



## Power Supply

|                                                           |                               |                |                                              |                                    |
|-----------------------------------------------------------|-------------------------------|----------------|----------------------------------------------|------------------------------------|
| F1                                                        | 5V & 12V Logic Power Input    | 7A, 250V, SB   | <p>Power Supply Board<br/>520-5047-02</p>    | <p>CPU Board<br/>520-5003-04</p>   |
| F2                                                        | 5V & 12V Logic Power Input    | 7A, 250V, SB   |                                              |                                    |
| F3                                                        | Not used                      |                |                                              |                                    |
| F4                                                        | 18V Controlled lamps          | 8A, 250V, SB   |                                              |                                    |
| F5                                                        | 34V Solenoids                 | 5A, 250V, SB   |                                              |                                    |
| F6                                                        | 34V Solenoids                 | 5A, 250V, SB   |                                              |                                    |
| F7                                                        | 90VAC Display Regulator       | 0.5A, 250V, SB |                                              |                                    |
| <b><u>Back Box fuses</u></b>                              |                               |                |                                              |                                    |
| F1                                                        | 13VAC Controlled lamps        | 8A, 250V, SB   |                                              |                                    |
| F2                                                        | 25VAC Solenoids               | 8A, 250V, SB   |                                              |                                    |
| <b><u>Playfield Power Board fuses 520-5021-05</u></b>     |                               |                | <p>Playfield Power Board<br/>520-5021-05</p> | <p>Sound Board<br/>520-5077-00</p> |
| F1                                                        | General Illumination (Violet) | 5A, 250V, SB   |                                              |                                    |
| F2                                                        | General Illumination (Green)  | 5A, 250V, SB   |                                              |                                    |
| F3                                                        | General Illumination (Yellow) | 5A, 250V, SB   |                                              |                                    |
| F4                                                        | General Illumination (Brown)  | 5A, 250V, SB   |                                              |                                    |
| F5                                                        | Flipper Power & All 50V Coils | 5A, 250V, SB   |                                              |                                    |
| F6                                                        | 34V Flashers (Right)          | 5A, 250V, SB   |                                              |                                    |
| F7                                                        | 34V Coils (Left)              | 3A, 250V, SB   |                                              |                                    |
| F8                                                        | 50V Coils                     | 4A, 250V, SB   |                                              |                                    |
| F9                                                        | 50V Laser Kick                | 5A, 250V, SB   |                                              |                                    |
| <b><u>Solid State Flipper Board fuses 520-5033-03</u></b> |                               |                |                                              |                                    |
| F1                                                        | Coil A                        | 3A, 250V, SB   |                                              |                                    |
| F2                                                        | Coil (hold power)             | 3A, 250V, SB   |                                              |                                    |
| F3                                                        | Coil B                        | 3A, 250V, SB   |                                              |                                    |
| F4                                                        | Coil (hold power)             | 3A, 250V, SB   |                                              |                                    |
| F5                                                        | Coil C                        | 3A, 250V, SB   |                                              |                                    |
| <b><u>Line Filter</u></b>                                 |                               |                |                                              |                                    |
| Foreign                                                   |                               |                | (220V)                                       | 4A, 250V, SB                       |
| Domestic                                                  |                               |                | (110V)                                       | 8A, 250V, SB                       |

