



Customizing Family Fun™



\*Optional Topper with LED Lights & Mallet Holders

SKU#: BG-X007

U.S. Patent No. 8,025,293 (issued Sept. 27, 2011)

# QuadAir Multiplayer Hockey Table Instruction Manual

Assembly, Operation, and Care Instructions

Serial #: \_\_\_\_\_

Distributed By: \_\_\_\_\_

Sales Person: \_\_\_\_\_

Technical Service #: **+1-716-866-0054** \_\_\_\_\_

## Inspect Immediately after Transporting the Product

After receiving the shipment, inspect the product thoroughly to ensure that it has been shipped with care. Before turning the power on, please check the following:

- Check the cabinet for damage or shifting that may have occurred during shipping. Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
- Are all the legs and adjusters/levelers/feet intact?
- Do the power supply voltage and frequency requirements meet with those of the location (110V/220V)?
- Are all wires linked correctly and securely connected to each other? If coupled in an incorrect manner, the connection will not be made accurately and it could cause not only irreparable damage to the machine, but is also a potential fire hazard. **DO NOT INSERT CONNECTORS FORCIBLY.**
- Check that the all the cables, including power cables, are undamaged. Do power cables or other wires have any splices, cuts, or dents?
- Have you been provided with all of the associated accessories? **Tip:** Most of the pieces required to assemble the table are shipped within the table. Use your table key to unlock the table and check parts for damage or other problems.
- Can all doors/lids be opened with the accessory keys? Can doors/lids be firmly closed? If applicable, does the coin box key open the coin box(es)?



## Safety Instructions



- This equipment may contain hazardous voltage which can cause electrical shock. Only **qualified personnel**\* should work inside the equipment.  
\*Note: Keep reading for a list of qualified personnel.
- To maintain personal safety and the safe operation of this product, read the entire manual before using it. The following instructions are intended for the users, operators, and the personnel in charge of the operation of the machine. **Be sure to keep this manual close to the product or in a convenient place for future reference.**



## IMPORTANT NOTICES

- This product is intended for indoor use only
- This is NOT a child's toy; adult supervision is required for children to play this game. Children under 120cm (roughly 4ft) in height should not approach the table while it is in use, as this could be hazardous.
- Do not sit, climb, or lean on the table. Do not place anything, including people, on the top of the playfield.
- Do not drag the table when moving it, as this could damage the legs, levelers, or unit beyond repair.
- Do not place any food or drinks on the table. Use cup holders, if provided.
- This game features flashing lights which may not be suitable for photosensitive epilepsy.

## Definition of Site Maintenance Personnel or Other Qualified Individuals



# WARNING

**Servicing and maintenance work of the contents herein stated should be performed by the *SERVICEMAN* stipulated as per IEC Standard. Those who do not have technical expertise and knowledge other than the *SERVICEMAN* are not allowed to perform the work herein stated. Executing the aforementioned work by such non-technical personnel can cause serious accidents that may endanger life.**

Replacing parts, maintenance inspections, and troubleshooting should be carried out by **Site Maintenance Personnel** or other **Qualified Professionals**. This manual includes directions for potentially dangerous procedures which should only be performed by professionals with appropriate and specialized knowledge.

The **Site Maintenance Personnel** or other **Qualified Professionals** mentioned in this manual are defined as follows:

- **Site Maintenance Personnel:** Individuals with experience in maintaining amusement equipment, vending machines, etc., working under the supervision of the owner and/or operator of this product. Maintenance Personnel frequently service machines within amusement facilities or similar premises by carrying out everyday procedures such as: assembly, maintenance inspections, and replacement of units or replaceable parts.
  - **Actions Approved for Site Maintenance Personnel:** Machine assembly, maintenance inspection, and replacement of units or replaceable parts.
- **Other Qualified Professionals:** Personnel employed by the amusement equipment manufacturer. Personnel may also have been involved in design, production, testing, or maintenance of said amusement equipment. This individual should have either graduated from a technical school or hold similar qualifications in electrical, electronics, or mechanical engineering.
  - **Actions Approved for Other Qualified Professionals:** Assembly, maintenance, inspection, and replacement of units or replaceable parts for amusement equipment and/or vending machines, including repair or adjustments of electrical, electronic, or mechanical parts.

## Before Using This Product

In order to ensure the safe operation of this product, please be sure to read the entire manual before operating the machine. The following instructions are intended for users, operators, and personnel in charge of the operation and maintenance of the machine. After carefully reading and sufficiently understanding the warning displays and cautions, please handle the machine appropriately. Be sure to keep this manual for future reference.

**Qualified Personnel:** Only personnel who have technical expertise should perform the work stated herein to avoid hazardous situations. The instructions state that site maintenance personnel should be the only personnel performing work. Please perform maintenance work in accordance with the stated instruction; provided instructions for maintenance work are to minimize risk and prevent accidents. Failing to perform work as stated within the Instruction Manual may potentially be dangerous to both maintenance personnel and users.

- **Be sure to turn off the power before working on the machine.** To prevent electric shock, be sure to turn the power off before carrying out any work that requires direct contact with the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual will state to do so.
- **Be sure to ground the Earth Terminal.** This is not required in the case where a power cord with earth/ground is used.
- **Ensure the power supply used is equipped with an Earth Leakage Breaker.** This product does not incorporate an Earth Leakage Breaker. Using a power supply which is not equipped with an Earth Leakage Breaker can cause a fire when or if earth leakage occurs.
- **Before installing the product, check for electrical specifications; the product must meet the requirements.** Ensure the product is compatible with the power supply voltage and frequency requirements of the location. Using any electrical specifications that are different from the designated specifications can cause a fire and/or electric shock.
- **Install and operate the product where appropriate lighting is available, allowing warning and safety labels to be read clearly.** To ensure customer safety, labels and printed instructions describing potentially hazardous situations are applied to places where risk for potential accidents are increased.

