16P-497-103
Game No. 497
March, 1980


This booklet provides game operation, bookkeeping, game adjustment, and diagnostic procedures for FIREPOWER. For installation and special maintenance information refer to the blue-covered game manual. For detailed information refer to Williams Solid State Flipper Maintenance Manual.

## SPECIAL CONSIDERATIONS WHEN REPLACING CIRCUIT BOARDS

## CPU Board

1. Revision level 6 CPU Boards (batteries located on lower right corner of board) or later boards must be used.
2. Must he equipped with green-labeled FIREPOWER PROMs, green-labeled game ROM and green-labeled flipper ROMs.
3. Jumper J4 must be connected and J3 removed.

## Sound Board

1. Model D 8224 required for speech.
2. Must be jumpered for white-labeled sound ROM operation and be equipped with Sound ROM 3. (Jumpers W2, W5, W7, W9, W10, and W15 connected; W3, W4, W6, W8, W1 1, W12, and W13 removed)

## Power Supply Board

1. Fuse F4 (10A SB) for flipper solenoids must be installed.

## Optional Speech Module

1. Requires 5T4971 (IC7), 5T4972 (IC5), and ST4973 (IC6) speech ROMs.

## GAME OPERATION

*Indicates adjustable features

Game Over Mode - Turn game ON; player scores show zero, high score to date* alternates with player I score, player I up lamp flashes, game over lamp lights, all playfield lamps except for credit lamp cycle in attract mode.

Credit Posting - Insert coin; knocker sounds, number of credits displayed. If maximum credits* exceeded by coin or high score to date*, credits are posted correctly, coin lockout deenergized until remaining credits are below maximum. No credits may be won and coins are rejected while lockout is deenergized.

Game Start - Push credit button; start-up tune played, ball served, credit display reduced by one, player I up lamp flashes until first scoring switch is made, ball in play shows 1. Pushing credit button before ball 2 displayed allows additional players.

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Bonus Advance - "F-l-R-E" rollovers when not lit, flashing "1-6" targets, left and right inside rollovers (3 advances when lit), and left and right outside rollovers. Bonus multiplier advanced and FIRE insert lit by spotting "F-l-R-E". "F-l-R-E" lamps rotate by actuating right flipper (LANE CHANGE feature).

FIREPOWER - Making three POWER targets scores 10,000 and lites POWER insert, left and right inside rollovers, and *ball saver kicker ON. Liting FIRE and POWER inserts scores and advances FIREPOWER bonus ( 5,000 or lit values of 10,30 , and 50,000 ). Outlane Special lit when $* 30$, or 50,000 bonus collected.
"1-6" Targets - *Making "1-3" or "4-6" or same ball lights ball saver kicker ON. Spotting "1-6" lights ball saver kicker $\mathrm{ON}^{*}$, flashes two eject holes, lights spinner, and alternately lights two jet bumpers; ad justable to flash eject holes one at a time (always one at a time once MULTI-BALL play is achieved). Spotting "1-6" twice on the same ball lights all jet bumpers.

Eject Holes - Making eject hole when flashing locks up ball and new ball released per following order: from ball ramp, flashing eject hole, unlit eject hole. Locking up all balls in eject holes initiates MULTI-BALL play. To minimize multiple player interaction, lit and flashing eject holes are reallocated from ball to ball as required: Dashing lamp to empty eject hole if possible; lit lamp to occupied eject hole if possible.

Extra Ball - Maximum of two Extra Balls per ball. Lighting *5x or making"F-I-R-E" with 5x lit lights center POWER target for Extra Ball. Making target when lit awards Extra Ball.

Tilts - Ball in play tilted on first closure of Playfield and Ball Roll tilts and third* closure of Plumb Bob. Slam Tilt returns game to game over.

Memory - "F-1-R-E" lanes, FIRE insert, POWER Target lamps, POWER insert, *FIREPOWER bonus lamps, *lit target arrows, eject hole lamps.

End of Game - Match Digits* appears in ball in play display, *credit awarded for match. Exceeding high score to date awards *three credits. Match, High Score to Date, and Game Over sounds made as appropriate. Balls released from eject holes and are placed on ball ramp before new game can be started.

