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Manual Revision History

Revision A – Released 09/20/19

Revision B – Updated New Address 11/27/19
Basic Components:

- Marquee
- Jackpot/Bonus Display
- Playfield
- Coin Door
- Ticket Door
Game Setup:

Unloading/Assembly:

Carefully remove packing material and unload machine from pallet.

Locate power cord shipped in bag in the cash box. Connect cord to power input on the game. Plug cord into the wall. Toggle power switch to power game on.

- Run through the ‘Programming Mode’ options and define your desired settings, like credits settings, sound Volumes, etc. (See Programming Options Section for defaults and further instructions).

Game Play Sequence/Behavior

I. Power-Up Initialization Sequence
   a. Wheel begins spinning, displays and LED’s light up, balls are released and reloaded.

II. Attraction Mode:
   a. Various lights and sounds are triggered at a programmable frequency

III. Adding Money:
   a. “Coin-in” or “bill-in” sound is heard on speaker.
   b. When enough money is added to buy credit(s), the current credits value will be shown on the Credit display, and the game will enter Play-Mode

IV. Play Mode:
   a. Play sounds start
   b. Play buttons flashes
   c. Credit Display shows number of credits

V. Player Hits Button:
   a. Press the button to drop all balls.
   b. Wheel spins while balls fall into place
   c. Balls get scored as they move up the wheel.
   d. Tickets come out for the value scored.

VI. Scoring/Payout
   a. Ball passes through the Optic Transmitter (on Front glass) and Receiver (on back of game).
   b. Lights and sound celebration if all balls fill the white flame spaces to win Bonus or standard win sound when other value are triggered
   c. Game pays appropriate tickets as your payout sheet suggest.
   d. If player has more credits, the machine will continue play mode, otherwise the game will go back into Attract-Mode.
Payout and Adjustment

Each Instruction Panel has its specific values for scoring. To change the games payout, you will need to replace your current Instruction panel.

100ART079: Table 1 Standard Payout

100ART080: Table 2 Coin/credits

080ART081: Table 3 coin/credit

080ART082: Table 4 coin/credit
Technical Operation:

Ball Drop Operation:
The balls are released by the solenoid plunger located at the end of the ball ramp. Once coined up the game will start the game mode sounds. Pressing the Ball Drop button will send a signal to the main CPU board. This board then relays the message to the Mini High Current Board which is the board that then send the signal to the solenoid to release the balls. Once all balls have fallen through the plunger will go back to its normal down position in anticipation for the balls to be brought back up.

Wheel Position:
The wheel position is determined by the Home Optic Sensor and the step count of the Playfield Wheel Motor. There is a small peg on the back of the wheel, when this peg passes through the home optic sensor it triggers a signal to the main board. This signal is to signify the Zero position. From there the Playfield Wheel Motor has a certain number of “steps” as it rotates the wheel. These steps determine where the wheel is at any given time. And help to score properly.
**Scoring/Ball Sensors:**

On the playfield when there are several holes. Your scoring sensors are located on either side of your wheel. The Receiver Board is located on the back cabinet, while the Transmitter is located on the front of the wheel and is part of the solenoid harness. The Transmitter is constantly sending a beam(signal) to the receiver board on the back. When a ball lands on a space then the beam is broken, and the receiver sends that information to the Main Board to score that hole. Once all balls have been accounted for the game will payout however many values have been won.
Programing Options:

To Enter Programming mode, you will need to locate the Power Distribution Board (Pictured to the left). There are 3 buttons labeled “Back”, “Program”, and “Next”.

1. Press the outer buttons or “Back” and “Next” simultaneously, using the center “Programing” button to confirm selection.

2. Navigate using the “Back” and “Next” buttons.

Press “Program” to select option. (See all options in Tree list on the next page)
Clear Credits?
  Yes / No

Clear Tickers?
  Yes / No

Audio settings
  Game volume
  Range 0 to 100%
  Attraction Volume
  Range 0 to 100%
  Bonus Volume
  Range 0 to 100%
  Exit Setting?