**If any label is peeled off, apply it again immediately.** Please contact Barron Games Technical Support at 1+716-866-0054 or email [service@barrongames.com](mailto:service@barrongames.com) if you are in need of new stickers or parts. Visit [www.BarronGames.com](http://www.BarronGames.com) for more information about Barron Games' Parts and Service Department.

## INSTALLATION AND MAINTENANCE SAFETY

This product is an indoor game machine. **Do not install it outside.** Even indoors, avoid installing it in the places mentioned below to avoid causing a fire, electric shock, machine malfunction, or even death. **Do not install or maintain this product in/on/within/near:**

- places subject to rain or water leakage, places subject to high humidity, or in the proximity of an indoor swimming pool, shower, steam room, etc.
- places subject to direct sunlight, places subject to high temperatures, or in the proximity of heat dispensing units or portable heating devices.
- places filled with inflammable gas, within the vicinity of highly flammable or volatile chemicals, or other hazardous materials.
- dusty places.
- sloped surfaces.
- places subject to any type of violent impact.
- the vicinity of anti-disaster solutions, such as fire exits and extinguishers.
- places where the operating (ambient) temperature range is not 5°C to 30°C (41°F to 86°F).
- places near water or spray from water (such as a jet wash, hot tub, or swimming pool).

**To ensure maximum safety for the users and service personnel, ensure that where the product is operated has sufficient lighting to allow all safety labels to be read clearly. Operation under insufficient lighting is not advised.**



# ASSEMBLY NOTES

1. Read this Instruction Manual carefully before assembling or playing.
2. Ensure that there is sufficient space to place and shift the product prior to assembly
3. **SIX strong adults** are recommended to assemble the product.
4. Inspect and ensure all parts are securely attached before rotating the table.
5. Please Note: Children and pets should be kept away from assembly and game pieces; this machine contains small parts that could be a potential choking hazard.
6. **DO NOT TAP POWER TO THE TABLE.** All card swipe and table accessories (including toppers) must be powered independently.



# TOOLS NEEDED



- Instruction Manual with Step-by-Step Assembly



- Screw Driver or Drill



- Scissors



- QuadAir Door Key (located inside the table)

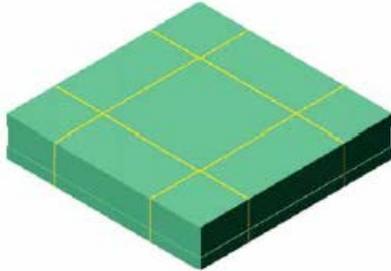


- Allen Wrench/Key (included with optional topper kit)

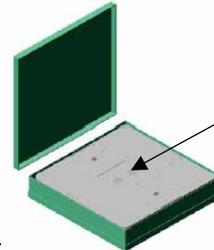
\*Note: Please retain the original packaging, so that it may be used for storage or transport later.

## Assembly – Step A (Prepare the Table)

1. Use scissors or a knife to cut through the packing tape. Use caution not to cut too deeply or you may damage the unit.

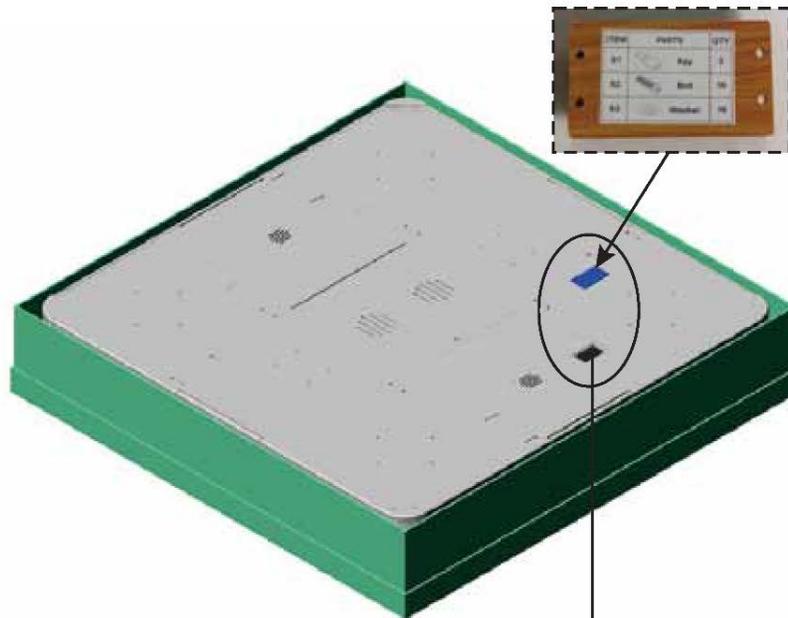


2. Open the cardboard box to ensure the wooden side is facing up and the playfield is facing down to the floor.



Wood side is the Bottom surface of the QuadAir.

3. Use a screw driver or drill to unscrew the 4 screws on the panel with the sticker marked "PARTS" on it. Once the panel is opened, please take out the parts indicated below.