With optional Speech Module, the following phrases are produced during game play:

## ACHIEVEMENT

Game start, collecting FIREPOWER bonus
Making "F-l-R-E"
Lighting POWER
Spotting "1-6" lamps
MULTI-BALL play
Winning Extra Ball
Making Special
Tilt
High Score to Date

## PHRASE

FIREPOWER.
FIRE.
POWER.
Enemy destroyed.
Fire 1, 2, 3.
You won one mission.
Mission accomplished.
You are destroyed.
FIREPOWER mission accomplished.

| Game Over | Random Phrase |
| :--- | :--- |
| You destroyed FIREPOWER. | Mission destroyed you. |
| Enemy destroyed you. | Enemy power won. |
| Mission 213 accomplished. | You destroyed enemy mission. <br> Enemy mission. |
| You are enemy. | You won, FIREPOWER destroyed. <br> Enemy fire destroyed you. <br> Fire destroyed you. |

## BOOKKEEPING AND EVALUATION TOTALS

(Functions 01-12)

1. In game over mode, set alternate-action switch to AUTO- UP (out) and depress A DVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display, and game identification in Player 1 display.
2. Operate the ADVANCE pushbutton to display each function on the ball in play display (see Table 1) and record each total from Player I display. (To reveiw a total that has been advanced past, set alternate-action switch to MANUAL-DOWN (in) and operate the ADVANCE pushbutton.)
3. Calculate the following if desired:
$\%$ Paid Credits $=$ Function 04. Function 08
4. Turn the game OFF and back ON to return to game over mode.
5. To change current High Score to Date to value of Function 13, momentarily depress HIGH SCORE RESET pushbutton.
6. To zero Functions $01-11$, see page 7

## GAME ADJUSTMENT PROCEDURE

( Functions 13-35)
Coin door must be open to change settings.

1. In game over mode, set alternate-action switch to AUTO- UP (out) and depress ADVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display, and game identification in Player I display.
2. To raise Function number in ball in play display, operate ADVANCE pushbutton with switch set to AUTO-UP (in). To lower Function number operate ADVANCE with it set to MANUAL-DOWN (out).
3. With desired Function indicated in ball in play display, raise value in player 1 display by operating credit button with switch set to AUTO-UP (out); lower value by operating credit button with it set to MANUAL-DOWN (in). Value left of Player I display is new setting. For values see Table I and (for pricing) Table 2.
4. Repeat steps 2 and 3 until all required adjustments have been made.
5. Turn game OFF and back ON to return to game over mode.
6. To restore factory settings and zero audit totals, see page 7 .

## DIAGNOSTIC PROCEDURES

(Display Digits, Lamp. Solenoid. and Switch Tests)

1. In game over mode, set alternate-action switch to MANUAL-DOWN (in) and depress ADVANCE. All displays should go blank.
2. Momentarily depress ADVANCE and set switch to AUTO-UP (out). Display Digits test is performed.
3. Momentarily depress ADVANCE. Test 01 is indicated on number of credits display an Lamp Test is performed.
4. Set switch to MANUAL-DOWN (in) and momentarily depress ADVANCE. Test 02 is indicated on number of credits display and solenoid 01 on the ball in play display; solenoid 01 is pulsed by driver board.
5. Operate ADVANCE to pulse each solenoid (see Figure 3). Pulse solenoid 08 three times to remove balls from ramp before proceeding to switch test.
6. Set switch to AUTO-UP (out) and momentarily depress ADVANCE. Test 03 is indicated on number of credits display and stuck switches on ball in play display.
7. See Figure 4. Operate switches; switch number is indicated on ball in play display.
8. Turn game OFF and back ON to return to game over mode.
9. To set up Auto-Cycle Mode (Display Digits, Lamp, and Solenoid Tests) see page 7.

