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### FACTORY CONTACT INFORMATION



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## WELCOME TO: Squiggle

#### Congratulations on your purchase!

Squiggle's skill-based game play will entice repeat play, fueled by that oh-so-close feeling! With its glowing, irresistibly oversized button, animated lighting and engaging sound package, Squiggle will keep players dropping by for more!

Please take a moment to read through this manual and be sure to contact our factory if you have any questions, or would like some more information.

Thank you for your purchase! Your business is important to us and we hope you enjoy this game as much as we do!

Your Friends at Bay Tek Games



#### GAME INSPECTION

Inspect the game for any damaged, loose, or missing parts. If damage is found, please contact your freight carrier first. Then, contact Bay Tek Games' Service Department at 920.822.3951 or e-mail them at service@baytekgames.com for further assistance.

## HOW TO PLAY

Wait for the red balls to drop.



Hit the button when you want the yellow ball to drop.





Try to time the yellow ball drop where the bonus spot is

Earn tickets based on where the yellow ball landed!





## **GAME SPECIFICATIONS**

WEI	GHT
NET WEIGHT	775 LBS.
SHIP WEIGHT	925 LBS.
DIMEN	SIONS
WIDTH	47"
DEPTH	57"
HEIGHT	143"
OPERATING T	EMPERATURE
FAHRENHEIT	80-100
CELSIUS	26.7-37.8

POWER R	EQUIREME	ENT	S
INPUT VOLTAGE RANGE	100 to 120 VAC	/	220 to 240 VAC
NPUT FREQUENCY RANGE	50 HZ	/	60 HZ

#### MAX OPERATING CURRENT

5.8 AMPS @ 120V

3.1 AMPS @ 240V

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## SAFETY PRECAUTIONS

#### NOTICE

Modifications to the mechanical, electrical and structural components of this game may void its compliance certifications.

This appliance is suitable for INDOOR, DRY locations only.

#### DANGER

DO NOT perform repairs or maintenance on this game with the power ON. Unplug the unit from the wall outlet or shut off the power strip located inside the cabinet.

#### WARNING

Use of flammable subtances can cause sever burns or serious injury. Always use NON-FLAMMABLE solvents for cleaning. DO NOT use gasoline kerosene or thinners.

#### CAUTION

Lifting heavy objects can cause back, neck or other injuries. Be sure adequate lifting and moving devices are available when unloading, unpacking and moving this game.

#### ATTENTION

Be sure the electrical power matches the game requirements. See the serial number located on the back of the game cabinet. Always plug into a grounded circuit. If the supply cord is damaged, it must be replaced by an approved cord or assembly provided by the manufacturer.

A shielded power cable must be used for the game to retain EU/EMC compliance.

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#### IN CASE OF EMERGENCY

UNPLUG THE POWER CORD. The power cord must be accessible at all times in case of an emergency.

### **DIP SWITCH SETTINGS**

The dip switch bank is located on 2 small sensor control boards behind the lower service panel in the back of the game.



Bottom sensor settings



Top sensor settings

### **SETUP GUIDE**

Lay the top playfield on the ground.



Lay the contol panel portion of the game down.

Match bars with the fitting hole on each side and slide the Playfield to the control panel.



#### Stand the game up vertically



Install 1/4 bolts in top piece by the middle tube.



Hammer 3 bolts into each side and tighten to secure the top half of game to the bottom half.





Place 18 red balls in the left tube.



All cords will be color coded except the next two cords addressed.

Link the green and yellow cord 6535 to 6536



#### Plug 6528 into the bottom motor.

Connect 6510 black to 6424 black



Connect 6500-1 yellow to 6500-2 yellow

Connect 6512 plugs into bottom motor



#### Connect 6513 gold to 6520-2 gold

Connect 6521 brown to 6503 brown

Connect 6507 pink to 6519 pink

Connect 6507 white to 6524 white



#### 6510 red to 6519 red



Once all cables are hooked up, install piping. Install the bigger pipe on the left side of the game and install the smaller tube in the middle.

### MAIN MENU FUNCTIONS

Press and hold the MENU button located inside the front door to access the Main Menu.

Scroll through the options with the MENU button.

Make your selections with the MENU SELECT button.





MUTE OPTION	ON	OFF
CLEAR TIX/CRED	Press the MENU SELECT button	3 times to clear tickets and credits owed.
RESET FACTORY DEFAULTS	Press MENU SELECT button 3 tir	nes to reset all settings to factory defaults.

## **VOLUME & ATTRACT SETTINGS**



<b>VOLUME &amp; ATTRACT SETTINGS</b>												
ATTRACT VOLUME	0		T( (INC)	0 OF 5)	1(	00		DEF	DEFAULT: 40			
MUSIC VOLUME	0		T (INC	<b>)</b> OF 5)	10	00	DEFAULT: 4			: 40		
EFFECTS VOLUME	0		T (INC	O OF 5)	10	00		DEFAULT: 40				
VOICE VOLUME	0		0 TO 100 (INC OF 5)			DEFAULT: 40						
BONUS VOLUME	0		0 TO (INC OF 5)		100			DEF	AULT	: 40		
ATTRACT TIMING	0	1	2	3	4	5	6	7	8	9	10	

### **GAME SETTINGS**



GAME SETTINGS												
GAME MODE /PAYMENT	NOR	MAL-TIC	CKETS	NORI	NORMAL-POINTS			SHOW-1CR NO TIX			ENTERTAIN ONLY	
NORMAL-TICKET: Payout through tickets. Marquee refers to "tickets", NORMAL-POINTS: Payout through dispenser. Marquee refers to "points", SHOW 1CR TIX: Gameplay starts with single pulse to coin input, no tickets rewarded, ENTERTAIN ONLY: Same as show mode, will change in future version												
MARQUEE MODE	(will alt or "f	ALTERNATING will alternate between "BONUS" "TICKETS" or "POINT"based on what Game Mode/ payout is set to.)							STATIC ("BONUS" will always be displayed)			
RED BLOWER TIME		2.0s TO (inc of .2)			4.0s			DEFAULT 3.0s				
BALL TUBE BRIGHTNESS	0	10	20	30	40	50	60	70	80	90	100	
MAX PLAYFIELD BRIGHTNESS	50 60			0 70		80		9	0	100		

## **PAYOUT MENU**

12	
12	Pavout Menu
12	i ayout monta
30	Credits Per Play: 1
20	Card Swipe: Disabled
20	Paper Ticket Value: 1
50	Fixed Tickets: 0
12	Mercy Tickets: 4
12	Mercy Replay: Disabled
BONUS	Min Bonus Value: 275
12	Bonus Increment: 0
12	Max Bonus Value: 500
50	TICKET PATTERN: 1
20	Exil menu
20	
30	

PAYOUT SETTINGS											
CREDITS PER PLAY	0	1	2	З	4	5	6	7	8	9	10
CARD SWIPE		EI	NABLE	Ð			DISABLED				
PAPER TICKET VALUE		1/2						1			
FIXED TICKETS	O T (inc.				TO (inc. of 1	)	20				
MERCY TICKETS	0	1	2	3	4	5	6	7	8	9	10
MERCY REPLAY		EI	NABLE	D			DISABLED				
MIN BONUS VALUE		50		(ii	TO nc of 2	5)	1000 DE				ULT 0
BONUS INCREMENT		0		TO (inc of 5)			25				
MAX BONUS VALUES		50		то			1000 D		DEFAULT 1000		
TICKET PATTERN	1						то		7		

## **TICKET PATTERNS**

	PATTERN 1	PATTERN 2	PATTERN 3	PATTERN *3*	PATTERN 4	PATTERN 5	PATTERN 6	PATTERN 7
	12	30	2	2	4	8	14	20
	12	30	2	2	6	12	26	20
	12	30	2	2	6	12	26	20
	30	60	6	6	10	18	40	20
	20	40	4	4	8	14	34	20
	20	40	4	4	8	14	34	20
	50	80	8	8	14	32	50	20
	12	30	2	2	6	12	26	20
DEFAULT PATTERN	12	30	2	2	6	12	26	20
HIGHLIGHTED IN ORANGE	300	400	200	*50*	300	300	300	300
	12	30	2	2	6	12	26	20
	12	30	2	2	6	12	26	20
	50	80	8	8	14	32	50	20
	20	40	4	4	8	14	34	20
	20	40	4	4	8	14	34	20
	30	60	6	6	10	18	40	20
	12	30	2	2	6	12	26	20
	12	30	2	2	6	12	26	20
	12	30	2	2	4	8	14	20
COST PER PLAY	\$1.00	\$2.00	\$0.50	\$0.50	\$0.75	\$1.00	\$1.50	\$1.00
AVG TICKETS PER PLAY	32-34	60-65	10-15	*3-5*	20-25	30-32	43-47	34-36

### DATE/LOCATION SETTINGS



DATE/ LOCATION SETTINGS							
IP ADDRESS	Displays the current IP address of the game. If no Ethernet cable is connected, the setting will display "Check cable". It is not necessary to have an Ethernet cable connected for proper game operation.						
TIME ZONE	Select the local timezone. This will be used to set the clock when an Ethernet cable is connected to the game. It is not necessary to have an Ethernet cable connected for proper game operation.						
DATE	The current date, automatically set if the game is connected to a network. It is not necessary for the clock to be set for proper game operation.						
TIME	The current time of day, automatically set if the game is connected to a network. It is not necessary for the clock to be set for proper game operation.						