Game Settings
  Pulse per credits
  Range 1 to 16
  Two cents tickets
  Yes / No
  Exit Setting?

Payout settings
  Payout table
  Range 1 to 4
  Bonus start value (add 10)
  Range 10 to 9900
  Bonus start value (add 100)
  Range 10 to 9900
  Bonus max value (add 10)
  Range 10 to 9990
  Bonus max value (add 100)
  Range 10 to 9990
  Bonus increments
  Range 0 to 64
  Exit Setting?

Restore Game Defaults
  Yes / No

Test Modes
  N/A

Exit menu
  Save changes
  Yes / No
Main Electronic Components

Circuit Board Location

- Main Board
- Sound Board
- High Current Board
- VFD Display
- Stepper Controller Board
- Power Distribution Board
- Relay
- I/O Expander Board
Main CPU Board
Part Number: 100PCB001
Location: In lower cabinet
ID Switch Setting:

This board is the main controller of the game. It decides all the game actions and commands the other boards to act according to the game scheme.

Power Distribution Board
Part Number: PCB00032
Location: In lower cabinet on the right.
ID Switch Setting: None

This board sends power to the main board, light board, Stepper board, high current board, and lights.

Single Stepper Controller Board
Part Number: PCB00040
Located: In Lower Cabinet on the right side.
ID Switch Setting:0000 (Off, Off, Off, Off)

This board controls the Rocket stepper motor.
Credit Count 2 Digit Display
Part Number: PCB000004
Location: One is on the Control Panel and displays your credits.
ID Switch Setting: 010000 (Off, On, Off, Off, Off)

One of these displays the number or credit or plays the machine has accumulated by inserting coins/tokens. The other displays a timer count down during play mode.

Bonus 5 Digit Display
Part Number: PCB00115
Location: This is located over the wheel and displays your Jackpot/Bonus values.
ID Switch Setting: 000000 (Off, Off, Off, Off, Off)

The Bonus Display shows the value of the bonus to be won when the balls fall into all designated locations. The Display also shows how many tickets are being paid out.

Mini High Current Board
Part Number: PCB00017
Location: In lower cabinet on the right.
ID Switch Setting: N/A

Used to send the signal to the solenoid that releases the balls.

VFD Display Board
Part Number: 500ASM045
Location: On each individual door.
ID Switch Setting: 0000 (Off, Off, Off, Off)

This board displays your programming options and any errors the game has.
IO Expander Board
Part Number: 500KIT003
Location: In lower cabinet on the right.
ID Switch Setting: 0000 (Off, Off, Off, Off)

RH Light Board (Banana Board)
Part Number: 096PCB006
Location: On the Wheel’s Left side.
ID Switch Setting:

Opto Receiver Board
Part Number: PCB00025
Location: Behind Wheel
ID Switch Setting: N/A

This board is one of the two that count the balls as they pass through to score.
Home Optic Board

Part Number: PCB00077
Location: Behind Wheel
ID Switch Setting: N/A

This board senses the small pin on the back of your playfield wheel. This is your Zero position on your playfield wheel.

Amplifier Board

Part Number: 500PCB052
Location: In lower cabinet on the right side.
ID Switch Setting: N/A

This board controls the sound sent to speakers.
Error Code and Troubleshooting Guide:

<table>
<thead>
<tr>
<th>Error Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Generic RS485 Communication Error</td>
</tr>
<tr>
<td>02</td>
<td>USB Communication Error</td>
</tr>
<tr>
<td>03</td>
<td>Out of Tickets</td>
</tr>
<tr>
<td>04</td>
<td>Ticket Dispenser Communication Error</td>
</tr>
<tr>
<td>21</td>
<td>Stepper Controller</td>
</tr>
<tr>
<td>22</td>
<td>LED Bar</td>
</tr>
<tr>
<td>23</td>
<td>Bonus Display</td>
</tr>
<tr>
<td>24</td>
<td>Credit Display</td>
</tr>
<tr>
<td>25</td>
<td>Score Sensor</td>
</tr>
<tr>
<td>26</td>
<td>Home Sensor</td>
</tr>
<tr>
<td>27</td>
<td>Ball Count</td>
</tr>
</tbody>
</table>

**E-1: General RS485 Communication Error**

This error occurs when the 485-communication chain has been disrupted.