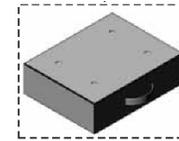
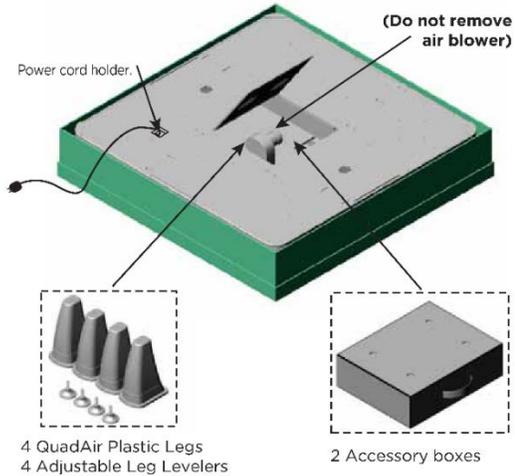


**For Legs**  
16 Roundhead screws M8x25  
16 Flat washers M8x16

**Door Keys**  
3 serial number 2868  
QuadAir keys

## Assembly – Step A (Prepare the Table)

4. After taking out the keys, open the center door panel, and remove all parts from inside the machine's body.



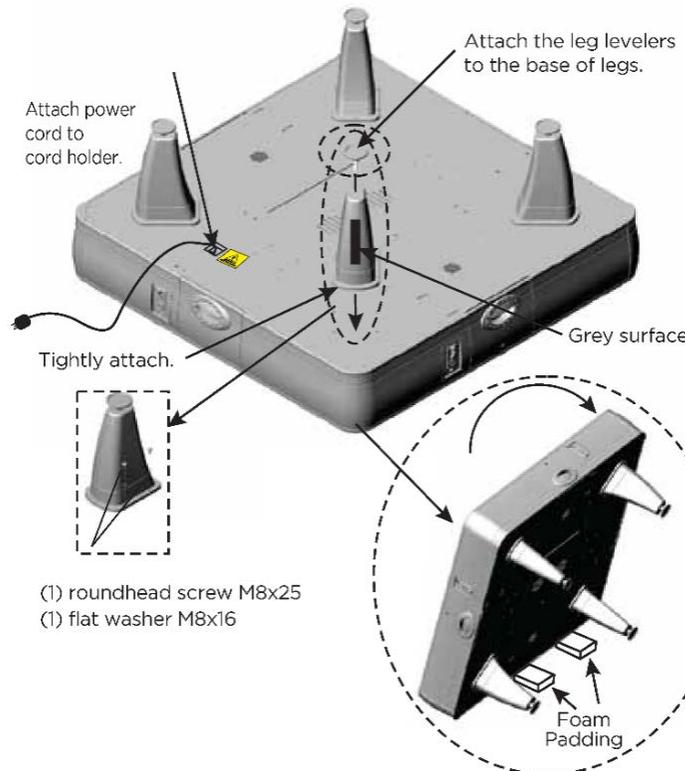
Inside Accessory Boxes:

20 Pucks, 4 Mallets, 1 Table Polish & AC Power Supply Cord



## Assembly – Step B (Assemble the Table Legs)

1. Take out the 4 QuadAir plastic legs and screw the adjustable leg levelers in to the base of the legs. Place the legs on the bottom surface of the table. Ensure alignment and then attach them with the big flathead screw M5x35 and washer M8x16. \*Make sure grey surface is facing out.
2. Ensure all legs are tightly attached then flip the table 90 degrees. This requires at least **SIX** adults. Flip another 90 degrees to place the legs on the ground. \*Place the included foam padding on either side of the goal release bay. Take caution not to damage the goal bay or LED lights.



## Locate Rail Safety Stickers

These 4 **strips of stickers** should be affixed to all four ends of the table (behind each goal) to help mitigate injury potential to users and spectators.

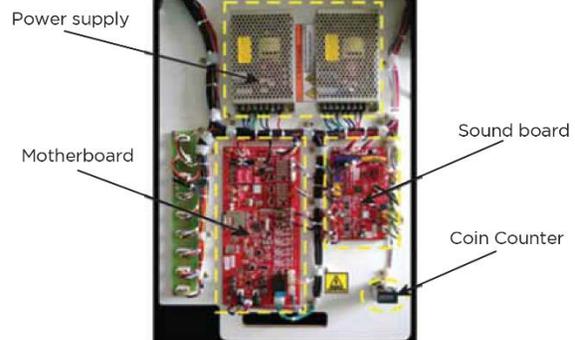
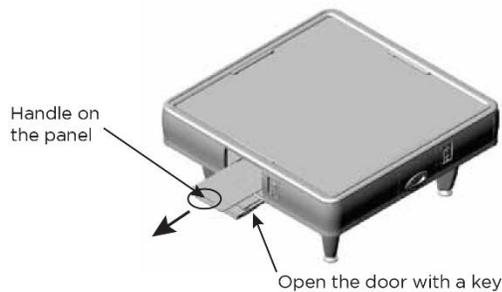
**Warning labels should be attached by the goal on each side of the unit.**



<p><b>How to Play Quadair</b></p> <ol style="list-style-type: none"> <li>1. Need 2 Players to Start. Insert coins.</li> <li>2. Defend your Goal!</li> <li>3. You have 5 lives until Game Over.</li> <li>4. Insert coin to continue game.</li> </ol>	<p><b>ATTENTION</b></p>	<p>Do not hit the puck with the mallet when the puck is not level and flat.</p>	<p>Spectators don't stand by the side of table. Puck may cause injury.</p>	<p>Hold the mallet by the handle and not the base or puck may hit fingers.</p>	<p><b>ATTENTION</b></p> <p>This game features flashing lights which may not be suitable for photosensitive epilepsy</p>
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## Assembly – Step C (Locate Internal Hardware)

First, ensure the power is off. Open the door with the key. Hold the handle and pull it out until half of the power panel is exposed. **Do not touch open terminals or exposed wires while the game is on.**



### Power Supply

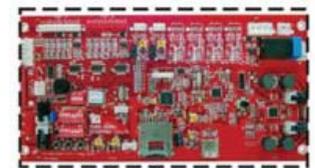
This provides power to all internal components, such as the motherboard, coin mechanism, motor... etc. The +5v and +12v are separated to ensure no interference to components when one has an insufficient supply or an unstable supply of power. **Note:** Avoid electric shock. Do not touch open terminals or exposed wires. Please turn off the game to perform repairs.

