

# **≡** SPEED DEMON™ **≡**

**OWNER'S MANUAL** 

Version 1.09 Version 1.04.05DB Version 1.07.01

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### **OPERATION AND SETUP SECTION**

### **Safety Precautions**



CAUTION: Electrical Shock Hazard.

Do not perform repairs or maintenance on this game with power ON. Unplug the

unit from the wall outlet or shut off power at the power strip inside the cabinet.



CAUTION: Electrical Shock Hazard.

Always plug game into a grounded circuit.



CAUTION: Cutting Hazard.
Always replace broken or scratched glass panels with tempered glass. Never use window glass in this game.



CAUTION: Use of flammable substances can cause severe burns or personal injury.

Always use non-flammable solvents for cleaning parts and

surfaces of this game. Do not use flammable substances such as gasoline, kerosene or thinners.



Figure 1 Demon's Turntable

#### **How the Game Works**

A simple game with a winner every time, but a hard game to master for bonus tickets. The player, using a pinball type shooter, shoots a small ball up into a rotating nine hole disk in the playfield. See figure 1. If the ball drops into one of the six ticket winning holes, the player is immediately rewarded with that number of tickets. If the ball drops into one of the three 'Speed Demon' holes, the upper bonus wheel comes into play.



Figure 2 Speed Demon Game

The bonus wheel is comprised of three rings, each divided into segments with bonus ticket values, and a center jackpot 'Win Tickets' display that increments with each game played. During bonus play, the object for the player is to step up through the bonus rings to win the jackpot. The player must hit the 'Stop' button at



just the right time to stop the rotating light on a red 'demon' arrow that takes them to the next level. Stopping on any other ring segment ends the game and dispenses tickets based on that segment value.

For multiple games set up for progressive play, the progressive display and each game's 'Win Ticket' display would be the same value.

The bonus ring ticket counts can be changed as well as the jackpot settings. See programming section on page 4 for more details.

Tickets are dispensed as they are won. If the ticket dispenser runs out of tickets, the payout will continue after the dispenser is refilled.

### **Service Connections**

All Bay Tek games are 110V or 220V(optional) and draw 2-3 amps at startup. Outlets should be rated for 20 amps or higher.

**IMPORTANT:** Be sure that the electrical power outlets match the game requirements. See outlet labeling at rear bottom of game cabinet.

# Unpacking, Assembly and Installation

1. Inspect the game for any damaged, loose or missing parts. If damage is found please contact the carrier first. Then contact Bay Tek at: service@baytekgames.com, or phone (920) 822-3951 to order replacement parts.



CAUTION: Lifting Hazard. Lifting heavy objects can cause back, neck and other injuries. Be sure adequate lifting and moving devices are available

when unloading, unpacking and moving this game.

2. Place the game near the final location and remove the keys taped in the coin return and open the rear door panel.

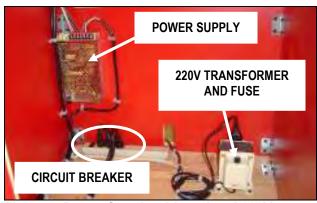


Figure 3 Power Supply with optional 220V setup.

- 3. Uncoil the power cord and feed the cord through one of the holes in the bottom board at the back of the cabinet. Plug the power cord into the wall outlet.
- 4. Place the game in its final position. The game must be reasonably level to insure proper ball action. If leveling is necessary, use adequate shims and blocking to prevent the game from tipping.
- 5. Open the front access door and disconnect the 'Stop' button wiring. Release the two toggle latches securing the 'Stop' button panel. Slide the top glass downward out of the cabinet.
- 6. Place the two balls, shipped with the game, into any hole in the turntable. The game does not have to have power on. Replace the top glass and 'Stop' button access panel.
- 7. Turn power ON at the power strip located inside the cabinet at the bottom of the rear panel. The turntable should start to rotate within a few seconds.
- 8. Fill the ticket tray inside the cabinets. The Win Tickets display will show the letters 'Lo' to indicate when the level of the tickets drops to approximately 1/2 inch high.
- 9. Play the game a few times to make sure that everything is working. (For testing, open



the front panel and trip one of the coin count wires a few times to establish game credits). If something is not working properly, review the troubleshooting section first. If the problem cannot be resolved, contact the Bay Tek service department at: service@baytekgames.com, or phone (920) 822-3951.

10. Once everything is set and working properly, close and lock the front panel. Use glass cleaner and a soft clean cloth to clean all the glass on the game. Do not use solvents to clean the game decal surfaces. The game is now ready to play.

#### Alarm/Sounds

A voice chip enhances the visual effects of the game during normal play and during 'Attract" mode of operation. A volume control is located on the front door panel.

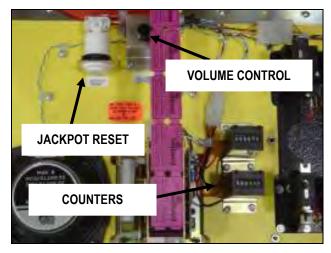


Figure 4 Game Controls

### **Counters**

Counters are mounted inside the cabinet on the front door panel. The counters track the number of games played and tickets dispensed. The counters cannot be reset.



## PROGRAMMING SECTION

## **Programmable Options**



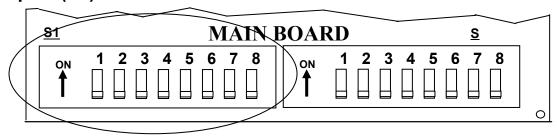
Figure 5 Dipswitch Locations on Main Circuit Board

The ticket patterns, bonus ring settings, coins per play, attract mode and more are controlled by dipswitches located on the main circuit board. See instructions below for details.

The main circuit board is located on the inside wall of the cabinet with access through the rear door. Be sure power is off before setting these dipswitches.

**IMPORTANT:** Power must be OFF to the game when setting dipswitches. Turn OFF the power strip inside the cabinet. Set the dipswitches to the desired settings, wait 30 seconds and then turn ON power at the power strip.

#### **Group #1 (S1)**



<sup>\* -</sup> indicates the default setting

#### **TICKET PATTERN**

| SI  | SWITCH# |     | PATTERN# |                   |     | DESCRIPTION  |   |
|-----|---------|-----|----------|-------------------|-----|--|---|
| 1   | 2       | 3   |          |                   |     | Dipswitches # 1, # 2 and # 3 (S1) are used to set the  |   |
| OFF | OFF     | OFF | 1 *      | 64                |     | ticket pattern number. The ticket pattern number determines the number of tickets dispensed for each               |   |
| OFF | OFF     | ON  | 2        | <u>\$1</u>        |     | segment on the three bonus rings. Changing these   |   |
| OFF | ON      | OFF | 3        | ON 1 2 3  <br>  ♠ |     |  | settings also required changing the ring display.** |
| OFF | ON      | ON  | 4        |                   | ВВВ | * The setting to the left shows the default ticket pattern number of 1 that corresponds to the ticket count on the |   |
| ON  | OFF     | OFF | 5        |                   |     | rings as shipped from the factory.   |   |
| ON  | OFF     | ON  | 6        |                   |     | **Additional patterns are shown at the end of this   |   |
| ON  | ON      | OFF | 7        |                   |     | manual, see page 32, and are available by contacting   |   |
| ON  | ON      | ON  | 8        |                   |     | Bay Tek.   |   |



