 10                          | Flip Drop Target       | Low Power      | J127-3              |                  |                   | Q54               | J107-2            |                   |         | Brn-Red          | AE-27-1200            |             |
| 11                          | Deviator               | Low Power      | J127-4              |                  |                   | Q52               | J107-2            |                   |         | Brn-Orq          | AE-25-1000            |             |
| 12                          | Not Used               | Low Power      | ---                 |                  |                   | Q50               | J107-2            |                   |         | Brn-Yel          | ---                   |             |
| 13                          | Trough                 | Low Power      | J127-6              |                  |                   | Q48               | ---               |                   |         | Brn-Gm           | AE-26-1500            |             |
| 14                          | Not Used               | Low Power      | ---                 |                  |                   | Q46               | J107-2            |                   |         | Brn-Blu          | ---                   |             |
| 15                          | Left Slingshot         | Low Power      | J127-8              |                  |                   | Q44               | J107-2            |                   |         | Brn-Vio          | AE-27-1200            |             |
| 16                          | Right Slingshot        | Low Power      | J127-9              |                  |                   | Q42               | J107-8            | J106-5            |         | Brn-Gry          | AE-27-1200            |             |
| 17                          | Judge Fire Flashers    | Flasher        | J126-1              | J125-1           |                   | Q40               | J107-6            | J106-5            |         | Blk-Brn          | 24-8802 (1)           | 24-8802 (1) |
| 18                          | Judge Fear Flashers    | Flasher        | J126-2              | J125-2           |                   | Q38               | J107-6            | J106-5            |         | Blk-Red          | 24-8802 (1)           | 24-8802 (1) |
| 19                          | Judge Death Flashers   | Flasher        | J126-3              | J125-3           |                   | Q36               | J107-6            | J106-5            |         | Blk-Orq          | 24-8802 (1)           | 24-8802 (1) |
| 20                          | Judge Moris Flashers   | Flasher        | J126-4              | J125-5           |                   | Q34               | J107-6            | J106-5            |         | Blk-Yel          | 24-8802 (1)           | 24-8802 (1) |
| 21                          | Pursuit Left Flashers  | Flasher        | J126-5              | J125-6           |                   | Q32               | J107-6            | J106-5            |         | Bku-Gm           | 24-8802 (2)           | 24-8802 (1) |
| 22                          | Pursuit Right Flashers | Flasher        | J126-6              | J125-7           |                   | Q30               | J107-6            | J106-5            |         | Bku-Blk          | 24-8802 (2)           | 24-8802 (1) |
| 23                          | Blackout Flashers      | Flasher        | J126-7              | J125-8           |                   | Q28               | J107-6            | J106-5            |         | Bku-Vio          | 24-8802 (1)           | 24-8802 (2) |
| 24                          | Cursed Earth Flashers  | Flasher        | J126-8              | ---              |                   | Q26               | J107-6            | ---               |         | Bku-Gry          | 24-8802 (2)           | ---         |
| 25                          | Lower Left Flashers    | Gen. Purpose   | J122-1              | J124-1           |                   | Q24               | J107-9            | J106-5            |         | Bku-Brn          | 24-8704 (2)           | 24-8802 (2) |
| 26                          | Globe Flashers         | Gen. Purpose   | J122-2              | J124-2           |                   | Q22               | J107-9            | J106-5            |         | Bku-Red          | 24-8802 (1)           | 24-8802 (2) |
| 27                          | Right Ramp Flashers    | Gen. Purpose   | J122-3              | J124-3           |                   | Q20               | J107-9            | J106-5            |         | Bku-Orq          | 24-8704 (2)           | 24-8802 (1) |
| 28                          | Insert Flashers        | Gen. Purpose   | ---                 | J124-5           |                   | Q18               | ---               | J106-5            |         | Bku-Yel          | ---                   | 24-8802 (3) |
| <b>General Illumination</b> |                        |                |                     |                  |                   |                   |                   |                   |         |                  |                       |             |
| 01                          | String 1               | G.I.           | J-120-1             | J-121-1          |                   | Q18               | J-120-7           | J-121-6           |         | Wht-Brn          | 24-8549               | 24-8768     |
| 02                          | String 2               | G.I.           | J-120-2             | J-121-2          |                   | Q10               | J-120-8           | J-121-8           |         | Wht-Orq          | 24-8768               | 24-8768     |
| 03                          | String 3               | G.I.           | J-120-3             | J-121-3          |                   | Q14               | J-120-9           | J-121-7           |         | Wht-Yel          | 24-8549               | 24-8768     |
| 04                          | String 4               | G.I.           | J-120-5             | J-121-5          |                   | Q16               | J-120-10          | J-121-10          |         | Wht-Gm           | 24-8768               | 24-8768     |
| 05                          | String 5               | G.I.           | J-121-6             | ---              |                   | Q12               | J-120-11          | ---               |         | Wht-Vio          | 24-8768               | 24-8768     |
| <b>Flipper Circuits</b>     |                        |                |                     |                  |                   |                   |                   |                   |         |                  |                       |             |
|                             |                        |                | Voltage Connections |                  | Drive Transistors | Drive Connections |                   | Drive Wire Colors |         | Coil Part Number | Coil Colors           |             |
|                             |                        |                | Playfield           | Power            | Hold              | Playfield         | Power             | Hold              |         |                  |                       |             |
| Lower Left Flipper          |                        |                | Lwr. Lt. Power      | J802-7 (Gry-Yel) | Q3                |                   | J802-9            |                   | Blu-Gry |                  |                       |             |
|                             |                        |                | Lwr. Lt. Hold       | J802-7 (Gry-Yel) |                   |                   | J802-7            |                   |         |                  |                       |             |
| Lower Right Flipper         |                        |                | Lwr. Rt. Power      | J802-9 (Blu-Yel) | Q4                |                   | J802-13           |                   | Blu-Vio | Org-Blu          | FL-11629 BLUE         |             |
|                             |                        |                | Lwr. Rt. Hold       | J802-9 (Blu-Yel) |                   |                   | J802-11           |                   |         |                  |                       |             |
| Upper Left Flipper          |                        |                | Up. Lt. Power       | J802-1 (Gry-Yel) | Q1                |                   | J802-3            |                   | Blk-Blu | Org-Gm           | FL-11629 BLUE         |             |
|                             |                        |                | Up. Lt. Hold        | J802-1 (Gry-Yel) |                   |                   | J802-1            |                   |         |                  |                       |             |
| Upper Right Flipper         |                        |                | Up. Rt. Power       | J802-4 (Blu-Yel) | Q2                |                   | J802-6            |                   | Blk-Yel | Org-Gry          | FL-11629 BLUE         |             |
|                             |                        |                | Up. Rt. Hold        | J802-4 (Blu-Yel) |                   |                   | J802-4            |                   |         | Org-Vio          | FL-11630 RED          |             |

