Read this manual BEFORE operating the machine.

Keep this manual for your reference.

Go to www.LAIGames.com click on Operator Access to register your games and receive of future updates.

PLEASE NOTE:

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SAFETY PRECAUTIONS

The following safety precautions and advisories are used throughout this manual and are defined as follows.

* WARNING! *  Disregarding this text could result in serious injury.

* CAUTION! *  Disregarding this text could result in damage to the machine.

* NOTE! *  An advisory text to hint or help understanding.

BE SURE TO READ THE FOLLOWING

* WARNING! *

**Always** turn OFF Mains AC power and unplugged the game, before opening or replacing any parts.

**Always** when unplugging the game from an electrical outlet, grasp the plug, not the line cord.

**Always** connect the Game Cabinet to grounded electrical outlet with a securely connected ground line.

**Do Not** install the Game Cabinet outdoors or in areas of high humidity, direct water contact, dust, high heat or extreme cold.

**Do Not** install the Game Cabinet in areas that would present an obstacle in case of an emergency, ie. near fire equipment or emergency exits.

* CAUTION! *

**Always** use a Digital Multimeter, logic tester or oscilloscope for testing integrated circuit (IC) logic PC boards. The use of a continuity tester is not permitted.

**Do Not** Connect or disconnect any of the integrated circuit (IC) logic PC boards while the power is **ON**.

**Do Not** use any fuse that does not meet the specified rating.

**Do Not** Subject the game cabinet to extreme temperature variations. Reliability of electrical components deteriorates rapidly over 60 °C.
INTRODUCTION

CONGRATULATIONS! You have just bought the “Fire Fighter”, another sensational product from LAI GAMES. This game, based around the popular kids water game style, has many new features. “Fire Fighter” features two player or single player game play, an impressive main display, backlit targets, and robust and reliable water Cannon guns. With its simple payout style, suited to children, we feel that “Fire Fighter” will make a great game at any location, on or off site.

We hope you take the time to read this manual and learn about the many other features and user-friendly adjustments that can be made to “fine-tune” the game for maximum earning potential.

DESCRIPTION

The “Fire Fighter” is a one or two player, ticket redemption game, where players attempt to beat their opponent (the second player in two player mode, a virtual opponent if one player game) by putting out all the fires on the building levels. The game also keeps an on-going score such that the first player to reach 99 points wins the game.

PACKAGING

- At delivery, the machine should arrive in good condition. To move the packaged machine for transport or placement, use a forklift and take care not to hit the package or stack heavy objects on top, as this may cause damage to the machine.

CONTENTS

- The “Fire Fighter” lower cabinet
- The “Fire Fighter” upper cabinet
- Keys: 2 × coin door keys
  2 × ticket door keys
  2 × back doors keys
  2 × ticket door keys
- Operator’s manual
- IEC Power Cord (In cash box)
- Parts & Accessories (In lower cabinet)
SPECIFICATIONS

DIMENSIONS
- Weight: 240 kg (530lb) [Empty of water]
- Height: 2055mm (81”)
- Width: 1080mm (42”)
- Length: 1620mm (63-1/2”)
- Power: Maximum 660 W – (220V @ 3.0 A)(120V @ 5.5 A)
  Average 380 W – (220V @ 1.8 A)(120V @ 3.2 A)

ELECTRIC SUPPLY
- The game has the option to operate on a 110V, 120V, 220V or 240V AC 50/60Hz single phase mains electric supply.
  The supply must be a three wire grounded supply.

* CAUTION! *
Before switching the machine on be sure to check that it has been set on the correct voltage for your area!

Please Refer to the mains voltage adjustment section of this manual. Machines are normally shipped on 220V AC unless otherwise specified.

LOCATION REQUIREMENTS
- Ambient temperature: between 5°C and 40°C.
- Ambient humidity: Low
- Ambient U.V. radiation: Very low
- Vibrations level: Low
MACHINE INSTALLATION and INSPECTION

When installing and inspecting “Fire Fighter”, be very careful of the following points and pay attention to ensure that the players can enjoy the game safely.

- Be sure to turn the power OFF before working on the machine.

* WARNING! *

Always Turn OFF mains power before removing safety covers and refit all safety covers when work is completed.

- Make sure the power cord is not exposed on the surface (floor, ground, etc.) where people walk through.

- Check that the rubber glide feet levelers are set evenly on the floor so that the game cabinet is unable to roll and is stable.

- Always make complete connections for the integrated circuit (IC) logic PC Boards and other connectors. Insufficient insertion can damage the electrical components.

* CAUTION! *

Before switching the machine on be sure to check that it has been set on the correct voltage for your area!

Refer to the mains voltage adjustment section of this manual. Machines are normally shipped on 220V AC unless otherwise specified.

- Only qualified personnel should inspect or test the integrated circuit (IC) logic PC Boards.

- If any integrated circuit (IC) logic PC Boards should need servicing. Please contact the nearest LAI GAMES distributor. (Refer to the back page of this manual)

* CAUTION! *

Water needs to be added to the game BEFORE running the pumps.

Prolonged dry running of the pumps can shorten their life.

See page 6 on how to fill and setup the water system.
The “Fire Fighter” is shipped in two main sections, the Upper Cabinet, containing most of the controlling electronics and the Lower Cabinet, containing the water system and player controls. The game should not be shipped fully assembled as this could cause damage to the Both Cabinets.

- Position the Lower Cabinet nearby to its final location. The cabinet has four heavy duty castors to allow easy repositioning of the game. Remove the four M12 x 80mm Bolts from the back mounting section and make sure it’s clear of any wires or obstructions.

- Position the Upper Cabinet on the floor near the back of the Lower Cabinet with the header facing the front. Unwrap and remove the back door of the Upper Cabinet, this will give better grip when lifting the Upper Cabinet into place. Using at least two persons, one at each side, lift the Upper Cabinet into position on the Lower Cabinet. Using the four M12 x 80mm Bolts, mount the Upper Cabinet tight to the Lower Cabinet.

- Feed the Cables from the Upper Cabinet through the hole down into the Lower Cabinet. Mate all the connectors together; they are keyed to prevent incorrect connection. Remove the four Philip head screws from the red metal bracket just above the Hydrant Targets. Position the Acrylic Splash Guard with the rubber edging pressing up against the Display Glass and fit and tighten screws, don’t over tighten or it may crack the acrylic.

* CAUTION! *

Water needs to be added to the game BEFORE running the pumps. Prolonged dry running of the pumps can shorten their life. See page 6 on how to fill and setup the water system.
WATER SYSTEM

The “Fire Fighter” is a water style game and requires regular maintenance and cleaning to keep the water in good condition. The game needs 20 liters (5 Gallons) of water to operate effectively. The machine should be emptied of any water before moving or shipping to prevent spillage. The two 12Volt DC Pumps are able to run dry for short durations without damage should the game accidentally be run without water. A Stainless Steel grill between the water catchment and the water tank prevents large objects from blocking the plumbing. A water filter protects the two pumps from fine particle damage. Refer the Water System Diagrams on page 7 for locating water system components and valves.