**Note:** +5v is on the left +12v is on the right

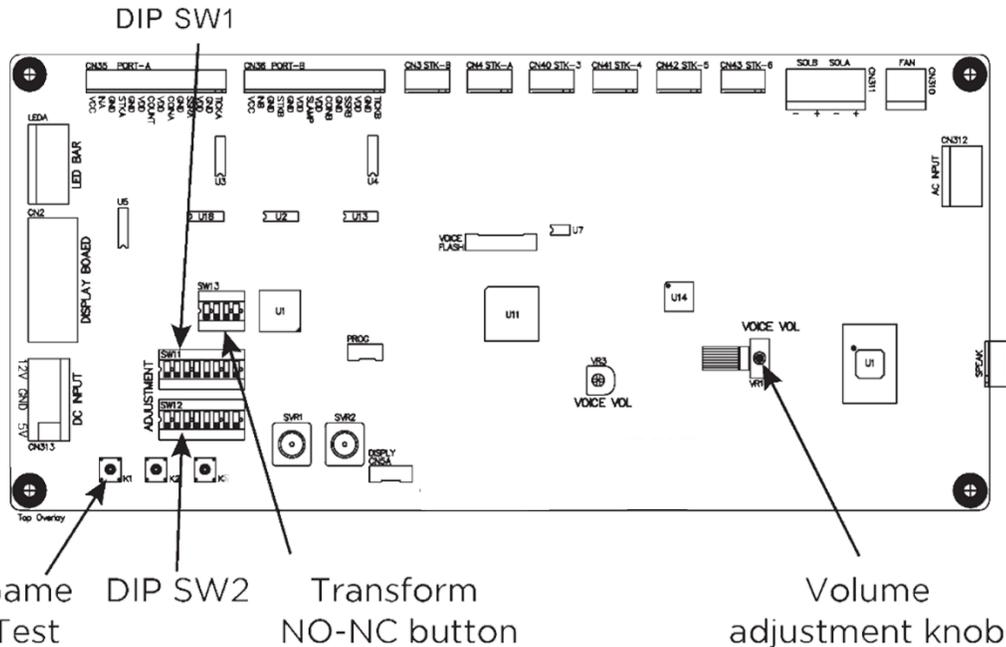
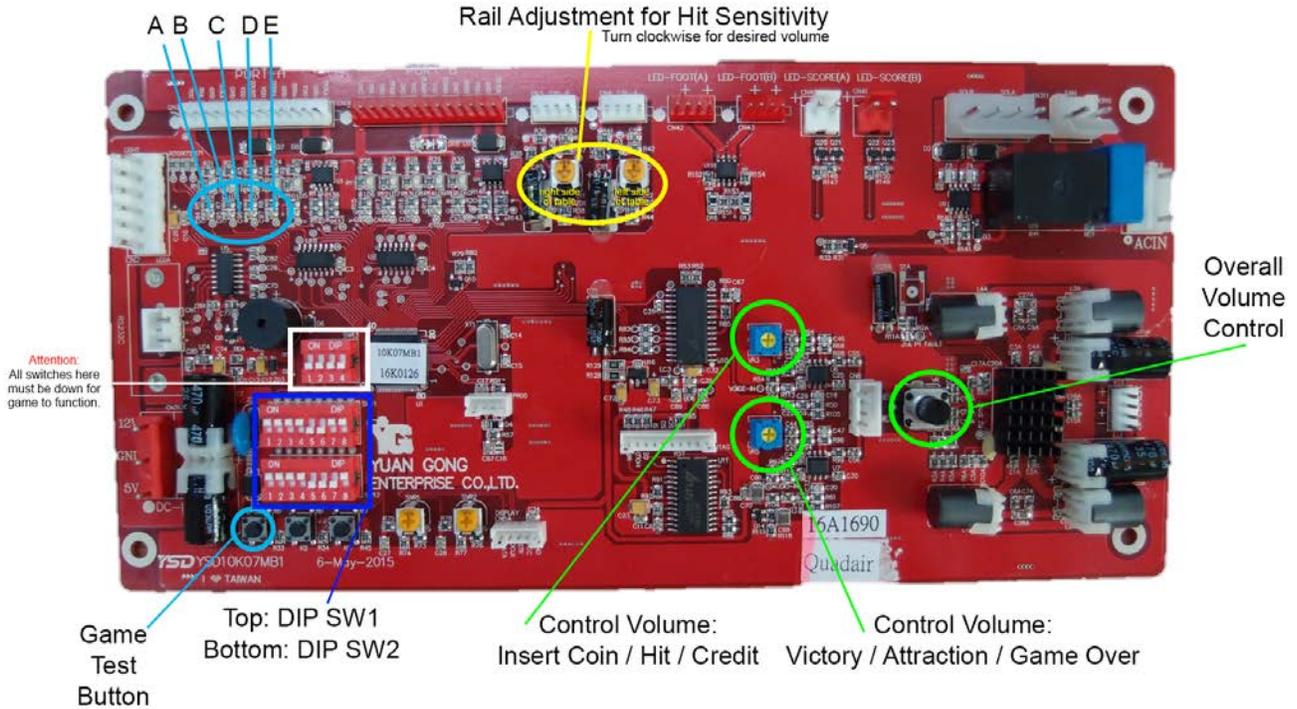


### Motherboard / PC Board (PCB)

This controls the operation of all internal components. Malfunctions or errors with any of the components can be diagnosed by looking at the LED light indicators on the motherboard.