| Coil No.                | Coil or Flashlamp Description         | Drive Transistor      | CPU wire            | CPU connection        | PPB wire              | PPB connection   | Power Line           | Power Description  | Coil or Flash Type       |
|-------------------------|---------------------------------------|-----------------------|---------------------|-----------------------|-----------------------|------------------|----------------------|--------------------|--------------------------|
| 1L                      | 6-Ball Assembly Lockout               | Q46                   | Gry-Brn<br>(to PPB) | CN11-1<br>to PPB J1-1 | Vio-Brn               | J2-10            | Brn                  | 34V L              | 25-1240                  |
| 1R                      | Bottom Arch left & right flashers     |                       | Blk-Brn             |                       | J9-5                  | Orn              | 34V R                | #89 (4)            |                          |
| 2L                      | Ball Release                          | Q45                   | Gry-Red<br>(to PPB) | CN11-3<br>to PPB J1-2 | Vio-Red               | J2-9             | Brn                  | 34V L              | 23-800                   |
| 2R                      | Top right playfield flashers          |                       | Blk-Red             |                       | J9-6                  | Orn              | 34V R                | #89 (4)            |                          |
| 3L                      | Ball Launch                           | Q5 PPB                | Gry-Orn<br>(to PPB) | CN11-4<br>to PPB J1-3 | Wht-Orn/Vio-Orn       | J2-8 J8-1/J8-2   | Yel-Vio              | 50V                | 23-800                   |
| 3R                      | 2 insert, 2 left scoop flashers       | Q44 CPU               | Blk-Orn             |                       | J9-7                  |                  | Orn                  | 34V R              | #89 (4)                  |
| 4L                      | VUK                                   | Q4 PPB                | Gry-Yel<br>(to PPB) | CN11-5<br>to PPB J1-4 | Wht-Yel/Vio-Yel       | J2-7 J8-3/J8-4   | Yel-Vio              | 50V                | 23-800                   |
| 4R                      | 2 insert, 2 upper right pfld flashers | Q43 CPU               | Blk-Yel             |                       | J9-8                  |                  | Orn                  | 34V R              | #89 (4)                  |
| 5L                      | Left Scoop                            | Q42                   | Gry-Grn<br>(to PPB) | CN11-6<br>to PPB J1-5 | Vio-Grn               | J2-6             | Brn                  | 34V L              | 23-800                   |
| 5R                      | 4 Turbo Hot Dog flashers              |                       | Blk-Grn             |                       | J9-9                  | Orn              | 34V R                | #89 (4)            |                          |
| 6L                      | Eject                                 | Q41                   | Gry-Blu<br>(to PPB) | CN11-7<br>to PPB J1-6 | Vio-Blu               | J2-5             | Brn                  | 34V L              | 23-800                   |
| 6R                      | 4 back panel flashers                 |                       | Blk-Blu             |                       | J9-10                 | Orn              | 34V R                | #89 (4)            |                          |
| 7L                      | Not Used                              | Q40                   | Gry-Vio<br>(to PPB) | CN11-8<br>to PPB J1-7 | Vio-Blk               | J2-3             |                      |                    |                          |
| 7R                      | 2 insert, 2 lower right pfld flashers |                       | Blk-Vio             |                       | J9-11                 | Orn              | 34V R                | #89 (4)            |                          |
| 8L                      | Knocker                               | Q39                   | Gry-Blk<br>(to PPB) | CN11-9<br>to PPB J1-8 | Vio-Gry               | J2-2             | Brn                  | 34V L              | 23-800                   |
| 8R                      | 4 left upper Hot Dogs flashers        |                       | Blk-Gry             |                       | J9-12                 | Orn              | 34V R                | #89 (4)            |                          |