#### **BONUS SPEED RING SETTINGS**

| SWIT | CH# | SPEED       |            | DESCRIPTION   |
|------|-----|-------------|------------|---|
| 4    | 5   |             | <u>\$1</u> | Dipswitches #4 and #5 (S1) are used to set  |
| OFF  | OFF | SLOW (easy) |            | the speed of the revolving light on the bonus ring during bonus play. The 'Slow' speed is |
| OFF  | ON  | FAST        |            | the easiest. * The drawing to the left shows  |
| ON   | OFF | FASTER *    |            | the default factory setting of 'Fast'.  |
| ON   | ON  | FASTEST     |            |   |

#### **COINS PER PLAY**

| SWITCH# | COINS |           | DESCRIPTION  |
|---------|-------|-----------|--|
| 6       |       | <u>S1</u> | Dipswitch #6 (S1) is used to set the number of coins   |
| ON      | 2     | ON 123456 | needed for each ball to be played. * The drawing to the left shows the default factory setting of '1'. |
| OFF     | 1 *   |           | ,  |

#### ATTRACT MODE

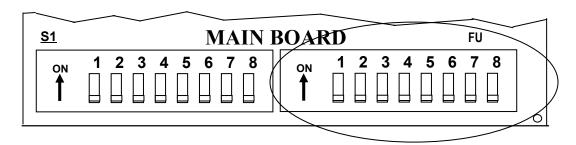
| SWITCH# | ATTRACT  |            | DESCRIPTION  |
|---------|----------|------------|--|
| 7       |          | <u>S1</u>  | When dipswitch # 7 (S1) is enabled, the game will  |
| ON      | Enable * | ON 1234567 | start to run in 'Attract' for a short time every 3 minutes.  During the 'Attract' mode, the attraction lighting will |
| OFF     | Disable  |            | light up, and the audio will play select tracks from the   |
|         |          |            | audio bank embedded in the software. * The drawing to the left shows the default factory setting of 'enable'.        |

#### **JACKPOT INCREMENT PER GAME**

| SWITCH# | VALUE |                    | DESCRIPTION   |
|---------|-------|--------------------|---|
| 8       |       | <u>\$1</u>         | Dipswitch # 8 (S1) is used to set the jackpot   |
| ON      | 1 *   | ON 1 2 3 4 5 6 7 8 | (Win Tickets display) increment for each play to 1 or zero (no incrementing. If no incrementing is  |
| OFF     | 0     |                    | set, the default ticket value is the 'Jackpot Maximum' as set on dipswitches #6, #7 and #8 (S2) below. * The drawing to the left shows the default factory setting of 1 increment for each coin played. |



## **Group #2 (S2)**



#### **MERCY TICKET VALUE ON WHEEL**

| SWI | TCH | VALUE |            | DESCRIPTION   |
|-----|-----|-------|------------|---|
| 1   | 2   |       |            | Dipswitches #1 and #2 (S2) are used to set the value of the six ticket  |
| OFF | OFF | 1     | <u>\$1</u> | winning holes in the rotating turntable. * The drawing to the left shows the default factory setting of '3' tickets per hole. |
| OFF | ON  | 2     |            | and dendant racterly detaining on a national per motor  |
| ON  | OFF | 3 *   |            |   |
| ON  | ON  | 4     |            |   |

#### JACKPOT MINIMUM TICKET PAYOUT

| S   | WITCH | #   | VALUE |              | DESCRIPTION  |
|-----|-------|-----|-------|--------------|--|
| 3   | 4     | 5   |       |              | Dipswitches #3, #4 and #5 (S2) are used to set the |
| OFF | OFF   | OFF | 50    | 64           | minimum number of jackpot tickets dispensed. This  |
| OFF | OFF   | ON  | 100   | <u>S1</u>    | is the starting ticket value for jackpot and       |
| OFF | ON    | OFF | 150   | ON 1 2 3 4 5 | progressive displays. * The drawing to the left    |
| OFF | ON    | ON  | 200   | )   <b>1</b> | shows the default factory setting of 250 tickets   |
| ON  | OFF   | OFF | 250 * | ]  • ⊔впвв   | minimum.   |
| ON  | OFF   | ON  | 300   |              |  |
| ON  | ON    | OFF | 400   |              |  |
| ON  | ON    | ON  | 500   |              |  |

#### **JACKPOT MAXIMUM TICKET PAYOUT**

| S'  | WITCH | #   | VALUE  |                    | DESCRIPTION                                 |
|-----|-------|-----|--------|--------------------|---|
| 6   | 7     | 8   |        |                    | Dipswitches #3, #4 and #5 (S2) are used to  |
| OFF | OFF   | OFF | 100    |                    | set the maximum number of jackpot tickets   |
| OFF | OFF   | ON  | 200    | <u>S1</u>          | dispensed for jackpot and progressive       |
| OFF | ON    | OFF | 300    | ON 1 2 3 4 5 6 7 8 | displays. * The drawing to the left shows   |
| OFF | ON    | ON  | 400    |                    | the default factory setting of 1000 tickets |
| ON  | OFF   | OFF | 500    | ]                  | maximum.                                    |
| ON  | OFF   | ON  | 600    |                    |   |
| ON  | ON    | OFF | 750    |                    |   |
| ON  | ON    | ON  | 1000 * |                    |   |



## PREVENTIVE MAINTENANCE SECTION

#### **Maintenance Chart**

Use the following maintenance chart as a guide only. Actual maintenance intervals will depend on usage and environmental conditions at the location of the game.

Keep a log of all inspections, even if no problem exists, with date and time of inspection, action taken. A sample Repair Record form is included at the end of this manual.

**IMPORTANT:** Do not use cleaning solvents on game graphics. Use only a mild soap solution and dry with a clean lint free cloth.

**IMPORTANT:** The game should be shut OFF for cleaning and maintenance.



CAUTION: Use of flammable substances can cause severe burns or personal injury.