Table 1. Game Adjustments

| FUNCTION | DESCRIPTION | NOTES | FACTORY SETTING |
| :---: | :---: | :---: | :---: |
| 00 | Game Identification | 1 | 14972 |
| 01 | Coins, Left Chute (Closest to coin door hinge) | 1 | -- |
| 02 | Coins, Center Chute | 1 | -- |
| 03 | Coins, Right Chute | 1 | -- |
| 04 | Total Paid Credits | 1 | -- |
| 05 | Total Specials | 1 | -- |
| 06 | Total Replay (Extra Ball) Scores | 1 | -- |
| 07 | Match and High Score to Date Credits | 1 | -- |
| 08 | Total Credits | 1,2 | -- |
| 09 | Total Extra Balls | 1.3 | -- |
| 10 | Total Ball Time in Minutes | 1 | -- |
| 11 | Total Number of Balls Played | 1 | -- |
| 12 | Current High Score to Date | 4 | 550,000 |
| 13 | Backup High Score to Date | 5 | 550,000 |
| 14 | Replay 1 Score | 6 | 410,000 |
| 15 | Replay 2 Score | 6 | 610,000 |
| 16 | Replay 3 Score | 6 | 0 |
| 17 | Replay 4 Score | 6 | 0 |
| 18 | Maximum Credits | 7 | 20 |
| 19 | Standard and Custom Pricing Control (00-07) | 8 | 02 |
| 20 | Left Coin Slot Multiplier | 8 | 01 |
| 21 | Center Coin Slot Multiplier | 8 | 04 |
| 22 | Right Coin Slot Multiplier | 8 | 01 |
| 23 | Coin Units Required for Credit | 8 | 01 |
| 24 | Coin Units Bonus Points | 8 | 00 |
| 25 | High Scores Credits | 5 | 03 |
| 26 | Match (00=ON 01=OFF) | -- | 00 |
| 27 | Special | -- | 00 |
|  | $00=$ Awards Credit |  |  |
|  | 01 = Awards Extra Ball |  |  |
|  | $02=$ Awards Points |  |  |



> | $\begin{array}{l}01 / 11=\text { Alternating Special lites } \\ \text { when 30,000 FIREPOWER Bonus } \\ \text { collected }\end{array}$ |
| :--- |
| $02 / 12$ = Special lite when 50,000 |
| FIREPOWER Bonus collected |
| $\begin{array}{l}\text { 03/13 = Specials lite when } 30,000 \\ \text { FIREPOWER Bonus collected }\end{array}$ |

## Notes:

1. Functions 00-11 cannot be changed from the coin door; however, Functions $01-11$ can be set to zero as described on page 7 .
2. Total Credits (Function 08) is the sum of Function 04 and as applicable, Functions 05, 06, and 07.
3. Total Extra Balls (Function 09) is the sum of the game extra ball feature and Functions 15 and 06, as applicable.
4. Current High Score to Date (Function 12) can be changed to the value of the Backup High Score to Date (Function 13) by operating the HIGH SCORE RESET switch while in the game over mode.
5. Function 13 may be set to any multiple of 10,000 points. Setting Function 25 to zero with Function 13 set to any score but zero permits the High Score to Date feature to operate but no credits are awarded.
6. Functions 14-17 (Replay Scores) may be set to any multiple of 10,000 points. Setting a function to zero disables the replay score point. Always disable the Replay 4 level first, the Replay 3 level second, etc. The replay levels must be set with ascending values.
7. Setting Maximum Credits (Function 18) to zero places the game in a free play mode.
8. With Function 19 set to 00, Functions 20-24 must be set manually. Refer to Table 2 for seven standard pricing schemes (selected by values of 01-07 for Function 19) and custom pricing values.
9. For 5-Ball play, it is recommended that Function 31 be set to 02 .

## RECOMMENDED SCORE LEVELS

## Levels

## CREDIT GAMES

3-Ball:
*410,000; 610,000
or 410,000; 620,000; 740,000
5-Ball:
(See Note 9)
500,000; 720,000
497-45
EXTRA BALL
3-Ball:
300,000