- **FILLING MACHINE**
  Check that the Drain Stop Valve is in the closed position. Use a bucket or metered container to fill the tank with 20 liters (5 Gallons) of clean tap water. Open the Main Stop Valve at the back of the machine and then press the small red filter bleed button on the top of the Water Filter to fill the filter with water.

- **PRIMING PUMPS & ADJUST PRESSURE**
  Check that both the Yellow Player and Blue Player Stop Valves are open. Use the Run Test Mode on page 13 to activate both Water Pumps. Let the water run for a while to remove all air from the plumbing. Then with the Yellow Player / Blue Player Stop Valves, as shown in the Water System Diagrams. Slowly close off each valve to reduce the Canon water pressure so that the targets can be moved and activate the target lights but the water stream is not splashing excessively.

- **CLEANING OPERATIONS**
  The “Fire Fighter” is fitted with a Wash-Down Gun to help in cleaning the water catchment area. To activate the Wash-Down Gun, Use the Run Test Mode on page 13 to activate Pump 2 only. Then open the Wash-Down Gun Stop Valve, use the trigger on the Gun and direct the water where needed. Be careful not to splash water outside the fiberglass catchment area. You can close the Blue Player Stop Valve if need be, but you will have to adjust the Canon water pressure again when finished.

- **EMPTING MACHINE**
  Close the Main Stop Valve and then place the Drain Pipe at the front of the machine in a bucket or suitable container. The containers height must be no higher than 400mm (15") to allow the tank to gravity drain. Use the Drain Stop Valve to prevent overfilling of the container. Repeat until all water is drained from the machine.

- **NOTE!**
  The addition of a small amount of pool chlorine to the water is recommended to kill any algae or other organisms introduced during filling.
WATER SYSTEM DIAGRAM

As viewed from front

Yellow Player Targets
Blue Player Targets
Yellow Player Water Canon
Blue Player Water Canon
Drain Stop Valve
Wash-Down Stop Valve
Blue Player Stop Valve
Yellow Player Stop Valve

As viewed from rear

Blue Player Reed Switches
Yellow Player Reed Switches
Blue Player Pump
Filter Bleed Button
Yellow Player Pump
Main Stop Valve
Water Filter & Cartridge
THE PLAYER’S AIM IS TO REACH THE 99 POINTS FIRST BY AIMING THE WATER STREAM AT THE LIT TARGETS INSIDE THE PLAYERS FIRE HYDRANT

- Insert coin/s.

- For single player game, the player chooses to press either the yellow or blue player start button only. For a multi (two) player game both players must press both the blue & yellow player start buttons together.

- There is a brief build up period where the buildings are lit on fire. Then the players fire hose(s) will start shooting water. Aim the stream of water at the flashing targets inside the fire hydrant on your half of the playfield.

- The fire in the building will start to reduce downwards while your score will start rising as you hold your water stream on your targets.

- Once all the fires in the either building are put out (or the score reaches 99 points, as these always occur simultaneously) the game is then over. The side that has put out all the levels (Or reached 99 points) is the winner.

* NOTE! *

- If the time out is reached then the side with the highest score is the winner.

- Tickets are then dispensed.
OPERATION

The “Fire Fighter” game has six operational modes: Attract mode, Play mode, Test Mode, Programmable Adjustments Mode, Audits Mode and Game History Mode.

OPERATIONAL DIAGRAM

ATTRACT MODE
- The Attract mode provides a light and sound display, while the game is not being played. This feature is to attract potential customers to play the game. The attract mode sound can be turned on and off.

PLAY MODE
- The Fire Fighter has two play modes. The Standard Coin Play mode, where a coin, or coins are inserted. Or Free Play where no coins are necessary.

COIN PLAY
- The Coin Play mode is entered from Attract mode, by inserting coins in any of the two coin slots on the front of the machine cabinet, then following the instructions in the “How to Play” section of this manual.

FREE PLAY
- The free play mode is entered from attract mode by holding the Service button for longer than five second, \( \text{F F F} \) will be displayed on the 3-digit LED display.

- To get back to normal game Play mode Switch Off and On the Machine.
TEST MODE

The Fire Fighter Test mode has Three Test Configurations allowing you to test the function of the Sound, all Game Lamps, Displays, the Game Switches, Pump Motors and the Water Cannon action. (Refer to the Test Mode Diagram below).

The Test mode is also used for Clearing Game Errors. If there is an active error, its code will be displayed. To try to clear the error code, press the red test button once. The error can be bypass by quickly pressing the red test button twice. (For Game Errors codes, refer to page 26).

* NOTE! *
- Entering Test Mode will CLEAR any CREDITS remaining in the game.
- If during test mode no ADJUSTMENTS or actions are made to the game for approximately four minutes, it will automatically RETURN to Attract Mode.

TEST MODE DIAGRAM

<table>
<thead>
<tr>
<th>ATTRACT MODE</th>
<th>PLAY MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESS TEST</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUND, LAMPS &amp; DISPLAY TEST</td>
<td></td>
</tr>
<tr>
<td>The Displays count, the building lamps flash, all the other lamps flash and sound is played</td>
<td></td>
</tr>
<tr>
<td>PRESS TEST</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SWITCH INPUT TEST</td>
<td></td>
</tr>
<tr>
<td>No INPUT is active</td>
<td></td>
</tr>
<tr>
<td>TICKET notch Yellow Player active</td>
<td></td>
</tr>
<tr>
<td>[C 0 1]</td>
<td></td>
</tr>
<tr>
<td>TICKET notch Blue Player active</td>
<td></td>
</tr>
<tr>
<td>[C 0 2]</td>
<td></td>
</tr>
<tr>
<td>TARGET 2 Blue Player active</td>
<td></td>
</tr>
<tr>
<td>[C 1 2]</td>
<td></td>
</tr>
<tr>
<td>TARGET 3 Blue Player active</td>
<td></td>
</tr>
<tr>
<td>[C 1 3]</td>
<td></td>
</tr>
<tr>
<td>PRESS TEST</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>RUN TEST</td>
<td>PRESS SERVICE</td>
</tr>
<tr>
<td>[r r r]</td>
<td>[r 0 1]</td>
</tr>
<tr>
<td>PUMP MOTOR TEST</td>
<td></td>
</tr>
<tr>
<td>R01. Run yellow player water pump only</td>
<td></td>
</tr>
<tr>
<td>R02. Run blue player water pump only</td>
<td></td>
</tr>
<tr>
<td>R03. Run both yellow &amp; blue player water pumps</td>
<td></td>
</tr>
<tr>
<td>R04. Both of water pumps OFF</td>
<td></td>
</tr>
<tr>
<td>PRESS TEST</td>
<td></td>
</tr>
<tr>
<td>PROGRAMMABLE ADJUSTMENTS MODE</td>
<td></td>
</tr>
</tbody>
</table>

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SOUND, LAMPS & DISPLAY TEST

- **ENTER** The Sound, Lamp & Display test is entered from Attract mode by pressing the test button once.

  * NOTE! *
  - If there is an active error displayed, press the red test button once to try and clear the error. If the error code will not clear, it can be bypass by quickly pressing the red test button twice.