Always use non-flammable solvents for cleaning parts and surfaces of this game. Do not use flammable substances such as gasoline, kerosene or thinners.

|   | Daily | Weekly | Monthly |
|---|-------|--------|---------|
| Inspect game for physical damage. Repair as necessary.  | X     |        |         |
| Check all game lighting. Repair/replace lamps as necessary.   | Х     |        |         |
| Clean outside surfaces with warm soapy water only. Do not use solvents on decals or Acrylic™ surfaces.  | x     |        |         |
| Fill ticket tray.   | X     |        |         |
| Empty coin tray.  | х     |        |         |
| Test game to insure proper operation.   | X     |        |         |
| Open game and clean playfield and inner surfaces with a clean soft cloth and glass cleaner. **Insure there is no dirt or debris in the ball chute or on the edges of the ball guides. |       | x      |         |
| Blow paper dust from ticket mechanism. Clean more often if game is used extensively or conditions dictate cleaning sooner.  |       | х      |         |
| Lubricate plunger with light machine oil.   |       |        | x       |
| Check all fasteners for tightness   |       |        | х       |
| The stepper motor and associated gearing DO NOT require any lubrication.  |       |        |         |



# **TROUBLESHOOTING & DIAGNOSTICS SECTION**

|  | Troubleshooting   | ı Chart  |
|--|---|--|
| Problem  | Probable Cause  | Remedy   |
| No power to the game.  | <ul><li>a. Unplugged.</li><li>b. Blown fuse</li><li>c. Circuit breaker tripped.</li><li>d. Bad power supply.</li></ul>  | <ul> <li>a. Check wall outlet.</li> <li>b. Check transformer fuse (220v applications only).</li> <li>c. Reset power strip breaker switch or building circuit breaker.</li> <li>d. See power supply diagnostic on page 10.</li> </ul>   |
| No Audio   | a. Volume too low. b. Loose wire. c. Main circuit board malfunction.  | <ul> <li>a. Increase the volume at the volume control at the inside of the front door panel.</li> <li>b. Check audio cable connections to speaker, volume control and main circuit board.</li> <li>c. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.</li> </ul> |
| Demon wheel slips or does not rotate.                                | <ul><li>a. Faulty wheel motor.</li><li>b. Alignment problem or broken gear teeth.</li><li>c. Bad Wiring.</li></ul>  | <ul> <li>a. Replace stepper motor.</li> <li>b. Remove play in gears by sliding motor in bracket towards small gear and tighten in place. Replace gear(s).</li> <li>c. Check continuity of wire from motor to main board.</li> </ul>  |
| Ball does not position at plunger when coin is inserted.             | a. Fuse blown.     b. Faulty solenoid used to push ball into position.     c. Bad Wiring  | <ul> <li>a. Replace fuse on circuit board behind the solenoid mounting board. See</li> <li>b. Replace solenoid.</li> <li>c. Check continuity of wire from solenoid to main board.</li> </ul>   |
| Wheel doesn't score properly.  | <ul><li>a. Bad turntable position sensor.</li><li>b. Bad wiring.</li></ul>  | <ul><li>a. Replace the position sensor.</li><li>b. Check continuity of wire from motor to main board.</li></ul>  |
| Rotating bonus light doesn't stop when button is pushed.             | a. Faulty button switch.     b. Bad Wiring  | <ul><li>a. Replace button switch.</li><li>b. Check continuity of wire from button<br/>switch to main board.</li></ul>  |
| Lighting not functioning properly.  Bonus Ticket Display Fluorescent | <ul> <li>a. Burned out lamps.</li> <li>b. Cable problem.</li> <li>c. Bad circuit board – bad<br/>LED's</li> <li>d. Main circuit board<br/>malfunction.</li> </ul> | <ul> <li>a. Replace lamps.</li> <li>b. Check and repair cable to main board.</li> <li>c. Replace faulty circuit board.</li> <li>d. Replace main board with a spare Gen 5 board if possible to isolate the problem to the main circuit board.</li> </ul>  |



| Troubleshooting Chart    |    |                             |    |   |
|--------------------------|----|-----------------------------|----|---|
| Problem                  |    | Probable Cause              |    | Remedy  |
| Tickets do not dispense. | a. | Ticket tray empty. Faulty   | a. | Fill ticket tray. Replace low ticket            |
|                          |    | low ticket sensor switch.   |    | sensor switch.                                  |
|                          | b. | Sensor switch stuck or      | b. | Clean ticket tray of dirt and loose             |
|                          |    | switch wire bent out of     |    | tickets or debris. Bend switch wire to          |
|                          |    | position.                   |    | correct position under tickets.                 |
|                          | C. | Faulty cable to dispenser.  | C. | Check wiring continuity from                    |
|                          | d. | Dirty opto-sensor or paper  |    | dispenser to main board. Check for              |
|                          |    | dust buildup in ticket      |    | pinched, broken or disconnected                 |
|                          |    | dispenser.                  |    | cable. Replace as necessary.                    |
|                          | e. | Ticket dispenser not        | d. |   |
|                          | _  | working.                    |    | necessary wipe sensor with isopropyl            |
|                          | f. | Main circuit board          |    | alcohol on a cotton swab.                       |
|                          |    | malfunction.                | e. | Replace dispenser with spare working dispenser. |
|                          |    |                             | f. | Replace main board with a spare Gen             |
|                          |    |                             | ١. | 5 board if possible to isolate the              |
|                          |    |                             |    | problem to the main circuit board.              |
| Wrong number of tickets  | а. | Ticket Pattern or other     | a. |   |
| dispensed.               |    | ticket dipswitches set      |    | proper setting.                                 |
| '                        |    | wrong.                      | b. | Clean with compressed air and if                |
|                          | b. | Dirty opto-sensor on ticket |    | necessary wipe with isopropyl alcohol           |
|                          |    | dispenser.                  |    | on a cotton swab.                               |
|                          | C. | Faulty ticket dispenser.    | C. | Replace with spare working                      |
|                          | d. | Main circuit board          |    | dispenser.                                      |
|                          |    | malfunction.                | d. | •   |
|                          |    |                             |    | 5 board if possible to isolate the              |
|                          |    |                             |    | problem to the main circuit board.              |

## **Troubleshooting Strategy**

Use common sense and a systematic method of troubleshooting to determine the exact problem, probable cause and remedy. Use the process of elimination to find the faulty component. Always check for the simple and obvious causes first such as unplugged, loose or broken wires, bad sensors, blown fuses, bent, pinched, stuck or jammed components.

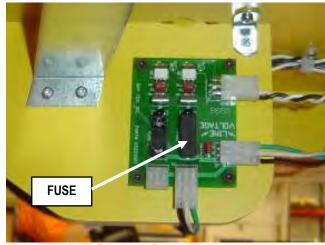


Figure 6 Ball Shooter Solenoid Fuse (access from rear door)

Use 2 amp, 250V (5 x 20mm) fuse (p/n A5FUSE3).



### **Diagnose Power Supply**

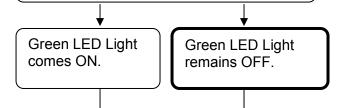
Use the following procedure to check the power supply for Gen 5 games.

Check the small green LED light on the power supply circuit board. If the light is out there is a short somewhere. If the light dims, there is an overload in one of the circuits such as a bad motor.

Turn power OFF. Disconnect all 12 volt output wires only. Turn power ON.



**Figure 7 Power Supply** 

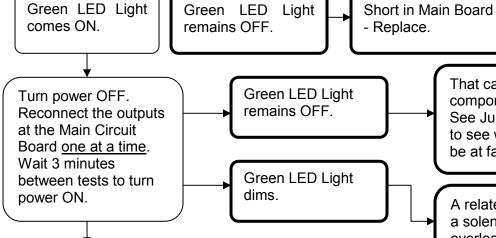


Green LED Light

comes ON.

Turn power OFF. Unplug all outputs from the Gen 5 Circuit Board. Reconnect the 12 volt output wires to the Power Supply. Turn power ON.

Replace Power Supply.



That cable or related component is shorted out. See Jumper Cable Pin-Outs to see which component might be at fault.