### **STATISTICS**



STATISTICS						
TOTAL GAMES PLAYED	Total number of games played since last reset					
TOTAL TICKETS WON	Sum of ticket wins for all games since last reset					
NO BUTTON PUSHES	Number of games in which the player did not press the large glowing orb of a button to drop the yellow ball since last reset. In those cases, the ball is automatically dropped					
TOTAL BONUS WINNERS	Number of game in which the player won the bonus since last reset					
AVERAGE TICKETS	Quotient of total number of tickets divided by the total number of games since last reset					
MERCY REPLAYS	Number of free games given to players who, on their first attempt, land the ball on the very top or very bottom of the tube since last reset. Mercy replay must be enabled in the Payout Settings for this value to accumulate					

# DIAGNOSTICS



	DIAGNOSTICS
START BUTTON	Will display "Off" if large drop button is not pressed, "On" if pressed
COIN SWITCH PULSE	Will display "On" when a coinup pulse is detected on the Aux Monster board. Note that this may transition from "Off" to "On" and back to "Off" very quickly during coinup and may not be noticed.
DBA PULSE	Will display "On" when a DBA pulse is detected on the Aux Monster board. Note that this may transition from "Off" to "On" and back to "Off" very quickly during DBA pulse and may not be noticed.
LOW TICKET	Will Display "Off" when the low ticket condition switch is not active, "On" when active
CLOCK FREQ.	The speed of the processor clock on the main board
PI TEMP	Temperature of the processor chip on the main board
RED, GREEN, BLUE	The raw A/D values of the currently selected ball color sensor. Values range from 0 to 1024; any given color is represented as a mix of those three values. Usually these values are constantly updating, however, they will remain static for a time when the blowers are started until the balls have fallen into the tube
SENSOR ID	select the top or bottom ball color sensor to use for the above Red, Green, Blue display
TICKET DISPENSER	Pressing the Menu Select button with this item highlighted will send the signal to dispense one ticket to the ticket dispenser
RELEASE YELLOW BALL	Pressing the Menu Select button with this item highlighted will activate the yellow ball release solenoid.
SORT BALLS	Pressing the Menu Select button with this item highlighted will start a ball sort sequence. The sequence will be for the last sensed stack of balls
START BLOWERS	Pressing the Menu Select button with this item highlighted will activate both the yellow and red ball blowers for their normal run times
BALL DISPLAY	The left side of the screen may contain vertical rows of red and yellow "balls". These represent the last detected set of balls through the tube. The stack on the left represents the top sensor and the stack on the right is for the bottom sensor. These displays will be cleared when the blowers are started. When entering the diagnostics page this display will show the last-played game's data.

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#### A/C VOLTAGE



#### TICKET DISPENSOR, DROP/MENU BUTTONS METERS, DBA, AND COIN MECH



#### 12/5 VOLT FROM POWER DISTRIBUTION BOARD

![](_page_23_Figure_2.jpeg)

#### **POWER SUPPLY/ BONUS DISPLAY**

![](_page_24_Figure_2.jpeg)

LED

![](_page_25_Figure_2.jpeg)

LED

![](_page_26_Figure_2.jpeg)

#### VIDEO, COLOR SENSOR, AND SOUND

![](_page_27_Figure_2.jpeg)

#### **CARD SWIPE**

#### Option #1:

New card swipe systems may come with a standard 9 pin Molex connector.

Simply plug this connector and plug into your card swipe reader.

![](_page_28_Figure_5.jpeg)

In "Payout Settings" menu:

Set "Credits Per Play" to 1

Set "Card Swipe" to Enabled

UCL—Universal Card Link Connector for Card Swipe Systems Orange is Inhibit wire White is the Ticket Enable Black is Ground Blue is the Ticket Notch Green is Coin Signal Red is 12 Volts DC

#### Option #2:

If your card swipe systems does not have a standard 9 pin Molex connector, then you will have to splice wires into. the AACE6517 harness. Use the Green and Black wires for coin signal.

![](_page_28_Figure_12.jpeg)

In "Payout Settings" menu:

Set "Credits Per Play" to 1

Set "Card Swipe" to Enabled

UCL—Universal Card Link Connector for Card Swipe Systems Orange is Inhibit wire

White is the Ticket Enable Black is Ground Blue is the Ticket Notch Green is Coin Signal Red is 12 Volts DC

#### AACB9601 I/O AUX BOARD PINOUT

![](_page_29_Figure_2.jpeg)

Problem	Probable Cause	Remedy	
No power to the	Unplugged.	Check wall outlet cable(A5CORD5) to line filter(A5FI9010) in back of game. Check AACE6529 cable to power strip.	
game	Power strip turned off, or plugs unplugged.	Check rocker switch on power strip. Ensure power cords are pushed up into power strip securely.	
	Circuit breaker tripped.	Reset power strip breaker switch or building circuit breaker. Attempt to determine cause.	
	Line filter faulty.	Replace line filter. (A5FI9010)	
	Bad or overloaded power supply.	Refer to Power Supply Diagnostics	
	Power supply unplugged.	Insure power supply is plugged into power strip.	
no signal on monitor, but	Rocker Switch on power supply is Off.	Make sure rocker switch is set ON.	
everything else off (Power Supply	Power supply shutting down because of 12 V overload.	See power supply diagnostics to isolate bad component. A bad solenoid or 12 volt short would cause this.	
not ON)	Faulty power supply.	Refer to Power Supply Diagnostics section.	
	LED strip faulty	Remove marquee and examine LED strip. (AACE6542)	
lights are not working	Faulty Cable	Check cables from LED strip to power distribution board. (AACE6542, AACE6533, AACE6500)	
Drop Button	LED strip faulty	Open front door and examine circuit board with LED's. Replace if needed. (AACE6541)	
Working (Power goes	Faulty Cable	Check cables from LED board to RGB Control Board (AACE6541, AACE6504)	
through RGB Control Light Board)	Faulty RGB Control Light Board	Swap cables to a different socket on the board. Replace RGB Board if needed. (Part # AACB6502)	
Drop Yellow Ball center ball drop	LED strip faulty	Examine LED strip. There should be 12 Volts present. Replace LED strip if needed. (AACE6555)	
not Working	Faulty Cable	Check cables from LED strip to RGB Control Board (AACE6556)	
(Power goes through RGB Control Light Board)	Faulty RGB Control Light Board	Swap cables to the different socket on the board. Replace RGB Board if needed. (Part # AACB6502)	
Ball Light	Faulty Earlier Component	Signal first goes through the outside edge colored lights. Ensure these outside edge lights are functioning properly	
Board not	Extra 12 Volts to LED	Make sure 12 volts is being back-fed through AACE6507	
working	LED strip faulty	Examine LED board. Replace LED board if needed. (AACE6552)	
(Power goes through Edge LEDS's first,	Faulty Cable	Check cables from LED board to I/O Aux Board (AACE6511, AACE6519, AACE6510)	
coming from I/O Aux Board)	Faulty I/O Aux Board	Swap cables to a different socket on the I/O Aux board. Observe if the problem changes to the center track LED's Replace I/O Aux Board. (Part # AACB9601-SQ)	