DURING THE TEST:
- Game music and a voice over will be played.
- The backlighting of the buildings will light up level by level.
- All the displays will count from 000 to 999 and then repeat.
- The Yellow Player and Blue Player button lamps will flash on and off.
- The target back lights will light up.

- **EXIT** The Sound, Lamp & Display test is exited by pressing the test button. The next test will be switch test.

SWITCH TEST

- **ENTER** The Switch Test can be entered by pressing the Test button once while in the Sound, Light & display test or by pressing the Test button twice while in Attract mode, CXX will be displayed on the 3-digit display where „XX“ is a number representing the switch that is active.

**TESTING THE GAME SWITCHES**

All game switches have a code from C1 to C13 as tabled below. By activating any of the switches, their code will be displayed on the 3-digit display. If no switches are active then C00 will be displayed.

<table>
<thead>
<tr>
<th>CODE</th>
<th>DISPLAY</th>
<th>SWITCH FUNCTION</th>
<th>SWITCH LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>C0</td>
<td>C00</td>
<td>No Switch Active</td>
<td>-</td>
</tr>
<tr>
<td>C1</td>
<td>C01</td>
<td>Ticket Notch Yellow Player Active</td>
<td>Left Hand Ticket Door</td>
</tr>
<tr>
<td>C2</td>
<td>C02</td>
<td>Ticket Notch Blue Player Active</td>
<td>Right Hand Ticket Door</td>
</tr>
<tr>
<td>C3</td>
<td>C03</td>
<td>Service Switch Active</td>
<td>Service Panel</td>
</tr>
<tr>
<td>C4</td>
<td>C04</td>
<td>Yellow Player Start Button Active</td>
<td>Control Panel</td>
</tr>
<tr>
<td>C5</td>
<td>C05</td>
<td>Blue Player Start Button Active</td>
<td>Control Panel</td>
</tr>
<tr>
<td>C6</td>
<td>C06</td>
<td>Coin 1 Switch Active</td>
<td>Coin Door</td>
</tr>
<tr>
<td>C7</td>
<td>C07</td>
<td>Coin 2 Switch Active</td>
<td>Coin Door</td>
</tr>
<tr>
<td>C8</td>
<td>C08</td>
<td>Target 1 Yellow Player Active</td>
<td>Cabinet Back</td>
</tr>
<tr>
<td>C9</td>
<td>C09</td>
<td>Target 2 Yellow Player Active</td>
<td>Cabinet Back</td>
</tr>
<tr>
<td>C10</td>
<td>C10</td>
<td>Target 3 Yellow Player Active</td>
<td>Cabinet Back</td>
</tr>
<tr>
<td>C11</td>
<td>C11</td>
<td>Target 1 Blue Player Active</td>
<td>Cabinet Back</td>
</tr>
<tr>
<td>C12</td>
<td>C12</td>
<td>Target 2 Blue Player Active</td>
<td>Cabinet Back</td>
</tr>
<tr>
<td>C13</td>
<td>C13</td>
<td>Target 3 Blue Player Active</td>
<td>Cabinet Back</td>
</tr>
</tbody>
</table>

Normal condition for the game is C01 and C02 indicating that the ticket mechanism sensors are active.

* NOTE! *
- Several switches can be simultaneously activated in Switch test. The display will then consecutively show their codes, indicating which switches are active. However, it is much easier to test the game switches individually.
**TICKET DISPENSER NOTCH**

The Ticket Notch Switch (C1 & C2) can be activated or deactivated from the Ticket Feed Button on the Ticket Dispenser PCB or by manually pushing the tickets from the ticket holder through the dispenser after pulling the ticket release rod upwards.

![Ticket Notch Switch Diagram]

*NOTE!*

For more information on the servicing and testing the ticket dispenser please look at the Dispenser Reference guide.

**EXIT**

The Switch Test is exited into Run Test Mode by pressing the Test Button once.
RUN TEST

■ ENTER  The Run Test mode is entered from switch test by pressing the Test button once or from Attract mode by pressing the Test button three times. This will prompt the code \( r r r \) on the 3-digit display indicating the program mode.

■ SELECT  The Service button is pressed to step through each of the run test modes, starting from the \( r 0 1 \) display, R01 being the first step, continuing through to R04, and then looping again from R01 to R04 until the mode is exited.

<table>
<thead>
<tr>
<th>CODE</th>
<th>DISPLAY</th>
<th>RUN TEST FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>R01</td>
<td>( r 0 1 )</td>
<td>Run Yellow Player Water Pump</td>
</tr>
<tr>
<td>R02</td>
<td>( r 0 2 )</td>
<td>Run Blue Player Water Pump</td>
</tr>
<tr>
<td>R03</td>
<td>( r 0 3 )</td>
<td>Run Yellow &amp; Blue Player Water Pumps</td>
</tr>
<tr>
<td>R04</td>
<td>( r 0 4 )</td>
<td>Both Water Pumps inactive</td>
</tr>
</tbody>
</table>

■ EXIT  The Run Test is exited into Programmable Adjustments Mode by pressing the Test Button once.

* NOTE! *
- If any of the games target sensors become active, then the corresponding target’s backlight will activate.
PROGRAMMABLE ADJUSTMENTS MODE

The Fire Fighter has thirteen programmable adjustments that can be changed in this mode. They are P01 to P13 and their codes and values are displayed alternatively during the adjustment procedure.

Example: Code P01 (Number of Coins Mech 1) is displayed as $P01$ and its value of 1 as $1$ on the 3-digit display.

PROGRAMMABLE ADJUSTMENTS MODE DIAGRAM

PROGRAMMABLE ADJUSTMENTS PROCEDURE

- **ENTER**  The Programmable Adjustments Mode can be entered by pressing the Test button once while in the Run Test or by pressing the Test button four times while in Attract mode, $P01$ will be displayed on the 3-digit credit display.

- **SELECT** The green Service button is pressed to step through each of the adjustment configurations, starting from the $P01$ display, P01 being the first step, continuing through to P13, and then looping again from P01 to P13 until the mode is exited.

- **CHANGE** The Yellow Player Start button is pressed to change the displayed value. The value can only be stepped up by using the Start button, but the value will loop back to its minimum value the next step after its max value.

* NOTE! *

- Certain program adjustments have a fast adjustment feature. By holding the Start button down, the values step through quicker.