J1XX = Power Driver Board, J9XX = Electronic II Board, #44 Bulb, 24-8549 = #44 Bulb, 24-8704 = #89 Bulb, 24-8768 = #555 Bulb, 24-8802 = #806 Bulb



# SOLENOID LOCATIONS

| Item | Coil/Flasher Number | Assembly Number | Description                |
|------|---------------------|-----------------|----------------------------|
| 01   | A-12158-1           | A-16769         | Globe Magnet               |
| 02   | AE-26-1200          | A-16580         | Left Popper                |
| 03   | AE-23-800           | A-15769         | Right Popper               |
| 04   | 14-7989             | A-16678         | Globe Arm                  |
| 05   | AE-24-900           | A-16947         | †Reset Drop Targets        |
| 06   | 14-7985             | A-16478         | †Globe Motor               |
| 07   | AE-23-800           | B-16086-1       | *Knocker                   |
| 08   | AE-23-800           | A-14525         | Right Shooter              |
| 09   | AE-23-800           | A-16936         | Left Shooter               |
| 10   | AE-27-1200          | A-16445         | †Trip Drop Target          |
| 11   | AE-25-1000          | A-16802         | †Diverter                  |
| 12   | ...                 | ...             | Not Used                   |
| 13   | AE-26-1500          | A-16765         | Trough                     |
| 14   | ...                 | ...             | Not Used                   |
| 15   | AE-27-1200          | A-14369-L       | Left Slingshot             |
| 16   | AE-27-1200          | A-14369-R       | Right Slingshot            |
| 17   | 24-8802             | A-16844         | Judge Fire Flashers (2)    |
| 18   | 24-8802             | A-16844         | Judge Fear Flashers (2)    |
| 19   | 24-8802             | A-16844         | Judge Death Flashers (2)   |
| 20   | 24-8802             | A-16844         | Judge Morts Flashers (2)   |
| 21   | 24-8802             | A-12336-1       | Pursuit Left Flashers (3)  |
| 22   | 24-8802             | A-12336-1       | Pursuit Right Flashers (3) |
| 23   | 24-8802             | A-16929         | Blackout Flashers (3)      |
| 24   | 24-8802             | †A-16891        | Cursed Earth Flashers (2)  |
| 25   | 24-8704             | A-8798          | Lower Left Flashers (4)    |
|      | 24-8802             | ...             | ...                        |
| 26   | 24-8802             | A-16475         | †Globe Flashers (3)        |
| 27   | 24-8704             | A-8798          | Right Ramp Flashers (3)    |
|      | 24-8802             | ...             | ...                        |
| 28   | 24-8802             | ...             | *Insert Flashers (3)       |