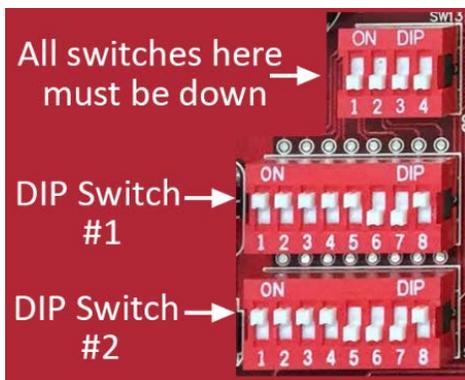


## Assembly – Step ① (Program the PC Board)



LEDA: Running LED lights around table  
 NC2: Display panel connection outlet  
 NC313: Direct Current (DC) Input outlet  
 NC35: A1 Output Control point  
 NC36: B1 Output Control point  
 NC311: Electro-magnet switch for goal gates (solenoid)  
 NC3: Rail Strike Detector  
 NC4: Rail Strike Detector

NC40: Rail Strike Detector  
 NC41: Rail Strike Detector  
 NC42: Rail Strike Detector  
 NC43: Strike Detector  
 NC310: Blower output  
 NC312: Alternating Current (AC) Output  
 R3: Sound Effect and Volume adjustment  
 VF1: Total Volume Adjustment  
 SPEAK: Sound Output



## DIP Switch Settings

**I = UP & O = DOWN**

(Default Position is Down)

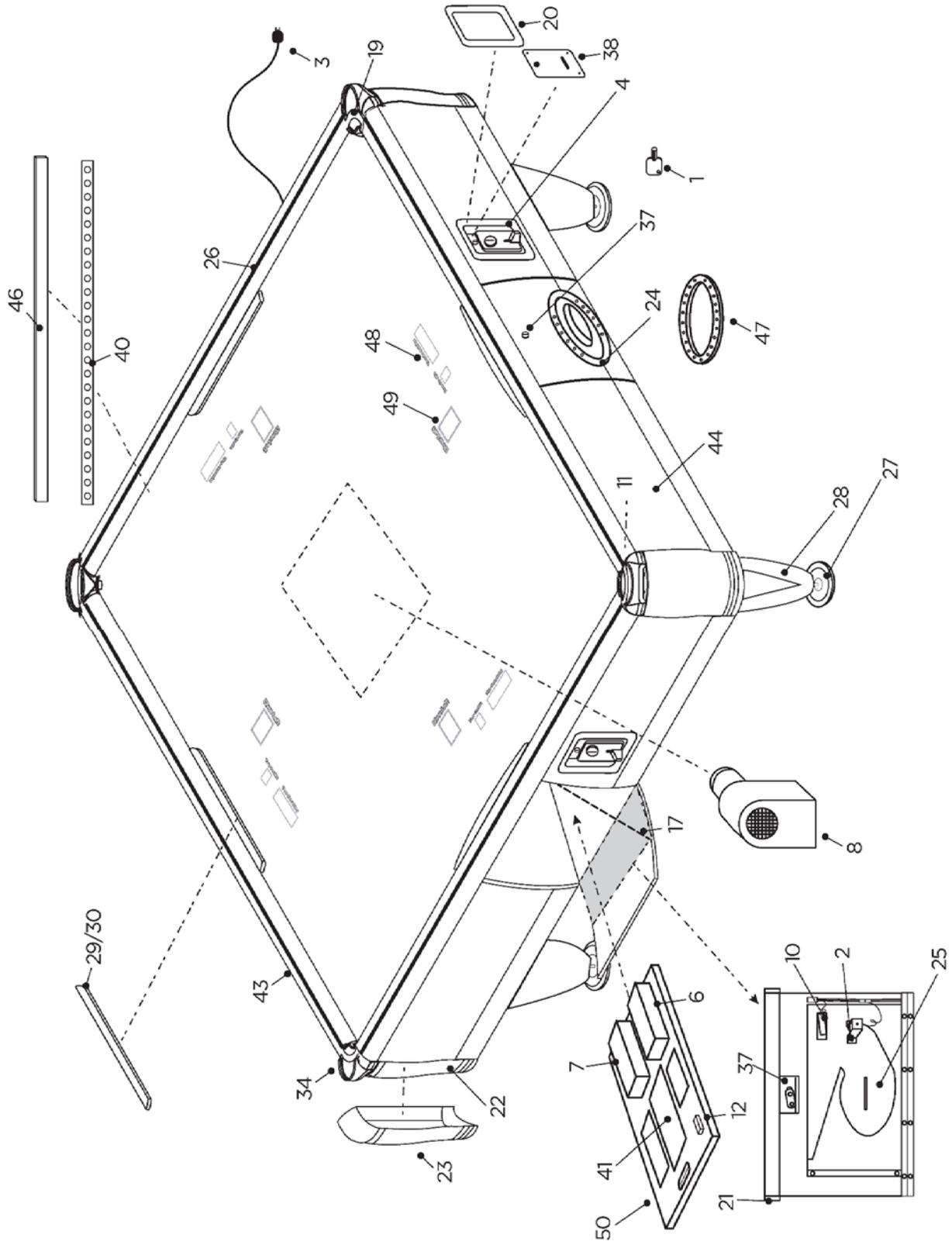
### DIP SWITCH 1

DIP	SW1	1	2	3	4	5	6	7	8
<b>COINS</b>	<b>CREDITS</b>	I	I	I					
1	2	O	I	I					
1	3	I	O	I					
1	4	O	O	I					
2	1	I	I	O					
3	1	O	I	O					
4	1	I	O	O					

