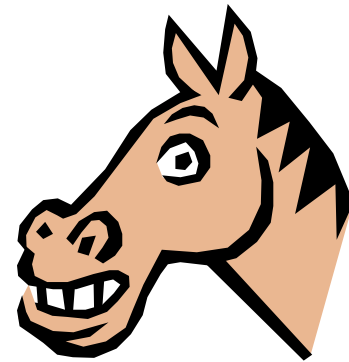




# *HORSE PLAY*™



## **OWNER'S MANUAL**

**Version 1.04**

September 2005





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## OPERATION AND SETUP SECTION

### Safety Precautions



**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.*



**CAUTION: Electrical Shock Hazard.**

*Always plug game into a grounded circuit.*



**WARNING: 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.*

### How the Game Works

Horse Play is a game of skill and good aim. The player shoots black rubber balls attempting to knock out the horse's teeth. Each knockout increases the number of tickets won and dispensed at the end of the game.

The teeth must be knock fully backward. Hitting the teeth and slightly moving them will not score a hit. There is a 2.5 second delay before each ball can be shot. If the game does not register a shot after three minutes, the game ends and all credits clear.

**NOTE:** *The score table (Standard or New Jersey), which is determined by setting the dipswitches, should match the Knock Down Tickets decal on the game Panel (Figure 2). Additional sets of numbers are included with*

*this manual. See Programming Section on page 8 for dipswitch settings.*



Figure 1 Game Target

The owner can set the number of balls per coin, coins per play, ticket payout, free play and more. See Programming Section on page 8.



Figure 2 Knock Down Panel



## Service Connections

This game requires a pneumatic air supply with a minimum air pressure of 85 psi (5.86 bars). Bay Tek offers two portable compressor models, a 13 gallon (p/n A5AC1002) and a 20 gallon (Recommended) (p/n A5AC1003). Bay Tek supplies a 3/8"-1/2" pipe reducer for the air hose connection. Customers must supply any other needed fittings and piping.

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

### Hardware

The installation kit consists of:

- (6) 1/4 – 20 x 1-1/4" Bolts and plain washers
- (8) 1/4 – 20 x 1" Bolts and plain washers
- (54) #10 x 5/8 Black wood screws
- (4) #10 – 24 x 1/2 Black self-tapping screws
- (2) #10 – 32 Nylon Locknuts
- (1) Square bit (driver)
- (4) Connector plates (yellow)
- (12) Black balls
- (1) 3/8" to 1/2" Pipe Reducer
- (1) Owner's Manual
- (6) #8 Black screws



Figure 3 Installation Hardware and Screw Bit

Inspect hardware package to insure all needed material is there and identified.

### Assembly

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](mailto: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.

The game is shipped with four primary cabinet Assemblies, stools and metal ball screens. The cabinets are identified as the Target (rear) cabinet, Ramp (middle) cabinet, Shooting (front) cabinet and the Marquee.

2. Place the rear cabinet near or at its final location.
3. Open the rear cabinet door, uncoil the power cord and feed the cord through the hole under the door opening. Do not plug the power cord into the wall outlet at this time.
4. Uncoil other wiring cables.
5. Place the middle cabinet in front of and close to the rear cabinet. Feed the white phone cable from the rear cabinet through the middle cabinet. Plug the middle cabinet power cable into the power strip located on the back wall of the rear cabinet. See Figure 4. Plug the lights and target cable connectors into the matching connectors from the middle cabinet.

**NOTE:** The cables in the middle cabinet are universal cables therefore the number and color of wires does not matter. Match connector size only. See Figure 5



6. Using the #8 black screws attach the score box to the middle cabinet.

a. Install the middle screen by placing it over the two threaded studs on the ball grate. Secure with two #10-32 nylon locknuts. See Figure 7.

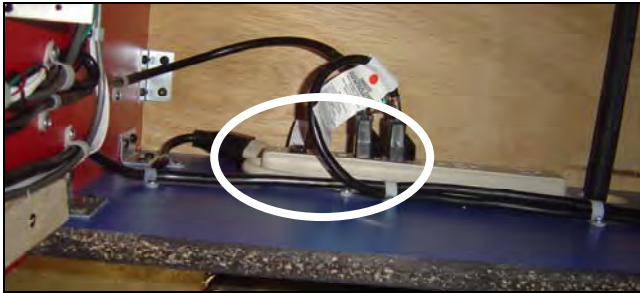


Figure 4 Power Strip with Circuit Breaker

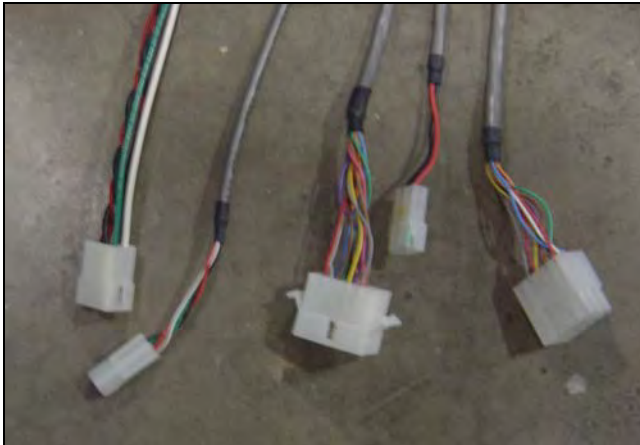


Figure 5 Wire Harness from front cabinet

6. Push the middle and rear cabinets together. Be careful not to pinch any wiring. Secure with two connector plates and four 1/4-20 x 1" bolts and plain washers.

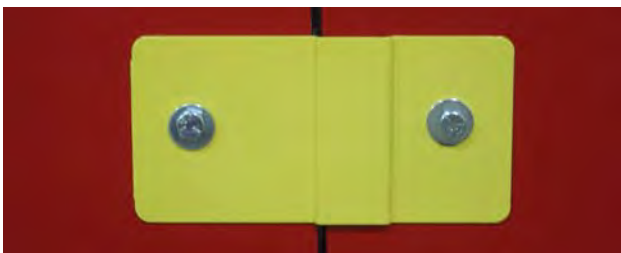


Figure 6 Connector Plates w/ 1/4 - 20 x 1" Bolts

7. Installing the middle metal screens.





Figure 7 Installing Middle Screen

b. Attach the rear vertical frame of the middle screen to the cabinet with four black #10 x 5/8" wood screws.

c. Attach the front of the screen to the sloped surface with two black #10 x 5/8" wood screws.

d. The grates in the bottom of the middle cabinet attach to the rear cabinet with six black #10 x 5/8" wood screws.

8. Installing the outside metal screens. See Figure 8. The outside screens are marked left and right. Place the screens on the middle cabinet frame and push tight up against the rear cabinet.

a. Secure the vertical legs of the screens to the front of the middle cabinet with sixteen black #10 x 5/8" wood screws. Secure the screen to the horizontal edge of the cabinet with six black #10 x 5/8" wood screws through holes on the inside of the screen frame.

b. Install the two yellow top rails which overlap the tops of the outside screens and the rear cabinet. Attach the front of the rails to the screens using four black #10-24 x 1/2" self-tapping metal screws. At the back of each rail, use a 1/4-20 x 1-1/4" bolt with a plain washer screwed into recessed nuts in

the rear cabinet. Continue with six #10 x 5/8" wood screws in the remaining holes.

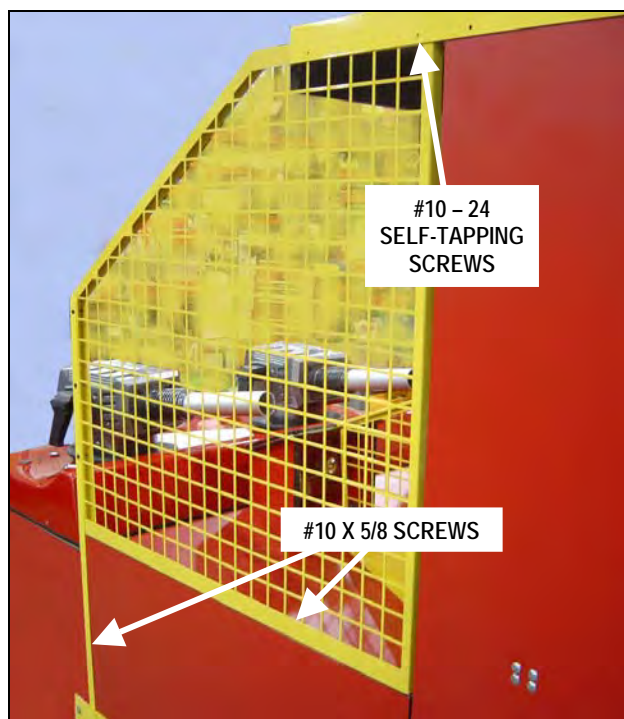


Figure 8 Side Screen

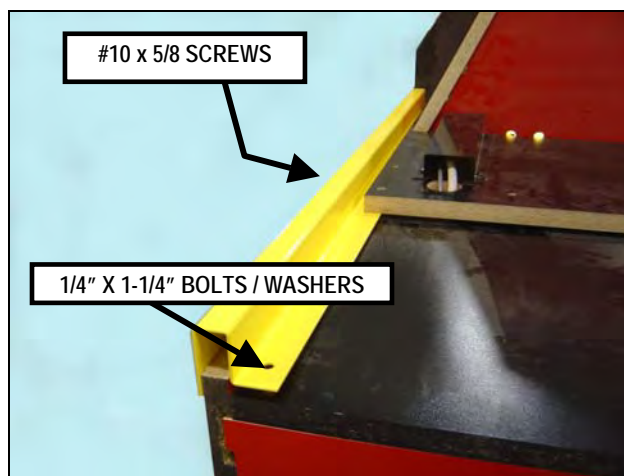


Figure 9 Installing Top Rails

9. Installing the Marquee.

a. Position the marquee on top of the yellow rails and pass the power cord and wire bundle through the hole and into the rear cabinet. Plug the power cord and



speaker wire into connectors in the rear cabinet.

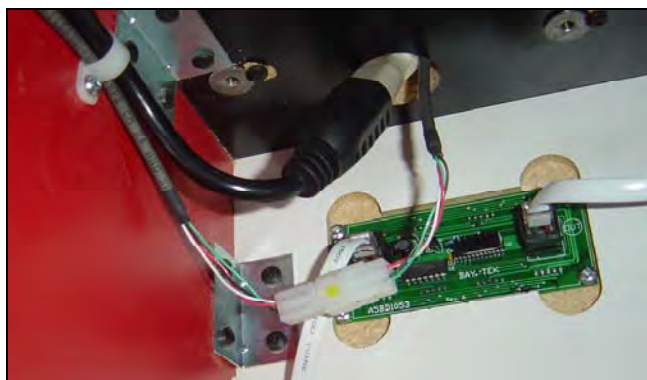


Figure 10 Marquee Cables

b. Secure the marquee to the rear cabinet with four 1/4-20 x 1-1/4" bolts and plain washers screwed into recessed nuts. See Figure 9.

c. Secure the marquee to the middle screen with two #10 x 5/8" wood screws.



Figure 11 Middle Screen Attachment

d. Attach the marquee to the yellow rails using four #10 x 5/8" wood screws.