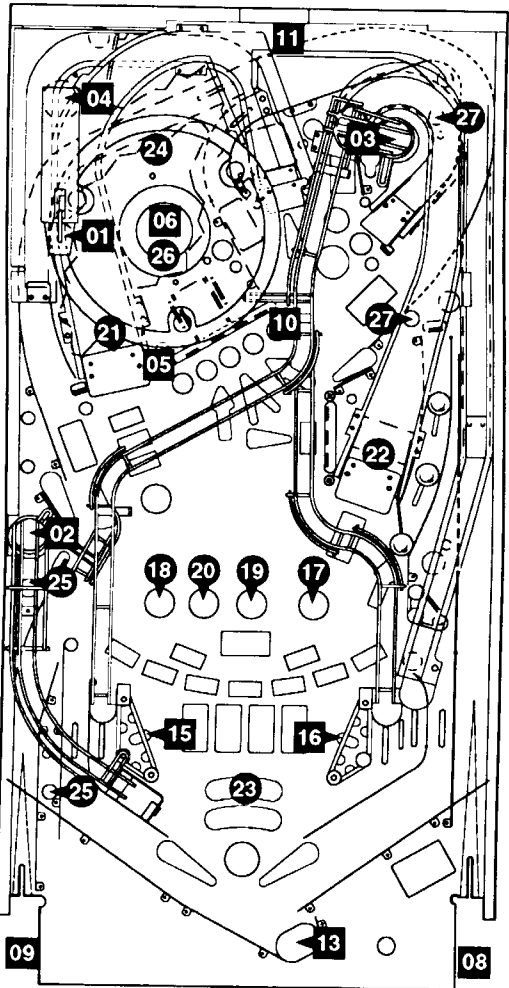
## General Illumination Circuits

|     |          |                  |             |
|-----|----------|------------------|-------------|
| *01 | String 1 | 24-6549, 24-8768 | GI String 1 |
| *02 | String 2 | 24-8768          | GI String 2 |
| *03 | String 3 | 24-6549, 24-8768 | GI String 3 |
| *04 | String 4 | 24-8768          | GI String 4 |
| *05 | String 5 | 24-8768          | GI String 5 |

## Flipper Coils

| Coil             | Assembly    | Description         |
|------------------|-------------|---------------------|
| *FL-11629 (Blue) | A-15205-L-2 | Lower Left Flipper  |
| *FL-11629 (Blue) | A-15205-R-2 | Lower Right Flipper |
| *FL-11629 (Blue) | A-16976-L   | Upper Left Flipper  |
| *FL-11630 (Red)  | A-15205-R   | Upper Right Flipper |