- **EXIT** The Programmable Adjustments mode is exited into Audits mode, by pressing the Test button once.
### PROGRAMMABLE ADJUSTMENTS QUICK REFERENCE TABLE (V 3.0)

<table>
<thead>
<tr>
<th>CODE</th>
<th>PROGRAMMABLE ADJUSTMENTS</th>
<th>OPTIONAL VALUES</th>
<th>DEFAULT SETTINGS</th>
<th>FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>P01</td>
<td>1 – 10</td>
<td>1, 2, 3…10</td>
<td>1</td>
<td>Coin Slot 1 – Coins / Credit</td>
</tr>
<tr>
<td>P02</td>
<td>1 – 10</td>
<td>1, 2, 3…10</td>
<td>1</td>
<td>Coin Slot 1 – Games / Credit</td>
</tr>
<tr>
<td>P03</td>
<td>1 – 10</td>
<td>1, 2,3 …10</td>
<td>1</td>
<td>Coin Slot 2 – Coins / Credit</td>
</tr>
<tr>
<td>P04</td>
<td>1 – 10</td>
<td>1, 2,3 …10</td>
<td>1</td>
<td>Coin Slot 2 – Games / Credit</td>
</tr>
<tr>
<td>P05</td>
<td>30 – 300</td>
<td>30,40,50…300</td>
<td>80</td>
<td>Maximum Game Time</td>
</tr>
<tr>
<td>P06</td>
<td>0n – Off</td>
<td>0n, Off</td>
<td>On</td>
<td>Attract Sound On/Off</td>
</tr>
<tr>
<td>P07</td>
<td>0– 100</td>
<td>0, 1, 2, 3…100</td>
<td>12</td>
<td>Number of Tickets Single Player Game Winner</td>
</tr>
<tr>
<td>P08</td>
<td>0– 100</td>
<td>0, 1, 2, 3…100</td>
<td>6</td>
<td>Number of Tickets Single Player Game Loser</td>
</tr>
<tr>
<td>P09</td>
<td>0– 100</td>
<td>0, 1, 2, 3…100</td>
<td>18</td>
<td>Number of Tickets Multi Player Game Winner</td>
</tr>
<tr>
<td>P10</td>
<td>0 – 100</td>
<td>0, 1, 2, 3…100</td>
<td>10</td>
<td>Number of Tickets Multi Player Game Loser</td>
</tr>
<tr>
<td>P11</td>
<td>1 –10</td>
<td>1, 1.5,2.5 …10</td>
<td>2.5</td>
<td>Seconds per Building Level</td>
</tr>
<tr>
<td>P12</td>
<td>1 – 20</td>
<td>1, 2, 3, … 20</td>
<td>10</td>
<td>Computer Player Skill Level</td>
</tr>
<tr>
<td>P13</td>
<td>1 – 10</td>
<td>1, 2, 3, … 10</td>
<td>5</td>
<td>Target Hardness Level</td>
</tr>
</tbody>
</table>

**Note:** All default settings are for an average of 11 tickets per game.
PROGRAMMABLE ADJUSTMENTS DETAILED

- **P01=COIN MECH 1: NUMBER OF COINS PER CREDIT**  
  (Default 01) (Adjustable 1 – 10)  
  This variable sets the number of coins that need to be inserted into coin mechanism 1, for each credit. It can be set to either of 1, 2, 3… to 10 coins for one credit.

- **P02=COIN MECH 1: NUMBER of PLAYS PER CREDIT**  
  (Default 01) (Adjustable 1 – 10)  
  This sets the number of games for each credit inserted into coin mechanism 1. It can be set to either of 1, 2, 3… to 10 plays for each credit.

- **P03=COIN MECH 2: NUMBER OF COINS PER CREDIT**  
  (Default 01) (Adjustable 1 – 10)  
  This variable sets the number of coins that need to be inserted into coin mechanism 2 for each credit. It can be set to either of 1, 2, 3… to 10 coins for one credit.

- **P04=COIN MECH 2: NUMBER of PLAYS PER CREDIT**  
  (Default 01) (Adjustable 1 – 10)  
  This sets the number of games for each credit inserted into coin mechanism 2. It can be set to either of 1, 2, 3… to 10 plays for each credit.

- **P05 = MAXIMUM GAME TIME**  
  (Default 80) (Adjustable 30s-300s)  
  This option adjusts the number of seconds before the game will time out and shut itself down. This is intended purely as a safety measure, in case of a blocked pump causing the game to run continuously (as the sensor would not be activated) or a player who starts a game then walks away.

- **P06 = ATTRACT MODE SOUND**  
  (Default ON) (Adjustable ON or OFF)  
  This adjustment turns the attract mode sound ON or OFF. This is the sound and music that the game generates to attract customers when it is not being played. The music will cycle approximately every 3 minutes.

- **P07= NUMBER OF TICKETS SINGLE PLAYER GAME WINNER**  
  (Default 12) (Adjustable from 0 to 100)  
  This setting is the number of tickets the game dispenses when a player who has played a single player game wins the game by putting out all the fires (reaching 99 points) before the computer controlled player does.
- **P08 = NUMBER OF TICKETS SINGLE PLAYER GAME LOSER**  
  (Default 6) (Adjustable from 0 to 100)  
  This setting is the number of tickets the game dispenses when a player who has played a single player game loses the game because the computer controlled player by puts out all the fires (reaching 99 points) before the player does.

- **P09 = NUMBER OF TICKETS MULTI PLAYER GAME WINNER**  
  (Default 18) (Adjustable from 0 to 100)  
  This setting is the number of tickets the game dispenses when a player who has played a multi player game wins the game by putting out all the fires (reaching 99 points) before the other player does.

- **P10 = NUMBER OF TICKETS MULTI PLAYER GAME LOSER**  
  (Default 10) (Adjustable from 0 to 100)  
  This setting is the number of tickets the game dispenses when the player who has played a multi player game loses the game because the other player by puts out all the fires (reaching 99 points) before the player does.

- **P11 = SECONDS PER BUILDING LEVEL**  
  (Default 2.5) (Adjustable from 1 to 10)  
  This setting is the number of seconds the target sensors must be active for the fire in the building to drop by 1 level. There are 7 building levels in each game.

- **P12 = COMPUTER PLAYER SKILL LEVEL**  
  (Default 10) (Adjustable 1 to 20)  
  This adjustment controls the skill level of the computer player in the single player game. In the single player game, the player plays against a virtual opponent, controlled by the micro-controller. Altering this option higher make the computer player a better player, decreasing the chances of a player winning the single player game. Conversely, altering this option lower will make the computer player worse, increasing the changes of a player playing the single player game wining.

- **P13 = TARGET HARDNESS LEVEL**  
  (Default 5) (Adjustable from 1 to 10)  
  This setting controls the Target Hardness Level by changing the active position between each of the three targets in the hydrant. Increasing this setting increases the number of times that active target is changed. Decreasing the setting slows down the change in active targets.
The Audits Mode allows the operator to view statistics in all areas of the Game Play. This enables the operator to make calculated adjustments and “Fine Tune” the machine to maximize earning potential. The Audits mode stores bookkeeping of the games processed since the last game audits reset. While in this mode, the game audits can also be reset to zero.

The Fire Fighter has sixteen Audits that can be viewed in this mode. They are A01 to A16 and their codes and values are displayed alternatively during the Audit Mode.

**Example:** Code A01 will be displayed as A01 and a value of 421 as 421 on the 3-digit display.
Or it will display large values like 21589 as 21589 on the 3-digit display.

**AUDITS MODE DIAGRAM**

---

*NOTE!*  
- For Audit values that are greater than 999 the audits’ values will be displayed in two steps.  
- The first number, which is displayed as 211, has leading dash symbols (−). The number displayed here must by multiplied by 1,000 and added to the second value.
- The second value is displayed as 589, which has no dash symbols.
- In this example the final value is 21,589
AUDIT PROCEDURE

- **ENTER** The Audits mode is entered from Programmable Adjustments mode by pressing the Test button once or from Attract mode by pressing the Test button five times. A A A will be displayed on the 3-digit display.