### DIP SWITCH 2

DIP	SW2	1	2	3	4	5	6	7	8
<b>LIVES</b>	5	O	O	O					
	5	I	O	O					
	5	O	I	O					
	5	I	I	O					
	5	O	O	I					
	5	I	O	I					
	4	O	I	I					
	3	I	I	I					
<b>TIME (MIN)</b>	<b>NO LIMIT</b>				O	O	O		
	10				I	O	O		
	8				O	I	O		
	6				I	I	O		
	4				O	O	I		
	3				I	O	I		
	2				O	I	I		
	1				I	I	I		

# Parts List

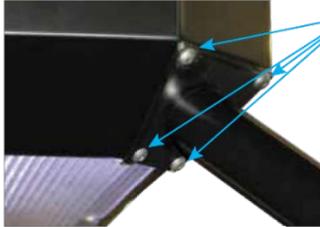


\*See Key on Next Page

<b>Parts List</b>			
<b>Ref #</b>	<b>Part #</b>	<b>Description</b>	<b>Qty</b>
1	3202004	Air Hockey Key #2868	3
2	3213082	Solenoid Brackets	8
3	3601007	Power Cord (U.S. Style)	1
4	3604056	QuadAir Coin Mech w/LED Indicator	4
5	3605091	Goal Solenoid DC 12V	4
6	3605117	Power Supply NES-100-12-+12V	1
7	3605118	Power Supply NES-100-5+5V	1
8	3607050	Blower Motor 110V/220V	1
9	3611010	Speaker	2
10	3612370	Optical Goal Sensor	4
11	3619007	Rail Sensor Chip (27mm)	4
12	3699001	6 Digit Coin & Ticket Counter (12V)	1
13	3699019	Power Switch	1
14	3207443	Coin Panel 419mm	4
15	3207572	QuadAir Panel	4
16	3301352	Puck Chute Door	4
17	3212075	Door Chain 410mm	4
18	3213365	Power Switch Box	1
19	3213501	Rail Corner Reinforcement Iron	4
20	3301288	Coin & Ticket Chrome Door Accent	4
21	3301292	Access Door Spacers	8
22	3301311	Interior Corner Part Attachment	4
23	3301320	Body Corner Piece-327mm	4
24	3301347	Puck Release Bay (plastic only)	4
25	3213349	Puck Terminal	4
26	3501053	QuadAir Black Rubber Perimeter Rail Trim	1
27	616030028	Leg Leveler	4
28	616030029	Air Hockey Leg (400mm)	4
29	616030034	QuadAir Goal Bar Red (410mm)	2
30	616030035	QuadAir Goal Bar Green (410mm)	2
31	616030001	Hockey Mallet (Orange) w/Rubber Grip	4
32	616030002	Hockey Mallet (Blue) w/Rubber Grip	4
33	3399184	Barron Pucks	20
34	3301354	Corner Mallet Holder	4
35	3601216	European Power Cord	1
36	3605107	Isolation Transformer 220V/110V	1
37	3202118	Short Lock Assembly	8
38	616030046	Coin Mech Faceplate	4
39	3213517	Power Cord Security Clip	1
40	3612396	QuadAir Multi-Color Interior LED Strip for Rails	8
41	3612414	QuadAir Main PCB-Red	1
42	3712120	Cash Box	4
43	3207544	QuadAir Rail 1728mm (Black)	4
44	3503914	QuadAir Side Decals (Galaxy)	4
45	3399160	Blower Gasket	1
46	3303733	QuadAir LED Cover	8
47	3612399	Blue LED Ring for Puck Bay	4
48	3612422	QuadAir Time/Credit Display (New)	4
49	3612423	QuadAir Life Display (New)	4
50	3301737	Plastic PC Board Cover	1

## Installing the LED Topper (Optional)

1. Carefully remove the topper from the packaging.
2. Locate the power cord coming from the Topper Light Assembly. Feed the power cord through one of the Metal Support Arms (the power cord should come out of the end with the round bracket on it).
3. Connect all 4 support arms to the Topper Light Assembly. Insert 4 bolts into each of the brackets and tighten with the included allen wrench.



Insert 4 Bolts into Topper Light Assembly holes and tighten.

4. Install the Mallet Holders onto each of the Metal Support Arms. There are two bolts for each mallet holder that need to be installed.



Insert 2 Bolts into the Metal Support Arm holes and tighten.

5. You will need to remove the factory-installed corners pieces and replace them with the new corners provided in the LED Topper kit.
  - a. Start by removing the rubber trim from the table.
  - b. Loosen the rails to remove the original corners. You will need to remove bolts from corner and metal corner support.
  - c. Now put the new LED Topper corners on with the bolts from the original mallet holder corner. Retighten the rails.
  - d. Next put back the rubber trim. You will need to cut the rubber to fit in between the corners. You can use the LED Topper as a guide or measure from the edge of the rail.