\*Not Shown  
†Located Under Playfield



■ Square indicates coil, P.C.B. or Magnet  
● Circle indicates flasher

# LAMP MATRIX

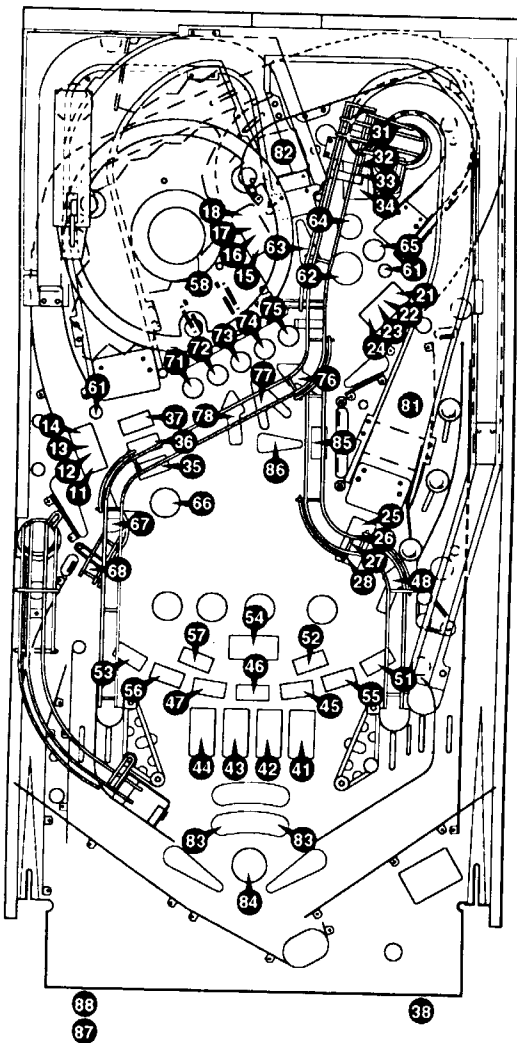
Yellow (B+)  Red

| Column<br>Row                    | 1<br>Yellow-Brown<br>J133-1<br>Q98 | 2<br>Yellow-Red<br>J137-2<br>Q97 | 3<br>Yellow-Orange<br>J137-3<br>Q96 | 4<br>Yellow-Black<br>J137-4<br>Q95 | 5<br>Yellow-Green<br>J137-5<br>Q94 | 6<br>Yellow-Blue<br>J137-6<br>Q93 | 7<br>Yellow-Violet<br>J138-7<br>Q92 | 8<br>Yellow-Gray<br>J138-9<br>Q91 |
|----------------------------------|------------------------------------|----------------------------------|-------------------------------------|------------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| 1<br>Red-Brown<br>J133-1<br>Q90  | Perp 1<br>(White)<br>11            | Perp 4<br>(White)<br>21          | Perp 3<br>(White)<br>31             | Crime Level 4<br>(White)<br>41     | Stakeout<br>51                     | Right Extra Ball<br>61            | Drop Target 'J'<br>71               | Award Stakeout<br>81              |
| 2<br>Red-Black<br>J133-2<br>Q89  | Perp 1<br>(Red)<br>12              | Perp 4<br>(Red)<br>22            | Perp 3<br>(Red)<br>32               | Crime Level 3<br>(Red)<br>42       | Safe-cracker<br>52                 | Right Start Feature<br>62         | Drop Target 'U'<br>72               | Blackout Jackpot<br>82            |
| 3<br>Red-Orange<br>J133-4<br>Q88 | Perp 1<br>(Yellow)<br>13           | Perp 4<br>(Yellow)<br>23         | Perp 3<br>(Yellow)<br>33            | Crime Level 2<br>(Yellow)<br>43    | Pursuit<br>53                      | Tank Center<br>63                 | Drop Target 'D'<br>73               | Drain Shield<br>83                |
| 4<br>Red-Yellow<br>J133-5<br>Q87 | Perp 1<br>(Green)<br>14            | Perp 4<br>(Green)<br>24          | Perp 3<br>(Green)<br>34             | Crime Level 1<br>(Green)<br>44     | Ultimate Challenge<br>54           | Award Sniper<br>64                | Drop Target 'G'<br>74               | Judge Again<br>84                 |
| 5<br>Red-Green<br>J133-6<br>Q86  | Perp 2<br>(White)<br>15            | Perp 5<br>(White)<br>25          | Lock 1<br>35                        | Meltdown<br>45                     | Manhunt<br>55                      | Air Raid<br>65                    | Drop Target 'E'<br>75               | Advance Crime Level<br>85         |
| 6<br>Red-Blue<br>J133-7<br>Q85   | Perp 2<br>(Red)<br>16              | Perp 5<br>(Red)<br>26            | Lock 2<br>36                        | Impersonator<br>46                 | Blackout<br>56                     | Left Center Feature<br>66         | Award Safe-cracker<br>76            | Tank Right<br>86                  |
| 7<br>Red-Violet<br>J133-8<br>Q84 | Perp 2<br>(Yellow)<br>17           | Perp 5<br>(Yellow)<br>27         | Lock 3<br>37                        | Battle Tank<br>47                  | Sniper<br>57                       | Tank Left<br>67                   | Multi-ball Jackpot<br>77            | Super Game<br>87                  |
| 8<br>Red-Gray<br>J133-9<br>Q83   | Perp 2<br>(Green)<br>18            | Perp 5<br>(Green)<br>28          | Buy-In<br>38                        | Stop Meltdown<br>48                | Pick A Prize<br>58                 | Mystery<br>68                     | Award Bad Impersonator<br>78        | Start Button<br>88                |

J1XX = Power Driver Board

# LAMP LOCATIONS

| Item No. | Bulb No. | Lamp Assy. No. | Description            |
|----------|----------|----------------|------------------------|
| 11       | 24-8768  | A-16843        | Perp 1 (White)         |
| 12       | 24-8768  | A-16843        | Perp 1 (Red)           |
| 13       | 24-8768  | A-16843        | Perp 1 (Yellow)        |
| 14       | 24-8768  | A-16843        | Perp 1 (Green)         |
| 15       | 24-8768  | A-16843        | Perp 2 (White)         |
| 16       | 24-8768  | A-16843        | Perp 2 (Red)           |
| 17       | 24-8768  | A-16843        | Perp 2 (Yellow)        |
| 18       | 24-8768  | A-16843        | Perp 2 (Green)         |
| 21       | 24-8768  | A-16843        | Perp 4 (White)         |
| 22       | 24-8768  | A-16843        | Perp 4 (Red)           |
| 23       | 24-8768  | A-16843        | Perp 4 (Yellow)        |
| 24       | 24-8768  | A-16843        | Perp 4 (Green)         |
| 25       | 24-8768  | A-16843        | Perp 5 (White)         |
| 26       | 24-8768  | A-16843        | Perp 5 (Red)           |
| 27       | 24-8768  | A-16843        | Perp 5 (Yellow)        |
| 28       | 24-8768  | A-16843        | Perp 5 (Green)         |
| 31       | 24-8768  | A-16843        | Perp 3 (White)         |
| 32       | 24-8768  | A-16843        | Perp 3 (Red)           |
| 33       | 24-8768  | A-16843        | Perp 3 (Yellow)        |
| 34       | 24-8768  | A-16843        | Perp 3 (Green)         |
| 35       | 24-6549  | A-11754        | Lock 1                 |
| 36       | 24-6549  | A-11271        | Lock 2                 |
| 37       | 24-6549  | A-11754        | Lock 3                 |
| 38       | ---      | 20-9663-13     | Buy-In                 |
| 41       | 24-8768  | A-16839        | Crime Level 4 (White)  |
| 42       | 24-8768  | A-16839        | Crime Level 3 (Red)    |
| 43       | 24-8768  | A-16839        | Crime Level 2 (Yellow) |
| 44       | 24-8768  | A-16839        | Crime Level 1 (Green)  |
| 45       | 24-8768  | A-16839        | Meltdown               |
| 46       | 24-8768  | A-16839        | Impersonator           |
| 47       | 24-8768  | A-16839        | Battle Tank            |
| 48       | 24-8768  | B-12224        | Stop Meltdown          |
| 51       | 24-8768  | A-16839        | Stakeout               |
| 52       | 24-8768  | A-16839        | Safecracker            |
| 53       | 24-8768  | A-16839        | Pursuit                |
| 54       | 24-8768  | A-16839        | Ultimate Challenge     |
| 55       | 24-8768  | A-16839        | Manhunt                |
| 56       | 24-8768  | A-16839        | Blackout               |
| 57       | 24-8768  | A-16839        | Sniper                 |
| 58       | 24-6549  | A-8882         | Pick A Prize           |
| 61       | 24-8768  | A-16841        | Extra Ball (2)         |
| 62       | 24-8768  | A-16841        | Right Start Feature    |
| 63       | 24-8768  | A-16841        | Tank Center            |
| 64       | 24-8768  | A-16841        | Award Sniper           |
| 65       | 24-8768  | A-16841        | Air Raid               |
| 66       | 24-6549  | A-11754        | Left Center Feature    |
| 67       | 24-6549  | A-11754        | Tank Left              |
| 68       | 24-6549  | A-11271        | Mystery                |
| 71       | 24-8768  | A-16840        | Drop Target "J"        |
| 72       | 24-8768  | A-16840        | Drop Target "U"        |
| 73       | 24-8768  | A-16840        | Drop Target "D"        |
| 74       | 24-8768  | A-16840        | Drop Target "G"        |
| 75       | 24-8768  | A-16840        | Drop Target "E"        |
| 76       | 24-8768  | A-16840        | Award Safecracker      |
| 77       | 24-8768  | A-16840        | Multi-ball Jackpot     |
| 78       | 24-8768  | A-16840        | Award Bad Impersonator |
| 81       | 24-6549  | A-8882         | Award Stakeout         |
| 82       | 24-6549  | A-11754        | Blackout Jackpot       |
| 83       | 24-8768  | A-16929 (2)    | Drain Shield           |
| 84       | 24-8768  | A-16929        | Judge Agan             |
| 85       | 24-8768  | A-16340        | Advance Crime Level    |
| 86       | 24-8768  | A-16340        | Tank Right             |
| 87       | ---      | 20-9663-10     | Super Game             |
| 88       | ---      | 20-9663-1      | Start Button           |