Problem	Probable (	Cause Remedy
Control Panel LED's not working (Power goes through RGB Control Light Board)	LED strip faulty Faulty Cable Faulty RGB Control Light Board	Examine LED strip. Replace LED strip if needed. (AACE6523) Check cables from LED strip to RGB Control Board (AACE6550) Swap cables to the different socket on the board. Replace RGB Board if needed. (Part # AACB6502)
LED lights behind ball tube not working (Power goes through RGB Control Light Board)	LED strip faulty Faulty Cable Faulty RGB Control Light Board	Examine LED strip. There should be 12 Volts present. Replace LED strip if needed. (AACE6554) Check cables from LED strip to RGB Control Board (AACE6553) Swap cables to the different socket on the board. Replace RGB Board if needed. (Part # AACB6502)
Left or right lower cabinet color LED's not working (Power goes through RGB Control Light Board)	LED strip faulty Faulty Cable Faulty RGB Control Light Board	Examine LED strip. Swap connectors from other side. Replace LED strip if needed. (AACE6551) Check cables from LED strip to RGB Control Board (AACE6543, AACE6550) Swap cables to the different socket on the board. Replace RGB Board if needed. (Part # AACB6502)
Upper cabinet outside edge color LED's around edge not working (Power goes through I/O Aux Board)	Faulty Cable Extra 12 Volts to LED LED strip faulty Faulty I/O Aux Bd	<ul> <li>Check cables from LED strip to I/O Aux Board (AACE6519, AACE6510)</li> <li>Make sure 12 volts is being back-fed through AACE6507</li> <li>Swap cables to a different socket on the I/O Aux board.</li> <li>Observe if the problem changes to the center track LED's</li> <li>Examine LED strip. Replace LED strip if needed. (AACB6519)</li> <li>Refer to "How to Replace LED Lights in Playfield"</li> <li>Replace I/O Aux Board. (Part # AACB9601-SQ)</li> </ul>
Inside middle track color LED's not working (Power goes through I/O Aux Board)	Faulty Cable Extra 12 Volts to LED LED strip faulty Faulty I/O Aux Bd	Check cables from LED strip to I/O Aux Board (AACE6524, AACE6510) Make sure 12 volts is being back-fed through AACE6507 Swap cables to a different socket on the I/O Aux board. Observe if the problem changes to the outside edge LED Examine LED strip. Replace LED strip if needed. (AACB6524) Refer to "How to Replace LED Lights in Playfield" Replace I/O Aux Board. (Part # AACB9601-SQ)
Outside track color LED's not working (Power goes through RGB Control Light Board)	Faulty Cable Faulty I/O Aux Board LED strip faulty	Check cables from LED strip to RGB Control Board (AACE6509) Swap cables to the different socket on the board. Replace RGB Board if needed. (Part # AACB6502) Examine LED strip. Swap connectors from other side. Replace LED strip if needed. (AACE6527, AACE6538, AACE6539, or AACE6540) Refer to "How to Replace LED Lights in Playfield"

Probler	n Probable Cause	e Remedy	
Game does	Card Swipe System Special Instructions	Set "Game drive voltage threshold" to 2 volts. Coin signal wires are green and black wires. Refer to wiring diagram	
Game should have an audio	Pinched, broken, or disconnected wiring.	Check connections from coin switches to I/O Aux Board. Check continuity on wires. (AACBL4A-DOOR, AACE6517)	
doink sound from speakers when coin switch is	Faulty Coin Mechanism. Swap coin mech to verify.	Replace coin mech if faulty.	
triggered.	No Communication	Refer to "Communication Issues" troubleshooting.	
	Faulty I/O Aux Board	Replace I/O Aux Board . (AACB9601-SQ)	
Tickets do not	Ticket tray empty due to faulty low ticket switch or broken/ loose wires. Switch stuck or switch wire bent out of position.	Fill ticket tray. Replace low ticket switch(AASW200). Repair wiring. Clean ticket tray of dirt, loose tickets or debris. Bend switch wire to correct position under tickets.	
dispense	Faulty cable to dispenser.	Check wiring continuity from dispenser to I/O Aux Board (AACE3219, AACE6517) Check for pinched, broken or disconnected wires. Replace as necessary.	
	Dirty opto-sensor or paper dust buildup in ticket dispenser	Clean with compressed air and if necessary wipe sensor with isopropyl alcohol on a cotton swab.	
	Notch on tickets too shallow.	Flip tickets and load upside-down to have largest cut notch toward opto sensor.	
	Ticket dispenser faulty.	Replace dispenser with spare working dispenser (A5TD1)	
	Main circuit board malfunction.	If the notch signal is not being seen, replace the I/O Aux Board. (AACB9601-SQ) If the Enable signal is not present, replace the Raspberry Pi (AAMBRPI-SQ)	
Tickets dispensing all the time	Ticket enable signal comes from the Rasp Pi Main Board	Replace Rasp Pi Board. (AAMBRPI-SQ)	
	Ticket Pattern set wrong.	Enter "Payout Settings" menu and verify correct settings for	
Wrong	Sensor Issue Refer to "Color Sensor Troublesbooting"	LICKET Pattern.	
of tickets dispensed	Dirty opto-sensor on ticket dispenser.	Clean with compressed air or wipe with isopropyl alcohol on a cotton swab.	
	Notch on tickets cut too shallow.	Flip tickets and load upside-down to have large cut notch toward opto sensor.	
	Faulty ticket dispenser.	Replace with spare working dispenser (A5TD1).	
	Main circuit board malfunction.	Replace main board if possible to isolate the problem to faulty I/O Aux Board. (AACB9601-SQ)	
Low tickets	Stack of tickets not resting properly on low ticket switch.	Adjust stack of tickets so they hold both the switch actuators down.	
	Faulty switch.	Replace low ticket switch. (AASW200)	
	Faulty wire or connection.	Check for proper connection from switch to main board. Check continuity. (AACE3219, AACE6517)	
	Faulty I/O Aux Board	Replace I/O Aux Board. (AACB9601-SQ)	

Problem		Probabl	e Caus	e		Remedy	
Monitor not working	Monitor shows "No Signal"		If gam Check If gam Faulty Replac Small p Repla Monito Faulty	If game plays, but no sound: Check HDMI cable (A5CORD36) from Raspberry Pi to monitor at HDMI 1 If game does not play: Faulty SD card. Reseat SD Card Replace if needed. (AASD0008A) Small power connector unplugged on Main Board Replace power supply if needed (A5PS9600) Monitor HDMI cable unplugged. (A5CORD36) Faulty main board - Replace main board. (AAMBRPI-SQ)		I 1	
Power game down, wait <b>5 minutes</b> and power up again.	Mon noth powe	Monitor has nothing at all on power up.		Power cable unplugged from monitor. TV is off. Faulty monitor.		Power cable comes from monitor to A5CORD5 extension cord to power outle strip. Ensure 110 VAC at monitor. Use remote control to turn TV on. Replace monitor. (A5MO0032B)	et
	Erro powe Re-E see i exist	r on screen at er up. Boot game to if problem still s.	Check to mak Low Po screen board i power Faulty	fan or ce sure ower m n mean is not c in. Raspb	n power supply it is turning. nessage on s the Rasp Pi getting 5 V perry Pi	Refer to Power Supply Diagnostics. Re power Supply A5PS1013 if needed. Rasp Pi Main Board is not getting 5 Volt DC power in. Check A5PS9600 plugged into power strip. Replace Raspberry Pi (AAMBRPI-SQ)	place is
No Coin Up Can not ent the menu	Coin Up not enter menu Ribbon cable between Raspberry Pi and I/O A board unplugged. Faulty I/O Aux Board. Faulty Raspberry Pi.		Aux Aux Check ribbon cable (A5CBL-RBN40-1) Ensure ribbon cabl not frayed or a pin off the connector. Refer to wiring diagra for proper installation. Replace if needed. (A5CBL-RBN40- Replace I/O Aux Board. (AACB9601-SQ) Replace Raspberry Pi (AAMBRPI-SQ)		able is gram 40-1)		
Red balls are sticking in the playfield area		Static in the playfield. Ball jam in the playfield.		T s g d. E lf	There is a metal plate behind the top row of pins that will pull static from the balls as they pass by. Make sure metal plate is grounded to game ground and wall ground. Balls may get stuck on pins if they drop at the perfect angle. Usually the next game will un-jam the balls. If persists, gently tap on plexi front of game to clear jam.		ll e is e.
Red Ball Display Area LEDs (Power goes through Power Distribution Board)		LED strip faulty Exams strip Faulty Cable Che (AAC Faulty RGB Control Light Board Bep		Exami strip if Check (AACE Swap Replac	xamine LED strip. There should be 12 Volts present. Replace LED rip if needed. (AACE6561) heck cables from LED strip to RGB Control Board AACE6561, AACE6560) wap cables to the different socket on the board. eplace Power Distribution Board if needed. (Part # AACB5156)		LED