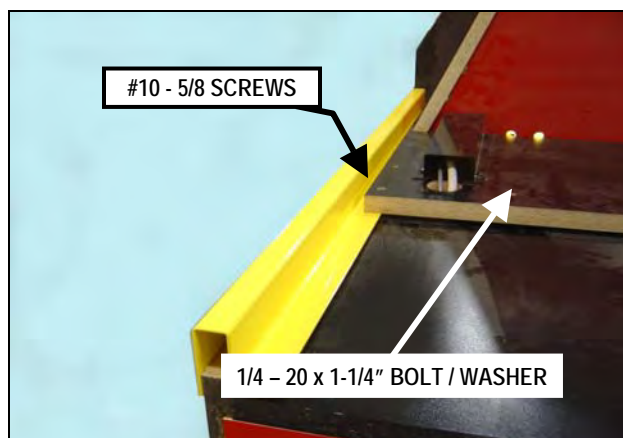


Figure 12 Installing Marquee

10. Install the shooting cabinet.

a. Tip the cabinet to align and install the dowel pins in the stool bases with holes in the bottom of the cabinet.

b. Position the front cabinet near the middle cabinet. Uncoil and pull the air hose through the middle cabinet and out the hole in the bottom of the rear cabinet.

**NOTE:** The cables in the middle cabinet are universal cables therefore the number and color of wires does not matter. Match connector size only.

c. Plug all cable connectors from the middle cabinet into plugs in the front cabinet. Plug the white phone cable into left cable socket on the main board.

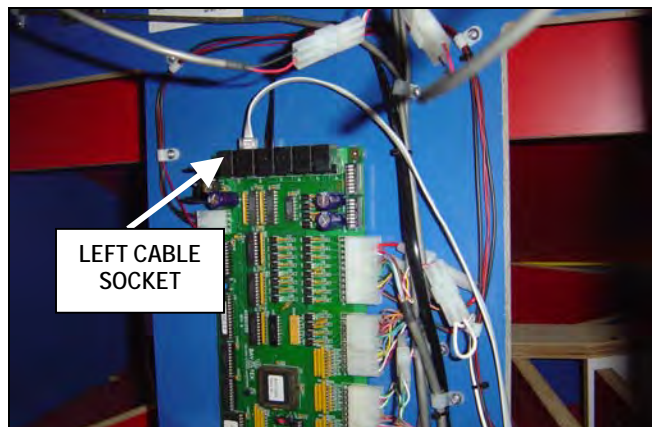


Figure 13 Socket location on Main Board



11. Push the front and middle cabinets together. Be careful not to pinch any wiring.

12. Lock the front and middle cabinets together with two connecting plates. Secure each plate with two 1/4-20 x 1" bolts and plain washers.

13. At the rear of the cabinet, attach the air hose to the building's air supply or portable air compressor. Set the air pressure at the regulator for 70 psi (4.83 bars). See Service Connections on page 2 for more information.

14. Fill the ticket tray in the front door panel. The 'Low' Ticket light will illuminate when there is approximately a 1/2" stack of tickets left in the ticket dispenser bin.

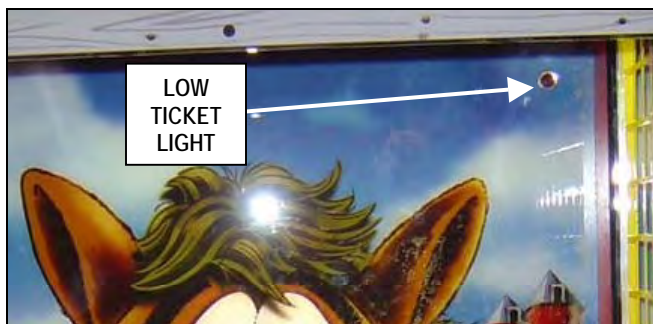


Figure 14 Low Ticket Light

15. Plug in the power cord into the wall outlet and turn on the power strip at the bottom of the rear cabinet.

16. Place the 12 black balls, shipped with this game, in the return chute.

**NOTE:** *The game is shipped with balls loaded in the lift tube. In the event new balls must be loaded, the easiest way is to drop them down the gun barrel. Sixteen (16) balls are needed in the lift tube.*

17. Test the game. 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](mailto:service@baytekgames.com), or phone (920) 822-3951.

18. Once everything is set and working properly, close and lock the front and rear door panels.

19. Clean all surfaces of the game with mild soap and water. Do not use solvents to clean the game decal surfaces. The game is now ready to play.

## Sounds

An audio chip provides music and other sound effects as play progresses to enhance the visual effects of the game. A volume control is located on the inside of the front door panel.



## Counters

Two counters are mounted on the inside of the front door panel. One counter tracks the number of games played and the other counter tracks the total number of tickets dispensed. The counters cannot be reset.

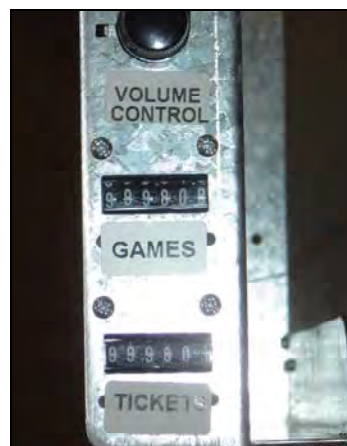


Figure 15 Game Counters and Volume Control

## Rubber Balls

The black rubber balls are coated with teflon® to increase the life of the ball. While very durable, the coating will eventually wear off and the rubber material will then begin to wear rapidly. As the balls wear down they will not provide a good seal in the firing tube and poor





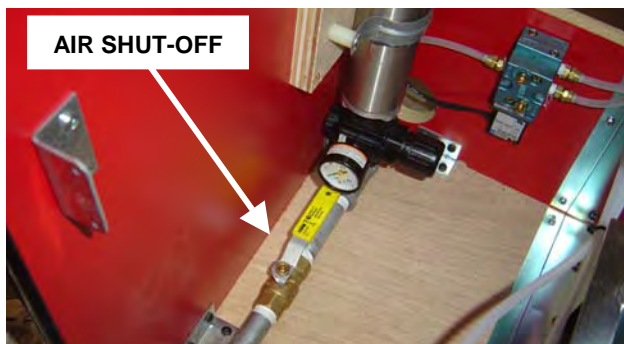
firing and miss-fires will occur. This can be corrected somewhat by increased air pressure to the fire cylinder but at some point it will be necessary to replace the balls due to wear.

**NOTE:** *The game is shipped with balls loaded in the lift tube. In the event balls must be loaded, the easiest way is to drop them down the gun barrel. Sixteen (16) balls are needed in the lift tube.*

### **Ball Removal**

**WARNING:** *The ball chute air cylinder can pinch, cut or sever fingers during ball removal.*

*Insure air pressure is OFF and system pressure is released before attempting to remove balls from the lift system.*



Turn off the air supply shut off valve located in the front cabinet. Release the air system pressure by firing the gun once. Remove the spring from the pawl that supports the balls in the tube and pull the pawl back out of the way. Use a short stick to push the balls out into the chute where they can be removed.



## PROGRAMMING SECTION

### Programmable Dipswitches

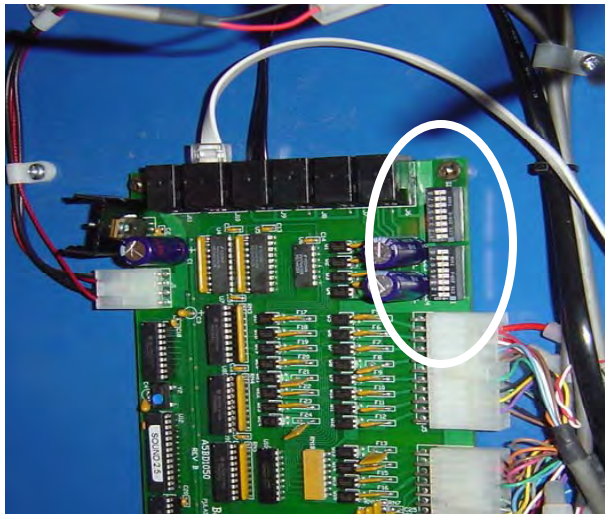
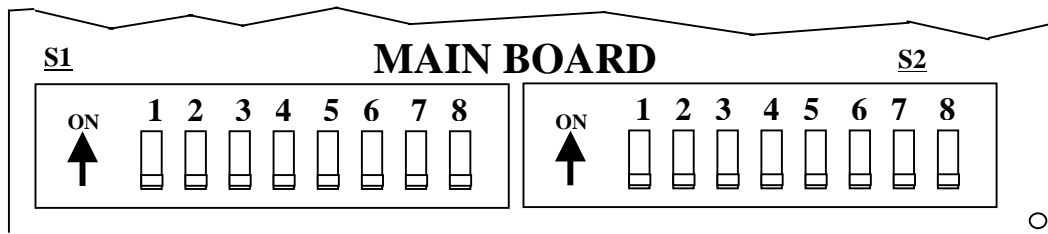


Figure 16 Location of dipswitches on Main Circuit Board

The number of coins required for each game credit, free play, number of balls per credit, tickets payout, etc., are programmable by dipswitches located on the main circuit board.

The main circuit board is located on the inside back wall of the cabinet. Be sure power is off before setting these switches.

**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.



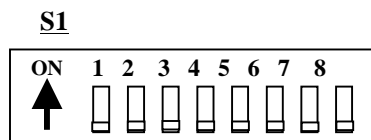


Group S1 Dipswitches	Value or Mode	1	2	3	4	5	6	7	8
Sets the <b>Ticket Pattern Number</b> . The Ticket Pattern Number corresponds with the ticket pattern tables on page 11.	1	OFF	OFF	OFF					
	2	OFF	OFF	ON					
	3	OFF	ON	OFF					
	4	OFF	ON	ON					
	5	ON	OFF	OFF					
	6 *	ON	OFF	ON					
	7	ON	ON	OFF					
	8	ON	ON	ON					
Sets the <b>Number of Balls</b> per game credit. <i>Note: The time between shots is 2.5 seconds and cannot be changed.</i>	6 *				OFF	OFF			
	5				OFF	ON			
	4				ON	OFF			
	3				ON	ON			
<b>Not used</b> on this game and should remain in the disabled/OFF position.	Disable *						OFF		
Sets the <b>Attract Mode</b> . During 'Attract' mode the audio will play select tracks from the audio bank embedded in the software.	Enabled*							ON	
	Disabled							OFF	
<b>Not used</b> on this game and should remain in the disabled/OFF position.	Disable *								OFF
* Indicates the factory default setting.									
<p>S1</p>									



Group S2 Dipswitches	Value or Mode	1	2	3	4	5	6	7	8
Sets the <b>number of Coins Per Credit</b> . Determines the number of coins required per game credit. Each credit allows the player to shoot the number of balls determined by Group S1 switches 1,2,3. The Free Play position allows the operator to set up demonstrations, etc. without inserting coins.	<b>1 Coin *</b>	OFF	OFF	OFF					
	<b>2 Coins</b>	OFF	OFF	ON					
	<b>3 Coins</b>	OFF	ON	OFF					
	<b>4 Coins</b>	OFF	ON	ON					
	<b>5 Coins</b>	ON	OFF	OFF					
	<b>6 Coins</b>	ON	OFF	ON					
	<b>Free Play</b>	ON	ON	OFF					
	<b>8 Coins</b>	ON	ON	ON					
<b>Not used</b> on this game and should remain in the disabled/OFF position.	<b>Disable *</b>				OFF	OFF			
Sets the <b>Table Option</b> . Allows the operator to choose between the 'Standard' or 'New Jersey' Ticket Pattern Tables.	<b>New Jersey</b>						ON		
	<b>Standard *</b>						OFF		
<b>Clear EPROM Option</b> . Allows the operator to clear all game credits, tickets owed, etc. <i>Must follow this procedure:</i> 1, Turn Off power. 2. Set switch to ON. 3, Turn ON power. 4. Wait for all items to clear. 5. Turn OFF power. 6. Set switch to OFF. 7. Turn ON power.	<b>Enable</b>							ON	
	<b>Disable *</b>							OFF	
<b>Not used</b> on this game and should remain in the disabled/OFF position.	<b>Disable *</b>								OFF

\* Indicates the factory default setting.