5-Ball:
400,000 497-76

* Factory Setting

Table 2. Standard and Custom Price Settings

| COIN DOOR <br> MECHANISM | CREDITS | FUNCTION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 19 | 20 | 21 | 22 |  |
| Twin-Quarter Quarter, Dollar, Quarter | 1/25e, 3/50c, 7/\$1 | 00 | 03 | 12 | 03 |  |
|  | 1/25c, 3/50c, 7/\$1 coin only | 00 | 03 | 14 | 03 |  |
|  | 1/25c, $7 / \$ 1$ coin only | 00 | 01 | 07 | 01 |  |
|  | 1/25c, 3/50c, $6 / \$ 1$ | 00 | 01 | 04 | 01 |  |
|  | 1/25c, 6/\$1 coin only | 00 | 01 | 06 | 01 |  |
|  | -1/25c, 5/\$1 | 05 | 01 | 04 | 01 |  |
|  | 1/25c, 5/\$1 coin only | 00 | 01 | 05 | 01 |  |
|  | -1/25c, 4/\$1 | 02 | 01 | 04 | 01 |  |
|  | -1/50c, 3/51 | 01 | 01 | 04 | 01 |  |
|  | 1/50¢ | 00 | 01 | 04 | 01 |  |
| 1DM, 5DM,2DM |  | 03 | 09 | 45 | 18 |  |
|  | $2 / I \mathrm{DM}, 5 / 2 \mathrm{DM}, 14 / 5 \mathrm{DM}$ | 00 | 13 | 65 | 26 |  |
| 20-Cent, 50-Cent | 1/20c, 3/50c | 00 | 06 | 00 | 15 |  |
| 1 Franc, 10 Franc, 5 Franc | -1/2F, 3/5F only, 8/10F only | 04 | 01 | 16 | 06 |  |
| 25 Cent, | -1/25e, 4/1G | 06 | 01 | 00 | 04 |  |
| 1 Guilder, | 1/25e, 5/1G | 00 | 01 | 00 | 04 |  |
| 50 Yen, 100 Yen | -1/50Y, 2/100Y | 07 | 01 | 00 | 02 |  |
| 1 Franc or | 1/1F, 3/2F | 00 | 01 | 01 | 01 |  |
| Twin-1 Franc | 1/IF | 00 | 01 | 01 | 01 |  |
| 5 Franc, | $\bullet 1 / 5 \mathrm{~F}, 2 / 10 \mathrm{~F}$ | 07 | 01 | 00 | 02 |  |
| 10 Franc | 1/10F | 00 | 01 | 00 | 02 |  |
| Twin-2 Franc | -1/2F | 02 | 01 | 04 | 01 |  |
| 10.20 Franc | -1/10F, 2/20F | 07 | 01 | 00 | 02 |  |
| Twin-1 Sucre | 1/3S, 2/5S | 00 | 02 | 00 | 02 |  |

-Indicates standard price settings by adjusting only Function 19. For other price settings, set Function 19 to 00 and s through 24 to the values indicated in the chart.

## RESETTING AUDIT TOTALS AND ADJUSTMENTS; <br> INITIATING AUTO-CYCLE MODE

1. In game over mode, set the alternate-action switch to MANUAL-DOWN (in) and momentarily depress the ADVANCE pushbutton. All displays should go blank.
2. Remove the backglass and unlatch and open the insert door.
3. Set all switches on the MASTER COMMAND slide switch to OFF (move to the right).
4. Set switch on MASTER COMMAND switch to ON (move to left):
5. To zero audit totals (Functions 01-11) set switch 8 to ON.
6. To restore factory settings and zero audit totals, set switch 7 to ON. Coin Door must remain open to restore factory settings.
7. For Auto-Cycle Mode set switch 6 to ON.
8. Momentarily depress MASTER COMMAND ENTER pushbutton. The LEDs should blink once.
9. After zeroing audit totals turn game OFF and ON to return to game over mode.
10. After restoring factory settings, turn game OFF and ON twice to return to game over mode.
11. To initiate Auto-Cycle Mode, set alternate-action switch to AUTO-UP (out) and momentarily depress the ADVANCE pushbutton. Each cycle of this mode sequences
through display digits test, flashes all multiplexed lamps 64 times and pulses each solenoid. To terminate the Auto-Cycle mode and go to game over, turn the game OFF and ON.