Problem			Probable Caus	se		Remedy		
		Refer to wiring diagram - "Marquee & 12 V Wiring"		- )"	Bor Disj	nus display receives signals and 5 Volt DC power in from play Driver Board. (AACE9609)		
Marquee Bonus		5 Vo is m	lt DC power In iissing.		Display Driver board provides power to, and receives signals from Rasp Pi Marquee Board.			
Display not working		Corr Pinc	munication cable is hed, broken, or	ssue.	Che AA(	eck cables from power supply to displays. (AACE6500, CE 6533)		
		disconnected wiring			Check ribbon cables from display driver to display. (AACE6532) Check ribbon cables from display driver to Rasp Pi Board (A5CBL-RBN40-1) Check power cable from Driver Board to display. (AACE9609)			
		Faul	ty board.		It co Disi	build be any of the 3 circuit boards in the system:		
					Disp Ras	play Driver Board (AACB9603) sp Pi Marquee Board (AAMBRPI-SQ-M)		
		Men	u Setting	E	Ente valu	er the "Payout Settings" menu and ensure the Minimum e and Maximum value is set correctly.		
Marquee Bonus not					If the game is at the maximum value, it will not increment higher.			
incrementin	ıg	Com	munication cable is	ssue. E	sue. Ensure the phone cable is connected from front I/O Aux board to the marguee Display Driver Board. (AACE6526, AACE6548,			
Bonus will increment when the			/ 1	AACE6531) Check the 2 connector boards. (AACB4051-2) Make sure phone cables are secure.				
game is over.				(	Check ribbon cables. (AACE6532 & A5CBL-RBN40-1)			
		Ras	oberry Pi Board Issu	ue.	Sigr	nals come from Rasp Pi. Replace if needed. (AAMBRPI-SQ)		
Menu Butto	Menu Buttons Game will not enter menu v game is plaving.		u while		Wait until balls are being sorted from tube to press menu button for right timing.			
Note: If the game		Swap connectors at the 2 butto		2 button	IS	Replace button if problem stays with button.(AAPB2700)		
does not coin up, refer to Communication Issues	,	Pinched, broken, or disconnected wiring				Inspect crimp to ensure good connection. Check connections from menu buttons to main board. Check continuity on AAPB2700, AACE6514		
		Signals are processed on Rasp		n Rasp I	Pi Replace Raspberry Pi. (AAMBRPI-SQ)			
Meters do n	ot w	ork	The 2 crimped wir	es may	s may Inspect crimps on AACO1020 to ensure good connection			
Game counter end of each ga	clicks me.	at	Pinched broken (	٦r	Check connections from counters to main board			
Ticket counter of	clicks	as	disconnected wirir	ng		Check continuity on wires.(AACO1020, AACE6514)		
tickets come ou	ut of g	ame.	I/O Aux Board fau	lty.	Replace I/O Aux Board. (AACB9601-SQ)			
	Ens 110	sure bi Volts	Il acceptor has AC.	Accept check	Acceptor should cycle stacker at game power up. If not, check cable connections to power strip. Caution – 110 Volts AC			
	Dirt	or de	bris in acceptor	Clean	with	n bill reader cleaning card. (A5CC9000)		
Dollar Bill Acceptor	slot Ens	sure a	cceptor dipswitch	There are dips on side of acceptor. Set to "always enable" (not harness enable)				
not working	is s Pin	et to "a ched	always enable" broken, or	Check	wiri	ing from bill acceptor to main board.		
	disc	connec	cted wiring.	Refer t	to tr	oubleshooting section of dollar bill acceptor manual		
	Bill	acceptor problem.		include	included with this game or the diagnostics label of the back of the unit.			

Problem	Probable Cause	Remedy		
Yellow ball is the first ball	Mechanical Issue with solenoid.	The yellow ball should stay on toggle and not drop until the button is pressed. Solenoid should only read 12 volts when drop button is pressed.		
down every game	Drop button is stuck down.	Clean Drop button and make sure it pop up and down freely. There are 4 springs (A5SP9700) that keep button up.		
The game thinks	Magnet switch faulty.	Remove button and ensure the magnet is attached to the button		
the Drop button is stuck down. It will give a free game, and then give minimum	4 Volt DC power In is missing.	Check for 4 volts DC at the Magnetic Switch. The magnet is normally far away from the sensor, and comes close to it when pressed. It will drop to 0 Volts DC when the button is pressed.		
tickets for the selected pattern.	Cable issue. Pinched, broken, or disconnected wiring	Check cables from switch to main board.(AACE6544, AACE6517) Replace button if needed. (AAPB6500) the magnet will come with button. Replace Magnetic Switch if needed. (AACE6544)		
	Faulty I/O Aux Board.	Replace I/O Aux Board. (AACB9601-SQ)		
Yellow ball does not drop when	Mechanical Issue with solenoid.	Check linkages and measure 12 volts at solenoid when drop button is pressed. Replace solenoid if needed. (AACE6547)		
button is pressed	Drop button is not moving.	Clean Drop button and make sure it pop up and down freely. There are 4 springs (A5SP9700) that keep button up.		
The game will	Magnet switch faulty.	Remove button and ensure the magnet is attached to the button		
drop the yellow ball automatically at the end of the game. It will give	4 Volt DC power In is missing.	Check for 4 volts DC at the Magnetic Switch. The magnet is normally far away from the sensor, and comes close to it when pressed. It will drop to 0 Volts DC when the button is pressed.		
a free game, and then give minimum tickets for the selected pattern.	Cable issue. Pinched, broken, or disconnected wiring	Check cables from switch to main board.(AACE6544,AACE6517) Replace button if needed. (AAPB6500) the magnet will come with button. Replace Magnetic Switch if needed. (AACE6544) Check cables to solenoid. (AACE6503, AACE6521, AACE6547)		
	Faulty I/O Aux Board.	Replace I/O Aux Board. (AACB9601-SQ)		
Yellow ball is not at top of	Blower is not turning on.	Enter diagnostic menu, and select "Start Blowers". Check for 12 volts to blower on right side of AACB6503 board.		
game		If 12 Volts DC present, then replace blower. (AABL6500)		
The blower is not		If no 12 Volts, check for 12 volts on left side of AACB6503 board.		
blowing it up.	17 13 2	If 12 Volts DC present, replace current limit board (AACB6503)		
	Disusaria turning on but	If no 12 Volts, Check AACE6518 cable back to I/O Aux Board. Replace I/O Aux Board if needed. (AACB9601-SQ)		
	no yellow ball at top.	Ball jammed in tube, refer to "Yellow Ball Tube Diagram" and "How to Replace Yellow Ball" troubleshooting.		
Red ball is in	Color sensor is dirty.	The color sensor is dirty, unplugged or faulty. Spray canned air at sensor to clean. Refer to "How to Clean Color Sensor"		
the yellow ball drop area.	Ball sort solenoid faulty.	Refer to "Ball Sort Solenoid not operating correctly"		