## Ticket Patterns

<b>STANDARD (BANK 2, DIP 6 OFF)</b>								
	<b>PATTERN #</b>							
<b>TEETH KNOCKED DOWN</b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>	<b><u>6</u></b>	<b><u>7</u></b>	<b><u>8</u></b>
0	1	1	2	3	3	4	4	0
1	1	1	2	3	3	4	4	0
2	2	2	4	4	5	6	8	0
3	2	2	4	4	5	6	8	0
4	3	5	6	5	7	8	10	0
5	3	5	6	5	7	8	10	0
6	4	6	8	6	9	10	12	0

<b>NEW JERSEY (BANK 2, DIP 6 ON)</b>								
	<b>PATTERN #</b>							
<b>TEETH KNOCKED DOWN</b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>	<b><u>6</u></b>	<b><u>7</u></b>	<b><u>8</u></b>
0	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	1	2	3	4	5	6	7	8
3	1	2	3	4	5	6	7	8
4	1	2	3	4	5	6	7	8
5	1	2	3	4	5	6	7	8
6	1	2	3	4	5	6	7	8



## PREVENTIVE MAINTENANCE SECTION

### Maintenance Chart

Use the following maintenance schedule 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.

This game does not require any lubrication however periodic cleaning is required.

**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.*

	Daily	Weekly	Monthly
Inspect air system and insure pressure is set between 40 psi and 50 psi.	X		
Inspect game for physical damage. Repair as necessary.	X		
Check all game lighting. Repair/replace as necessary.	X		
Clean outside surfaces and stools. Balls leave black marks on surfaces.	X		
Fill ticket tray.	X		
Empty coin tray.	X		
Clean/vacuum the ball return area.		X	
Open game and clean inner surfaces as necessary.		X	
Play game to insure it is working properly.		X	
Check to insure proper number of balls are in the game.		X	
Check balls for wear and damage. <b>Note:</b> As the balls wear some adjustment of the ball lift cylinder air pressure may be required. See Service and Repair on page 16.			X
Blow paper dust from ticket mechanism			X
Check all hardware for tightness.			X
If using non-filtered air, dump air pressure then remove and drain water from hoses.			X
Clean gun barrel with compressed air.			X



# TROUBLESHOOTING & DIAGNOSTICS SECTION

## 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 and bad sensors, bent, pinched, stuck or jammed components.

<b>Troubleshooting Chart</b>		
<b>Problem</b>	<b>Probable Cause</b>	<b>Remedy</b>
No power to the game.	<ul style="list-style-type: none"> <li>a. Unplugged.</li> <li>b. Blown fuse</li> <li>c. Game circuit breaker tripped.</li> <li>d. Building circuit breaker tripped.</li> <li>e. Power supply faulty.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check wall outlet.</li> <li>b. Check transformer fuse (220 volt applications only).</li> <li>c. Reset power strip breaker switch on inside rear wall.</li> <li>d. Check building circuits.</li> <li>e. Diagnose power supply as described in the following section.</li> </ul>
Guns won't shoot balls.	<ul style="list-style-type: none"> <li>a. No air pressure.</li> <li>b. Air pressure too low.</li> <li>c. Trigger not working.</li> <li>d. Balls worn too much.</li> </ul>	<ul style="list-style-type: none"> <li>a. Turn on air compressor.</li> <li>b. Set air pressure to 70 to 80 psi (4.83 – 5.52 bars).</li> <li>c. Check continuity to trigger switch and to fire solenoid.</li> <li>d. Replace balls.</li> </ul>
Air pressure is good but balls do not shoot.	<ul style="list-style-type: none"> <li>a. Not enough balls or no balls in lift chute.</li> <li>b. Balls stuck in return chute or lift chute.</li> <li>c. Balls worn too much and do not provide proper height in the lift tube.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check for proper number of balls in game.</li> <li>b. Clear all jams.</li> <li>c. Replace worn balls.</li> </ul>
Balls misfire or shoot two at a time.	<ul style="list-style-type: none"> <li>a. Ball height problem.</li> <li>b. Bent lifter tube.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check for worn balls. Replace with new balls.</li> <li>b. Straighten out tube.</li> </ul>
Ball lift system not working properly.	<ul style="list-style-type: none"> <li>a. Air pressure needs adjustment to lift cylinder.</li> <li>b. Solenoid bad.</li> </ul>	<ul style="list-style-type: none"> <li>a. Adjust air pressure to both ends of the lift cylinder.</li> <li>b. Check continuity between lifter solenoid and main circuit board. Replace solenoid if bad.</li> </ul>
Hits do not score.	<ul style="list-style-type: none"> <li>a. Target sensor not working.</li> <li>b. Cable bad.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check alignment of emitter and detector for that tooth. Replace as necessary.</li> <li>b. Check continuity between sensor and main circuit board.</li> </ul>



## Troubleshooting Chart

Problem	Probable Cause	Remedy
Teeth won't reset.	<ul style="list-style-type: none"> <li>a. In-line fuse blown.</li> <li>b. Gearmotor bad.</li> <li>c. Linkage problem.</li> </ul>	<ul style="list-style-type: none"> <li>a. Replace fuse located in the wiring near the main circuit board.</li> <li>b. Replace gearmotor assembly.</li> <li>c. Check the linkage between the reset arm and gearmotor. Check connector cam setscrew on the gearmotor.</li> </ul>
Teeth reset bar rotates up multiple times.	<ul style="list-style-type: none"> <li>a. Bad wiring.</li> <li>b. Faulty sensor.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check continuity of wiring to sensor from main board.</li> <li>b. Replace sensor.</li> </ul>
No Audio.	<ul style="list-style-type: none"> <li>a. Volume too low.</li> <li>b. Loose wire.</li> <li>c. Main circuit board malfunction.</li> </ul>	<ul style="list-style-type: none"> <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 a spare Gen 5 board if possible to isolate the problem to the main circuit board.</li> </ul>
Lighting not working properly.	<ul style="list-style-type: none"> <li>a. Burned out lights.</li> <li>b. Cable problem.</li> </ul>	<ul style="list-style-type: none"> <li>a. Replace bulbs.</li> <li>b. Check and repair wiring.</li> </ul>
Tickets do not dispense.	<ul style="list-style-type: none"> <li>a. Faulty cable to dispenser.</li> <li>b. Faulty cable to main circuit board.</li> <li>c. Ticket dispenser not working.</li> <li>d. Main circuit board malfunction.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check wiring continuity. Check for pinched, broken or disconnected cable. Replace as necessary.</li> <li>b. Check wiring continuity. Check for pinched, broken or disconnected cable to main circuit board.</li> <li>c. Replace dispenser with spare working dispenser.</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>
Wrong number of tickets dispensed.	<ul style="list-style-type: none"> <li>a. Ticket Pattern or Ticket Table dipswitches set wrong.</li> <li>b. Dirty opto-sensor on ticket dispenser.</li> <li>c. Faulty ticket dispenser.</li> <li>d. Main circuit board malfunction.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check and reset dipswitches.</li> <li>b. Clean with compressed air and if necessary wipe with isopropyl alcohol on a cotton swab.</li> <li>c. Replace with spare working dispenser.</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>





## 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 solenoid.

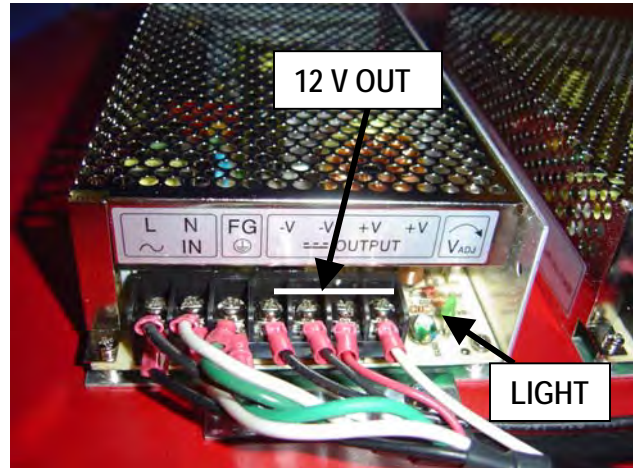
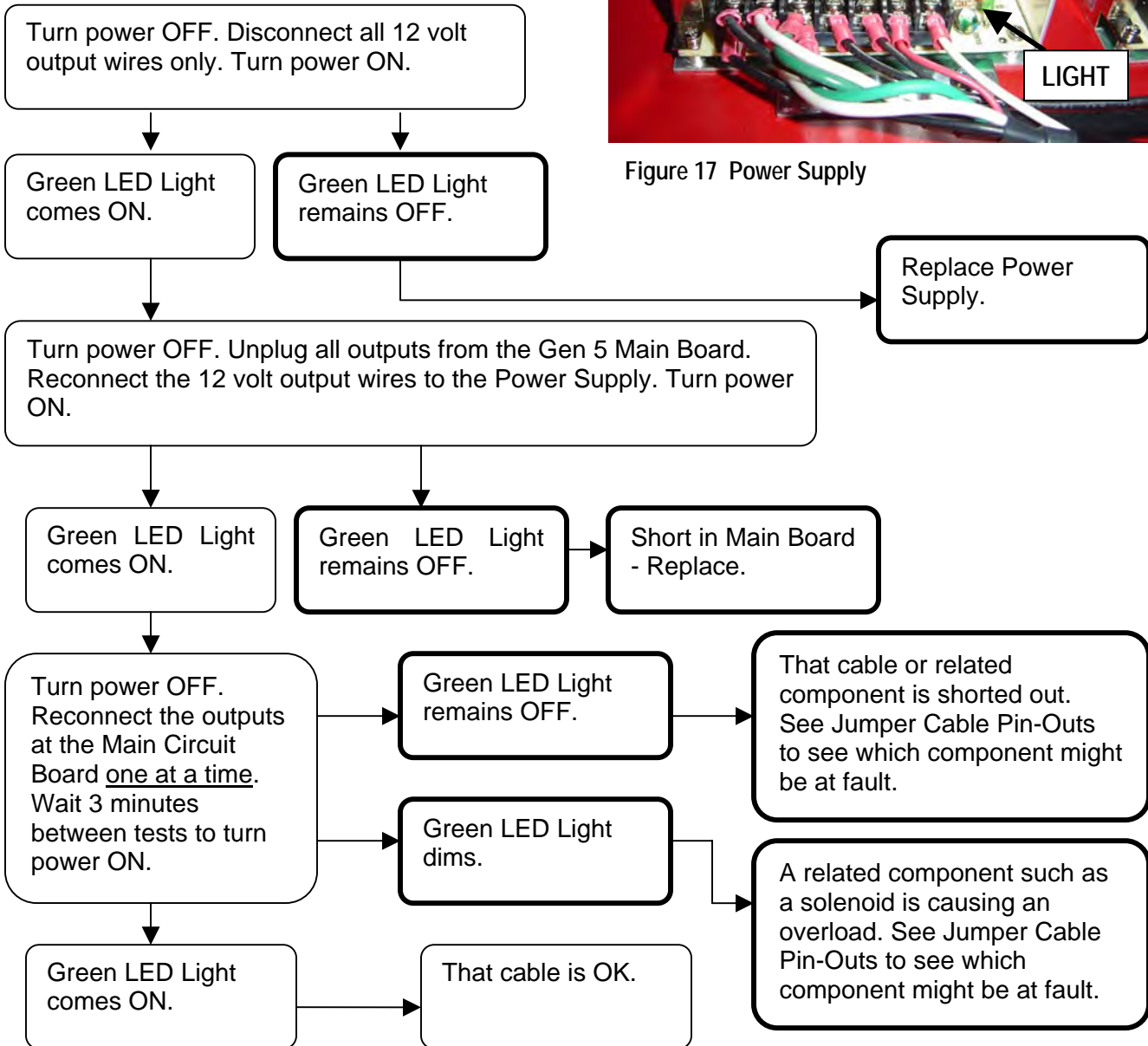


Figure 17 Power Supply





## SERVICE AND REPAIR SECTION



**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.*



**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.*

### Firing Solenoid Replacement

Shut off power to the game at the power strip located in the rear 'target' cabinet.