- **SELECT** The green Service button is pressed for advancing each step through the set of audits configurations, starting from the A A A display, A01 being the first step, continuing through to A16, and then looping again from A01 to A16 until the mode is exited.

- **RESET** The entire set of user audits can be reset during any of the audit configurations, by holding the Yellow Start button for longer than 5 seconds. The displays will be cleared while still holding the button pressed and will return to the same audit step after releasing the button. The value of all audits will be reset to “00 000”.

- **EXIT** The Audits mode is exited into Game History mode, by pressing the Test button once.

---

* NOTE! *

- **ALL Audits will STOP INCREMENTING** when the “Total Number of Games Played”, audit A-01, reaches 60,000.

- To restart the audits they must be reset to 00 000 by holding The Start button for longer than 5 seconds while in audits mode.
AUDITS QUICK REFERENCE TABLE

<table>
<thead>
<tr>
<th>CODE</th>
<th>DISPLAY</th>
<th>AUDIT FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01</td>
<td>A01</td>
<td>Total Number of Games Played</td>
</tr>
<tr>
<td>A02</td>
<td>A02</td>
<td>Total Number of Single Player Games</td>
</tr>
<tr>
<td>A03</td>
<td>A03</td>
<td>Total Number of Multi Player Games</td>
</tr>
<tr>
<td>A04</td>
<td>A04</td>
<td>Total Number of Yellow Player Games</td>
</tr>
<tr>
<td>A05</td>
<td>A05</td>
<td>Total Number of Blue Player Games</td>
</tr>
<tr>
<td>A06</td>
<td>A06</td>
<td>Total No. of times a Single Player on Yellow Won</td>
</tr>
<tr>
<td>A07</td>
<td>A07</td>
<td>Total No. of times a Single Player on Yellow Lost</td>
</tr>
<tr>
<td>A08</td>
<td>A08</td>
<td>Total No. of times a Single Player on Blue Won</td>
</tr>
<tr>
<td>A09</td>
<td>A09</td>
<td>Total No. of times a Single Player on Blue Lost</td>
</tr>
<tr>
<td>A10</td>
<td>A10</td>
<td>Total No. of times Multi Players on Yellow Won</td>
</tr>
<tr>
<td>A11</td>
<td>A11</td>
<td>Total No. of times Multi Players on Yellow Lost</td>
</tr>
<tr>
<td>A12</td>
<td>A12</td>
<td>Total No. of times Multi Players on Blue Won</td>
</tr>
<tr>
<td>A13</td>
<td>A13</td>
<td>Total No. of times Multi Players on Blue Lost</td>
</tr>
<tr>
<td>A14</td>
<td>A14</td>
<td>Total Coins In Mechanism 1</td>
</tr>
<tr>
<td>A15</td>
<td>A15</td>
<td>Total Coins In Mechanism 2</td>
</tr>
<tr>
<td>A16</td>
<td>A16</td>
<td>Total Number of Service Credits</td>
</tr>
</tbody>
</table>
AUDITS DETAILED

- **A01 = TOTAL NUMBER OF GAMES PLAYED**
  
  This Audit displays the total number of games played on this machine since the audits were last cleared (including service games).

- **A02 = TOTAL NUMBER OF SINGLE PLAYER GAMES**
  
  This Audit displays the Total Number of Single Player Games started since the audits were last cleared. Single Player mode is selected by pressing Only the Yellow or Blue Start buttons on the control panel at the start of a game.

- **A03 = TOTAL NUMBER OF MULTI PLAYER GAMES**
  
  This Audit displays the Total Number of Multi Player Games started since the audits were last cleared. Multi Player mode is selected by pressing Both the Yellow and Blue Start buttons on the control panel at the start of a game.

- **A04 = TOTAL NUMBER OF YELLOW PLAYER GAMES**
  
  This Audit displays the total number of yellow player games Started since the audits were last cleared. This Audit counts every game started using the yellow start button both for single or multi player games.

- **A05 = TOTAL NUMBER OF BLUE PLAYER GAMES**
  
  This Audit displays the total number of blue player games Started since the audits were last cleared. This Audit counts every game started using the blue start button both for single or multi player games.

- **A06 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON YELLOW WON**
  
  This Audit displays the total number times a player on yellow has won in the single player mode since the audits were last cleared. Single Player mode is selected by pressing Only the Yellow or Blue Start buttons on the control panel at the start of a game.

- **A07 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON YELLOW LOST**
  
  This Audit displays the total number times a player on yellow has lost in the single player mode since the audits were last cleared. Single Player mode is selected by pressing Only the Yellow or Blue Start buttons on the control panel at the start of a game.

- **A08 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON BLUE WON**
  
  This Audit displays the total number times a player on blue has won in the single player mode since the audits were last cleared. Single Player mode is selected by pressing Only the Yellow or Blue Start buttons on the control panel at the start of a game.
A09 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON BLUE LOST

This Audit displays the total number of times a player on blue has lost in the single player mode since the audits were last cleared. Single Player mode is selected by pressing Only the Yellow or Blue Start buttons on the control panel at the start of a game.

A10 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON YELLOW WON

This Audit displays the total number of times a player on yellow has won in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing Both the Yellow and Blue Start buttons on the control panel at the start of a game.

A11 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON YELLOW LOST

This Audit displays the total number of times a player on yellow has lost in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing Both the Yellow and Blue Start buttons on the control panel at the start of a game.

A12 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON BLUE WON

This Audit displays the total number of times a player on blue has won in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing Both the Yellow and Blue Start buttons on the control panel at the start of a game.

A13 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON BLUE LOST

This Audit displays the total number of times a player on blue has lost in the single player mode since the audits were last cleared. Multi Player mode is selected by pressing Both the Yellow and Blue Start buttons on the control panel at the start of a game.

A14 = TOTAL NUMBER COINS IN MECHANISM 1

This Audit displays the total number of coins inserted into coin mechanism 1 since the audits were last cleared.

A15 = TOTAL NUMBER COINS IN MECHANISM 2

This Audit displays the total number of coins inserted into coin mechanism 2 since the audits were last cleared.
A16 = TOTAL NUMBER SERVICE CREDITS.

This Audit displays the total number of service credits that were given since the audits were last cleared.

* NOTE! *

- LAI Games Customer Support may request from the operator the values of these Manufacturers audits, to help with any service issues.
GAME HISTORY MODE

By using the Game History Mode the operator can view the results of the last 5 games played. This enables the operator to verify tickets paid for a win / lose.

**Example:** The history results for the last Game Played. H01 shows the number of tickets the Yellow Player received in the last game.