**Troubleshooting:**

Check the 485 plugs coming out of the Main board.

1. Check that there are no cold solder joints.
2. Plug is not missing.
3. Check that the Blue and Gray wires are connected and seated properly.

Check continuity on the Blue and Gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place prongs on both ends of one gray wire. You should have some resistance.
3. Repeat step 2 for blue wire.

Check continuity between the blue and gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place one prong on a Blue end and the other on a Gray. You should have 0 Ohms $\Omega$.

**E-2: USB Communication Error**

This error occurs when the USB signal has been disrupted.

**Troubleshooting:**

Check the wire for any damage.

1. Pinched at turning points.
2. Damage at plug end.
3. Frayed wires.

Check Board for damaged port.
E-3: Game is Out of Tickets

This error occurs when Ticket Dispenser does not sense the tickets.

Troubleshooting:

Check ticket bins have tickets and are loaded onto the ticket dispenser.

For Triple Ticket Dispenser trouble shooting please see ticket dispenser user manual

E-4: Ticket Dispenser Communication Error

This error occurs when the Ticket Dispenser is not communicating with the Main board.

Troubleshooting:

Check the 2 Pin plug going into the Ticket Dispenser Board.

1. Check that there are no cold solder joints.
2. Plug is not missing.
3. Check that the Blue and Gray wires are connected and seated properly.

Check continuity on the Blue and Gray wires.

1. Set their volt meter to Ohms Ω.
2. Place prongs on both end one gray wire. You should have some resistance.
3. Repeat step 2 for blue wire.

Check continuity between the blue and gray wires.

1. Set their volt meter to Ohms Ω.
2. Place one prong on Blue end and the other on Gray.

Check Power is going to Ticket Dispenser.

1. On the board there are 2 lights.
   a. The VCC light. Should be on solid.
   b. The CPU light. Should be blinking.
2. On the 4-pin connector check your voltage.
   a. Set your volt meter to V (DC) for voltage.
   b. Put the Red Probe onto the yellow power wire.
   c. Put the Black Probe onto any ground/common black wire on the game.

Check for any physical damage on board and harness.

Check Dispenser has the dipswitches all in the off position (if using the Intelli Triple Ticket Dispenser)
E-21: Stepper Controller Error

This Error occurs if the game is not getting the correct signal from the Stepper Controller.

Troubleshooting:

Check the 2 Pin plug going into the stepper controller board

1. Check that there are no cold solder joints.
2. Plug is not missing.
3. Check that the Blue and Gray wires are connected and seated properly.

Check continuity on the Blue and Gray wires.

1. Set their volt meter to Ohms Ω.
2. Place prongs on both end one gray wire. You should have some resistance.
3. Repeat step 2 for blue wire.

Check continuity between the blue and gray wires.

1. Set their volt meter to Ohms Ω.
2. Place one prong on Blue end and the other on Gray.

Check for any discoloration on board

1. If discolored may be sighs of a short.
   a. Check that wires are not shorted
   b. Check that board is not faulty

Make sure that motor wires are connected properly.

Check Power is going to stepper controller board.

1. On the board there are 2 lights.
   a. The VCC light. Should be on solid.
   b. The CPU light. Should be blinking.

E-22: LED Bar Error (Banana Board)

This Error occurs if the LED Bar board is not responding.

Troubleshooting:

Make sure board is receiving power if board is not turning on.