A related component such as a solenoid is causing an overload. See Jumper Cable Pin-Outs beginning on page 18 to see which component might be at fault.

Speed Demon™ 10

That cable is OK.



### SERVICE AND REPAIR SECTION



CAUTION: Electrical Shock Hazard.

Do not perform maintenance or repair of this equipment with power ON. Unplug the

unit from the wall outlet or shut off power at the power strip inside the cabinet.

## Access to the playfield

- 1. Shut power OFF to the game.
- 2. Open the front access door and disconnect the "Stop button wiring. Reach up and unhook the two cabinet latches under the "Stop" button panel and remove the panel.

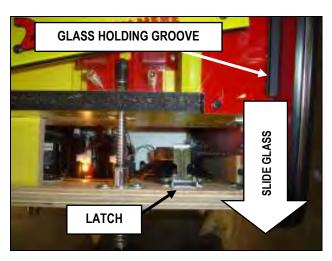


Figure 8 Playfield Access

3. The top glass is held on the sides with black grooved brackets. Slide the glass out the front of the unit and set aside.

## Removal of the Playfield

While most repairs can be done with the playfield in place, it might be easier in some instances to remove the playfield from the game. Once the top glass is removed the playfield itself can be removed.



Figure 9 Playfield Fasteners

- 1. Open the rear access door and remove the two screws holding the playfield to the bottom side brackets.
- 2. Disconnect the power supply connector and display lighting connectors on the main circuit board mounted to the back of the playfield. Disconnect the two connectors going from the playfield to the front access panel. Unplug the fluorescent lights and the black power cord from the circuit breaker power strip to the AC board on the playfield. Remove plastic wire clips.
- 3. Remove the two plastic diffusers covering the fluorescent lights on either side of the playfield.
- 4. Pull the playfield backward slightly, then lift the front and remove from the unit from the game.

## **Turntable Motor Replacement**

- 1. Disconnect the motor wiring at the connector.
- 2. Remove the two hex head bolts and star washers that hold the motor to the bracket. Lower the motor from the game. Be careful not



to damage the small gear on the end of the motor shaft.

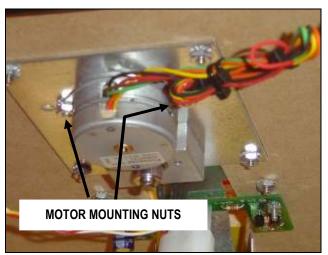


Figure 10 Wheel Drive Motor Replacement

- 3. Loosen the two setscrews holding the small gear in place on the motor shaft and remove the gear.
- 4. Install the gear on the new motor shaft and install the new motor assembly in the game. Do not force into place, be sure the gears are meshing properly. Secure with two star washers and nuts.
- 5. Reconnect the motor wiring at the connector. Turn power ON and check for proper operation of the wheel.

# **Turntable Position Sensor Replacement**

The wheel position sensor is located just behind the turntable motor, mounted to the motor bracket. The hub of the wheel is marked in three spots to indicate the location of the bonus 'Demon'. When the drop ball sensor detects a ball, and the wheel is positioned on one of the three 'demons', a bonus round is played.

To replace the sensor,

1. Disconnect the position sensor wiring at the connector.

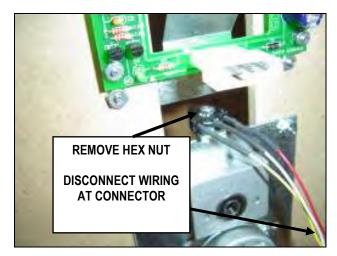


Figure 11 Turntable Position Sensor

- 2. Remove the hex nut and star washer holding the position sensor in place on the motor bracket.
- 3. Remove and replace the sensor. Reconnect the wiring at the connector.

# Ball Shoot Solenoid Replacement

- 1. Disconnect the solenoid wiring at the solenoid terminals. Note the position of the black and white wires.
- 2. Remove the Phillips head screw and nylon spacer securing the ball pusher to the solenoid shaft.
- 3. Remove the four hex nuts and star washers that mount the solenoid to the ball shooter channel. Remove the ground wire and solenoid.



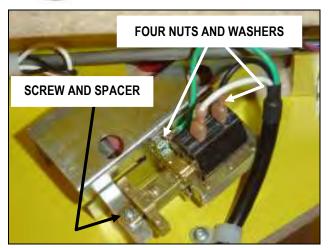


Figure 12 Ball Shooter Solenoid

- 4. Reassemble the new solenoid in the reverse order.
- 5. Connect the wiring as shown above and test before returning the game to operation.

#### Circuit boards



CAUTION: Static electricity could harm circuit boards and processor chips. Always ground yourself by cable or by touching metal surfaces

prior to removing or servicing electronic equipment in this game. Avoid working on carpeted surfaces.

# **Bonus Tickets Display Circuit Board**

The eight bonus ring circuit boards are attached to the backside of the bonus rings, and the 'Win Tickets' display circuit board is attached to the game structure. They can be replaced by following these steps.

- 1. Open the rear door panel and shut off power to the game by turning the power strip OFF.
- 2. Unplug the white phone cord from the display circuit board.

#### 'Win Tickets' Display Board

3. Unplug the ribbon cables from the display circuit board.

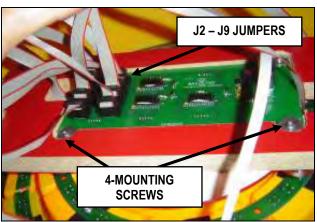


Figure 13 'Win Tickets' Display Board

4. Remove the four square head screws holding the circuit board to the mounting board.

#### **Bonus Ring Circuit Boards**

5. Remove the 16 screws holding the yellow cover over the top of the game for easier access to the bonus ring circuit boards.

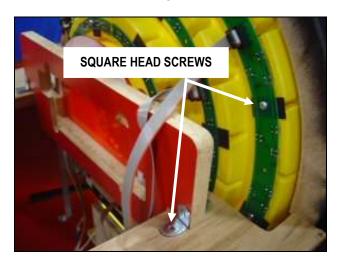


Figure 14 Bonus Ring Access

6. It may be necessary to remove the center "Win Tickets" display board. It is held in place with four wood screws through side brackets as show in Figure 14.



- 7. Remove the square head screws holding the faulty bonus ring circuit board in place.
- 8. Disconnect the ribbon cable from the old circuit board, install on the new board and install the board on the ring. Secure in place with the square head screws.
- 9. Reinstall the center 'Win Tickets' board if removed, and secure to the frame with four wood screws.

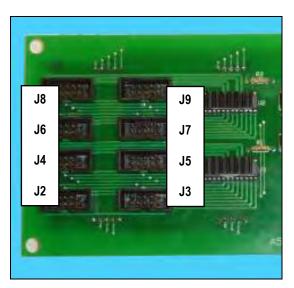
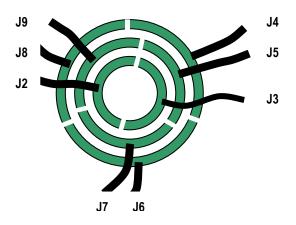


Figure 15 Jumper Locations on Ticket Display Board

10. Plug in the ribbon cables to the circuit board as shown in Figure 15 and Figure 16. It is important that they be in the proper positions on the circuit board.