1. Remove the two wire clips from the solenoid.
2. Remove the hex nut holding the solenoid to the quick release valve.



Figure 18 Ball Firing Solenoid

3. Install the new solenoid and re-attach the wires. It doesn't matter which wire is

attached to which terminal. Turn on the power and test the unit.

### Lift Cylinder Control Valve Replacement

The directional control valve and solenoid are replaced together.

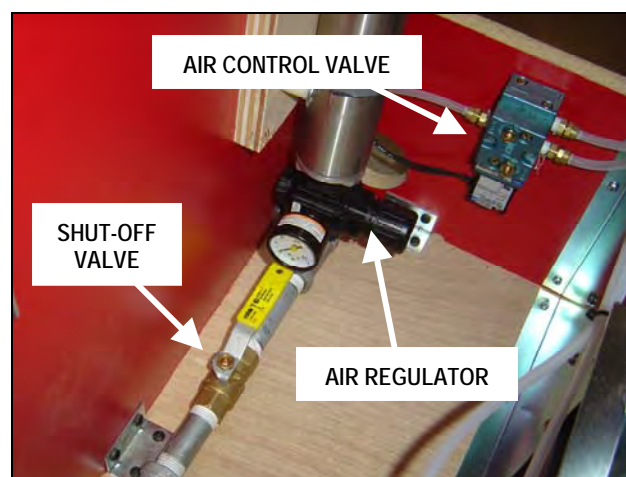


Figure 19 Air Controls

1. Shut OFF air pressure at the air shut-off valve or the air regulator. Release system pressure by firing the guns.
2. Disconnect the three air lines in to and out of the control valve.
3. Disconnect the wiring connector from the solenoid. Remove the mounting screws and remove from the game.
4. Install the new plug, re-attached the wire connector from the solenoid and re-attached the air lines.
5. Return power and air pressure to the game and test by firing the gun several times to insure that the balls are being loaded properly into the lift tube.



## Ball Sorter Gearmotor

The ball sorter gearmotor assembly, in the middle cabinet, oscillates the paddles for the ball return chutes to keep the balls from becoming jammed in the chutes. Replace as follows.

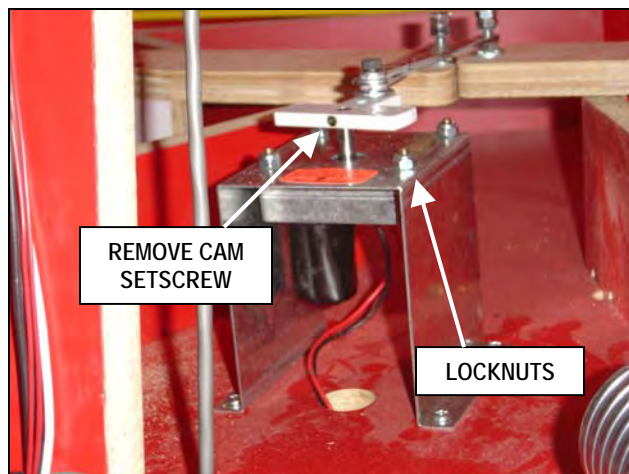


Figure 20 Ball Sorter Gearmotor

1. Remove the four bolts and washers from the two connector plates holding the front and middle cabinets together. Slide the front cabinet away from the middle cabinet slightly to gain access to the gearmotor assembly.
2. Pull the two wires up out of the hole in the frame to expose the connector. Unplug the connector.
3. Remove the setscrew holding the connector cam assembly to the gearbox shaft and pull the cam off the shaft.
4. Remove the four locknuts that secure the gearmotor assembly to the frame.
5. Install the new gearmotor assembly with the four locknuts. The hole in the connector cam is flat on one side so the gearbox shaft may have to be rotated slightly to allow the cam to be installed. Secure with the setscrew.

6. Reconnect the wire connector.
7. Slide the two cabinets together, being careful not to pinch any wiring, and secure with the two connector plates.

## Teeth Reset Gearmotor Replacement

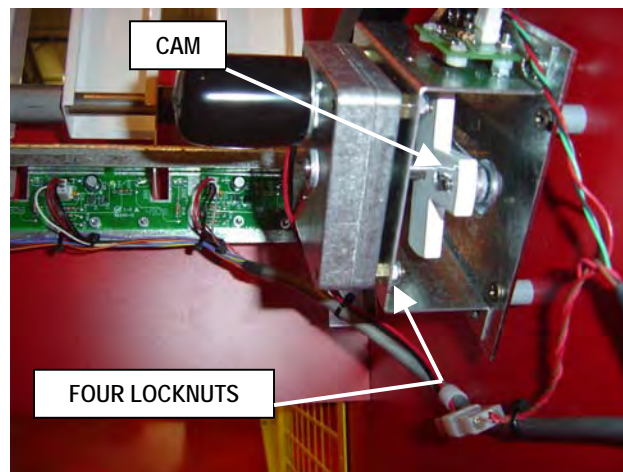


Figure 21 Propeller Motor

1. Open the access door in the rear cabinet and unplug the gearmotor wiring at the connector.
2. Pull the tooth reset arm downward to manually rotate the connector cam to gain access to the setscrew. Loosen the setscrew and remove the cam from the shaft.
3. Remove the four locknuts mounting the motor/gearbox assembly in the mounting frame. Remove the gearmotor assembly from the game.
4. Install the new gearmotor and secure with the four locknuts.
8. Install the connector cam assembly onto the motor shaft and secure with the setscrew. The hole in the connector cam is flat on one side so the gearbox shaft may have to be





rotated slightly to allow the cam to be installed. Secure with the setscrew.

5. Reconnect the wire connector.

## Circuit Boards and Sensors

### Target Score Sensors

The score sensors are mounted to a small circuit board and consist of an emitter and a detector on opposite sides of the target flag. To replace the sensor board;

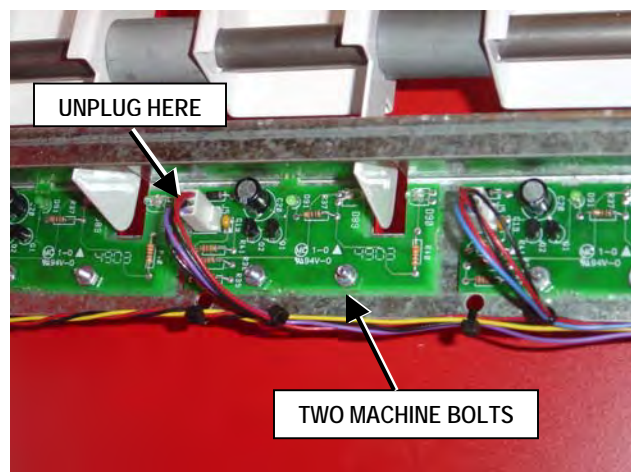


Figure 22 Target Score Sensors

1. Open the access door of the rear cabinet and unplug the sensor wiring at the connectors on the sensor circuit board.
2. Unbolt the sensor boards.
3. Replace the sensor boards and reconnect the wire cables.
4. Test the sensors by moving the tooth so the tooth flag no longer blocks the sensors and scores a hit.

### Main Circuit Board

Replacing the main Gen 5 circuit board.

1. Carefully unplug all wiring connectors.
2. Remove the four Phillips head screws at the four corners of the board and remove the board from the mounting panel.
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 and the white display cable.

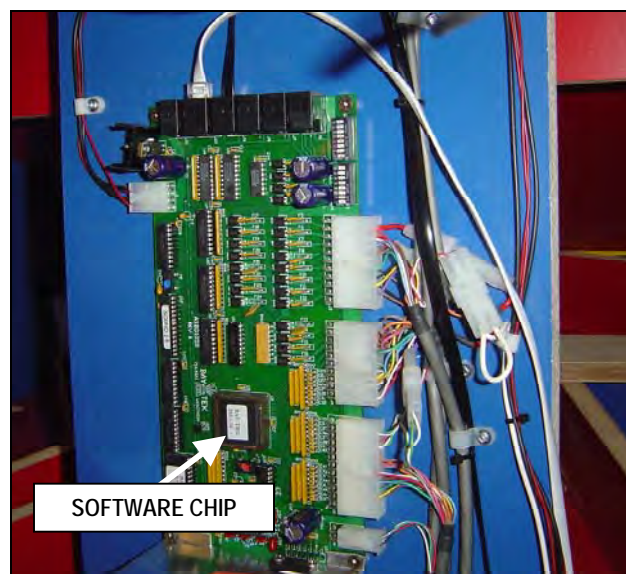


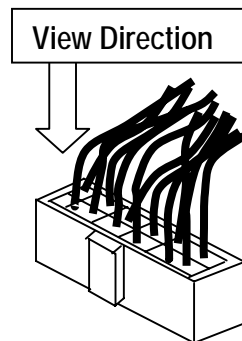
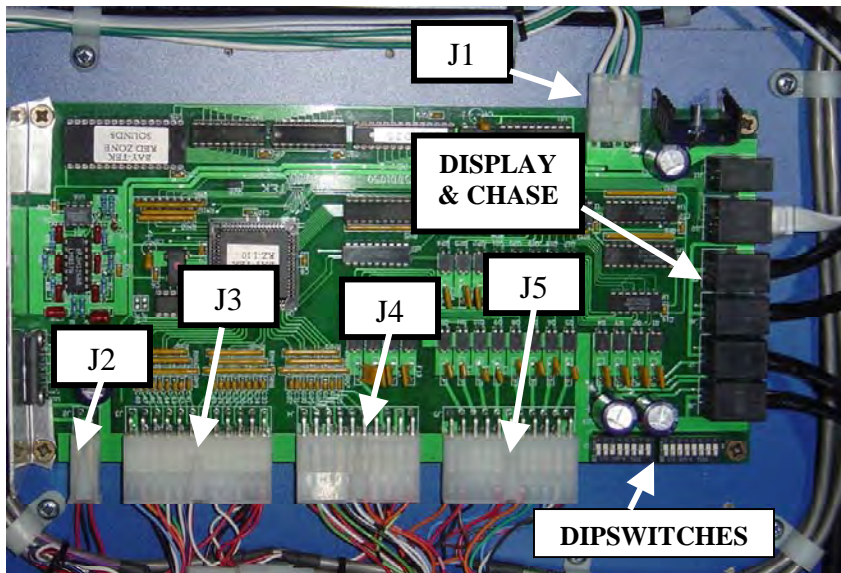
Figure 23 Main Circuit Board Replacement

5. Re-test the game.





## ELECTRICAL DRAWINGS SECTIONS

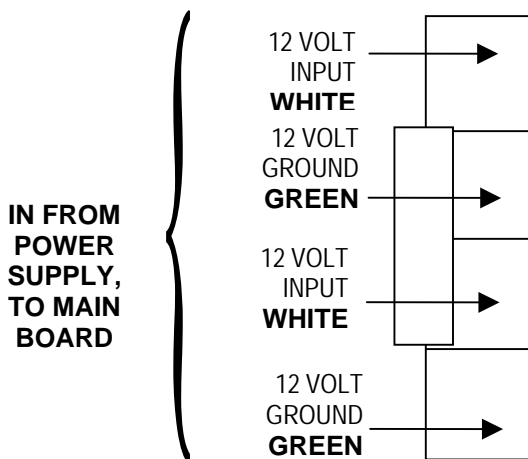


All connector drawings are as Viewed from the pin out position.