1. On the board there are 2 lights.
   a. The VCC light. Should be on solid.
   b. The CPU light. Should be blinking.

Check for any floating grounds.

Check for any discoloration on board.
**E-23: Bonus Display Error**

This error occurs when Bonus Display is not responding.

**Troubleshooting:**

Make sure board is receiving power if board is not turning on.

1. On the board there are 2 lights.
   a. The VCC light. Should be on solid.
   b. The CPU light. Should be blinking.

Check continuity on the Blue and Gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place prongs on both end one gray wire. You should have some resistance.
3. Repeat step 2 for blue wire.

Check continuity between the blue and gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place one prong on Blue end and the other on Gray.

Check for any floating grounds.

Check for any discoloration on board.

**E-24: Credit Display Error**

This error occurs when Credit Display is not responding.

**Troubleshooting:**

Make sure board is receiving power if board is not turning on.

1. On the board there are 2 lights.
   a. The VCC light. Should be on solid.
   b. The CPU light. Should be blinking.

Check continuity on the Blue and Gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place prongs on both end one gray wire. You should have some resistance.
3. Repeat step 2 for blue wire.

Check continuity between the blue and gray wires.

1. Set their volt meter to Ohms $\Omega$.
2. Place one prong on Blue end and the other on Gray.

Check for any floating grounds.

Check for any discoloration on board.
**E-25: Score Sensor Error**

This Error occurs if the Score Sensor is not responding.

**Troubleshooting:**

- Make sure Receiver board is receiving power (12V)
- Make sure Transmitter is receiving power (12V)
- Check for any floating grounds.
- Check for any discoloration on the receiver board.
- When sensor board is blocked, or not seeing the Transmitter there should be an LED that is lit on the board.

**E-26: Home Sensor Error**

This Error occurs if the Home Sensor is not responding.

**Troubleshooting:**

- Make sure board is receiving power (12V)
- Check for any floating grounds.
- Check for any discoloration on board.
- When sensor board is blocked, or not seeing the Transmitter there should be an LED that is lit on the board.

**E-27: Ball Count Error**

This Error occurs if the Balls are not being seen by the optics.

**Troubleshooting:**

- Make sure Receiver board is receiving power (12V)
- Make sure Transmitter is receiving power (12V)
- Check for any floating grounds.
- Check for any discoloration on the receiver board.
- When sensor board is blocked by a ball, or not seeing the Transmitter there should be an LED that is lit on the board.

**Customer Service:**

If any errors persist or you would like to order any parts, please contact our Customer Service team. We are open Monday - Friday from 9:00am to 5:00pm EST. You can reach any of our team members by calling us at (561)253-3311.
**Board Pin Out Sheets:**