Problem		Probable Caus	е	Remedy		
Red balls are	•	If blower is not running AC Driver Board is not receiving power	ng:	Check for a constant 110 VAC on the AACE6525 input cable.		
not coming down.		AC Driver Board not receiving signal from		Check for a 12 Volt DC pulse on AACE6515 There is also a green LED on the board that will light up when it		
released at gan start.	ne	I/O Aux Board.		is receiving a signal from I/O Aux Board. Replace I/O Aux Board if needed. (AACB9601-SQ)		
Enter Diagnostic Menu and select "Start Blowers"		AC Driver Board not sending voltage to blower		Check fuse in the small box on the board. Replace with 5 amp fuse if needed. Check for 110 VAC coming from board on AACE6528 cable. If green LED is on board, but no 110 VAC coming from board, this board is faulty. Replace AC Driver Board (AABD5029-A)		
		Ensure CE6528 cable is plugged into the blower AC cable.		If blower is receiving 110 VAC and still not blowing, unplug blower and check for obstructions in blower itself. Replace blower is needed. (AABL6505)		
Ter		If blower is running: Red ball path is blocked.		Ball jammed in tube, refer to "Red Ball Tube Diagram" and "How to Replace Red Ball" troubleshooting.		
All balls are i coming dowr	not 1,	No power to I/O Aux Board.		Check that both power supply connectors are secure to I/O Aux Board.		
Blowers and solenoids do not turn on.		Faulty I/O Aux Board.		Replace I/O Aux Board. (AACB9601-SQ)		
No Audio or	Volu	lume too low. Inci Attr		ase the volume by pressing Menu button, go to "Volume & ct Settings" and increase Attract volume & Game Volume		
Loud	Sour	nd has static.	Use r	Jse remote control and turn the volume down on the TV.		
Audio	Loos	e wire.	Chec to sp	Check audio cable connections from TV through audio amplifier board to speakers. (A5CEAU010, A5CE2300, AACE6505, AACE8811)		
Souria originates from TV and	Fault Moth	ty HMDI cable from erboard	Chec	Check HMDI cable (A5CORD36) from Motherboard		
goes to speakers.	No 1 Audi	2 VDC power to o Amplifier board.	Ensu	nsure 12 VDC power in on cable AACE6502 from power supply		
Us		MP3 or Phone to te problem.	Unplu phon speal	lug phono jack from audio filter from TV and plug into the MP3 or ne. Then the sound from your device will play through the game akers.		
All RGB Ligh	ts are	No power to RGB Cor Light Board.	ntrol	Check that both power supply connectors are secure to I/O Aux Board.		
not synchror	lized	No signal to RGB Cor Light Board.	ntrol	Check USB cable from Raspberry Pi board. Replace if needed. (A5CBL5900)		
		Faulty RGB Control Light Board or Rasp Pi Board.		Replace RGB Control Light Board.(AACB6502) or replace Rasp Pi Board. (AAMBRPI-SQ)		

Problem		Probable Ca	ause	Remedy	
Mixing Motors not turning	These 3 motors should have a constant 12 Volts DC. Mechanical Issue with motor. Cable issue. Pinched, broken, or disconnected wiring		d have a ith motor. ed, broken, ing	Check for 12 Volts DC at the motor. If the motor has 12 Volts and is not turning, replace motor. (AAMO6500) Refer to "How to Replace Mixing Motors" troubleshooting. If no 12 Volts DC present: Check cable AACE6512 for lower motor. Check cable #'s AACE6520 & AACE6513 for upper motors. Swap connectors on Power Distribution Board to verify faulty Power Distribution Board. Replace if needed. AACB5156	
Communication Issues Game will not coin up and menu buttons will not work		No power	to I/O Aux Board.		
	F F t	Ribbon cable betw Raspberry Pi and poard unplugged.	ween I/O Aux	Check ribbon cable (A5CBL-RBN40-1) Ensure ribbon cable is not frayed or a pin off the connector. Refer to wiring diagram for proper installation. Replace if needed. (A5CBL-RBN40-1)	
	F	Faulty I/O Aux Bo	ard.	Replace I/O Aux Board. (AACB9601-SQ)	
	Faulty Raspberry Pi.		Pi.	Replace Raspberry Pi (AAMBRPI-SQ)	
Ball Stack Solenoid not operating correctly Balls should stack tube v pushing pas rest position		Balls should all stack tube with pushing past so rest position.	sit in out plenoid in	If the weight of the ball stack is pushing past the solenoid while it is not operating, replace solenoid assembly. (AASO6500)	
If s and pas So ope		If solenoid is operating and balls do not move past it.		Balls are broken or jammed in tube, or solenoid assembly is faulty. Replace solenoid assembly. (AASO6500)	
		Solenoid does not operate.		Check for 12 Volt DC pulse at solenoid. If 12 Volts DC present, replace solenoid assembly(AASO6500) If no 12 Volts, check AACE6516 cable to I/O Aux Board. Replace I/O Aux Board if needed. (AACB9601-SQ)	
-500		Yellow ball and red balls are getting mixed up.		Refer to Ball Sort Solenoid not operating correctly.	
Ball Sort Solenoid not operating correctly		Balls will be sorted according to color sensed from color sensor in the top of the tube.		The solenoid will only engage to direct the yellow ball to the top of the game. If the color sensor is dirty or too far away, this will affect operation. Clean color sensor. Refer to "Color Sensor troubleshooting" section.	
		If solenoid is op but balls do not past it. Solenoid does operate.	perating t move not	Balls are broken or jammed, or solenoid assembly is faulty. Replace solenoid assembly. (AASO6501) Check for 12 Volt DC pulse at solenoid. If 12 Volts DC present, replace solenoid assembly(AASO6501) If no 12 Volts, check AACE6522 cable to I/O Aux Board. Replace I/O Aux Board if needed. (AACB9601-SQ)	

#### **COLOR SENSOR**

The color sensor on the ball tube sends signals to the Color Control Boards mounted in the back of the game. The game must see balls passing by the sensors to determine the ball color.

At power on, the game will sort balls by:

- Ball separator solenoid engages for 20 seconds, then disengages.
- Both blowers engage
- All balls drops
- Tube solenoid releases balls
- Yellow ball is blown up to the top, waiting area.

If a red ball is in top middle spot, either the ball stack solenoid misfired, or the color sensors need cleaning.

#### Use canned air to clean sensors - this will fix most color sensor issues.

![](_page_38_Figure_11.jpeg)

#### **Diagnostic Menu**

There is information in the Diagnostic Menu which may be helpful. After the tube is filled:

The top sensor sees the last ball in the tube. Referred to in Diagnostics —> Sensor ID as "Top" The bottom sensor sees the 2nd to the last ball in the tube. Referred to as —> Sensor ID as "Btm"

![](_page_38_Picture_15.jpeg)

### DIAGNOSTICS

#### **BILL ACCEPTOR**

Note: There are many different models and brands of Bill Acceptors that are used on redemption games. Your Bill Acceptor may differ from the unit shown.

Standard DBA is MEI # AE2451-U5E Part # A5AC9091

Determine if Bill Acceptor has power:

Turn game ON—The bill acceptor should make noise as stacker cycles and green lights on outside bezel should flash.

If NO power:

Use meter to measure 110 AC voltage at cable going into Bill Acceptor from power strip.

![](_page_39_Picture_8.jpeg)

![](_page_39_Picture_9.jpeg)

#### **ERROR CODES**

![](_page_39_Figure_11.jpeg)

### DIAGNOSTICS

#### **POWER SUPPLY**

1.) Verify AC power to front of game. Check power strip in bottom front. Check for illuminated power switch.

- 2.) Check AC power connection to power supply.
  3.) Ensure Power Supply switch is set to 115V (or 230V) (Some model power supplies may not have this)
- 4.) Ensure Power switch is on.

![](_page_40_Figure_5.jpeg)

#### No 12 Volts (Power Supply Fan is not turning), but AC to power supply is OK

This means that either:

- 1.) Power supply is faulty.
- 2.) There is a 12 volt short in cabinet causing power supply to remain off to protect itself.

![](_page_40_Figure_10.jpeg)

#### ADJUST COLOR SENSOR

The color sensor is located in the top of the ball tube next to the monitor. If the game is not registering the yellow ball in the correct spot, this color sensor may be dirty, too far away from the balls, or too close to the balls.

To adjust:

- 1.) Remove the 4 Phillips screws on the left side of the blue metal.
- 2.) Remove all of the small Phillips screws on the right side of the clear plexi.
- 3.) Remove the cover and set aside for later installation.
- 4.) Loosen the 2 of 3/8 inch nuts.

There are 2 beams on the sensor board.

Top sensor Bottom sensor

![](_page_41_Picture_10.jpeg)

Both sensors watch the balls as they pass by.