Figure 24 Typical Gen 5 Main Board

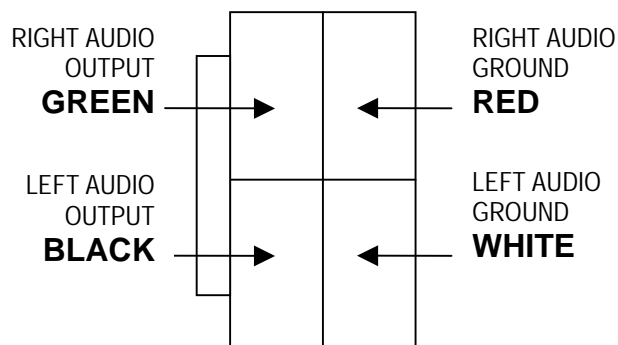
### 12 Volt Jumper Cable (J1) Connector

PIN – OUT



### Volume Cable (J2) Connector

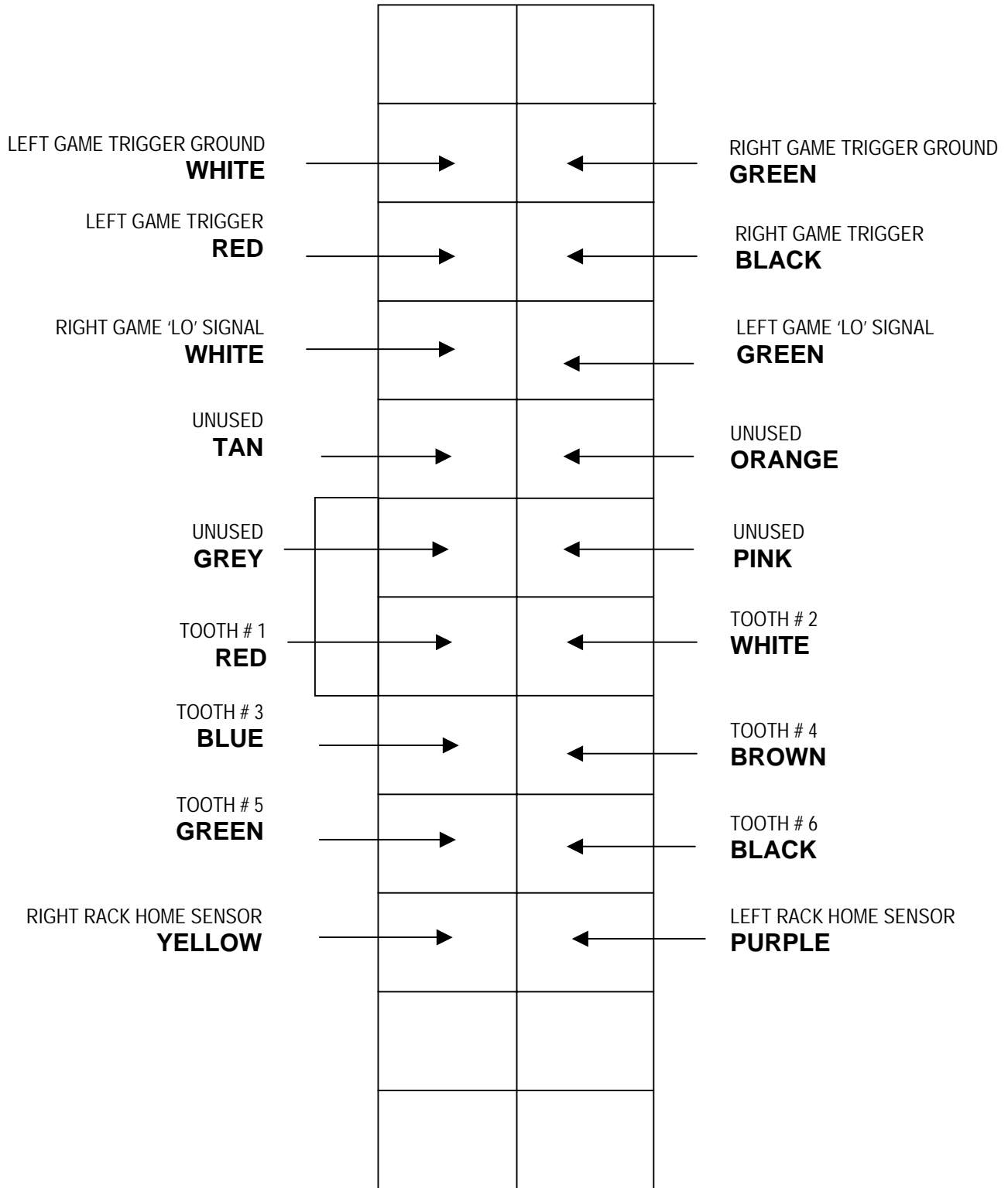
PIN – OUT





## Jumper (J3) Connector

### PIN - OUT

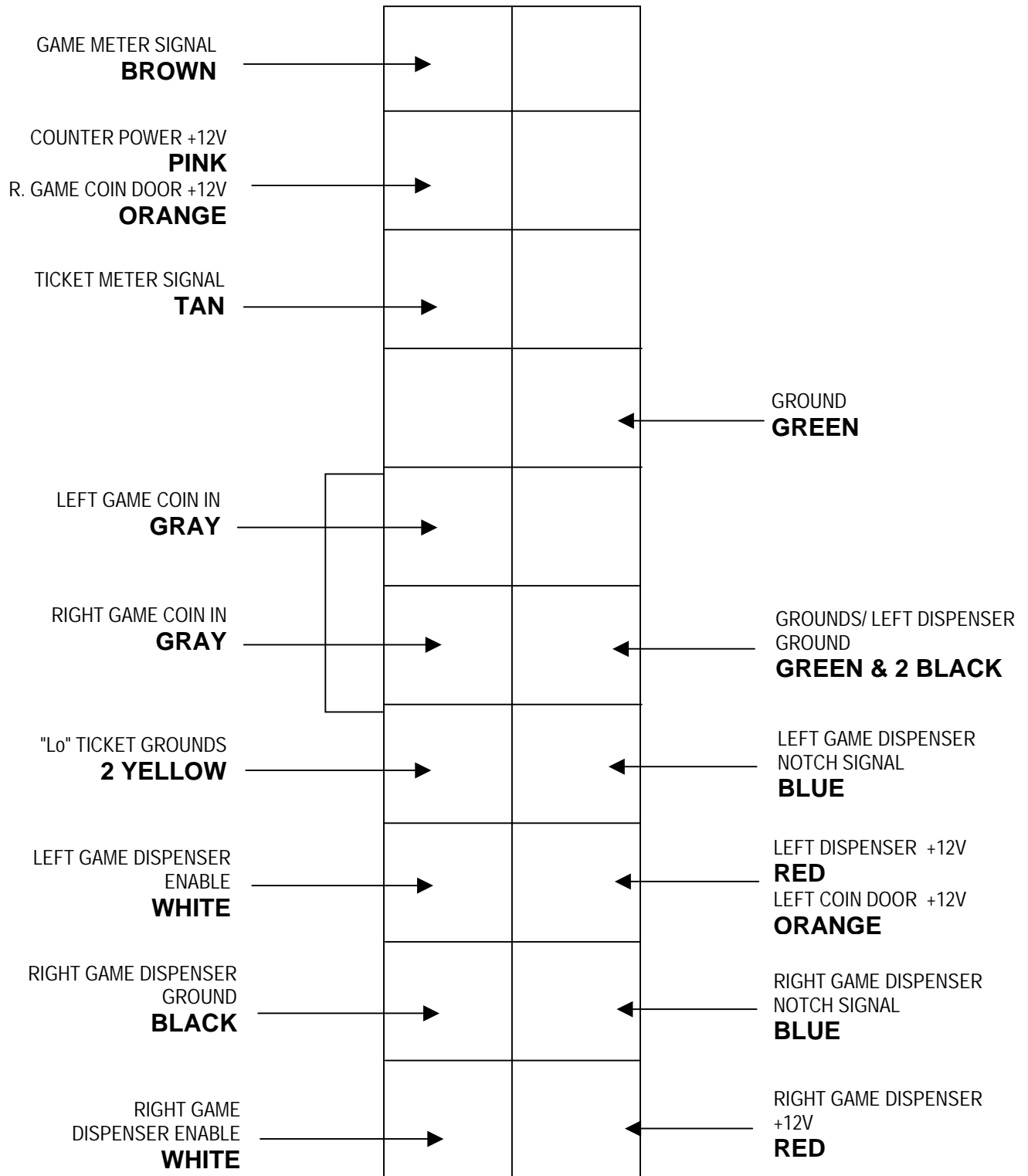




## Jumper (J4) Connector

Control Box Cable

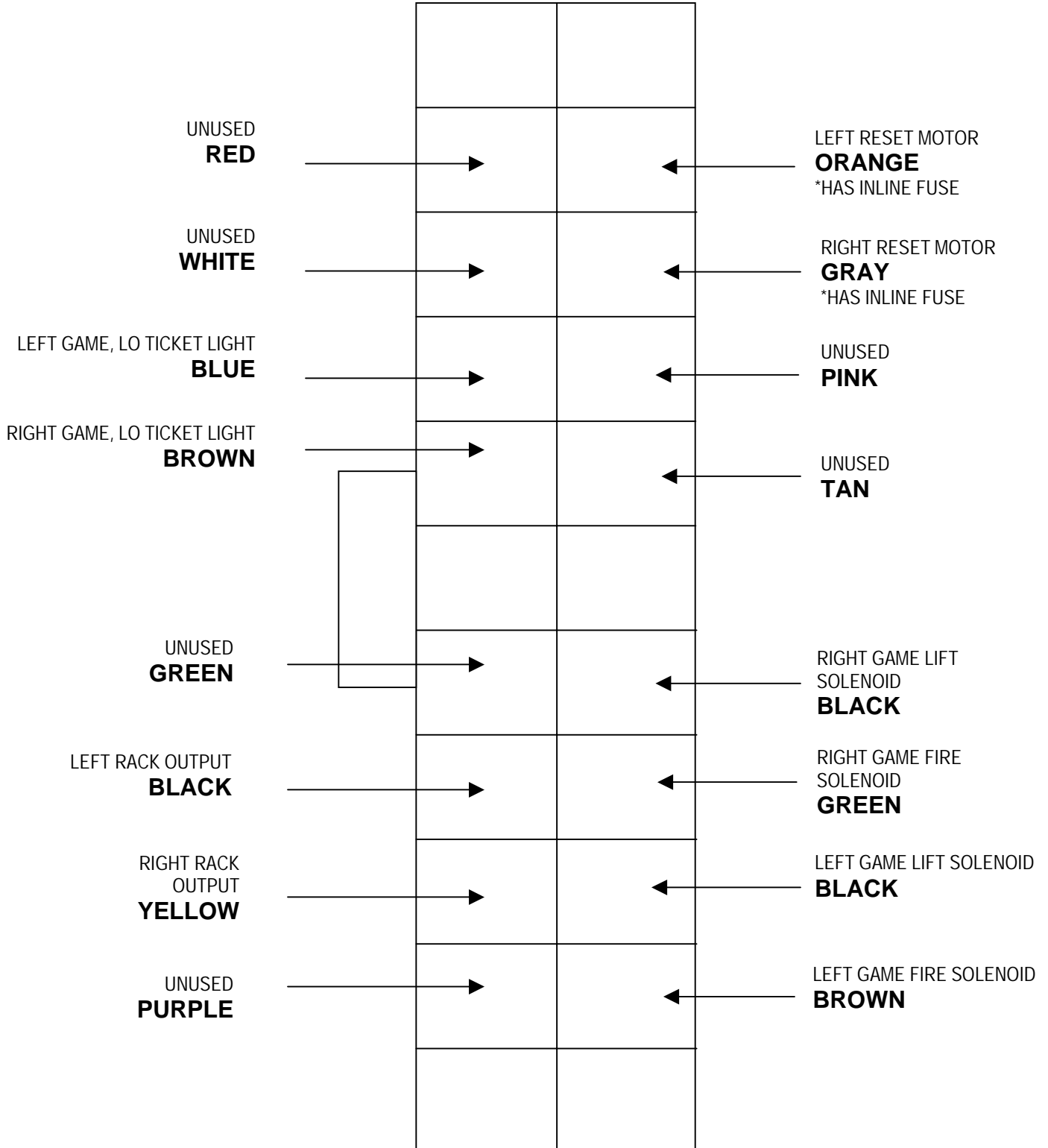
PIN – OUT





## Jumper (J5) Connector

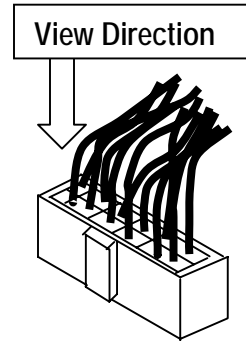
### PIN - OUT





## Connectors

The cables and connectors used in the ramp “middle” section are universal therefore the number and color of wires does not matter. Match size of connector only. Below is a diagram showing the Inputs to that cable from the target cabinet.