| 9                       | Shaker Motor                          | Q1 PPB<br>Q30 CPU     | Wht-Brn             | CN12-1                | Brn-Blk               | J8-11/J8-12      | Gry/Gry-Grn          | 12V                | Motor                    |
| 10                      | L/R Power Relay                       | Q29                   | Blk-Red             | CN12-2<br>to PPB J6-9 |                       | J6-7             | Red-Wht              | 34V                | Relay: 24VDC             |
| 11                      | General Illumination Relay (PSB)      | Q28                   | Brn-Orn             | CN12-4                |                       | (PSB) CN7-1      | Red                  | 34V                | Relay: 24VDC             |
| 12                      | Top Diverter                          | Q27                   | Brn-Yel             | CN12-5                |                       |                  | Red                  | 34V                | 27-1500                  |
| 13                      | Airplane Motor                        | Q26                   | Brn-Grn             | CN12-6                |                       |                  | Gry-Blu              | 9V                 | Motor                    |
| 14                      | Mirror Motor relay                    | Q25                   | Brn-Blu             | CN12-7                |                       |                  | Red                  | 34V                | Relay: 24VDC             |
| 15                      | 3 insert, 1 playfield flashers        | Q24                   | Brn-Vio             | CN12-8                |                       |                  | Red                  | 34VR               | #89 (4)                  |
| 16                      | Not Used                              | Q23                   | Brn-Gry             | CN12-9                |                       |                  |                      |                    |                          |
| 17                      | Left Turbo Bumper                     | Q11                   | Blu-Brn             | CN19-7                |                       |                  | Red                  | 34V                | 23-800                   |
| 18                      | Center Turbo Bumper                   | Q9                    | Blu-Red             | CN19-4                |                       |                  | Red                  | 34V                | 23-800                   |
| 19                      | Right Turbo Bumper                    | Q8                    | Blu-Orn             | CN19-3                |                       |                  | Red                  | 34V                | 23-800                   |
| 20                      | Left Slingshot                        | Q10                   | Blu-Yel             | CN19-6                |                       |                  | Red                  | 34V                | 23-800                   |
| 21                      | Right Slingshot                       | Q12                   | Blu-Grn             | CN19-8                |                       |                  | Red                  | 34V                | 23-800                   |
| 22                      | Not Used                              | Q13                   | Blu-Blk             | CN19-9                |                       |                  |                      |                    |                          |
| Flipper Circuits (SSFB) |                                       | SSFB Drive Transistor | SSFB to coil        | SSFB Connection       | SSFB to Flipperswitch | SSFB Sw. Connect | SSFB Power Wire      | Power Description  | Coil                     |
|                         | Left Flipper (coil "B")               | SR2,<br>Q10-Q9        | Gry-Yel             | CN2-4,5               | Blu-Gry               | CN1-11           | Blk-Wht /<br>Blk-Wht | CN2-11,12<br>50VDC | 23-900<br>(090-5020-30)  |
|                         | Right Flipper (coil "A")              | SR1,<br>Q2-Q3         | Blu-Yel             | CN2-7,8               | Blu-Vio               | CN1-8            | Gry /<br>Gry Grn     | CN2-9,10<br>8VAC   | 23-900<br>(090-5020-30)  |
|                         | Upper Left Flipper (coil "C")         | SR3,<br>Q15-Q16       | Blk-Yel             | CN2-1,2               | Gry-Vio               | CN1-12           |                      |                    | 25-1800<br>(090-5041-00) |