5.) Move the sensor board closer or further away from the tube according to suggestions below:

![](_page_41_Picture_13.jpeg)

![](_page_41_Picture_14.jpeg)

Enter menu, select "Diagnostics" Select "Start Blowers" to allow red balls to fill tube. Select "Release Yellow Ball" to allow yellow ball to fall into tube

The screen will show 2 columns of balls. The left column is the top sensor and the right column is the bottom sensor on the circuit board.

As the balls fill the tube, the display will show where they land: When aligned correctly, there will be only 1 yellow ball in each column.

If there are more than 1 yellow ball in each column, then the sensor board is too close to the tube and should be moved a bit further away.

It is normal that there is one ball missing in the top left column. If there are more than the one ball missing, then the sensor board is too far away from the tube and should be moved a bit closer.

Select "Sort Balls" and start test over if needed.

6.) Re-install cover when finished.

![](_page_41_Picture_22.jpeg)

Check Top Ball Tube Sensors means that one of the 2 sensors are not communicating. It could be a faulty cable or dirty sensor. Clean with canned air, wipe sensor if needed. Power cycle game to ensure good connection.

If both sensors are unplugged - both yellow and red balls will come out of the red ball nozzle. The tube will be filled for a long time. The game will try to release the solenoid a few times and the player will receive a play again, then receive the minimum tickets for their ticket pattern.

#### **UPDATE SOFTWARE**

#### The software is programmed onto a SD Card

There is separate software for the game main board and the Marquee Sign main board.

Game main board SD Card location

![](_page_42_Picture_5.jpeg)

![](_page_42_Picture_6.jpeg)

Marquee Sign main board SD card location

**To remove:** Push gently into board and let it pop back out - remove from board. **To install:** Push gently into board until it clicks. SD Card part number is AASD0008A - please specify game location when ordering.

## HOW TO

#### **REPLACE MIXING MOTORS**

There are 3 mixing motors on the playfield. They each rotate to push the balls back uphill.

To remove and replace:

1.) Remove enough of the #2 square bit screws to allow the front plexi to bend upward and outward.

2.) Remove the 4 Phillips screws holding on the cover.

3.) Remove the 2 screws holding gear.

4.) Remove the back door and remove the 2 of #2 square bit screws and remove motor housing from back of game.

5.) Remove cotter pin from old motor, move hub to the new motor and install new cotter pin..

6.) Re-install new motor into the back of the playfield and re-assemble.

![](_page_42_Picture_19.jpeg)

![](_page_42_Picture_20.jpeg)

#### **CLEAN COLOR SENSOR**

Use a can of air to spray in the small holes in the top of the tube. This should remove any debris that has accumulated on the sensor.

![](_page_43_Picture_3.jpeg)

#### HOW TO

#### **REPLACE DROP BUTTON**

The Drop Button is accessed from the top of the control panel.

To remove and replace:

- 1.) Remove all of the small black Phillips screws.
- 2.) Remove the 4 Phillips screws.
- 3.) Drop button can now be removes and replaced.
- 4.) Re-installation is the reverse of removal.

![](_page_43_Picture_12.jpeg)

## HOW TO

#### **REMOVE BALL TUBE**

To remove the Ball Tube, the front protective cover must first be removed.

To remove and replace:

- 1.) Remove the 4 Phillips screws on the left side of the blue metal.
- 2.) Remove all of the small Phillips screws on the right side of the clear plexi.
- 3.) Remove the cover and set aside for later installation.
- 4.) Remove the 2 of #2 square bit screws.
- 5.) Lower the black plastic, lift tube up and out of cabinet.
- 6.) Clean or replace if needed. Part # A5PI6500
- 7.) Re-installation is the reverse of removal.

![](_page_43_Picture_24.jpeg)

![](_page_43_Picture_25.jpeg)

#### **CLEAN PLAYFIELD**

There are a bunch of #2 square bit screws holding the front plexi on top cabinet. The arrow plexi and LED will also have to be removed.

To remove and clean:

1.) Remove the 4 of #2 square bit screws from top drop yellow ball plexi.

2.) From back of cabinet, unplug the cable CE6556 and remove plexi from front of the cabinet.

3.) Remove all of the #2 square bit screws from front plexi and remove plexi from game.

- 5.) Clean the inside of the plexi with a cleaner similar to Plexus.
- 6.) Re-installation is the reverse of removal.

![](_page_44_Picture_9.jpeg)

![](_page_44_Picture_10.jpeg)

#### **REPLACE BALL STACK SOLENOID**

To Replace the Ball Stack Solenoid, the front protective cover must first be removed.

To remove and replace:

- 1.) Remove the 4 Phillips screws on the left side of the blue metal.
- 2.) Remove all of the small Phillips screws on the right side of the clear plexi.
- 3.) Remove the cover and set aside for later installation.
- 4.) Remove the 3 Phillips screws.
- 5.) Go to the back of game and remove the lower back door.
- 6.) Unplug the CE6516 cable and feed the cable through the slot.
- 7.) Remove the solenoid assembly from cabinet.
- 8.) Re-installation is the reverse of removal.

![](_page_44_Picture_22.jpeg)

![](_page_44_Picture_23.jpeg)

#### **REPLACE RED BALLS BLOWER**

The Red Ball Blower is located under the large blue vacuum form middle section.

To remove and replace:

- 1.) Remove all of the black #2 square bit screws from the blue housing.
- 2.) Lift housing from cabinet.
- 3.) Blower can now be replaced. Part # AABL6505
- 4.) Re-installation is the reverse of removal.

![](_page_45_Picture_8.jpeg)

![](_page_45_Picture_9.jpeg)

## HOW TO

#### **REPLACE BALL SORT SOLENOID**

The Ball Stack Solenoid is accessible from the back of cabinet.

To remove and replace:

1.) Remove the lower back door of cabinet.

2.) Loosen the nut on hose clamp with a flat screwdriver or 5/16" nut driver.

3.) The other grey hose can be pulled out of the PVC pipe. It is not clamped.

![](_page_45_Picture_17.jpeg)

6.) Unplug CE6522 cable and remove assembly from cabinet.

- 7.) Remove 5 of #2 square bit screws to remove wood housing.
- 8.) Remove 3 of 8/32" nuts to remove black plastic hose housing.
- 9.) Install new Solenoid Assembly into wood and hose housing.
- 10.) Re-installation is the reverse of removal.

![](_page_45_Picture_23.jpeg)

![](_page_45_Picture_24.jpeg)

![](_page_45_Picture_25.jpeg)

#### **REPLACE RED BALLS**

The Red Balls travel through the grey tube that is pressed into the PVC pipe. No hose clamp is needed.

To remove and replace balls:

1.) Remove the lower back door of cabinet.

2.) Pull the grey hose from PVC pipe and place end into a bag or box to collect the game's red balls.

- 3.) Enter the game's menu and select "Diagnostic" Menu.
- 4.) Select "Start Blowers". The red balls will fill the tube.
- 5.) Select "Sort Balls" The tube will empty into the box in the back of the game.
- 6.) Install the new balls into the PVC tube. (Part # A5BA5802) Important - Only install 18 red balls into the game.
- 7.) Push the grey hose back into the PVC pipe. No hose clamp needed.

#### HOW TO

elease Yellow Ball

Sort Balls

tart Blowers

#### **REPLACE YELLOW BALL**

The Yellow Ball travels through the grey tube that is hose clamped near the 12 Volt DC blower in the back of the game.

To remove and replace the yellow ball:

- 1.) Remove the lower back door of cabinet.
- 2.) Loosen the nut on hose clamp with a flat screwdriver or 5/16" nut driver, remove the grey hose, and place end into a bag or box to collect the yellow ball.
- 3.) Enter the game's menu and select "Diagnostic" Menu.
- 4.) If the yellow ball is already showing at the top of the game, select "Release Yellow Ball". The ball will drop into the tube.

![](_page_46_Figure_19.jpeg)

5.) Select "Sort Balls"

The tube will empty, the yellow ball will drop into the box in the back of the game.

6.) Install the new yellow ball into the PVC tube. (Part # A5BA3201) Important - Only install 1 yellow ball into the game.AAPB6500

![](_page_46_Picture_24.jpeg)

![](_page_46_Picture_25.jpeg)

#### **REPLACE LED LIGHTS IN PLAYFIELD**

The LED lights are sandwiched between plywood and plastic.

If needed to be replaced, the assembly can be removed from the game and brought to a bench to replace a LED light strip.