### TARGET - OUTPUTS

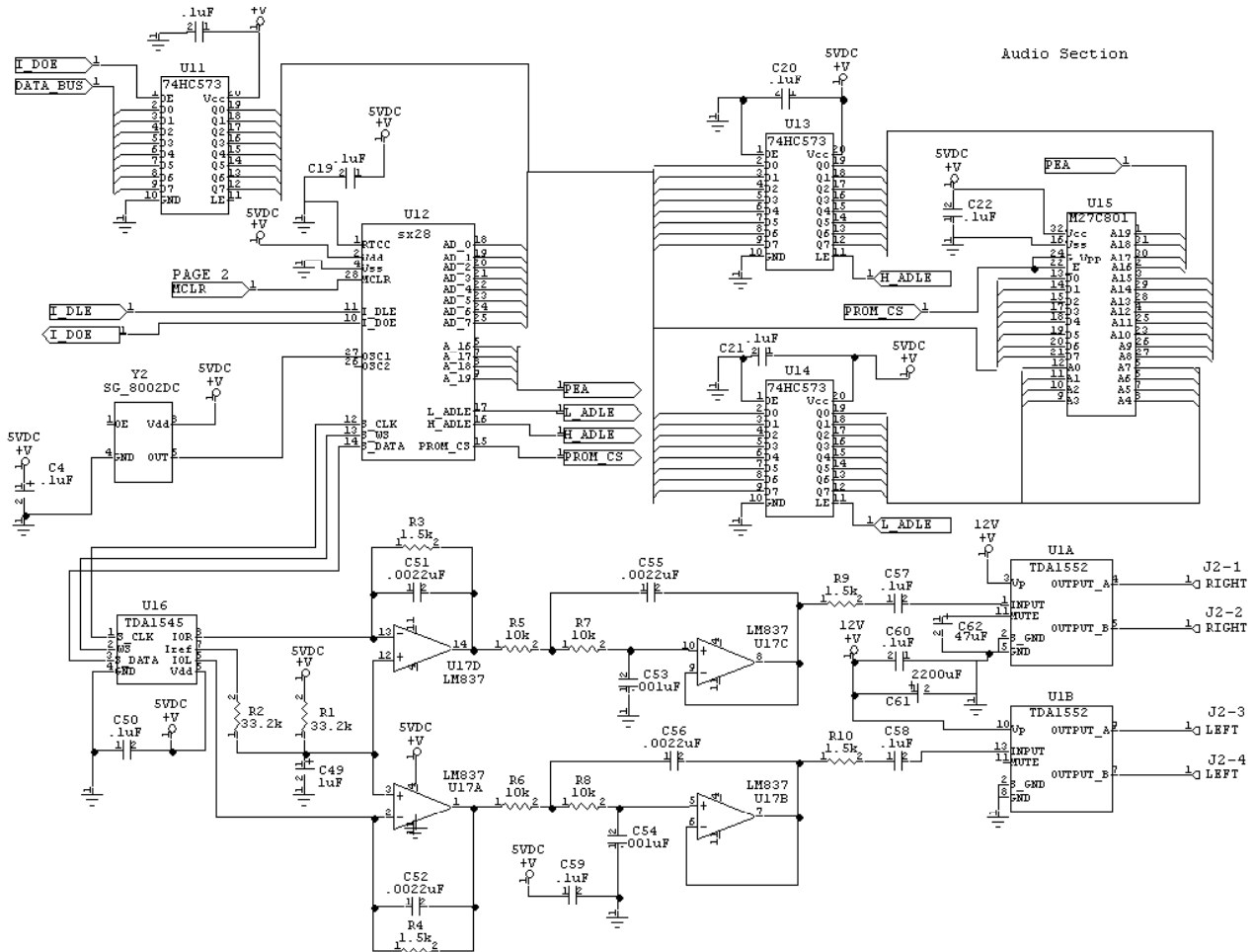
	1				13
△	X	RED LEFT RACK	BROWN LEFT MOTOR	BLACK LEFT LOW TICKET	X
△+	X	X	X	BLACK RIGHT LOW TICKET	X
△		X	RED RIGHT RACK	BROWN RIGHT MOTOR	X
	3				15

### TARGET - INPUTS

△	2 GRAY TOOTH 1	2 BLUE TOOTH 4	GREEN RIGHT RACK SENSOR	X	X
△	2 WHITE TOOTH 2	2 PURPLE TOOTH 5	GREEN LEFT RACK SENSOR	X	X
△	2 ORANGE TOOTH 3	2 YELLOW TOOTH 6	X	X	X