6. You will need 4 people for this next step. Each person will grab a support arm and lift the entire LED Topper onto the QuadAir table. Make sure to run the LED topper power cord through the hole on the corner piece before you set the topper down.



7. Once the entire topper assembly is on the table, insert the 4 bolts into the LED Topper Corner Piece



Insert 4 Bolts into the LED Topper Corner Piece.

Cut the rubber trim to end 1/4" inside the edge of the metal bracket.

### **DO NOT TAP POWER TO THE TABLE.**

All card swipe and table accessories (including toppers) must be powered independently.

## After Installing the Game

1. Check the voltage regularly to avoid a short circuit or potential fire. Do not overload the circuit.
2. Keep the power cord out of areas with busy foot traffic to ensure the safety of users and the machine.
3. Keep children away from all power sources and power supply units. Older children should always be under adult supervision while using the machine. Small children should not operate this machine.
4. Regular maintenance should be performed on the machine to ensure that it is clean, smooth, and debris-free (see section "Care and Maintenance").
5. Do not use any sharp instruments on any part of the machine as it may cause irreparable damage.
6. Remove and replace any piece or part that becomes damaged.
7. Turn off the game and have it inspected by an electrician or service technician if it is operating abnormally.
8. Contact an electrician or service technician if your product experiences the following:
  - Power Failure
  - Liquid or Objects Found Near/Inside Electronic Components
  - Abnormal Sounds
9. Use the leg adjusters to level the table if necessary.
10. Use caution while transporting.
11. Do not use outdoors or in damp areas.
12. Take extra care when handling the playfield, it may break.

## Care and Maintenance

1. Use a soft cloth and product-specific polishing spray to clean the unit. We recommend using a microfiber cloth. **THE PLAYFIELD SHOULD BE CLEANED WITH PRE-APPROVED HOCKEY TABLE POLISH ONLY.** Air holes on the playfield may become clogged if a household cleaner is used.
2. Dust, grime, and other debris can collect inside the body of your table over time. Vacuum out the inside cavities frequently. **NEVER ATTEMPT to clean the interior while the game is operating.**
3. Clean any dirt or debris from the main PC Board with a soft brush or dry cloth. **NEVER USE WATER OR OTHER LIQUIDS.** Always be sure to turn off or unplug the machine before opening the PC Board panel.
4. Any non-ammonia non-bleach based household cleaner may be used to wipe down the poles, side panels, and legs.
5. Periodically check the functionality of the coin mechanisms and empty coin boxes.
6. Perform maintenance work in accordance with these instructions. **Be sure to always turn off the power before servicing the machine.**

### Available Replacement QuadAir Stickers



No Drinks - Mallet Corner Sticker



For Sales and Technical Support:  
(716) 866-0054  
[www.barrongames.com](http://www.barrongames.com)

Barron Games Info Sticker

**MUST CREDIT EACH SIDE PER PLAY**

Must Credit Each Side - Rail Sticker



QuadAir Warning-Rail Sticker

# Troubleshooting

## Having trouble assembling your new table?

Call our experts in the Parts and Service Department (1+716-866-0054) or email [Service@BarronGames.com](mailto:Service@BarronGames.com) and we will be happy to assist you!

## Glossary of Common Errors

- **5V and 12V Power Supplies:** The 5V and 12V power supplies regulate and disperse power to the PC boards, LEDs, and other electronics. The 5V and 12V power supplies are separated to ensure that there will not be any power instability between components. (\*Note: Left is 5V; Right is 12V)
- **Counters:** The counter records the number of games played, coins inserted, or tickets dispensed (depending on model and equipment).
- **Display Panel Light and Puck Chute Light Control Cards:** These cards control the display panel and puck chute lights.
- **Optical Goal Sensor:** Check the PC Board error lights to make sure the optical goal sensor light is not on.
- **PC Board:** The PC Board controls the game operation. All adjustments to time, goals, or lives (depending on model) are made using this PC Board. Errors can be diagnosed using the error lights found near the top of the board.
- **Voltage Issues:** Voltage issues may be due to a card swipe system attached to the table which is causing the power supply to be unstable. **Card swipe systems must be attached to their own power supply.**

The 12V/5V power supply which is in the table can have its output adjusted by using the knob (called a "trimpot") on the front of the power supply. Check the voltage coming out of the power supply. If you are not using a card swipe system, adjust the trimpot by rotating it clockwise or counter-clockwise as necessary to increase or decrease the output.

# Error Lights

**Check the Instruction Manual against the PC Board error codes to begin.** For the digital models, the LED screens above each goal will show an errors code when the table is out of order. When there is an error, press the Troubleshooting Button.

## Light A: Goal Sensor Error Light Signal

This light will flash if a goal is scored. However, if this light is steadily on and there are no pucks in the table, this part may need to be replaced or there may be debris blocking the sensor. The release solenoid might not be retracting which could cause a puck to remain in the view of the sensor.

## Light B: Start Button Light Signal

## Light C: Coin Mechanism Error Light Signal

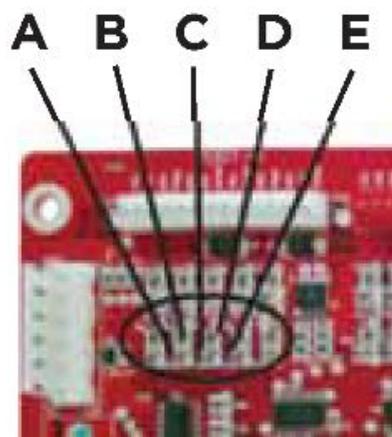
This light will flash when a coin is passed through the coin acceptor. However, if this light is steadily on, check to make sure that the N.C./N.O. ("Normally Closed" or "Normally Open") setting is **set to N.O.** The Coin Mechanism may need to be replaced if the problem persists.