## LAMP MATRIX

| LAMP MATRIX                          |                                      |                                      |                                      |                                       |                                      |                                      |                                      |                                      |                       |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------|
|                                      | Red                                  |                                      |                                      |                                       | Yellow (B+)                          |                                      |                                      |                                      |                       |
| Column (*)                           | 1<br>YEL-BRN<br>(41)<br>CN7-1<br>Q71 | 2<br>YEL-RED<br>(42)<br>CN7-2<br>Q70 | 3<br>YEL-ORN<br>(43)<br>CN7-3<br>Q69 | 4<br>YEL-BLK<br>(40)<br>CN7-4<br>Q68  | 5<br>YEL-GRN<br>(45)<br>CN7-6<br>Q67 | 6<br>YEL-BLU<br>(46)<br>CN7-7<br>Q66 | 7<br>YEL-VIO<br>(47)<br>CN7-8<br>Q65 | 8<br>YEL-GRY<br>(48)<br>CN7-9<br>Q64 |                       |
| Row (*)                              | 1<br>RED-BRN<br>(21)<br>CN6-1<br>Q72 | Insert<br>(T)OMMY<br>2 lamps         | Skill<br>Shot                        | Jackpot                               | Left 3-Bank<br>Stand-Up<br>Bottom    | Right 3-Bank<br>Stand-Up<br>Top      | Playfield<br>(T)OMMY                 | Left<br>Turbo<br>Bumper              | Acid<br>Queen<br>Left |
| 2<br>RED-BLK<br>(20)<br>CN6-2<br>Q73 | Grid:<br>Christmas                   | Insert<br>T(O)MMY<br>2 lamps         | Double<br>Jackpot                    | Left 3-Bank<br>Stand-Up<br>Middle     | Right 3-Bank<br>Stand-Up<br>Middle   | Playfield<br>T(O)MMY                 | Center<br>Turbo<br>Bumper            | Acid<br>Queen<br>Center              |                       |
| 3<br>RED-ORN<br>(23)<br>CN6-3<br>Q74 | Grid:<br>Cousin<br>Kevin             | Grid:<br>Smash<br>The Mirror         | Insert<br>TO(M)MY<br>2 lamps         | Left 3-Bank<br>Stand-Up<br>Top        | Right 3-Bank<br>Stand-Up<br>Bottom   | Playfield<br>TO(M)MY                 | Right<br>Turbo<br>Bumper             | Acid<br>Queen<br>Right               |                       |
| 4<br>RED-YEL<br>(24)<br>CN6-5<br>Q75 | Grid:<br>Holiday<br>Camp             | Grid:<br>Fiddle<br>About             | Left Ramp<br>Stand-Up<br>Left        | Insert<br>TOM(MY)<br>2 lamps          | Mystery                              | Playfield<br>TOM(MY)                 | Spinner<br>Bonus<br>Right            | Sally<br>Simpson<br>Left             |                       |
| 5<br>RED-GRN<br>(25)<br>CN6-6<br>Q76 | Grid:<br>Lite<br>Extra Ball          | Grid:<br>Acid<br>Queen               | Left Ramp<br>Stand-Up<br>Right       | Spinner<br>Bonus<br>Left              | Insert<br>TOMM(Y)<br>2 lamps         | Playfield<br>TOMM(Y)                 | Light<br>Union Jack<br>Rt (Spinner)  | Sally<br>Simpson<br>Right            |                       |
| 6<br>RED-BLU<br>(26)<br>CN6-7<br>Q77 | Grid:<br>Silver Ball                 | Grid:<br>There's A<br>Doctor         | Left Ramp<br>Stand-Up<br>Top         | Extra<br>Ball                         | More<br>Time                         | Outlanes<br>(2 lamps)                | Hollyday<br>Camp                     | Scoop<br>Multiball                   |                       |
| 7<br>RED-VIO<br>(27)<br>CN6-8<br>Q78 | Grid:<br>Captain<br>Walker           | Grid:<br>Tommy<br>Scoring            | Extra Ball<br>Buy-In<br>Button       | Light<br>Union Jack<br>Left (Spinner) | Captain<br>Walker<br>Left            | Mirror<br>Multiball                  | Return<br>Lanes<br>(2 lamps)         | Collect<br>Union<br>Jack             |                       |
| 8<br>RED-GRY<br>(28)<br>CN6-9<br>Q79 | Grid:<br>Wizard                      | Grid:<br>Sally<br>Simpson            | Silver Ball                          | Genius                                | Captain<br>Walker<br>Right           | Shoot<br>Again                       | Airplane                             | Credit<br>Button                     |                       |

(\*) 2 digit number in parentheses indicates resistor/wire color code number displayed during diagnostics.