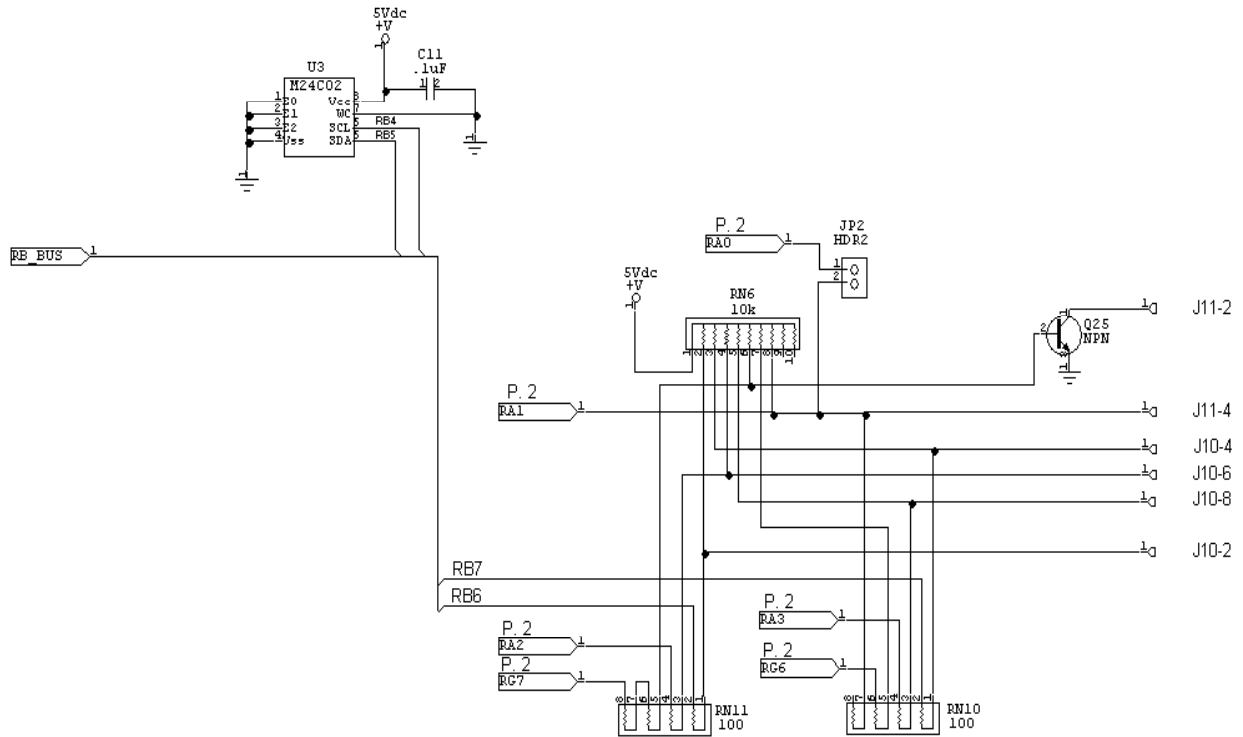
## Gen 5 Main Board Schematics





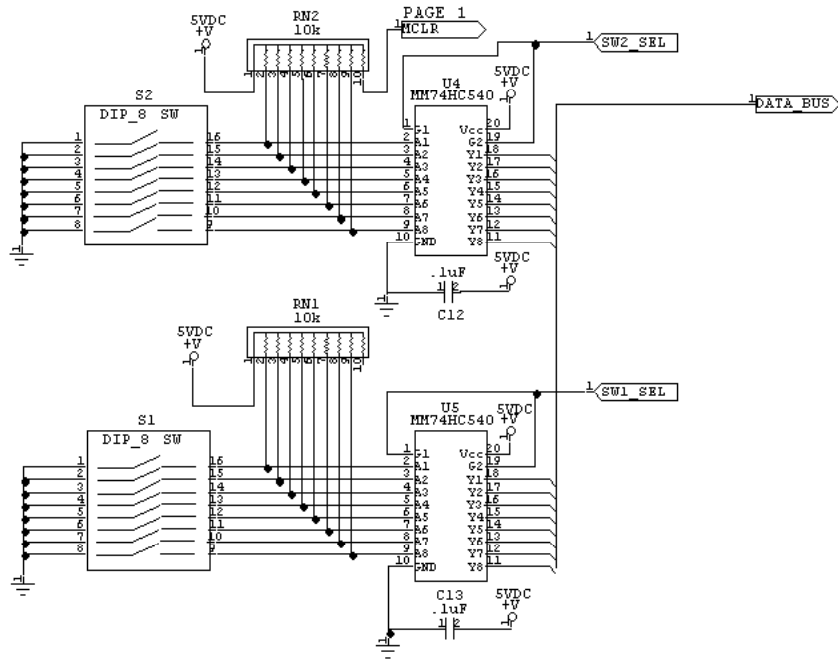


## Communications – Serial EEprom



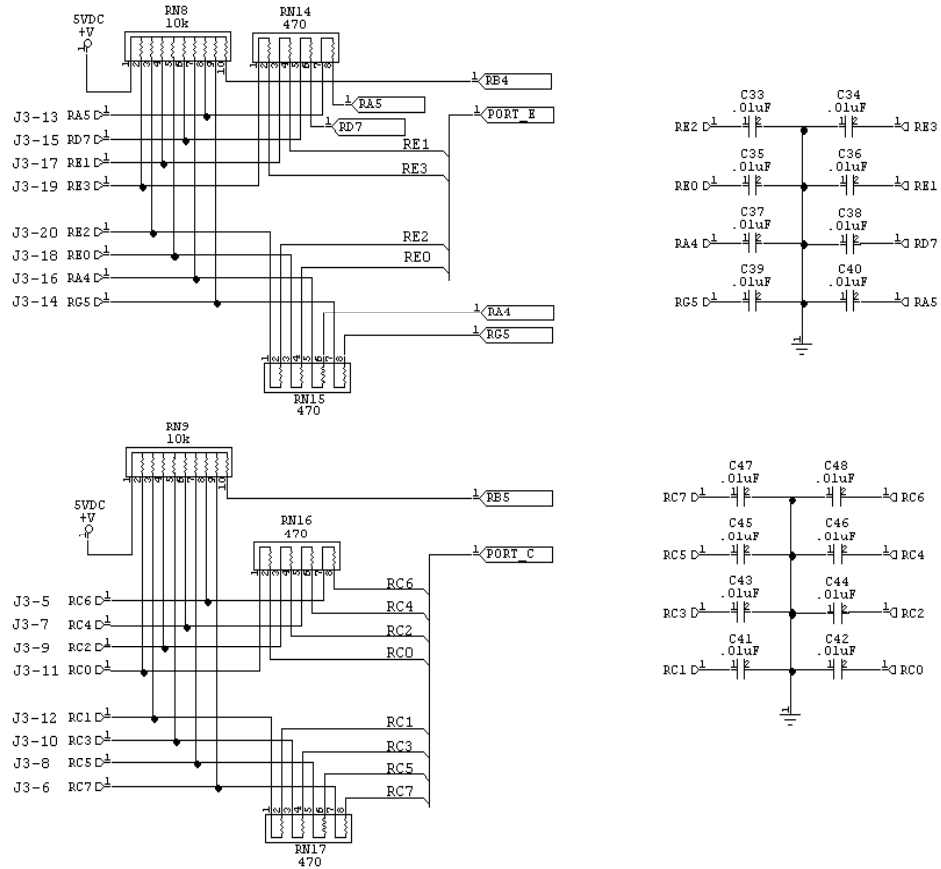


## Input Section A – Configuration Switches



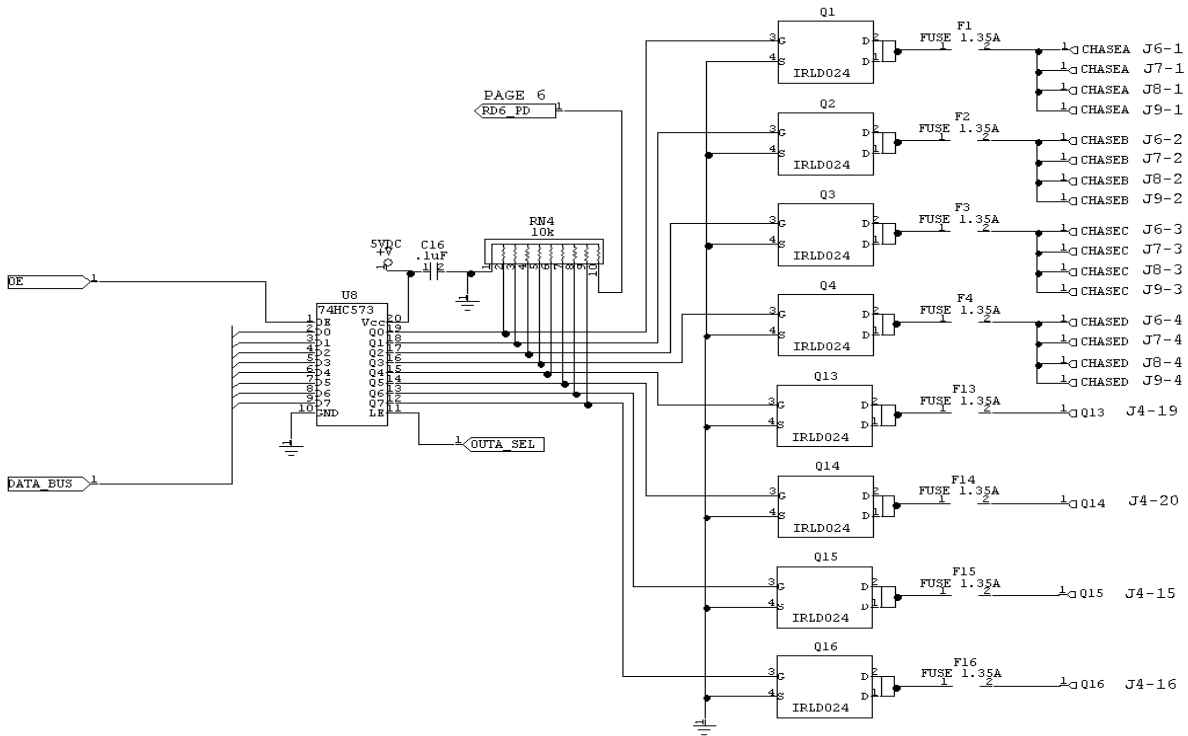


## Input Section B – Inputs RE, RC



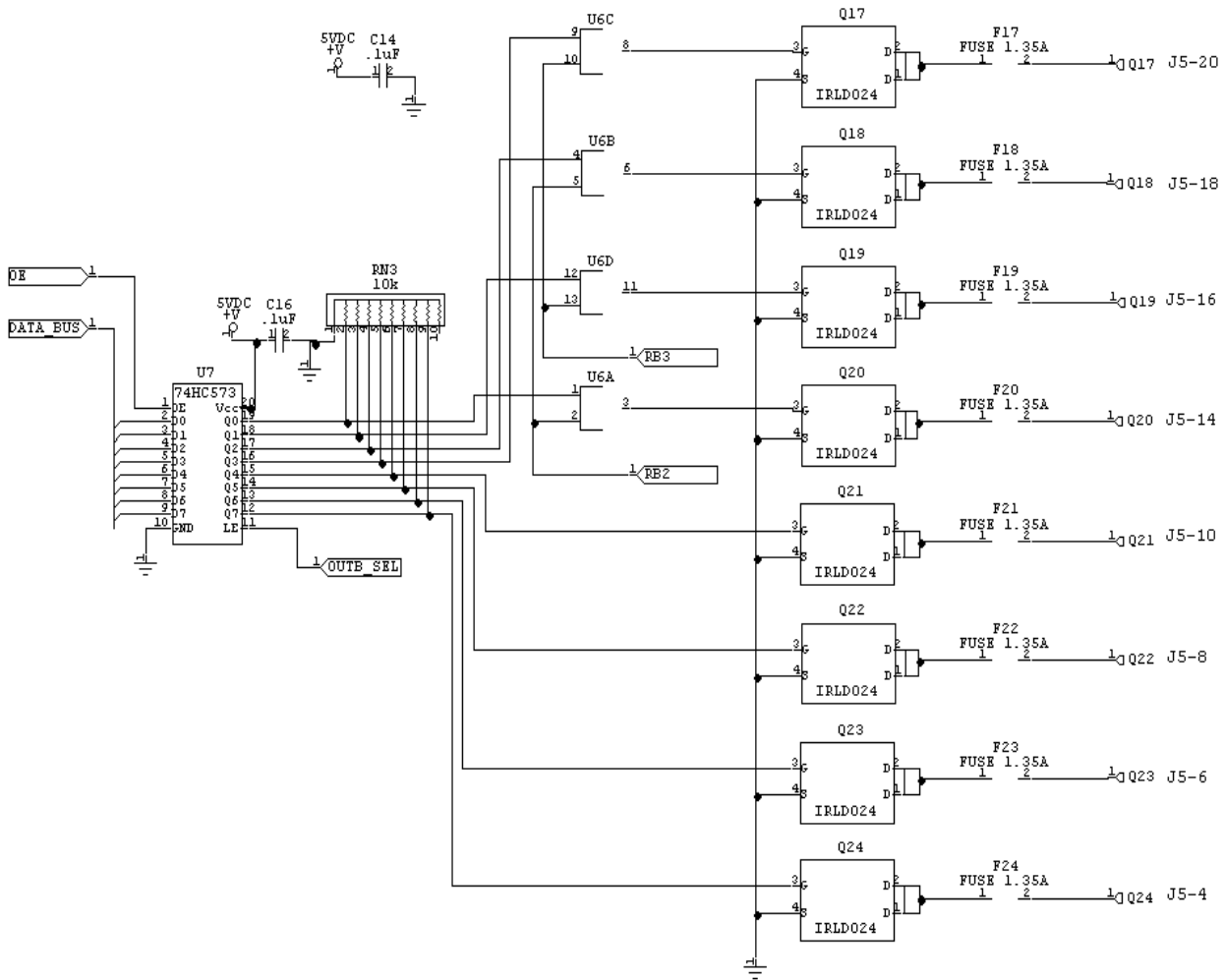


## Output Section A – Chase Lights, Q13 - Q16



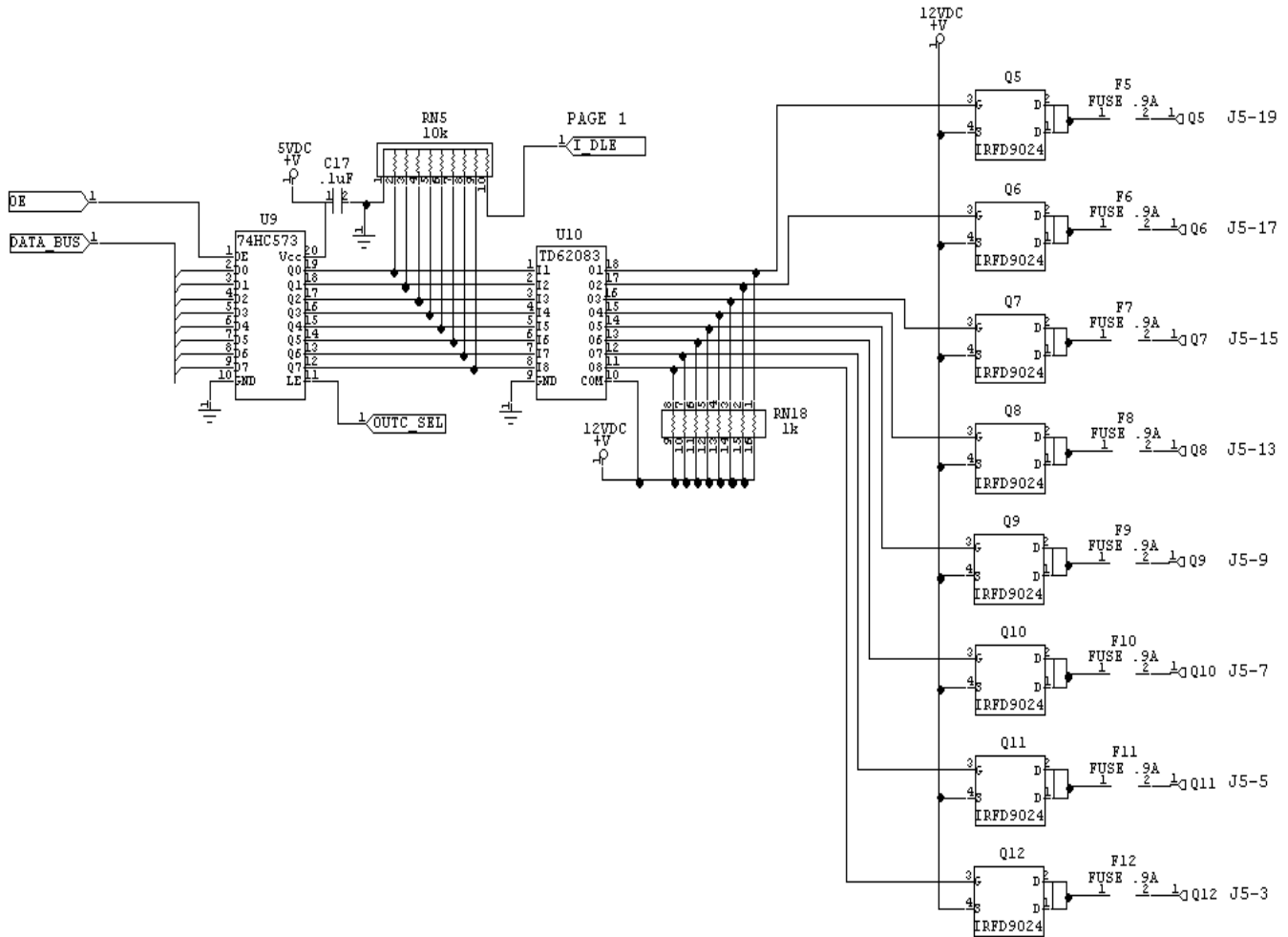


## Output Section B – Q17 – Q24





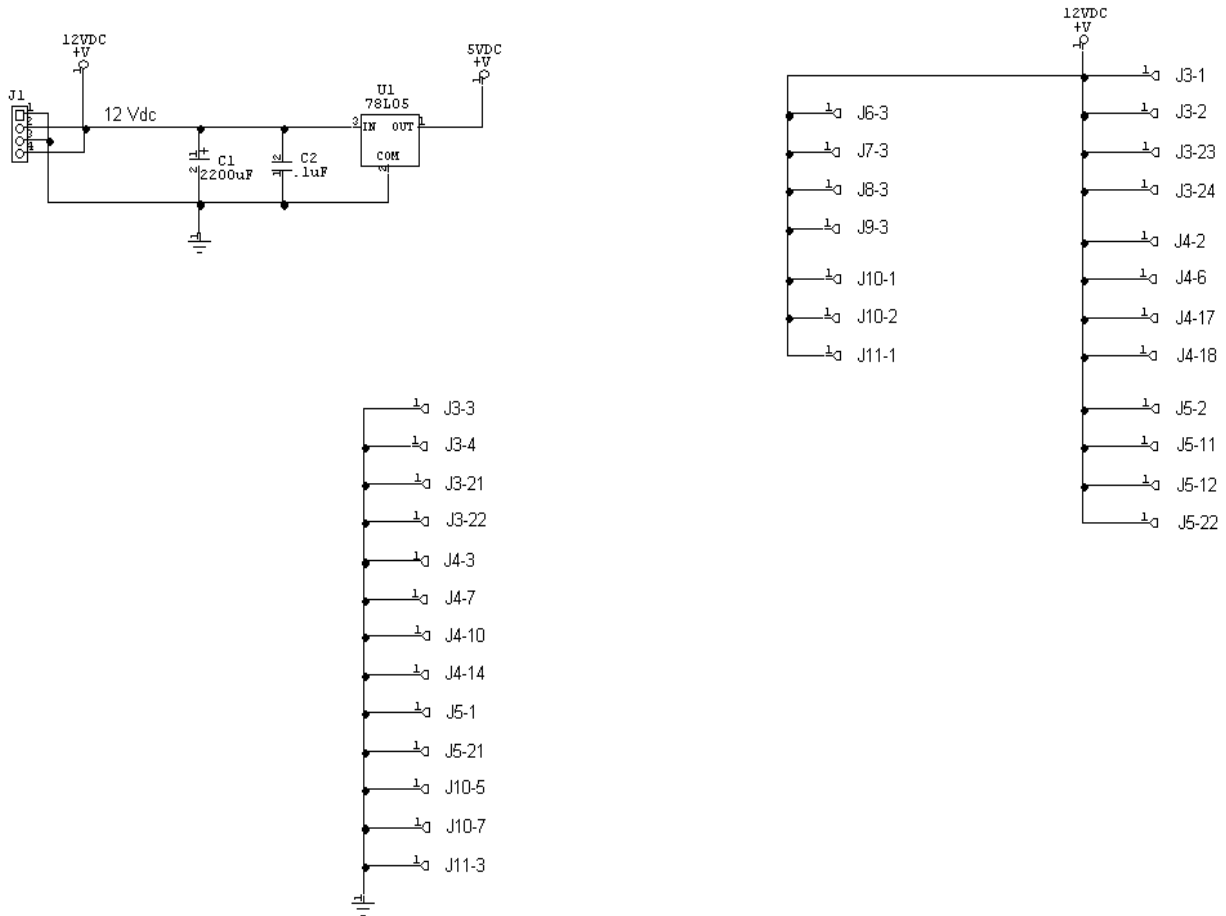
## Output Section C – Q5 – Q12





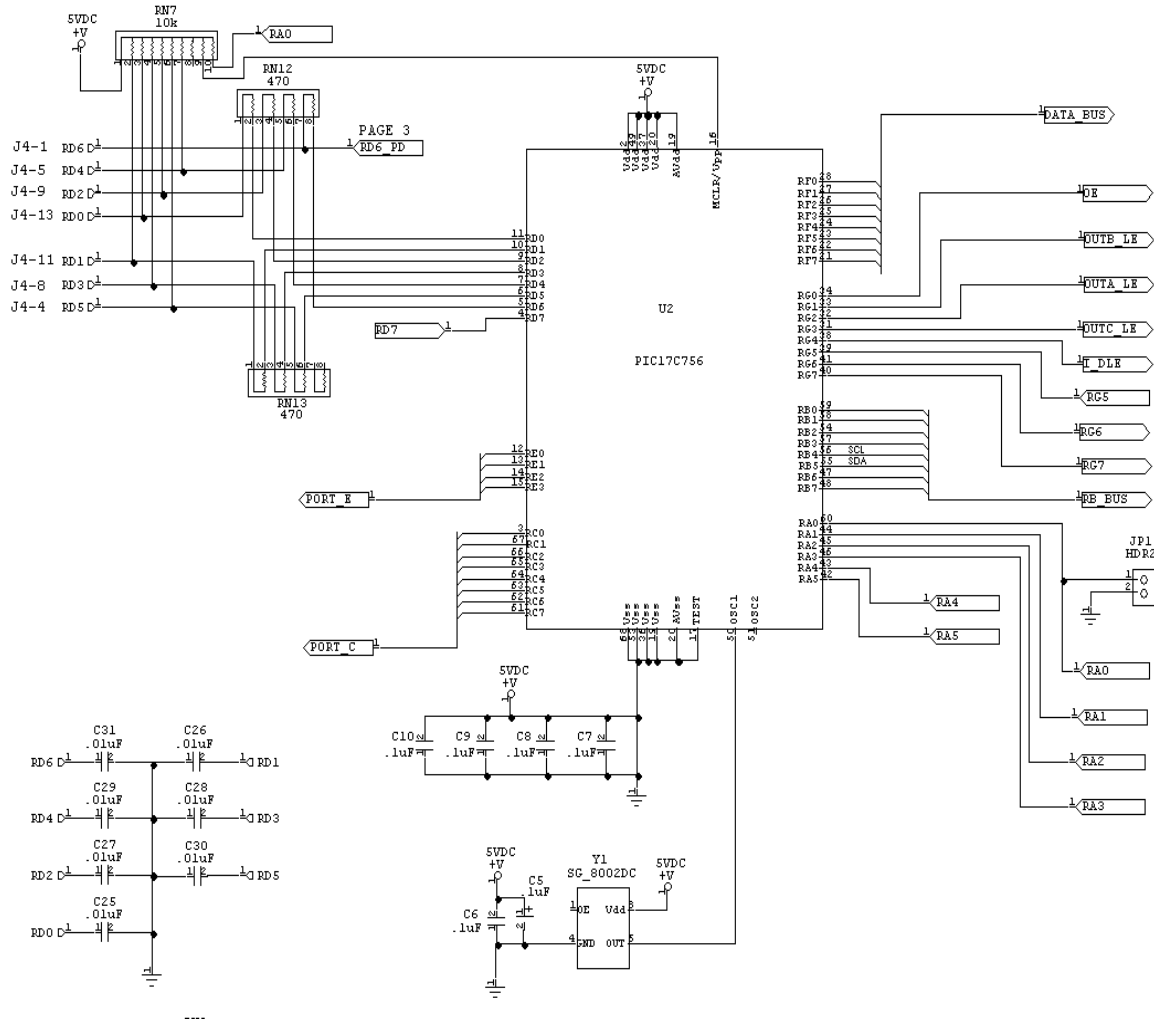


## Power Section





# Processor Section – Input RD





## SPARE PARTS – HORSE PLAY

Always use genuine Bay Tek replacement parts. For 24 hour pricing and ordering visit our web site at [www.baytekgames.com](http://www.baytekgames.com).

<b>Description</b>	<b>Part #</b>
<b>FRONT CABINET ASSY</b> .....	<b>AAGC7900</b>
BASE, MACHINED BALL LIFT .....	A5BA7103
BALL LIFT CYLINDER.....	A5BL7101
BALL LIFT MAC VALVE .....	A5VA7103
RUBBER BOOT .....	A5BO7100
COVER, RED FIBERGLASS TOP .....	A5CO7001
BARREL ASSY .....	AABR7500
FRONT BUMPER .....	A5BU7100
GRIP .....	A5GR7100
SWIVEL, PIVOT – 2 PIECES .....	AASW7100
BLACK COIN BOX.....	A5CB2050
TICKET DISPENSER.....	A5TD1
EPROM, HORSE PLAY .....	AAEP-HP
MICRO, HORSE PLAY .....	AAMC-HP
MAIN BOARD .....	AAMB5A
STOOL ASSY, RED .....	AAST7301
STOOL PEDESTAL .....	A5BA7501
STOOL BASE .....	A5SB3051
RED STOOL SEAT .....	A5ST-PAD-RED/M
<b>DECALS</b>	
FACEPLATE MARQUEE, HORSEPLAY .....	A5FP7900
SIDE DECAL, 2 PER FRONT SIDE.....	A5DC7901
DOOR, SMALL DECAL, 2 PER .....	A5DC7902
MIDDEL DECAL, SMALL, 1 PER .....	A5DC7903
WHITE BOARD DECAL, 1 PER .....	A5DC7904
<b>BUFFER ASSY.....</b>	<b>AABU7100</b>
PRESSURE GAUGE .....	A5PG7100