**Light bulb covers:**  
 03-8063-2 Green  
 03-8063-4 Red  
 03-8063-5 White  
 03-8063-6 Yellow

\* Not Shown

† Located Under Playfield

24-8768 = #555 Bulb  
 24-6549 = #44 Bulb

# SWITCH MATRIX

| Dedicated Grounded Switches  | Column<br>Row                     | White                             |                                 |                                    |                                    |                                   |                                  | Green                              |                                  | Flipper Grounded Switches                                   |
|--|-----------------------------------|-----------------------------------|---------------------------------|------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------------------------|----------------------------------|---|
|  |                                   | 1 Green-Brown<br>J207-1<br>U20-18 | 2 Green-Red<br>J207-2<br>U20-17 | 3 Green-Orange<br>J207-3<br>U20-16 | 4 Green-Yellow<br>J207-4<br>U20-15 | 5 Green-Black<br>J207-5<br>U20-14 | 6 Green-Blue<br>J207-6<br>U20-13 | 7 Green-Violet<br>J207-7<br>U20-12 | 8 Green-Gray<br>J207-9<br>U20-11 |   |
| Orange-Brown (1)<br>J206-1<br>Left Coin Chute D1                                 | 1 White-Brown<br>J209-1<br>U18-11 | Left Fire Button                  | Siam Tilt                       | Buy In (Extra Ball)                | Right Ball Shooter                 | Left Sling (2)                    | Globe Position #1                | Magnet Over Ring                   | Trough 1                         | Black-Green J906-1<br>Right Flipper End of Stroke F1        |
| Orange-Red (2)<br>J206-2<br>Center Coin Chute D2                                 | 2 White-Red<br>J209-2<br>U18-9    | Right Fire Button                 | Front Door Closed               | Not Used                           | Right Outlane                      | Right Sling (2)                   | Crane Exit                       | Top Right Opto                     | Trough 2                         | Blue-Violet J905-1<br>Right Flipper Opto F2                 |
| Orange-Black (3)<br>J206-3<br>Right Coin Chute D3                                | 3 White-Orange<br>J209-3<br>U18-5 | Credit (Start)                    | Ticket Dispenser                | Left Rollover                      | Outside Right Return               | Captive Ball 2                    | Left Ramp To Lock                | Left Popper                        | Trough 3                         | Black-Blue J906-3<br>Left Flipper End of Stroke F3          |
| Orange-Yellow (4)<br>J206-4<br>4th Coin Chute D4                                 | 4 White-Yellow<br>J209-4<br>U18-7 | Plumb Bob Tilt                    | Always Closed                   | Inside Right Return                | Super Game                         | Drop Target "J"                   | Left Ramp Exit                   | Right Popper                       | Trough 4                         | Blue-Gray J905-2<br>Left Flipper Opto F4                    |
| Orange-Green (5)<br>J206-5<br>Normal Function<br>Barricade<br>Credits Escapes D5 | 5 White-Green<br>J209-5<br>U19-11 | Left Shoot Lane                   | Top Right Post                  | Top Center Rollover                | Not Used                           | Drop Target "U"                   | Not Used                         | Top Ramp Exit                      | Trough 5                         | Black-Violet J906-4<br>Upper Right Flipper End of Stroke F5 |
| Orange-Blue (6)<br>J206-7<br>Normal Function<br>Volume<br>Down Down D6           | 6 White-Blue<br>J209-7<br>U19-9   | Left Outlane                      | Captive Ball 1                  | Left Score Post                    | Not Used                           | Drop Target "D"                   | Center Ramp Exit                 | Right Ramp Exit                    | Trough 6                         | Black-Yellow J906-5<br>Upper Right Flipper Opto F6          |
| Orange-Violet (7)<br>J206-8<br>Normal Function                                   | 7 White-Violet<br>J209-8<br>U19-5 | Left Return Lane                  | Mystery                         | Subway Enter 1                     | Not Used                           | Drop Target "G"                   | Left Ramp Enter                  | Globe Position #2                  | Top Trough                       | Black-Gray J906-3<br>Upper Left Flipper End of Stroke F7    |
| Orange-Gray (8)<br>J206-9<br>Normal Function<br>Begin Test Enter D8              | 8 White-Gray<br>J209-9<br>U19-7   | 3-Bank Targets                    | Not Used                        | Subway Enter 2                     | Not Used                           | Drop Target "E"                   | Captive Ball 3                   | Not Used                           | Not Used                         | Black-Blue J905-5<br>Upper Left Flipper Opto F8             |