Figure 3. Playfield Solenoid Locations and Solenoid Chart
8

Table 3. Solenoid Connections

| $\begin{gathered} \text { soL. } \\ \text { No. } \end{gathered}$ | FUNCTION | WIRE COLOR | CONNECTIONS | DRIVER TRANS. | SC PA |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 01 | Ball Release | GRY-BRN | 2P11-4, 8P3-17 | Q15 | St |
| 02 | Not Used | GRY-RED | 2P11-5; 8P3-18 | Q17 | -- |
| 03 | Not Used | GRY-ORN | 2P11-7, 8P3-19 | Q19 | -- |
| 04 | Left Eject Hole | GRY-YEL | 2P11-8, 8P3-20 | Q21 | SC |
| 05 | Right Eject Hole | GRY-GRN | 2P11-9, 8P3-21 | Q23 | SC |
| 06 | Upper Right Eject Hole | GRY-BLU | 2P11-3, 8P3-22 | Q25 | SC |
| 07 | Left Ball Saver Kicker | GRY-VIO | 2P11-2, 8P3-23 | Q27 | SC |
| 08 | Ball Ramp Thrower | GRY-BLK | 2P11-1, 8P3-24 | Q29 | S 4 |
| 09 | Sound | BRN-BLK | 2P9-9, 10P3-3 | Q31 | - |
| 10 | Sound | BRN-RED | 2P9-7, 10P3-2 | Q33 | -- |
| 11 | Sound | BRN-ORN | 2P9-1, 10P3-5 | Q35 | -- |
| 12 | Sound | BRN-YEL | 2P9-2, 10P3-4 | Q37 | -- |
| 13 | Sound | BRN-GRN | 2P9-3, 10P3-7 | Q39 | -- |
| 14 | Credit Knocker | BRN-BLU | 2P9-4, 7P1-16 | Q41 | S |
| 15 | Flash Lamps | BRN-VIO | 2P9-5, 6P2 | Q43 | Ty |
| 16 | Coin Lockout | BRN-GRY | 2P9-6, 7P 1-18, 7P2-4 | Q45 | S |
| *17 | Top Left Jet Bumper | BLU-BRN | 2P12-7, 8P3-11 | Q2 | S |
| *18 | Bottom Left Jet Bumper | BLU-RED | 2P12-4, 8P3-12 | Q4 | St |
| *19 | Top Right Jet Bumper | BLU-ORN | 2P12-3, 8P3-13 | Q6 | S |
| *20 | Bottom Left Jet Bumper | BLU-YEL | 2P12-6, 8P3-14 | Q8 | St |
| *21 | Right Kicker | BLU-GRN | 2P12-8, 8P3-15 | Q10 | St |
| *22 | Left Kicker | BLU-BLK | 2P12-9, 8P3-16 | Q12 | S |
| * | Right Flipper | BLU-VIO | 7P1-8, 8P3-3 | -- | S |
| * | Left Flipper | BLU-GRY | 7P1-10, 8P3-4 | -- | S |

## *NOTES:

1. Special switch connections for solenoids 17 through 22 are as follows:

$$
\begin{aligned}
& 17 \text {-- ORN-BRN -- 2P13-5, 8P3-5 } \\
& 18 \text {-- ORN-RED -- 2P13-3, 8P3-6 }
\end{aligned}
$$

3. Typical wiring for solenoids and spe


```
20 -- ORN-YEL -- 2P13-4, 8P3-8
21-ORN-GRN -- 2P13-8, 8P3-9
22 -- ORN-BLU -- 2P13-9, 8P3-10
```