## SWITCH MATRIX

|                                |                                      | White                                |                                      |                                         |                                          | Green                                 |                                      |                                      |                             |
|--------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------------|------------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|-----------------------------|
| Column (*)                     | 1<br>GRN-BRN<br>(51)<br>CN8-1<br>Q55 | 2<br>GRN-RED<br>(52)<br>CN8-2<br>Q54 | 3<br>GRN-ORN<br>(53)<br>CN8-3<br>Q53 | 4<br>GRN-YEL<br>(54)<br>CN8-4<br>Q52    | 5<br>GRN-BLK<br>(50)<br>CN8-5<br>Q51     | 6<br>GRN-BLU<br>(56)<br>CN8-7<br>Q50  | 7<br>GRN-VIO<br>(57)<br>CN8-8<br>Q49 | 8<br>GRN-GRY<br>(58)<br>CN8-9<br>Q48 |                             |
| Row (*)                        | 1<br>WHT-BRN<br>(91)<br>CN10-9       | Plump<br>Bob<br>Tilt<br>1            | Trough<br>#1<br>Left<br>9            | Left<br>Slingshot<br>17                 | Left 3-Bank<br>Stand-Up<br>Bottom<br>25  | Right 3-Bank<br>Stand-Up<br>Top<br>33 | Mirror<br>Trough<br>41               | Left<br>Turbo<br>Bumper<br>49        | Left<br>Ramp<br>Enter<br>57 |
| 2<br>WHT-RED<br>(92)<br>CN10-8 | 4th<br>Coin<br>Switch<br>2           | Trough<br>#2<br>10                   | Right<br>Slingshot<br>18             | Left 3-Bank<br>Stand-Up<br>Middle<br>26 | Right 3-Bank<br>Stand-Up<br>Middle<br>34 | Skill<br>Trough<br>42                 | Center<br>Turbo<br>Bumper<br>50      | Left<br>Ramp<br>Exit<br>58           |                             |
| 3<br>WHT-ORN<br>(93)<br>CN10-7 | Credit<br>Button<br>3                | Trough<br>#3<br>11                   | VUK<br>19                            | Left 3-Bank<br>Stand-Up<br>Top<br>27    | Right 3-Bank<br>Stand-Up<br>Bottom<br>35 | Captive<br>Ball<br>43                 | Right<br>Turbo<br>Bumper<br>51       | Not<br>Used<br>59                    |                             |
| 4<br>WHT-YEL<br>(94)<br>CN10-6 | Right<br>Coin<br>Switch<br>4         | Trough<br>#4<br>12                   | Left Ramp<br>Stand-Up<br>Left<br>20  | Mirror<br>Up<br>28                      | Left<br>Return<br>Lane<br>36             | Not<br>Used<br>44                     | Not<br>Used<br>52                    | Not<br>Used<br>60                    |                             |
| 5<br>WHT-GRN<br>(95)<br>CN10-5 | Center<br>Coin<br>Switch<br>5        | Trough<br>#5<br>13                   | Left Ramp<br>Stand-Up<br>Right<br>21 | Top<br>Left<br>Rollover<br>29           | Right<br>Return<br>Lane<br>37            | Not<br>Used<br>45                     | Not<br>Used<br>53                    | Not<br>Used<br>61                    |                             |
| 6<br>WHT-BLU<br>(96)<br>CN10-3 | Left<br>Coin<br>Switch<br>6          | Trough<br>#6<br>14                   | Left Ramp<br>Stand-Up<br>Top<br>22   | Right<br>Ramp<br>Enter<br>30            | Middle<br>Stand-Up<br>38                 | Not<br>Used<br>46                     | Not<br>Used<br>54                    | Right<br>Ramp<br>Exit<br>62          |                             |
| 7<br>WHT-VIO<br>(97)<br>CN10-2 | Slam<br>Tilt<br>7                    | Trough<br>#7<br>Right<br>15          | Left<br>Scoop<br>23                  | Mirror<br>Down<br>31                    | Left<br>Spinner<br>39                    | Eject<br>47                           | Left<br>Outlane<br>55                | Left<br>Flipper<br>(via SSFB)<br>63  |                             |
| 8<br>WHT-GRY<br>(98)<br>CN10-1 | Extra Ball<br>Buy-In<br>Button<br>8  | Shooter<br>Lane<br>16                | Silver<br>Ball<br>Target<br>24       | Mirror<br>Target<br>32                  | Right<br>Spinner<br>40                   | Top<br>Right<br>Rollover<br>48        | Right<br>Outlane<br>56               | Right<br>Flipper<br>(via SSFB)<br>64 |                             |

(\*) 2 digit number in parentheses indicates resistor/wire color code number displayed during diagnostic