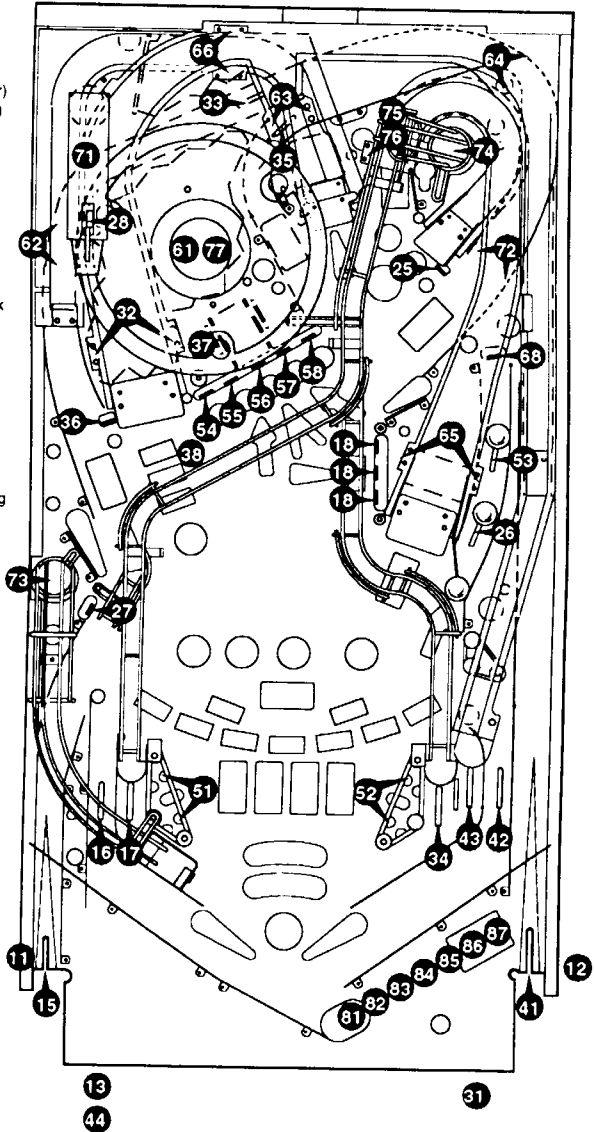
J20X = CPU Board, J90X = Fliptron II Board     = Opto, Typically Closed

## SWITCH LOCATIONS

| Item | Switch Part # | Where Used                   | Item | Switch Part # | Where Used           |
|------|---------------|------------------------------|------|---------------|----------------------|
| F1   | SW-1A-194     | *Lower Right Flipper EOS     | 25   | A-16910-15    | Top Right Post       |
| F2   | A-18384-1     | *Lower Right Flipper Cabinet | 26   | 5647-12693-19 | Captive Ball 1       |
| F3   | SW-1A-194     | *Lower Left Flipper EOS      | 27   | A-14227-15    | Mystery              |
| F4   | A-15894       | *Lower Left Flipper Cabinet  | 28   | ---           | Not Used             |
| F5   | SW-1A-194     | *Upper Right Flipper EOS     | 31   | 20-9663-9     | Buy-In (Extra Ball)  |
| F6   | A-16384-1     | *Upper Right Flipper Cabinet | 32   | ---           | Not Used             |
| F7   | SW-1A-194     | *Upper Left Flipper EOS      | 33   | 5647-12693-19 | Left Rollover        |
| F8   | A-15894       | *Upper Left Flipper Cabinet  | 34   | 5647-12693-19 | Inside Right Return  |
|      |               |                              | 35   | 5647-12693-19 | Top Center Rollover  |
| 11   | 20-9846-1     | Left Fire Button             | 36   | A-16910-15    | Left Score Target    |
| 12   | 20-9846-1     | Right Fire Button            | 37   | 5647-12693-13 | *Subway Enter 1      |
| 13   | 20-9663-1     | Credit (Start)               | 38   | 5647-12693-13 | *Subway Enter 2      |
| 14   | A-15361       | *Plumb Bob Tilt              | 41   | 5647-12693-19 | Right Ball Shooter   |
| 15   | 5647-12693-19 | Left Shoot Lane              | 42   | 5647-12693-19 | Right Outlane        |
| 16   | 5647-12693-19 | Left Outlane                 | 43   | 5647-12693-19 | Outside Right Return |
| 17   | 5647-12693-19 | Left Return Lane             | 44   | 20-9663-13    | Super Game           |
| 18   | A-14227-15    | 3-bank Targets               | 45   | ---           | Not Used             |
| 21   | SW-1A-117     | *Siam Tilt                   | 46   | ---           | Not Used             |
| 22   | 5643-09288-00 | *Front Door Closed           | 47   | ---           | Not Used             |
| 23   | ---           | *Ticket Dispenser            | 48   | ---           | Not Used             |
| 24   | 5643-09288-00 | *Closed                      |      |               |                      |