2. Flipper button connections are as follows:

Right -- ORN-VIO -- 2P12-1, 7P1-7
Left -- ORN-GRY -- 2P12-2, 7P1-9


58 Center Ball Ramp
Note: Second score is lit or flashing value.

Figure 4. Plavfield Switch Locations and Switch Chart

| Row | $\stackrel{1}{\text { GRN-BRN }}$ | $\stackrel{2}{\text { GRN-RED }}$ | $\stackrel{3}{\text { GRN-ORN }}$ | $\stackrel{4}{\text { GRN-YEL }}$ | $\stackrel{5}{\text { GRN-BLK }}$ | $\stackrel{6}{\text { GRN-BLU }}$ | $\stackrel{7}{\text { GRN-VIO }}$ | $\begin{gathered} 8 \\ \text { GRN-GRY } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1 \underset{\text { WRT- }}{\text { BRN }}$ | $\begin{array}{ll} \hline \begin{array}{c} \text { PLUMB } \\ \text { BOB } \\ \text { THLT } \end{array} \\ & \\ & 1 \end{array}$ | OUTHOLE $\mathbf{9}$ | TARGET | воттом LEFT JET BUMPER | ROLLOVER $33$ | вотTOM "POWER" TARGET | CENTER MIDDLE LEFT STANDUP 49 | RIGHT BALL RAMP |
| $2 \begin{gathered} \text { WHT- } \\ \text { RED } \end{gathered}$ | BALL ROLL TILT 2 | $\begin{aligned} & \begin{array}{l} \text { LEFT } \\ \text { OOTSIEE } \\ \text { ROLLOVEA } \end{array} \\ & \mathbf{1 0} \end{aligned}$ | $\stackrel{2}{2}$ | TOP LEFT JET BUMPER $\mathbf{2 6}$ | ROLLOVER $34$ | $\underset{\text { RIGHT }}{\text { RICKER }}$ | LOWER MIDDLE LEFT STANDUP 50 | CENTER BALL RAMP |
| 3 WHT- | CREDIT BUTTON 3 | LEFT INSIDE ROLLOVER | $" 3 "$ TARGET $19$ | TOP RIGHT JET BUMPER 27 | ROLLOVER 35 | AIGHT INSIDE ROLLOVER 43 | LEFT BALL RAM 51 | NOT USED 59 |
| $4 \underset{\text { YEL }}{\text { WHT- }}$ | RIGHT COIN SWITCH | $\begin{aligned} & \text { LEFT } \\ & \text { KICKER } \end{aligned}$ | NOT USED 20 | воттом fight Jet BUMPER 28 | UPPER RIGHT EJECT HOLE 36 | RIGHT OUTSIDE AOLLOVER 44 | NOT <br> 52 | NOT USED 60 |
| WHTGRN | CENTER COIN SWITCH 5 | $\begin{aligned} & \text { EJEFT } \\ & \text { EJET HOLE } \end{aligned}$ $13$ | TARGET $21$ | TOP CENTER TARGET 29 | LOWER TOP RIGHT STANDUP | RIGHT <br> FLIPPER LANE CHANGE SWITCH $_{45}$ | $\begin{gathered} \text { LEFT } \\ \text { EJECT } \\ \text { ROLLOVER } \end{gathered}$ | NOT USED 61 |
| $6 \underset{ }{\text { WHT- }} \text { BLU }$ |  | UPPER MIDDLE LEFT STANDUP 14 | $\begin{gathered} \text { " } 5^{\prime \prime} \\ \text { TARGET } \end{gathered}$ <br> 22 | HOLE | MIDDLE RIGHT STANDUP | $\begin{aligned} & \text { BALL } \\ & \text { SHOOTER } \end{aligned}$ | RIGHT EJECT ROLLOVER 54 | NOT |
| $7 \begin{gathered} \text { WHT- } \\ \text { VIO } \end{gathered}$ | SLAM <br> 7 | SPINNER | "G" $23$ | UPPEA TOP RIGHT STANDUP | TOP <br> "POWER" <br> TARGET |  | NOT <br> 55 | NOT USED 63 |
| $8 \begin{gathered} \text { WHT- } \\ \text { GRY } \end{gathered}$ | HIGH SCORE RESET 8 8 | top Left STANDUP 16 | NOT | gollover $32$ | MIDDLE <br> -POWER" <br> TARGET | LOWER RIGHT STANDUP 48 | NOT <br> 56 | NOT USED 64 |