**Figure 16 Jumper Positions** 

11. Test after re-assembly, by tripping the coin count wire, to insure proper operation. Reinstall yellow cover if removed.

#### **Ball Drop Sensor Circuit Board**



Figure 17 Ball Drop Sensor

The ball drop sensor, located under the ball drop hole, is replaced from the front or rear access door.

- 1. Disconnect the sensor wiring and remove the two hex head nuts and star washers holding the circuit board to the underside of the playfield.
- 2. Install the new board and reconnect the wiring.
- 3. Test for proper operation.

#### **Main Circuit Board**

Replacing the main Gen 5 circuit board.

- 1. With the power to the game OFF, carefully unplug the various connectors, black chase lighting cables and the white credit display cable.
- 2. Remove the four Phillips head screws at the four corners of the board and remove the board from the mounting panel. See Figure 18.





Figure 18 Gen 5 Main Board

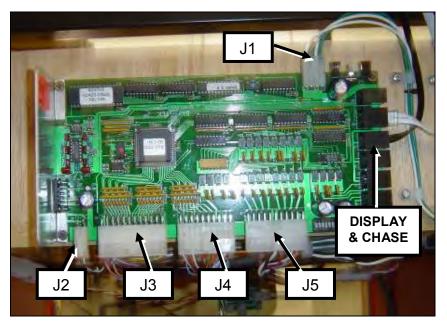
3. Before installing the new board, check to be sure that the dipswitches are set in the same position as the old board.

**NOTE:** If swapping the circuit board with a spare Gen 5 board for testing purposes, be sure to also swap out the software chip. Use extreme care to prevent static electricity and to prevent bending socket pins.

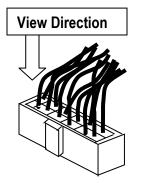
- 4. Install the board and reconnect the wiring connectors, black chase lighting cables and the white display cable.
- 5. Re-test the game.



## **ELECTRICAL DRAWINGS SECTION**



PIN - OUT



All connector drawings are as Viewed from the pin out position.

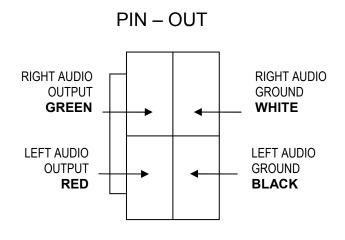
Figure 19 Gen 5 Main Board Jumper ID

# 12 Volt Jumper Cable (J1) Connector

12 VOLT INPUT WHITE 12 VOLT **GROUND** GREEN IN FROM **POWER** 12 VOLT SUPPLY, **INPUT** TO MAIN WHITE **BOARD** 12 VOLT **GROUND** 