GAME HISTORY MODE DIAGRAM

GAME HISTORY QUICK REFERENCE TABLE

<table>
<thead>
<tr>
<th>CODE</th>
<th>DISPLAY</th>
<th>HISTORY RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>H01</td>
<td>H01</td>
<td>Tickets Paid to Yellow Player Last Game Played</td>
</tr>
<tr>
<td>H02</td>
<td>H02</td>
<td>Tickets Paid to Blue Player Last Game Played</td>
</tr>
<tr>
<td>H03</td>
<td>H03</td>
<td>Tickets Paid to Yellow Player 2nd Last Game Played</td>
</tr>
<tr>
<td>H04</td>
<td>H04</td>
<td>Tickets Paid to Blue Player 2nd Last Game Played</td>
</tr>
<tr>
<td>H05</td>
<td>H05</td>
<td>Tickets Paid to Yellow Player 3rd Last Game Played</td>
</tr>
<tr>
<td>H06</td>
<td>H06</td>
<td>Tickets Paid to Blue Player 3rd Last Game Played</td>
</tr>
<tr>
<td>H07</td>
<td>H07</td>
<td>Tickets Paid to Yellow Player 4th Last Game Played</td>
</tr>
<tr>
<td>H08</td>
<td>H08</td>
<td>Tickets Paid to Blue Player 4th Last Game Played</td>
</tr>
<tr>
<td>H09</td>
<td>H09</td>
<td>Tickets Paid to Yellow Player 5th Last Game Played</td>
</tr>
<tr>
<td>H10</td>
<td>H10</td>
<td>Tickets Paid to Blue Player 5th Last Game Played</td>
</tr>
</tbody>
</table>

* NOTE! *
- Score Histories will be erased if the game is switched off then on.
  Empty score histories show as - - - on the 3-digit display
GAME HISTORY PROCEDURE

**ENTER** The Game History mode is entered from Audits mode by pressing the Test button once or from Attract mode by pressing the Test button six times. $\text{H H H}$ will be displayed on the 3-digit display.

**SELECT** The green Service button is pressed for advancing each step through the set of Game Histories, starting from the $\text{H H H}$ display, H01 being the first step, continuing through to H10, and then looping again from H01 to H10 until the mode is exited.

**EXIT** The Game History mode is exited into Game Attract mode, by pressing the Test button once.
If the Game microprocessor detects any problems with the operation of the game, an Error will be displayed on the 3-digit display and the machine will play a voice message. “Please Call the Attendant”. Some error Messages will only be displayed when test mode is entered. Errors are displayed on the Timer display as ErrX and the error number in ether the Yellow or Blue player score display as X. where „X“ is the error number, listed as follows:

<table>
<thead>
<tr>
<th>CODE</th>
<th>ERROR DESCRIPTION</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Err1</td>
<td>TICKET DISPENSE ERROR</td>
<td>Check if the ticket dispenser is jam or empty of tickets. After clearing</td>
</tr>
<tr>
<td></td>
<td>Jammed tickets, no tickets</td>
<td>dispenser jam or replenish tickets, push Test button once to clear error.</td>
</tr>
<tr>
<td></td>
<td>or no ticket notch pulse for longer than 3 seconds.</td>
<td></td>
</tr>
<tr>
<td>Err3</td>
<td>EEPROM ERROR</td>
<td>The main MCU is getting errors reading the EEPROM (24C16 IC on MCU).</td>
</tr>
<tr>
<td></td>
<td>Problem with on-board EEPROM</td>
<td></td>
</tr>
<tr>
<td>Err4</td>
<td>TARGET SENSOR JAMMED</td>
<td>Check Target movement is free &amp; test sensor using switch test.</td>
</tr>
<tr>
<td>Err5</td>
<td>COIN SWITCH ERROR</td>
<td>Check switch movement &amp; test coin switches using switch test.</td>
</tr>
</tbody>
</table>

* NOTE! *
- Error numbers displayed in the Yellow Player Score display indicate the error has occurred on the Yellow Player side
- Error numbers displayed in the Blue Player Score indicate the error has occurred on the Blue Player side
- The exception is Err3, this is displayed on the Yellow Player Score display only.
- **Err1 – TICKET ERROR**
  This error usually occurs if the game has run out of tickets or there is a ticket jam. A less common reason is if the game PCB tries to dispense tickets but doesn’t get a notch pulse for approximately three seconds. You can test the notch pulse by passing a ticket in and out of the notch sensor. *(See Switch Test, page 11).*

  If the game was out of tickets or jammed, replace the tickets, clear the ticket jam and then push the test button once to clear the error. The game will then payout any owed tickets.

- **Err3 – EEPROM ERROR**
  This Error is only displayed in test mode and means that the CPU cannot read the EEPROM, or is receiving errors during communication with the EEPROM (The 24C16 IC on the main MCU PCB). This could cause problems with the game audits and program settings. The first thing to do is trying to switch ON and OFF the machine in at least 2 cycles, if message still appear than replace the EEPROM IC Atmel 24C16 on the CPU PCB with the new EEPROM. If still Error massage, this could be a problems with the game audits and program. If this error occurs, send your main MCU PCB to the nearest authorized LAI games dealer for repair.

- **Err4 – TARGET SENSOR JAM**
  This error occurs if one or more of the target sensors are continuously active. The target sensors are located behind the Fire hydrant on the playfield, and are accessed through the lower back door. The magnets that activate these sensors are located on the actual targets in the playfield.

  This error can be caused by the target(s) being jammed and not swinging freely. Clean the targets are make sure they are swinging properly and test the sensors in the switch test mode *(See page 11)* and the run test mode *(See page 13).*

  This error can also be caused by the target sensor(s) being installed too close to the magnet(s) on the target. Make sure that the sensors are far enough from the target magnets that the sensor(s) are not active when the target is in its rest position *(Use Switch Test, page 11).*

- **Err5 – COIN SWITCH ACTIVE ERROR**
  This Error is displayed when a coin input has been active continually for 5 seconds or longer. The problem is likely due to a stuck coin switch or someone trying to „string” a coin.

  This error can also be caused by connecting the Coin Input wire to the Normal Closed (NC) connection on the coin switch.

  Enter switch test mode *(See page 11)* to check with coin switch is active and check the micro-switch on the appropriate coin mechanisms.
FUSE INFORMATION

* WARNING! *
* Always turn OFF Mains power and unplugged the game, before replacing any fuses.*

- **MAIN AC SUPPLY FUSE (1 x 6 AMP FAST BLOW, M205 TYPE)**
  This fuse is for the main AC supply and is situated in the IEC mains input socket.

- **MCU POWER FUSE (1 x 1.5 AMP FAST BLOW, M205 TYPE)**
  This fuse is for the power supply to the MCU PCB.

- **MCU CONTROL FUSES (2 x 5 AMP FAST BLOW, M205 TYPE)**
  These fuses are for the DC transistor drivers on the MCU PCB.

- **AC DRIVER FUSES (10 AMP FAST BLOW, M205 TYPE)**
  This fuse is for the 24VAC Lamps from the 8-Channel AC Driver PCB.

- **24VAC TRANSFORMER (4 x 10 AMP FAST BLOW, 3AG TYPE)**
  This fuse is for the 24VAC Lamps from the 32-Channel AC Driver PCB.

* NOTE! *
- The power cord must be removed before the fuse can be accessed.