Figure 5. Switch Matrix

|  | $\begin{gathered} 1 \\ \text { YEL-BRN } \end{gathered}$ | $\begin{gathered} 2 \\ \text { YEL-RED } \end{gathered}$ | $\stackrel{3}{\text { YEL-ORN }}$ | $\underset{\text { YEL-BLK }}{4}$ | $\stackrel{5}{\text { YEL-GRN }}$ | $\begin{array}{\|c\|} \hline 6 \\ \text { YEL-ELU } \\ \hline \end{array}$ | $\underset{\text { Yecl-vio }}{7}$ | $\begin{array}{\|c\|} \hline \mathbf{8} \\ \text { YEL-QRY } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. ${ }_{\text {RED- }}^{\text {BRN }}$ | $\begin{aligned} & \text { SAME PLAYER } \\ & \text { SAOOTS } \\ & \text { AGAMN } \\ & \text { (PAYIIELD) } \end{aligned}$ | $\begin{aligned} & \text { TOP } \\ & \text { POWER } \end{aligned}$ TARGET | ${ }^{4.000}$ | ${ }_{\text {BONUS }}^{20.00}$ | $\begin{gathered} \text { LEFT } \\ \text { EJECTHOLE } \\ \text { ARHOW } \end{gathered}$ | $\begin{aligned} & 10,000 \\ & \text { FIREPOWER } \\ & \text { BONUS } \end{aligned}$ | RIGHT SPECIAL | $\underset{\substack{\text { PLAYER } \\ \text { UP }}}{* 1}$ |
| $2 \begin{aligned} & \text { RED- } \\ & \text { BLK } \end{aligned}$ |  | CENTER POWER target | $\begin{aligned} & 5.000 \\ & \text { BoNus } \end{aligned}$ | $\begin{aligned} & \text { TARGET } \\ & \text { ARROW } \end{aligned}$ | $\begin{gathered} \text { RIGHT } \\ \text { EJECTHOLE } \\ \text { ARROW } \end{gathered}$ | $\begin{aligned} & \text { FIREPOWER } \\ & \text { BONUS } \end{aligned}$ | $\operatorname{cic}_{\text {PLAN }}$ | $\underset{\substack{\text { PLUPR }}}{* 2}$ |
| $3 \text { RED- }$ |  | BOTTOM POWEA TARGET |  | $\begin{aligned} & \text { (anGer } \\ & \text { ARROW } \end{aligned}$ | UPPER RIGHT EJECT HOLE ARROW | $\begin{aligned} & \text { S0,000 } \\ & \text { FIREPOWER } \\ & \text { BONUS } \end{aligned}$ | $\begin{aligned} & \mathrm{C}_{\text {CAN }}^{2} \end{aligned}$ | $\begin{gathered} \text { PLAYER } \\ \text { UP } \end{gathered}$ |
| $4 \begin{gathered} \text { RED. } \\ \text { YEL } \end{gathered}$ | $\underset{(\times 2)}{\text { POWER }}$ | RIGHT ROLIOE ROLIOVER | ${ }^{7,000}$ | $\begin{gathered} \text { "UB" } \\ \text { AABET } \end{gathered}$ | 2x | $\begin{aligned} & \text { LEFOTPET TET } \\ & \text { BUMPER } \end{aligned}$ | $\underset{\substack{3 \\ \text { CLN } \\ \text { PLAY }}}{ }$ | $\underset{\text { PLAP }}{\substack{\text { AYYE }}}$ |
| $5 \text { RED- }$ | ${ }^{\text {F }}$ |  | ${ }_{8}^{8.000}$ |  | 3x | $\begin{gathered} \text { TIOP } \\ \text { RIGHMPT } \\ \text { BUMPR } \end{gathered}$ | $\cos _{\text {PLAN }}^{4}$ | TILT |


| $6 \begin{gathered} \text { RED- } \\ \text { BLU } \end{gathered}$ | " | $\begin{aligned} & \text { 1,000 } \\ & \text { BONUS } \end{aligned}$ | $\begin{aligned} & 9,000 \\ & \text { BONUS } \end{aligned}$ | "5" <br> TARGET ARROW | 4X | вотTOM RIGHT JET BUMPER | MATCH | GAME OVER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $7 \begin{gathered} \text { RED- } \\ \text { VIO } \end{gathered}$ | "R" | $\begin{aligned} & 2.000 \\ & \text { BONUS } \end{aligned}$ | NOT USED | " 6 " TARGET ARROW | 5X | BOTTOM <br> LEFT JET BUMPER | $\begin{aligned} & \text { BALL } \\ & \text { IN } \\ & \text { PLAY } \end{aligned}$ | SAME PLAYER SHOOTS AGAIN (BACKBOX) |
| $8 \begin{gathered} \text { RED- } \\ \text { GRY } \end{gathered}$ | "E" | $\begin{aligned} & 3,000 \\ & \text { BONUS } \end{aligned}$ | $\begin{aligned} & 10.000 \\ & \text { BONUS } \end{aligned}$ | $\begin{aligned} & \text { SPINNER } \\ & \text { 1,000 WHEN } \\ & \text { LIT } \end{aligned}$ | EXTRA BALL WHEN LIT | LEFT SPECIAL | CREDITS (PLAYFIELD) | $\begin{aligned} & \text { HIGH SCORE } \\ & \text { TO DATE } \end{aligned}$ |

Figure 6. Lamp Matrix