**GREEN** 

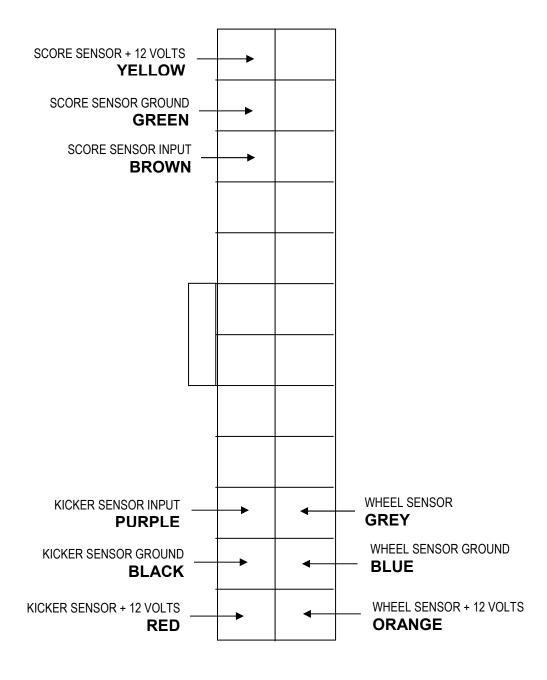
## **Volume Cable (J2) Connector**





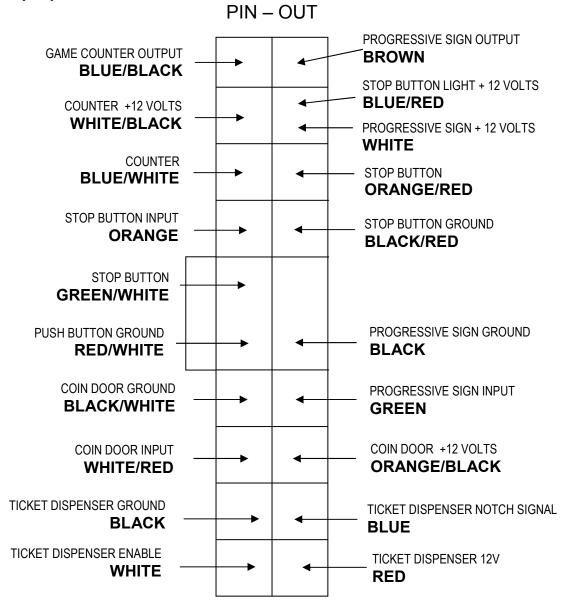
## Sensor Cable (J3) Connector

PIN - OUT



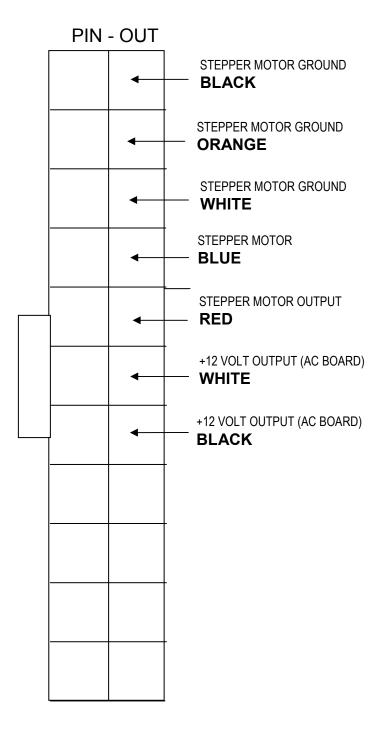


## **Jumper (J4) Connector**



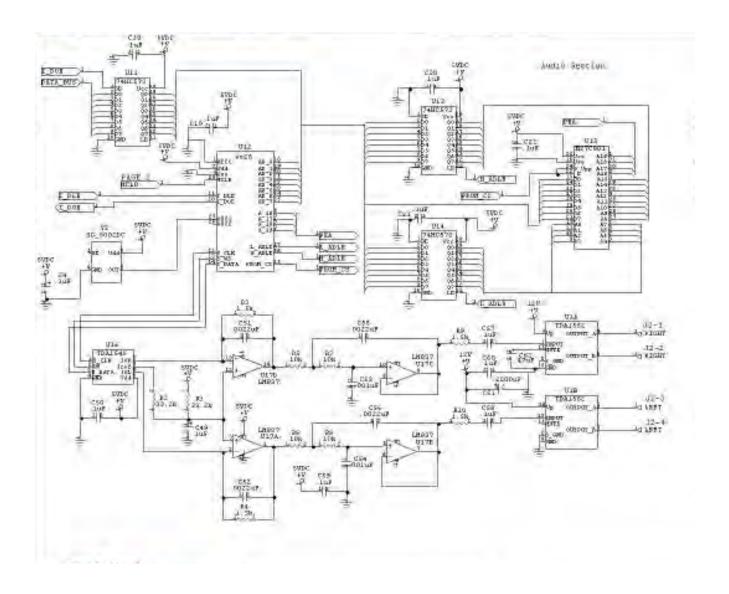


## **Jumper (J5) Connector**



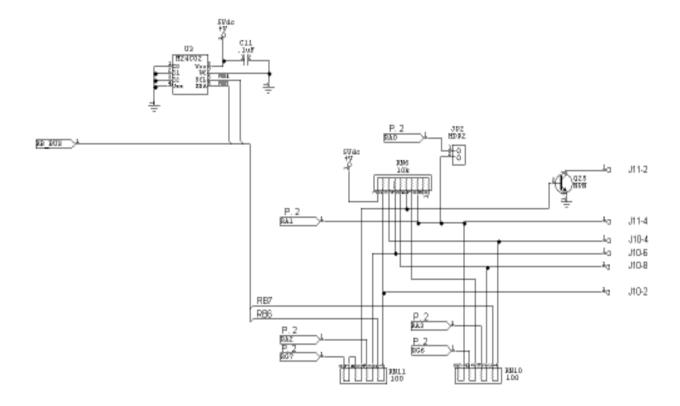


## **Gen 5 Main Board Schematics**



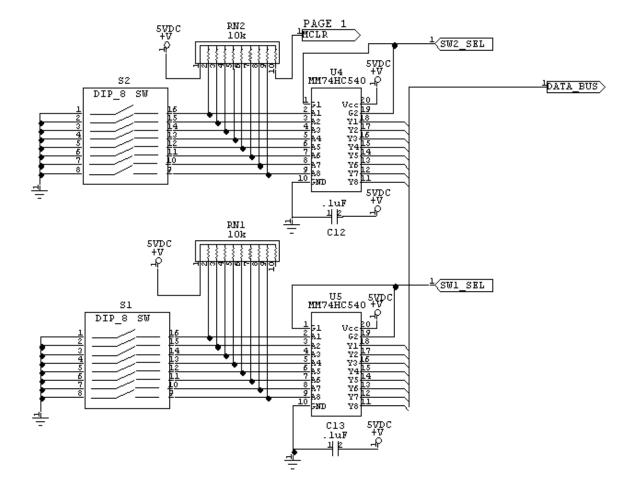


# **Communications – Serial EEprom**



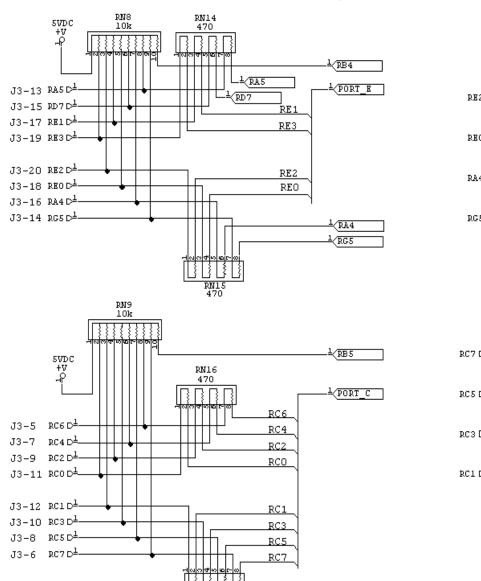


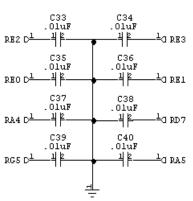
# **Input Section A – Configuration Switches**