* CAUTION! *
* Do Not use any fuse that does not meet the specified rating.*

FUSE LOCATION DIAGRAM

As viewed from rear

- **Main AC Supply Fuse**
  6A QB M205

- **MCU Power Fuse**
  1.5A QB M205

- **MCU Control Fuses**
  5A QB M205

- **8 Channel AC Controller Fuse**
  10A QB M205

- **24VAC Transformer Fuses**
  10A QB 3AG
SECTION A: SERVICE INSTRUCTIONS

BE SURE TO READ THE FOLLOWING
Carefully before servicing this machine
LOCATING AND ACCESSING PARTS

PARTS LOCATION DIAGRAM

As viewed from front

- Acrylic Header (Mylar)
- Three Digit Time Display
- Yellow Player Level Display
- Blue Player Level Display
- Yellow Player Hose Lamps
- Blue Player Hose Lamps
- Yellow Player Score Display
- Blue Player Score Display
- Yellow Player Hydrant Targets
- Blue Player Hydrant Targets
- Yellow Player Water Cannon
- Blue Player Water Cannon
- Yellow Player Start Button
- Blue Player Start Button
- Service Bracket
- Cash Box & Housing
- Yellow Player Ticket Holder
- Blue Player Ticket Holder
- Front Drop Door Panel
- Coin Mechanisms
- Yellow Player Ticket Mechanism
- Blue Player Ticket Mechanism
- Speaker Left
- Speaker Right
LOCATING AND ACCESSING PARTS

PARTS LOCATION DIAGRAM B

As viewed from rear

- Fluorescent Lamps
- Fluorescent Starters
- Game MPU PCB
- Game Sound PCB
- Sound AMP PCB
- DC SSR Relay PCB
- 2-Digit Display PCBs
- 12VDC Power Supply
- Target GI Fluoro. Lamp
- Power Inlet (On back panel)
- Blue Target Reed Switches
- Blue Target Lamps
- Player2 12VDC Water Pumps
- Player1 12VDC Water Pumps
- Fluorescent Ballasts
- 3-Digit Display PCB
- 8 Channel AC Driver PCB
- 24VAC Level Lamps
- 12V DC Hose Lamps
- 32 Channel AC Controller PCB
- 2-Digit Display PCBs
- 2x 12VAC Transformers
- Target GI Fluoro. Lamp
- Cooling Fans (On back panel)
- Yellow Target Reed Switches
- Yellow Target Lamps
- Water Filter Assembly

To Purchase This Item, Visit BMI Gaming | www.bmigaming.com | (800) 746-2255 | +1.561.391.7200
PARTS DESCRIPTION

- **COIN MECHANISMS**
  The coin mechanisms can be accessed inside the front center door in the center of the machine cabinet.

- **CASH BOX**
  The cash box is located inside the coin door on the front of the machine cabinet.

- **TICKET MECHANISMS**
  Two ticket mechanisms can be accessed inside the front doors in the center of the machine cabinet, one for each player.

- **TICKET HOLDERS**
  Two ticket holders are located each side of the cash box and can be accessed inside the front door in the center of the machine cabinet.

- **SPEAKERS**
  Two speakers are located on the front side of the cabinet. Access is from the front of the machine.

- **GAME CONTROLS:**
  Located at the front of the machine cabinet.
  
  **YELLOW START BUTTON:** The Yellow Player Start button is the large yellow round illuminated button located left-hand side of the control panel. This button is used to start a single player game and for test and program adjustments.
  
  **BLUE START BUTTON:** The Blue Player Start button is the large blue round illuminated button located right-hand side of the control panel. This button is used to start a single or multi player game.

- **SERVICE CONTROLS:**
  Located on the service panel mounted on top of the cash box and accessed through the Coin Door.
  
  **SERVICE BUTTON:** Used to input credits to the game without activating the coin counter, and to perform test procedures in combination with the test button.
  
  **TEST BUTTON:** Used to perform the test mode, in combination with the Service button.
  
  **VOLUME KNOB:** Used to adjust the speaker’s sound level.
■ **POWER CORD**
The power cord is a standard IEC power cord (as used on computers) that is plugged in to the power inlet socket at the rear of the machine. The power cord can be removed for transport.

■ **POWER INLET**
The power inlet is located at the rear of the machine on the Left-hand side as viewed from the rear. It is a standard IEC inlet socket.

■ **MAINS SWITCH**
The mains switch is located on the power inlet assembly along with the mains fuse, and IEC inlet socket.

■ **FUSES**
For locations of all fuses refer to Fuses and Fuse location of this manual.

<table>
<thead>
<tr>
<th>* WARNING! *</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Always</strong> turn OFF Mains power and unplugged the game, before replacing any fuses</td>
</tr>
<tr>
<td><strong>Always</strong> use the correct rated fuse. Refer to fuse information.</td>
</tr>
</tbody>
</table>

■ **PCB’s**
For location of all game PCB’s, refer to the Parts Location diagram page 30 of this manual.

■ **POWER SUPPLY**
The power supply is located on the base of the upper cabinet and is accessed from the rear of the machine. It is a 12V 13A switching power supply.

■ **TRANSFORMERS**
There are two transformers located on the base of the upper cabinet and is accessed from the rear of the machine. They supply the 24VAC for the Level and Target Lamps.

■ **COOLING FANS**
There is are two medium size cooling fans located on the bottom left and right rear of the upper cabinet. Access is through the upper rear door at the back of the machine.

■ **TARGET REED SWITCH**
The target reed switches are located in the rear of the lower cabinet. They are activated by magnets mounted on the rear of the swinging targets. Access is through the rear lower door.

■ **WATER FILTER**
The water filter is located to the left in the rear of the lower cabinet. Access is through the rear lower door. The lower part of the filter is detachable for removal and replacement of the filter cartridge.

■ **PUMPS**
Two 12VDC are located to the right in the rear of the lower cabinet, one for each player water cannon. Access is through the rear lower door.
LAMPS

* WARNING! *

**Always** turn OFF Mains power and unplugged the game, before replacing any lamps.

**Always** allow time for cooling as Lamps that have been active for a time may still be too hot to touch.

**HEADER LAMPS**

There is two standard FL 15 fluorescent tubes for the Header Display. Access is by the removing of the machine header cover and accessing the tubes from the front.

**TARGET ILLUMINATION LAMPS:**

There is two electronic “Energy Saver” 9 watt fluorescent lamps for illuminating the target area and are accessed from the rear upper door.

* CAUTION! *

The Target Illumination lamps must be electronic compact fluorescent type. The use of Incandescent type lamps will cause heat damage to the machine.

**LEVEL DISPLAY LAMPS**

There are 84 x 24V 5/8W GE301/303 lamps mounted at back of display. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear upper door.

**HOSE DISPLAY LAMPS**

There are 12 x 24V 5/8W GE301/303 lamps mounted at back of display. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear upper door.

**TARGET LAMPS:**

There are 6 x 24V 5/8W GE301/303 lamps mounted at back of each hydrant target. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear lower door of the machine.

**COIN DOOR LAMPS**

The coin door lamps all are 12V/DC GE194 or equivalent and can be accessed through the coin door.