## SWITCH LOCATIONS (CONTINUED)

| Item | Switch Part #    | Where Used           |
|------|------------------|----------------------|
| 51   | SW-1A-114        | Left Sling (Kicker)  |
|      | SW-1A-120        | (Score)              |
| 52   | SW-1A-114        | Right Sling (Kicker) |
|      | SW-1A-120        | (Score)              |
| 53   | 5647-12693-19    | Captive Ball 2       |
| 54   | A-16486          | Drop Target 'J'      |
| 55   | A-16486          | Drop Target 'U'      |
| 56   | A-16486          | Drop Target 'D'      |
| 57   | A-16486          | Drop Target 'G'      |
| 58   | A-16486          | Drop Target 'E'      |
| 61   | A-16598          | *Globe Position #1   |
| 62   | A-14231 (LED)    | Left Ramp Enter      |
|      | A-14232 (Trans.) |                      |
| 63   | A-14231 (LED)    | Left Ramp To Lock    |
|      | A-14232 (Trans.) |                      |
| 64   | A-14231 (LED)    | Left Ramp Exit       |
|      | A-14232 (Trans.) |                      |
| 65   | ---              | Not Used             |
| 66   | A-14231 (LED)    | Center Ramp Exit     |
|      | A-14232 (Trans.) |                      |
| 67   | A-14231 (LED)    | Left Ramp Enter      |
|      | A-14232 (Trans.) |                      |
| 68   | A-14227-15       | Captive Ball 3       |
| 71   | A-14231 (LED)    | †Magnet Over Ring    |
|      | A-14232 (Trans.) |                      |
| 72   | A-14231 (LED)    | Top Right Opto       |
|      | A-14232 (Trans.) |                      |
| 73   | A-14231 (LED)    | Left Popper          |
|      | A-14232 (Trans.) |                      |
| 74   | A-14231 (LED)    | Right Popper         |
|      | A-14232 (Trans.) |                      |
| 75   | A-14231 (LED)    | Top Ramp Exit        |
|      | A-14232 (Trans.) |                      |
| 76   | A-14231 (LED)    | Right Ramp Exit      |
|      | A-14232 (Trans.) |                      |
| 77   | A-16598          | *Globe Position #2   |
| 78   | ---              | Not Used             |
| 81   | A-16926 (Trans.) | Trough 1             |
|      | A-16927 (LED)    |                      |
| 82   | A-16926 (Trans.) | Trough 2             |
|      | A-16927 (LED)    |                      |
| 83   | A-16926 (Trans.) | Trough 3             |
|      | A-16927 (LED)    |                      |
| 84   | A-16926 (Trans.) | Trough 4             |
|      | A-16927 (LED)    |                      |
| 85   | A-16926 (Trans.) | Trough 5             |
|      | A-16927 (LED)    |                      |
| 86   | A-16926 (Trans.) | Trough 6             |
|      | A-16927 (LED)    |                      |
| 87   | A-16926 (Trans.) | Top Trough           |
|      | A-16927 (LED)    |                      |
| 88   | ---              | Not Used             |



\* Not Shown

† Located Under Playfield

## MENU SYSTEM OPERATION

The Main Menu allows you to choose from several categories, which in turn lead to other menus. To access the Main Menu, open the coin door and press the Begin Test button, then press the Enter button. Press the Up or Down buttons to cycle through the Main Menu. Press the Enter button to access a menu. Press the Escape button to return to the Main Menu. Press the Start button for HELP at any time.

### Main Menu

|                     |                          |
|---------------------|--------------------------|
| B. Bookkeeping Menu |                          |
|                     | B.1 Main Audits          |
|                     | B.2 Earnings Audits      |
|                     | B.3 Standard Audits      |
|                     | B.4 Feature Audits       |
|                     | B.5 Histograms           |
|                     | B.6 Time-Stamps          |
| P. Printouts Menu   |                          |
|                     | P.1 Earnings Data        |
|                     | P.2 Main Audits          |
|                     | P.3 Standard Audits      |
|                     | P.4 Feature Audits       |
|                     | P.5 Score Histograms     |
|                     | P.6 Game Time Histograms |
|                     | P.7 Time-Stamps          |
|                     | P.8 All Data             |
| T. Test Menu        |                          |
|                     | T.1 Switch Edges         |
|                     | T.2 Switch Levels        |
|                     | T.3 Single Switches      |
|                     | T.4 Solenoid Test        |
|                     | T.5 Flasher Test         |
|                     | T.6 General Illumination |
|                     | T.7 Sound & Music Test   |
|                     | T.8 Single Lamps         |
|                     | T.9 All Lamps            |
|                     | T.10 Lamp & Flasher Test |
|                     | T.11 Display Test        |
|                     | T.12 Flipper Test        |
|                     | T.13 Ordered Lamp Test   |
|                     | T.14 Planet Test         |
|                     | T.15 Planet Arm Test     |
|                     | T.16 Unload Globe Test   |
| U. Utilities Menu   |                          |
|                     | U.1 Clear Audits         |
|                     | U.2 Clear Coins          |
|                     | U.3 Reset H.S.T.D.       |
|                     | U.4 Set Time & Date      |
|                     | U.5 Custom Message       |
|                     | U.6 Set Game I.D.        |
|                     | U.7 Factory Adjustments  |
|                     | U.8 Factory Resets       |
|                     | U.9 Presets              |
|                     | U.10 Clear Credits       |
|                     | U.11 Auto Burn-In        |
| A. Adjustments Menu |                          |
|                     | A.1 Standard Adjustments |
|                     | A.2 Feature Adjustments  |
|                     | A.3 Pricing Adjustments  |
|                     | A.4 H.S.T.D. Adjustments |
|                     | A.5 Printer Adjustments  |