To remove and replace:

1.) Remove Arrow Plexi: Remove the 4 of #2 square bit screws from top arrow plexi.

From back of cabinet - unplug the cable CE6556 and remove plexi from front of the cabinet

2.) Remove Marquee: From back of the cabinet: unplug the CE6533 and CE6531 cables. From the front of the cabinet: Remove the 4 bolts from edge of marquee.

Remove the marquee from the cabinet.

3.) Remove all of the #2 square bit screws from front plexi and remove plexi from game.

4.) The playfield wood is separated into 3 sections: Right, Middle, and Left Only remove the section that has the faulty LED strip. From back of cabinet - unplug the cables in the Section you are removing.

Only remove the #2 square bit screws in that section that are **not** circled. These will be removed later.

Important: Do not remove the circled screws at this time! -

![](_page_47_Picture_13.jpeg)

![](_page_47_Picture_14.jpeg)

![](_page_47_Picture_15.jpeg)

![](_page_47_Picture_16.jpeg)

5.) The wood section can now be removed from the cabinet and brought to a flat bench to remove and replace faulty LED strip.

6.) Remove the circled screws and lift plywood from assembly. LED strips can now be replaced.

7.) Re-installation is the reverse of removal.

## YELLOW BALL TUBE DIAGRAM

![](_page_48_Figure_1.jpeg)

#### **RED BALLS TUBE DIAGRAM**

![](_page_49_Figure_1.jpeg)

PART #	DESCRIPTION	PART #	DESCRIPTION
A5AC1004	Acrylic, Cover, Driver Board	A5ME6515	Metal, Top Pin Row Ground Plate
A5BA5802	BALL,RED,HDPE,37.8mm	A5PI6500	Pipe, Scoring Ball Stack
A5BA3201	BALL, YELLOW, HDPE, 37.8mm	A5PI6501	Pipe, 4" PVC
A5BK9999	Bracket, Power Supply Mounting	A5PI6502	Pipe, 2"X7.125" PVC
A5CB2050	Coin Box, Plastic, Black	A5PI6503	Pipe, 2"X18.7" PVC
A5CBL5900	Cable, USB, Male A To Male Micro	A5PI6504	Pipe, 2"X49" PVC
A5CBL6500	Cable, USB-C To USB-A, 6 Ft.	A5PI6505	Pipe, 2"X53.5" PVC
A5CBL-RBN40-1	Cable, Ribbon, Gray, 40 Con.	A5PI6506	Pipe, 2"X17.8125" PVC,
A5CE2300	Cable, Audio Isolator	A5PI6507	Pipe, 1.5"X6.65" PVC
A5CEAU010	Cable, Audio Stereo, 3.5mm , M-M 2ft	A5PI6508	Pipe, 1.5"X61.375"
A5CL6500	Clamp, Hose	A5PI6509	Pipe, 1.5"X55" PVC
A5CORD36	Cord, 8' HDMI	A5PI6510	Pipe, 2"X10.875" PVC
A5CORD5	Cord,AC Computer Cord	A5PI6511	Pipe, 1.5"X7.75" PVC
A5FI9010	Filter, Inline, To Pass FCC	A5PI6512	Pipe, 1.5"X4" PVC
A5LD1052	Led Mod,6.25"X12.5",64*32p	A5PV6501	Long 90*Elbow Conn. 2 Sock. Female
A5LK2001	Lock, Cash Box, A05/E00 Key Code	A5PV6503	90*Elbow Conn. 1-1/2 Sock. Female
A5LK5002	Lock, 7/8", H95 Key Code	A5PV6504	PVC, 2 Socket-Connect Female
A5MA9700	Switch Replacement Magnet	A5PV6505	PVC, 1-1/2 Sock-Connect Female
A5OU1000	Outlet,Strip,Six,15amp,125v	A5PV6506	45* Elbow Conn. 2 Sock. Female
A5PL8900	Plate, Blanking, Bill Validator	A5PV6507	90* Elbow Conn. 2 Sock. Female
A5PN6500	Pin, Playfield, 122 Per Game	AAPV6500	PVC T-Con. 2 Socket-Con. Female
A5DE6500	Decal, Front Middle Door	AAPV6502	PVC T-Con. 1-1/2 Socket Female
A5DE6501	Decal, Front	AAPI6515	Pipe, Gray Flex
A5DE6502	Decal, Front Side Door	A5SP9700	Compression Spring
A5DE6503	Decal, Front Bottom Door	A5TD1	Ticket Dispenser, Entropy
A5DE6504	Decal, Side Panel Right	A5TT4101	Ticket Tray, Right
A5DE6505	Decal, Side Decal Left	A5VF6500	Vacuum Form, Cab Separator
A5DE6506	Decal, Monitor Left	A5WRSS063	Wire,SS, .063" Die X 1' Long
A5DE6507	Decal, Control Panel	AACBL4A-DOORA	Door Cable With Bulbs
A5DE6508	Decal, Side Panel Right	AACE1715	Cable Assy, Ground Strap
A5DE6509	Decal, Marquee	AACE3219	Cable, Tot Dips/Low Tot Swat
A5DE6511	Decal, Playfield	AACE6500	Cable Assy, Marquee Power From Board
A5DE6512	Decal, Monitor Cover	AACE6501	Cable Assy, Grand Stud To Door Hinge
A5ME4180	Metal, Right Tot Tray Bracket	AACE6502	Cable Assy, Audio Board Power
A5ME4182	Metal, Coinbox Guide	AACE6503	Cable Assy, Yellow Ball Release Console
A5ME5180	Metal, Motor Hub	AACE6504	Cable Assy, Button Power
A5ME6500	Metal, Ball Sorter Cover	AACE6505	Cable Assy, Speaker Wires
A5ME6503	Metal, Light Support Bracket	AACE6506	Cable Assy, RGB Power Board
A5ME6504	Metal, Cabinet Support	AACE6507	Cable Assy,5volt Addressable From Board
A5ME6505	Metal, Bottom Rail	AACE6509	Cable Assy, Power To Upper RGB
A5ME6506	Metal, Color Sensor Bracket	AACE6510	Cable Assy, Upper Addressable Led
A5ME6507	Metal, Front Door Bottom	AACE6511	Cable Assy, Right Addressable To TV Board
A5ME6511	Metal, Mar Mount Brut	AACE6512	Cable Assy, Lower Motor Console
A5ME6513	Metal, Bottom Rail	AACE6513	Cable Assy, Top Motor From Board
A5ME6514	Metal, Sensor Ad Bracket	AACE6514	Cable Assy, Counters And Button