RESEVOIR .....	A5RE7100
REGULATOR, AIR.....	A5RE7101
BOOM VALVE .....	A5VA7100
<b>MIDDLE CABINET ASSEMBLY .....</b>	<b>AAMC7900</b>
BALL GRATE ( 1 PIECE/ BOTH SIDES) .....	A5GR7001
HALOGEN LAMPS, 20 WATT .....	A5LA9050
LIGHT DIFFUSER.....	A5AC7002
PANEL, LEFT SCREEN .....	A5PA7000
PANEL, RIGHT SCREEN .....	A5PA7001
PANEL, MIDDLE SCREEN.....	A5PA7002
PANEL, SCREEN DIVIDER.....	A5PA7003



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MOTOR, GEAR, BALL SORTER .....	AAMO1002
INSTRUCTION PANEL FACEPLATE .....	A5FP7902
<b>TARGET CABINET ASSY .....</b>	<b>AATC7900</b>
FACEPLATE, PLAYFIELD .....	A5FP1001
RESET BAR .....	A5BA7900
POWER SUPPLY .....	A5PS1001
TOOTH SPACER .....	A5SP7900
TOOTH .....	A5TO7900
TEETH SENSOR .....	AASE3904
TEETH RESET MOTOR .....	AAMO1002



## 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

#### 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.



Fax us at  
(920) 822-1496

- 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, 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.

Email us 24 hours a day at  
service@bay-tek.com

Also order parts online at  
www.bay-tek.com

#### 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 troubleshooting the issues with your game.



Send parts to  
1077 E Glenbrook Dr  
Pulaski, WI 54162

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







## 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](mailto: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](mailto: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;**

Date of Installation \_\_\_\_\_ Serial number \_\_\_\_\_

Installed by \_\_\_\_\_



# REPAIR RECORD

Make copies of this form.

Game \_\_\_\_\_ Serial Number \_\_\_\_\_

Date Initials	Maintenance Performed	Parts Replaced	Cause/Notes