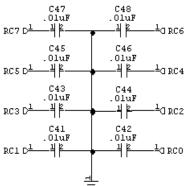




## Input Section B - Inputs RE, RC

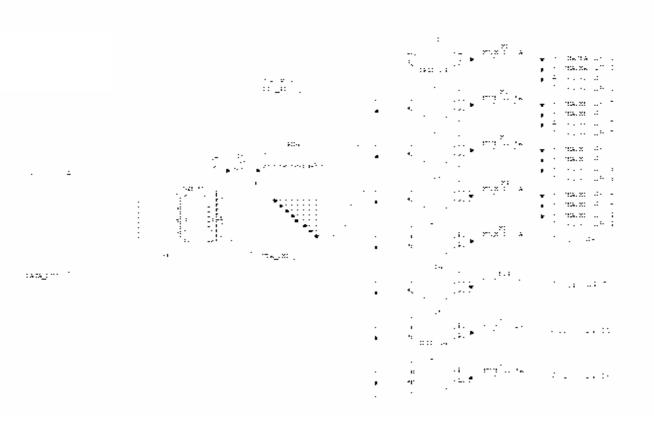






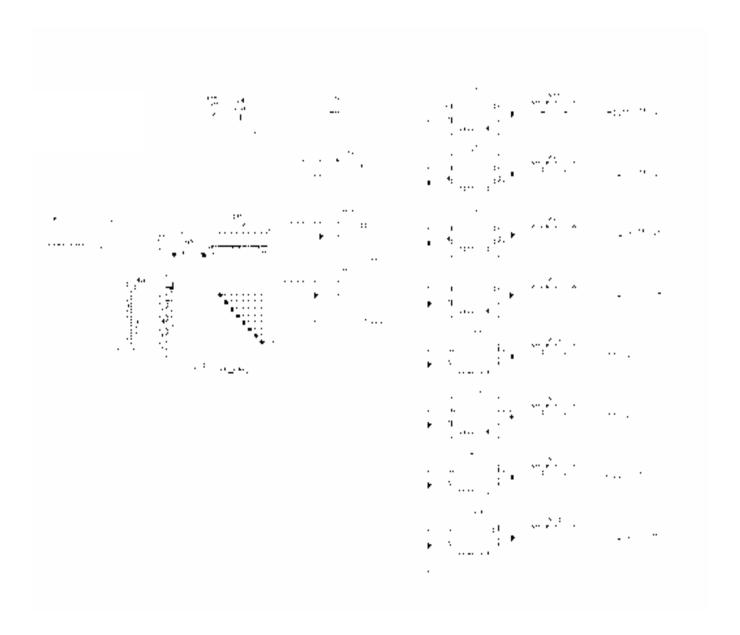


# Output Section A - Chase Lights, Q13 - Q16



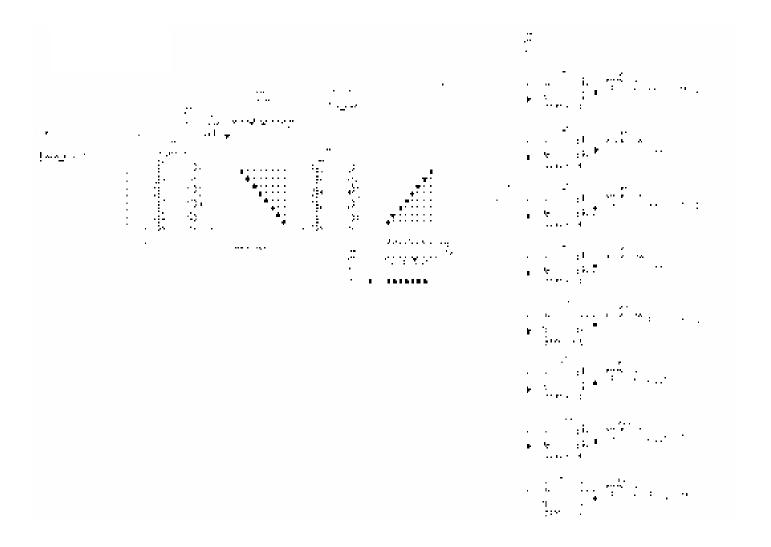


# Output Section B - Q17 - Q24



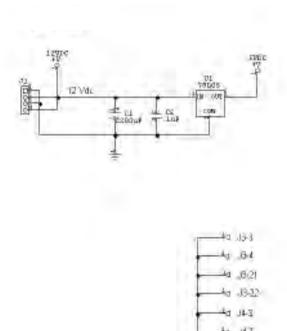


## Output Section C - Q5 - Q12

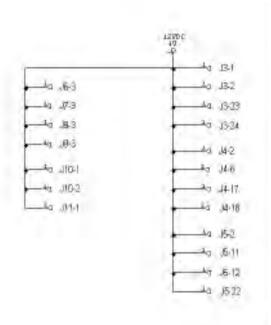




## **Power Section**

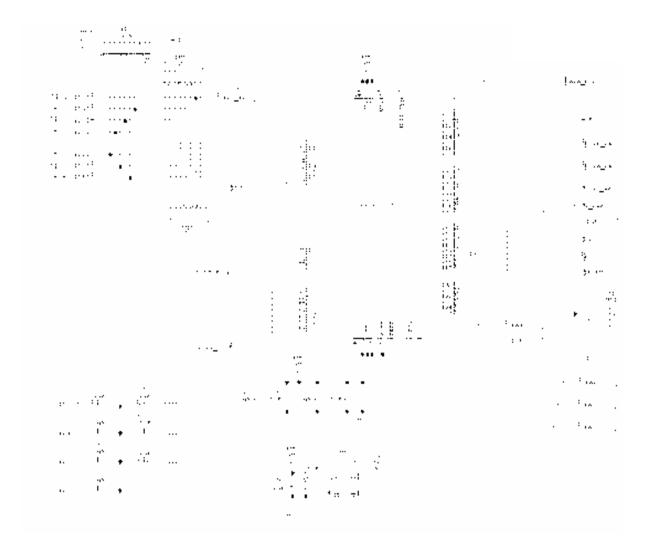


40 .5621 40 .505 40 .505 40 .505 40 .5153





# **Processor Section – Input RD**





## **SPARE PARTS – SPEED DEMON**

Always use genuine Bay Tek replacement parts. For 24 hour pricing and ordering visit our web site at <a href="https://www.baytekgames.com">www.baytekgames.com</a>.

| Description                                    | Part #   |
|--|----------|
| Ball, Red                                      | A5BA4021 |
| Button, Large "Stop"                           | A5PB4022 |
| Button, White, Reset                           |          |
| Plunger, Ball                                  |          |
| Speaker, 5-1/4 X 5-1/4                         |          |
| Volume Control                                 | A5PO2000 |
| Solenoid, Ball Kicker                          | A5SO4021 |
| Ticket Dispenser                               | A5TD1    |
| Counter  |          |
| Motor, Playwheel                               |          |
| Gear, Small                                    |          |
| Gear, Large                                    |          |
| Bushing, Shaft                                 |          |
| Setscrew (for bushing)                         |          |
| Playfield Ring Assembly                        |          |
| Playfield Turntable Assembly (Incl. Red Demon) | AAPT4020 |
| GLASS  |          |
| Top Tempered Glass (26" x 23")                 | A5TG4020 |
| 10p 10mporod 0ld00 (20                         |          |
| DECALS   |          |
| Numerical Decals for Ring                      | A5DC4024 |
| Front Decal                                    | A5DC4026 |
| Side Decal                                     |          |
| Decal, Yellow with numbers 1 to 8              |          |
| Left Playfield Graphics                        |          |
| Right Playfield Graphics                       |          |
| Front, Top Instruction Panel                   |          |
| Bonus Ring, Inner                              |          |
| Bonus Ring, Middle                             |          |
| Bonus Ring, Outer                              |          |
|  |          |
| LIGHTING                                       |          |
| Chase Light, Long, 25.5"                       | A5CL9091 |
| Chase Light, Short, 6"                         | AACL9092 |
| Tape, Double-Sided                             | 1F256    |
| Fluorescent Light Assembly 18" 15 watt         | AAFL1000 |
| Fuse, 2 Amp, 250 V                             | A5FUSE3  |
|  |          |
| ELECTRONICS                                    |          |
| Power Supply                                   | A5PS1001 |
| Main Board                                     |          |
| Audio EPROM                                    |          |
| Microcontroller                                | AAMC-SD  |
|  |          |



| Progressive Sign Power Supply (if equipped) | S5PS5104 |
|---|----------|
| PCB Ball Sensor, Wheel                      |          |
| PCB Ball Sensor, Plunger                    | AABD4011 |
| Wheel Position Sensor                       | AASE4020 |
| Diode, Infrared Emitter                     | A5DI1300 |
| Diode, Infrared Detector                    | A5DI1310 |
| AC Driver Board                             | AABD5029 |
| Display, Speed Demon                        | AABD4000 |
| Display, Outer Ring, PCB                    | AABD4001 |
| Display, Center Ring, PCB                   | AABD4002 |
| Display, Inner Ring, PCB                    | AABD4003 |



## **TECHNICAL SUPPORT**

# Technical Support- Know Your Options!

Excellent Customer Service is very important to Bay Tek! We know that keeping your games in great operating condition is important to your business. When you need us, we are here to help. You can call us for free technical assistance, and you can count on us to have parts on-hand to support your game. When you do need us, it's important that you know what to expect. We offer options that fit your needs.



Call us M-F 8am-5pm CST at (920) 822-3951 ext 1102



Fax us at (920) 822-1496

#### Electronics / Circuit Boards:

- Repair & Return If you have Circuit Board issues with your Bay Tek game, you can send the board to us and we'll repair it right away. Most items sent to us are repaired and returned to you within one day. This option is your best value as we offer this fast turn-around service at the most reasonable price.
- Advance Replacement If you have Circuit Board issues with your Bay Tek
  game, but you don't have time to send in your board for repair, give us a call and
  ask for an Advance Replacement. We'll send you out a replacement board that
  same day. This is your best option when you need to get your game up and running as quickly as possible! When you get your new board, just repackage the
  defective board in the same box and send it back to us. We make it easy by
  including a UPS Return-Shipping label for you to put on the box.
- Spare Parts Take matters into your own hands and purchase new spare
  Circuit Boards for your Bay Tek games. Many of our games share the same
  main-board electronics. This means you can buy one set of spare electronics to
  support many of your Bay Tek games. Spare boards allow you to get your game
  up and running the quickest and provide you a valuable troubleshooting option.
  Call our technicians to get recommendations for what you should keep on hand
  for spare parts!