## Light D: Ticket Error Light Signal

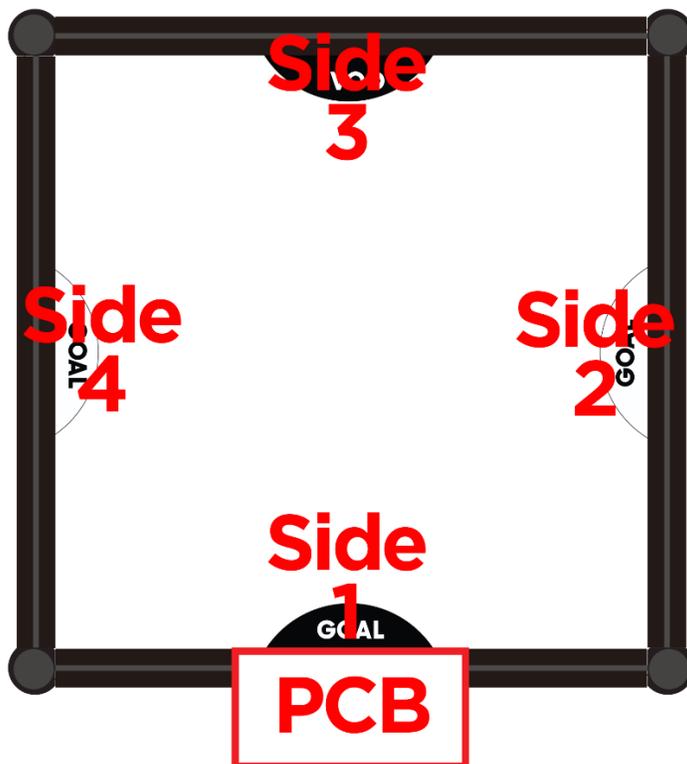
This light will flash as the tickets are being dispensed. However, if this light is steadily on, check to make sure the N.C./N.O. and 0V/5V settings are set to **0 and N.O.** The ticket mechanism may need to be replaced if the problem persists.

## Light E: Rail Noise Strike Error Light Signal

This light will flash when a puck hits a rail to signal the PC Board to make a strike noise. If the light is steadily lit, adjust the VR (Variable Resistor) until it turns off.

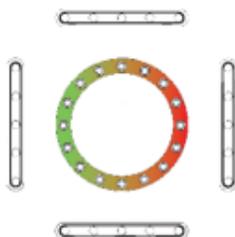


## Lives/Credits/Timer DIP Switch Settings (by side) for Dot and Digital Scoring



To determine if your game is Dot Scoring or Digital Scoring, refer to the photos below.

### Dot Scoring



	DIP Switch 1	DIP Switch 2
<b>Side 1</b>	1, 6 ON	1 ON
<b>Side 2</b>	1, 5, 6 ON	1, 5 ON
<b>Side 3</b>	1, 4, 6 ON	1,4 ON
<b>Side 4</b>	1, 4, 5, 6 ON	1, 4, 5 ON

UP=OFF & DOWN=ON  
(Default Position is Down/On)

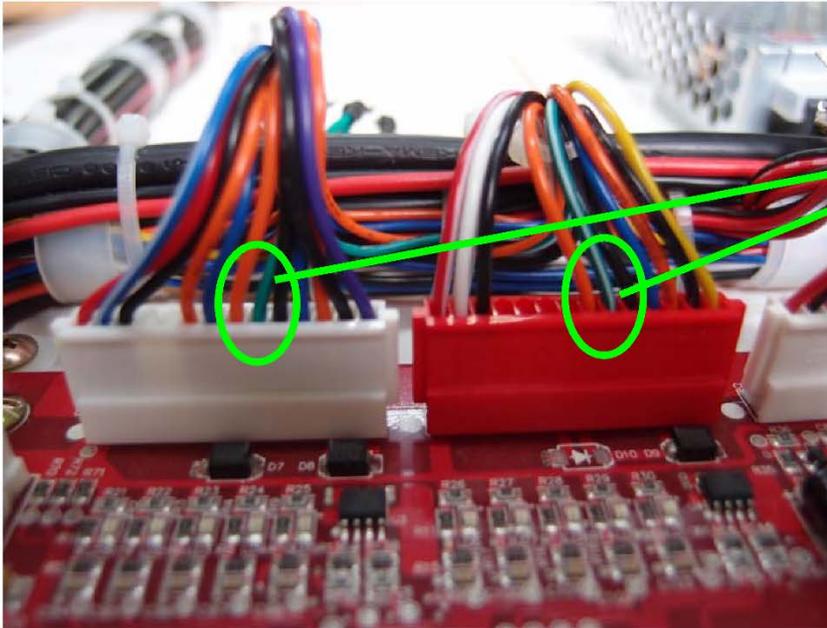
### Digital Scoring



	DIP Switch 1	DIP Switch 2
<b>Side 1</b>	ON	ON
<b>Side 2</b>	OFF	OFF
<b>Side 3</b>	OFF	ON
<b>Side 4</b>	ON	ON

UP=OFF & DOWN=ON  
(Default Position is Down/On)

## Coin Mechanism Wiring Diagram



This part is for coin mechanism  
Orange: +12V  
Green: Signal  
Black: Ground wire



This pin is for coin mechanism



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