### Single Stepper

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin #</th>
<th>Type</th>
<th>Definition</th>
<th>Wire color</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>1</td>
<td>OUT</td>
<td>Stepper BLUE</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>2</td>
<td>OUT</td>
<td>Stepper GREEN</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>3</td>
<td>INPUT</td>
<td>12V</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>4</td>
<td>INPUT</td>
<td>GROUND</td>
<td>Black</td>
</tr>
<tr>
<td>J1</td>
<td>5</td>
<td>N/A</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>6</td>
<td>INPUT</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>7</td>
<td>N/A</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>8</td>
<td>OUT</td>
<td>Stepper PINK</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>9</td>
<td>OUT</td>
<td>Stepper BLACK</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>10</td>
<td>N/A</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>11</td>
<td>N/A</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>12</td>
<td>N/A</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>13</td>
<td>INPUT</td>
<td>N/C</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>14</td>
<td>N/A</td>
<td>N/C</td>
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</tr>
<tr>
<td>J2</td>
<td>1</td>
<td>RS485</td>
<td>Serial Comunication Port A</td>
<td></td>
</tr>
<tr>
<td>J2</td>
<td>2</td>
<td>RS485</td>
<td>Serial Comunication Port B</td>
<td></td>
</tr>
<tr>
<td>J1_Pin #</td>
<td>Input #</td>
<td>Designation</td>
<td>Output #</td>
<td>Designation</td>
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<tr>
<td>----------</td>
<td>---------</td>
<td>-------------------</td>
<td>----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>J1-1</td>
<td>1</td>
<td>P1: Play Button</td>
<td>1</td>
<td>P1: Marquee Lights</td>
</tr>
<tr>
<td>J1-2</td>
<td>2</td>
<td>P2: Play Button</td>
<td>2</td>
<td>P2: Marquee Lights</td>
</tr>
<tr>
<td>J1-3</td>
<td>3</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>J1-4</td>
<td>4</td>
<td>P1: Score Opto</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>J1-5</td>
<td>5</td>
<td>P2: Score Opto</td>
<td>5</td>
<td>P1: Credit Enable</td>
</tr>
<tr>
<td>J1-6</td>
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<td>6</td>
<td>P2: Credit Enable</td>
</tr>
<tr>
<td>J1-7</td>
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<td>9</td>
<td>P1: Play Button Light</td>
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<tr>
<td>J1-13</td>
<td>10</td>
<td>Player 2 Enable</td>
<td>10</td>
<td>P2: Play Button Light</td>
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<tr>
<td>J1-14</td>
<td>11</td>
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<tr>
<td>J1-15</td>
<td>12</td>
<td>Program Button 1</td>
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</tr>
<tr>
<td>J1-16</td>
<td>13</td>
<td>Program Button 2</td>
<td>13</td>
<td>P1: Ball Release Solenoid</td>
</tr>
<tr>
<td>J1-17</td>
<td>14</td>
<td>Program Button 3</td>
<td>14</td>
<td>P2: Ball Release Solenoid</td>
</tr>
<tr>
<td>J1-18</td>
<td>15</td>
<td>P1: Motor Home</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>J1-19</td>
<td>16</td>
<td>P2: Motor Home</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>J1-9</td>
<td>17</td>
<td></td>
<td>17</td>
<td>P1: Ticket Dispenser Run</td>
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<td>J1-10</td>
<td>18</td>
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<td>18</td>
<td>P2: Ticket Dispenser Run</td>
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<td>J1-11</td>
<td>19</td>
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<td>19</td>
<td></td>
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<tr>
<td>J5-1</td>
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<td>P1: Ticket Notch</td>
<td>20</td>
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</tr>
<tr>
<td>J5-2</td>
<td>21</td>
<td>P2: Ticket Notch</td>
<td>21</td>
<td>P1: Ticket Dispenser Enable</td>
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<tr>
<td>J5-3</td>
<td>22</td>
<td></td>
<td>22</td>
<td>P2: Ticket Dispenser Enable</td>
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<tr>
<td>J5-4</td>
<td>23</td>
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<td>23</td>
<td></td>
</tr>
<tr>
<td>J5-5</td>
<td>24</td>
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<td>24</td>
<td></td>
</tr>
<tr>
<td>J1-20</td>
<td>25</td>
<td></td>
<td>25</td>
<td>P1: Playfield Lights</td>
</tr>
<tr>
<td>J1-21</td>
<td>26</td>
<td></td>
<td>26</td>
<td>P2: Playfield Lights</td>
</tr>
<tr>
<td>J1-22</td>
<td>27</td>
<td></td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>J5-6</td>
<td>28</td>
<td>P1: Credit In</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>J5-7</td>
<td>29</td>
<td>P2: Credit In</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>J5-8</td>
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<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>J5-9</td>
<td>31</td>
<td></td>
<td>31</td>
<td>Ticket Meter</td>
</tr>
<tr>
<td>J5-10</td>
<td>32</td>
<td></td>
<td>32</td>
<td>Coin Meter</td>
</tr>
</tbody>
</table>
Notes: One harness to be used with both one and two player cabinets.
Player 2 Enable -- Ground this line when connect to 2 player cabinet.