#### Press Escape

To move out of a menu selection.

#### Press Enter

To get into a menu selection.

#### Press Up

Increases sequence; Example A.1, A.2, A.3, A.4.

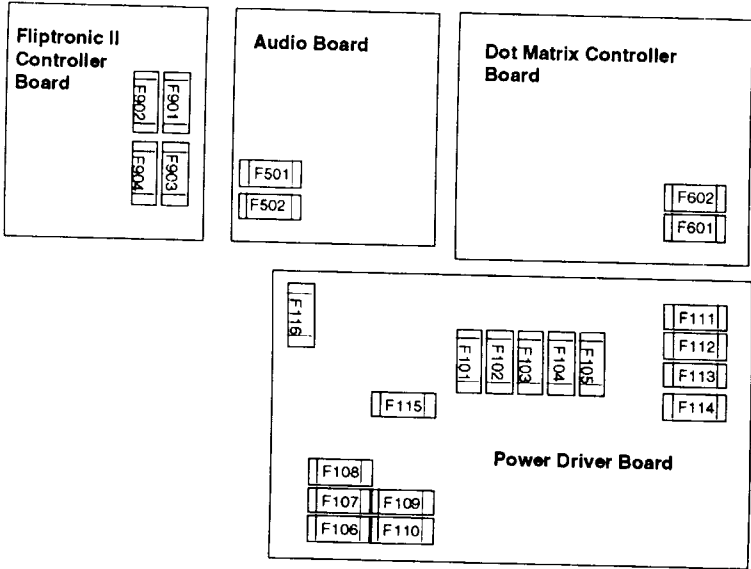
#### Press Down

Decreases Sequence; Example A.4, A.3, A.2, A.1.

Use Up and Down to cycle through the selections in a menu.

Use Escape and Enter to move into and out of the selected menu

# FUSE LIST



## Audio Board

F501 -25V Circuit 3A, 250V, S.B.  
 F502 +25V Circuit 3A, 250V, S.B.

## Dot Matrix Controller Board

F601 +62V Circuit 3/8A, 250V, F.B.  
 F602 -113V and -125V Circuits 3/8A, 250V, F.B.

## Power Driver Board

F101 Left Flipper 3A, 250V, S.B. (Not Used)  
 F102 Right Flipper 3A, 250V, S.B. (Not Used)  
 F103 Solenoid #25-#28 3A, 250V, S.B.  
 F104 Solenoid #9-#16 3A, 250V, S.B.  
 F105 Solenoid #1-#8 3A, 250V, S.B.  
 F106 G.I. #5 Wht-Vio 5A, 250V, S.B.  
 F107 G.I. #4 Wht-Grn 5A, 250V, S.B.  
 F108 G.I. #3 Wht-Yel 5A, 250V, S.B.  
 F109 G.I. #2 Wht-Org 5A, 250V, S.B.  
 F110 G.I. #1 Wht-Brn 5A, 250V, S.B.  
 F111 Flasher Secondary 5A, 250V, S.B.  
 F112 Solenoid Secondary 7A, 250V, S.B.  
 F113 +5V Logic 5A, 250V, S.B.  
 F114 +18V Lamp Matrix 8A, 32V, N.B.  
 F115 +12V Switch Matrix 3/4A, 250V, F.B.  
 F116 +12V Secondary 3A, 250V, S.B.

## Fliptronic II Controller Board

F901 Upper Right Flipper 3A, 250V, S.B.  
 F902 Upper Left Flipper 3A, 250V, S.B.  
 F903 Lower Right Flipper 3A, 250V, S.B.  
 F904 Lower Left Flipper 3A, 250V, S.B.

## Line Filter

Domestic Game 8A  
 Foreign Game 5A, S.B.

## WARNINGS & NOTICES

### **WARNING**

**FOR SAFETY AND RELIABILITY**, substitute parts and equipment modifications are not recommended. Use of Non-BALLY parts or modifications of game circuitry, may adversely affect game play, or may cause injuries.

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TO MAINTAIN THESE LEVELS, reposition harnesses and reconnect ground straps to their original placements, if they become disconnected during maintenance.

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**FOR SERVICE...**  
CALL your authorized  
BALLY Distributor

**MIDWAY Manufacturing Company**  
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Chicago, IL 60618

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with hinged backbox DOWN!**