PART #	DESCRIPTION	PART #	DESCRIPTION
AACE6515	Cable Assy, Aux To Ac Driver Board	AAPB6500	Pushbutton Dome W/Magnet
AACE6516	Cable Assy, Ball Release	AASO6500	Solenoid, Ball Stack
AACE6517	Cable Assy, Coin Door/Ticket Dispenser	AASO6501	Ball Sorter Solenoid
AACE6518	Cable Assy,Cb6503 Power To Blower	AACE6547	Cable Assy, Yellow Ball Solenoid
AACE6519	Cable Assy, Outer Playfield Addressable	AAMO6500	Motor, 12 VDC, Mixing
AACE6520	Cable Assy, Jumper To Top Motors	AASW200	Low Ticket Switch
AACE6521	Cable Ball Release	W5HG1025	Hinge,16",Double Bend
AACE6522	Cable Assy, Ball Sorter	W5HG1050	Hinge,8",Double Bend
AACE6523	Cable Assy, Console RGB	W5KE5000	Keeper, Lock
AACE6524	Cable Assy, Mid Playfield Addressable	W5TM3000	T-Molding, 11/16" Blue, 17 Feet Per Squiggle
AACE6525	Cable Assy, Line Voltage Ac Driver Board	W5TM4002	T-Molding,7/8"Blue, 76 Feet Per Squiggle
AACE6526	Cable Assy, Communication To Marquee	A5MO0032B	Monitor, TV, D315rwb254
AACE6527	Cable Assy, Outside Left Of Playfield RGB	AABL6500	Cable Assy, Blower
AACE6528	Cable Assy, AC Driver Board To Ac Blower	AABL6501	Blower, X Power, 220vac
AACE6529	Cable Filter Power Cord	AABL6505	Blower, X Power, 110vac
AACE6531	Cable Assy, Marquee Communication	A5PS1013	Power Supply, EVGA 500
AACE6532	Cable Assy, Display	A5PS9600	5v 2.4awg Power Supply W/20awg Micro USB
AACE6533	Cable Assy, Marquee Power		
AACE6534	Top Plate Stud To Red Ball Release		
AACE6535	Mid Ground Stud To Lower Stud Connection	A5CB6500	PCBA, Color Sensor
AACE6536	Lower Ground Stud To Mid Connection	A5CB6501	PCBA, Color Sensor Controller
AACE6537	Mid Ground Stud To Top Plates Stud	A5CB9600	Circuit Board, Audio Amplifier
AACE6538	Cable Assy, Inner Left Playfield RGB	AABD5029-A	AC Driver Bed, Drive2
AACE6539	Cable Right Playfield RGB	AACB4051-2	PCBA, Rj11 Splitter, 2 Port
AACE6540	Cable Assy, Outside Right Playfield RGB	AACB5156	Circuit Board, Power Dist.
AACE6541	Cable Assy, Mega Button Led	AACB6502	PCBA, RGB Light Driver
AACE6542	Cable Assy, Marquee Lights	AACB6503	PCBA, In-Rush Current Limiter
AACE6543	Cable Cabinet Side Lights Pow	AACB9601-SQ	Circuit Board Assy, I/O Aux
AACE6544	Cable Assy, Button Switch	AACB9603	Circuit Bard Assy, Dot Matrix Driver RPi
AACE6547	Cable Assy, Yellow Ball Solenoid	AAMBRPI-SQ	Raspberry Pie Mainboard With Software
AACE6548	Cable Assy, Marquee Communication Jumper	AAMBRPI-SQ-M	Rasp Pi Main Board For Marquee
AACE6549	Cable Assy, Color Sensor Control	AASD0008A	Sandisk,8gb,Ultra,Mem Card Specify Game
AACE6550	Cable Assy, Console & Side Light Power		
AACE6551	Cable Assy, Lower Cabinet Side Light Jump		
AACE6552	Cable Assy, TV Light Board		
AACE6553	Cable Assy, Dimming Light To Board Cable		
AACE6554	Cable Light Jumper		
AACE6555	Cable Assy, Arrow Light		
AACE6556	Cable Assy, Arrow Light Power From Board		
AACE6557	Cable Assy, Ground Stud To Dba		
AACE6558	Cable Assy, Ground Stud To Coin Door		
AACE8811	Speaker Assembly		
AACE9609	Cable Assy, Marque Display Power Jump		
AACO1020	Counter Assy, No Feet		
AAPB2700	Pushbutton Assy		

![](_page_52_Picture_1.jpeg)

![](_page_52_Picture_2.jpeg)

![](_page_52_Picture_3.jpeg)

![](_page_52_Picture_4.jpeg)

![](_page_52_Picture_5.jpeg)

![](_page_52_Picture_6.jpeg)

![](_page_52_Picture_7.jpeg)

![](_page_52_Picture_8.jpeg)

A5PV6503

A5PV6504

A5PV6505

A5PV6506

A5PV6507

A5TD1

![](_page_52_Picture_16.jpeg)

A5TT4101

![](_page_53_Figure_1.jpeg)

![](_page_54_Picture_1.jpeg)

![](_page_54_Picture_2.jpeg)

![](_page_54_Picture_3.jpeg)

![](_page_54_Picture_4.jpeg)

![](_page_54_Picture_5.jpeg)

![](_page_54_Picture_6.jpeg)

AACE6552

AACE6554

AACE6555

AACE6556

AACE6557

AACE6558

![](_page_54_Picture_13.jpeg)

AACE8811

![](_page_54_Picture_14.jpeg)

![](_page_54_Picture_15.jpeg)

![](_page_54_Picture_16.jpeg)

AAPB2700

AASW200

![](_page_54_Picture_18.jpeg)

W5HG1025

![](_page_54_Picture_20.jpeg)

![](_page_54_Picture_21.jpeg)

![](_page_54_Picture_22.jpeg)

![](_page_54_Picture_23.jpeg)

![](_page_54_Picture_24.jpeg)

![](_page_54_Picture_25.jpeg)

W5HG1050

W5KE5000

![](_page_54_Picture_28.jpeg)

![](_page_54_Picture_29.jpeg)

A5PS9600

![](_page_54_Picture_32.jpeg)

![](_page_54_Picture_33.jpeg)

A5CB9600

![](_page_54_Picture_34.jpeg)

AABD5029-A

![](_page_54_Picture_36.jpeg)

AACB9603

![](_page_54_Picture_37.jpeg)

![](_page_54_Picture_38.jpeg)

AACB6502

AAMBRPI-SQ

![](_page_54_Picture_39.jpeg)

AACB6503

![](_page_54_Picture_41.jpeg)

AASD0008A

![](_page_54_Picture_43.jpeg)

AACB9601-SQ

A5CB6500

A5CB6501

![](_page_54_Picture_47.jpeg)

![](_page_54_Picture_48.jpeg)

AAMBRPPI-SQ-M

#### **DECAL DIAGRAM**

![](_page_55_Figure_1.jpeg)

### **MAINTENANCE LOG**

If repairs are necessary, it is good practice to keep a log of repairs done and parts ordered. The chart below will assist you in tracking your game's maintenance.

DATE	MAINTENANCE PERFORMED	PARTS ORDERED	INITIALS

### **TECHNICAL SUPPORT**

Excellent customer service is very important to Bay Tek Games! 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. We offer options that fit your needs.

#### **Electronics / Circuit Boards - Repair Options**

**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 two days. 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 in for repair, give us a call and ask for an Advance Replacement. We'll send you a replacement board that same day (pending availability). 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 (not available for international shipments). This is your best option when you need to get your game up and running as quickly as possible!

**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!

#### **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, you know you can call us. 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.

#### Returns, Credits, & Fees:

**NOTICE!** ALL ITEMS being sent to Bay Tek Games for repair or return, etc. require prior Return Authorization! Bay Tek Games will provide a Product Return Form with an authorizing Ticket Number for each item to be returned. Please be certain to include this document with all shipments! **Late Fees and Non-Return Fees -** Advance Replacement and Warranty Replacement items require the defective items to be returned by Bay Tek games promptly to avoid Late Fees. We expect items to be returned with 10 working days. Late fees are invoiced monthly. Late fees are non-refundable under any circumstance! Any item not returned within 90 days will be invoiced in full as a replacement part. **Bench Fees -** Bench fees will apply for each electronic item returned to Bay Tek Games (this includes unused Advance Replacement items). This charge covers our cost to inspect, evaluate and retest each item. Please note that returned items that do not pas our tests will be charged accordingly as replacement items or advance replacements.

**Restocking Fees** - Unused items returned for credit will be credited minus a restocking fee. Items must be returned with in 30 days of purchase in order to qualify for any credit amount. No shipping charges will be credited.

## WARRANTY

Bay Tek Games warrants to the original purchaser that all game components will be free of defects in workmanship and materials for a period of 6 months from the date of purchase. If you fill out the registration card in the cashbox of the game, Bay Tek will add another 3 months to your warranty, free of charge.

Bay Tek Games will, without charge, repair or replace defective component parts upon notification to the parts/service department while the game is under warranty.

Warranty replacement parts will be shipped immediately, via ground service, along with a Product Return Form for the return of defective parts.

Defective parts must be shipped back to Bay Tek Games unless otherwise instructed. Items not returned to Bay Tek Games will be invoiced as replacement parts.

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

![](_page_58_Picture_6.jpeg)

In order to maintain the safety & compliance certifications of this game, ONLY approved parts may be used. For approved replacement parts, refer to the parts list in this manual.

Should you need your game serviced, determine the serial number from the decal placed on the front of this manual, or locate it on the back of the game. Then contact our Service Department at: 920.822.3951 or e-mail: service@baytekgames.com

#### **NON-WARRANTY**

Options and estimated charges will be provided to you for your approval. Please remember that any items being sent to Bay Tek Games must include prior return authorization from our Parts & Service Department.

This approval will include a Product Return Form which is required to be included with any incoming shipments. Repaired parts will be shipped back using the same method in which they were received. Repairs are warranted for 30 days from the date of return shipment.