**BUTTON LAMPS**

The button lamps all are 12V/DC GE194 or equivalent and can be accessed through the coin door or back door.

* CAUTION! *

Always replace the lamps with the same or equivalent size, wattage and voltage.
MAINTENANCE

CLEANING AND CHECK UP

- **EXTERIOR**
  Regularly dust and clean the external cabinet areas as required, using a soft water-damp cloth and mild soap. Check for blown bulbs and replace as required.

  Any scratches or marks in the fiberglass or acrylic can be buffed out using car polish or cut and polish.

  * CAUTION! *
  *Do not* use solvents on the panels as it may affect the artwork.

- **INTERIOR**
  Regularly dust and vacuum the interior of the cabinet, taking care to remove any objects that may have fallen on the PCBs. Check and tighten all fixing hardware and fasteners as required.

  * WARNING! *
  *Always* turn OFF Mains power and unplugged the game, before cleaning the interior of the machine.

  *Always* after cleaning the cabinet interior, check all harness connectors and restore all loose or interrupted connections.

  Regularly check that all the Display and Button Lamps are operating through the Sounds, Lamps and Display Test (See page 11). Replace any globes that are not operational.

  Regularly check that the two cooling fans are clear of dirt buildup and are operational. Clean air-flow of any dirt or obstruction and oil or replace any fan that is not operational.

  * CAUTION! *
  *Always* replace any non operational fans. This will prevent overheating of the upper cabinet and prolong the life of the electronic components and lamps.

- **WATER SYSTEM**
  Regularly enter Run Test Mode and run both pumps together to check the Water Cannon pressure is sufficient for activating the Targets, adjust as needed.

  Regularly empty the water from the machine and replace with fresh water. Refer to page 6 for emptying and filling of the machine.

  Regularly check the filter cartridge is not clogged and change if necessary. The symptoms of clogged filter are insufficient pump pressure to operate two players at the same time.
It is advised that anybody using SECTION B for repairing or modifying any of the components of the game should be a qualified technician, having at least a basic knowledge of digital components, integrated circuits and electricity.
MAINS VOLTAGE ADJUSTMENT

- **POWER SUPPLY**
The Switch Mode Power Supply has a switch to set the mains voltage range. It is located at the rear of the game cabinet, and is accessed via the back door. Use a thin blade screwdriver to move the selector switch to the desired mains voltage (See Diagram Below)

- **TRANSFORMER CONNECTORS**
Locate the machine transformer(s) in the base of the cabinet. If unsure of the location of the transformer(s), refer to Parts location diagram on page 30 of this manual. Change the position of the „ACTIVE“ or „HOT WIRE“ input, (marked brown on the diagram), to the position for the desired mains voltage. (See Diagram Below)

### 6 WAY CONNECTOR PINOUT

<table>
<thead>
<tr>
<th>PIN</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>240VAC</td>
</tr>
<tr>
<td>2</td>
<td>220VAC</td>
</tr>
<tr>
<td>3</td>
<td>120VAC</td>
</tr>
<tr>
<td>4</td>
<td>110VAC</td>
</tr>
<tr>
<td>5</td>
<td>0VAV (NEUTRAL)</td>
</tr>
<tr>
<td>6</td>
<td>EARTH</td>
</tr>
</tbody>
</table>

To Purchase This Item, Visit BMI Gaming | www.bmigaming.com | (800) 746-2255 | +1.561.391.7200
**FLORESCENT TUBE BALLASTS AND STARTERS**
Locate the florescent tube ballasts and starters in the back of the cabinet. If unsure of the location of any ballasts or starters, refer to *Parts location diagram on page 30*. These have to be removed and replaced with an equivalent wattage at your local mains voltage level.

**TARGET ILLUMINATION LAMPS**
Locate the two “Energy Saver” 9 watt fluorescent Target Illumination lamps, which are accessed from the rear of the machine, *(see page 30)*. These have to be removed and replaced with an equivalent wattage at your local mains voltage level.

**COOLING FANS**
Locate the two cooling fans, which are accessed from the rear of the machine, *(see page 30)*. These can be removed and replaced with an equivalent size at your local mains voltage level. Alternately, use the wiring as shown in the Power Wiring Diagram *(See Page 51)* to “auto tap” the 220VAC required for the cooling fans.
“Quick Release” Ticket Dispenser Manual

The “Quick Release” Ticket Dispenser
- Quick release face plate
- Bottom metal ticket guide
- Foolproof braking system
- Optical sensor dust cover

The Industry Standard
Model DL-1275

Another quality product from Deltronic Labs... the industry leader in ticket dispensers.

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U.S. Patent 5233104
Additional Patents Pending

Manufactured with pride by Deltronic Labs in the USA
“Quick Release” Ticket Dispenser
Features
All Models

1. Removable top metal ticket guide
2. Bottom metal ticket guide
3. Ticket advance switch
4. Braking system
5. Brake bracket
6. Optical sensor w/dust cover
7. "Quick Release" Face Plate
8. Roller tension spring
9. Locating spring
10. Validation rollers emboss tickets

Deltronic Labs, Inc.
120 Liberty Lane, Chalfont, PA 18914 • 215-997-8616 • FAX 215-997-9606 • www.deltroniclabs.com
Control Board

DL-1275 with 12V meter output

The dispenser is controlled by the game software. The game
switches the dispenser to a logic high signal and monitors a
return notch signal from the ticket dispenser to turn it off.
It will dispense as many tickets as zones allowed.

NOTES

1. Resistors R1, R2, and R3 are changed for the revision.
   The switch is not active through the switch and does not affect the IC.
   This resolves problems that occurred with units that used unregulated power supplies.
   Delltronics Lab still recommends the previous capacitors be used.
   Changes are needed as mentioned in the previous section (Rev. 7).

2. Resistors R4, R5, and R6 were deleted from this schematic.
   The Rev. 7 schematic shows these resistors, but they were never actually inserted on the board.
   Changes closely reflecting these changes were made in the previous section (Rev. 7).

3. The unit can be made to conform to CE specifications by the addition of the components not
   shown here. If this is desired, please order the CE version, and the unit will be shipped with
   these necessary components.

4. This unit may be configured by the addition of components to the schematic.
   The CE version is included with the unit, and the unit will be shipped with
   these necessary components.

5. If the unit is being modified, the 1.3k resistor R3 can be lowered in value (e.g., 330 kΩ).
   For more sensitive adjustment, the jumper V1 can be replaced with a 200 pA, and the 13k resistor
   R3 can be changed to 15kΩ.
Control Board
Models DL-4-S-S  DL-4-P-S

Note: With logic input components and dotted lines are omitted and Z1 is jumpered to Z2.

Model #DL-4-S-S, SW Input
Model #DL-4-P-S, Logic Input.

Note: Enable pulse may be positive or negative by having jumper on TM-4 in proper place.

Note: On PCB TM-4, Rev. 1 & 2, Q1 and Q2 transistors are D40K1 or equivalent.

Model #DL-4-S-S
Model #DL-4-P-S

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3 D EXPLODE PARTS
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(b) To and from Transport and freight costs are not covered by the warranty.
(c) Warranty is not transferable with the sale of a machine from one owner to another.