Email us 24 hours a day at service@bay-tek.com Also order parts online at www.bay-tek.com



Send parts to 1077 E Glenbrook Dr Pulaski, WI 54162

#### Technical Support:

"You" are the best tool for troubleshooting! Your abilities to understand the game and your skills to repair the game are invaluable to us! If you need help, give us a call. It's not easy to diagnose a game remotely by phone, but our technicians do a great job. They'll need your help to perform some troubleshooting steps and convey to them exactly what's happening with your game. Be sure to have your game Serial Number when you call in.

#### Returns & Credits:

Sometimes the issue isn't what it seemed to be. If you chose the Advance Replacement option and now need to return that circuit board, just give us a call to get Return Authorization. You will be credited for the cost of the board and charged only the bench fee for our processing and retesting that board. If you choose the Repair and Return option, we'll test your board before we begin. If no problems are found, you will only be charged the bench fee.

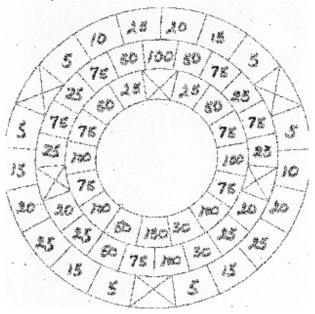
Note: Bench fees apply regardless of whether the repair was your choice or a recommendation from a Bay Tek technician. It's a small price to pay for trouble-shooting the issues with your game.

You can count on our Technical Team for service and support! BAY TEK

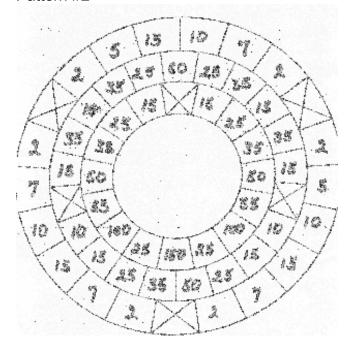


## **OPTIONAL TICKET PATTERNS**

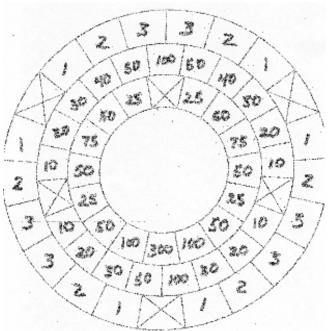
#### Factory Default Pattern #1



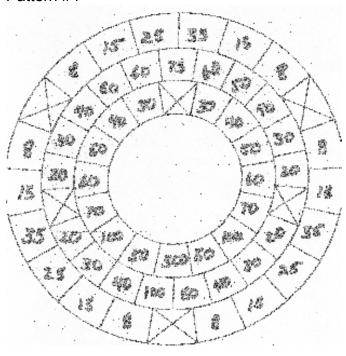
Pattern #2



Pattern #3

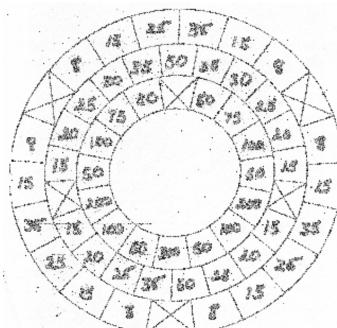


Pattern #4

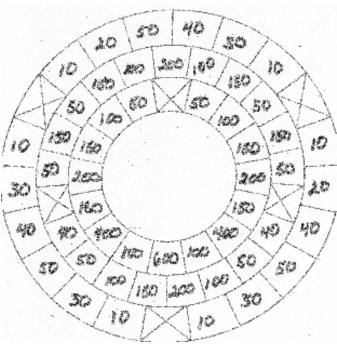




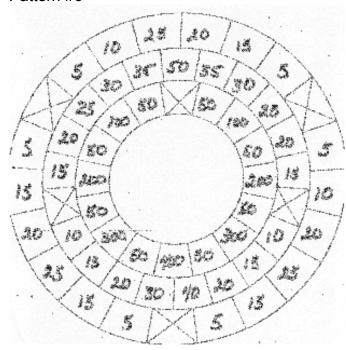
Pattern #5



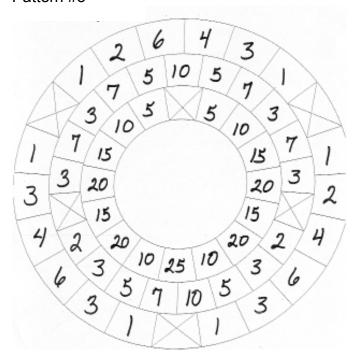
Pattern #7



Pattern #6



Pattern #8





## WARRANTY INFORMATION

Bay Tek Games, Inc. warrants to the original purchaser that the game will be free of defects in workmanship and materials for a period of six months from the date of installation.

Bay Tek Games, Inc. will, without charge, repair or replace at its option defective product or component parts upon notification to the factory service department. Serial number identification will be required for warranty consideration.

Warranty replacement part(s) will be shipped immediately via ground service, along with a Return Material Authorization (RMA) number for the return of the defective part(s). Defective parts must be shipped back to Bay Tek Games, Inc. unless otherwise instructed.

This warranty does not apply in the event of any misuse or abuse of the product, or as a result of any unauthorized repairs or alterations. This warranty does not apply if the serial number is altered, defaced or removed from its original position.

Should your game need servicing, determine the serial number from the logic unit of the game, and call 920-822-3951 or email service@baytekgames.com

#### REPAIR OF NON-WARRANTY UNITS

Should your game need servicing, determine the serial number from the logic, and call 920-822-3951 or email service@baytekgames.com. An estimate of repair charges will be quoted to you for approval.

Proceed in one of the two following ways:

Request immediate shipment of advanced replacement parts.

Send in the defective unit for repair and return.

If advanced replacement(s) are requested, you will receive with your parts an RMA number for the return of the faulty part(s). You must return defective parts within 14 days to avoid additional charges.

Should you choose to return parts for repair, include the following:

Name, address and phone number including area code.

Game serial number information.

A purchase order number, work order number or signed authorization to perform service.

Repair and Return parts will be shipped back using the same mode of transportation under which they were received. Repairs are warranted for a period of thirty (30) days from the date installed into service.

| For future reference; |               |  |
|-----------------------|---------------|--|
|                       | Serial number |  |
| Date of Installation  |               |  |
|                       | Installed by  |  |
|                       | · ————        |  |



# **REPAIR RECORD**

Make copies of this form.

| Same Same | <b>Serial Number</b> |  |
|-----------|----------------------|--|
|           |                      |  |

| Date<br>Initials | Maintenance Performed | Parts Replaced | Cause/Notes |
|------------------|-----------------------|----------------|-------------|
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