



OPERATOR'S MANUAL

Preliminary



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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! ***

Is an advisory text to hint or help understand more !.



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 installs the Game Cabinet outdoors or in areas of high humidity, direct water contact, dust, high heat or extreme cold.

Do Not installs the Game Cabinet in areas that would present an obstacle in case of an emergency, i.e. 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 uses 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.



MACHINE INSTALLATION and INSPECTION

When installing and inspecting “Princess Castle”, 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.
- Check that the rubber glide feet levelers are set correctly on the floor so that the game cabinet is level and 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)



INTRODUCTION

CONGRATULATIONS! On your purchase of “**Princess Castle**”, it is another great product from LAI GAMES. another exciting ball throwing game from LAI Games. “**Princess Castle**” features a remarkable game cabinet design with colorful graphics and seven stunning targets on the playfield. This game offers a simple but exciting game play with the chance to collect double points each time you play. Undoubtedly, “**Princess Castle**” will make an exciting ticket redemption game to 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 “**Princess Castle**” is a one player, ticket redemption game, where players attempt to throw as many balls as they can into the target to collect points. The more points they collect, the more tickets they won.

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 “Princess Castle” cabinet
- Keys: 2 x coin door keys
 2 x back door keys
 2 x ticket door key
 300x Balls
- Operator’s manual
- IEC Power Cord (In cash box)
- Parts & Accessories (In cash box)



SPECIFICATIONS

DIMENSIONS

- Weight: 220 kg (485 lb)
- Height: 2350 mm (93")
- Width: 864 mm (34")
- Length: 1855 mm (73")
- Power: 200 Maximum W – (220V @1 A)(120V @2 A)

ELECTRIC SUPPLY

The game has the option to operate on an 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



HOW TO PLAY

THE Player's aim is to COLLECT POINTS BY THROWING THE BALLS INTO THE CASTLE

- Pay to Play.
- Press the Start button to start the game. The ball gate will open and balls will be released to the player.
- Throw as many balls as you can into the Archway, Garden, Windows or Walls in the amount of time given to collect points. Try to get the balls into the flashing target to get double points. For each ball that went into a target, players will get 5 points. For each ball that went into a flashing target, players will get 10 points.

*** NOTE! ***

The maximum number of points a player can collect per play is 999. When that value is reached in a play, the score will stop incrementing.

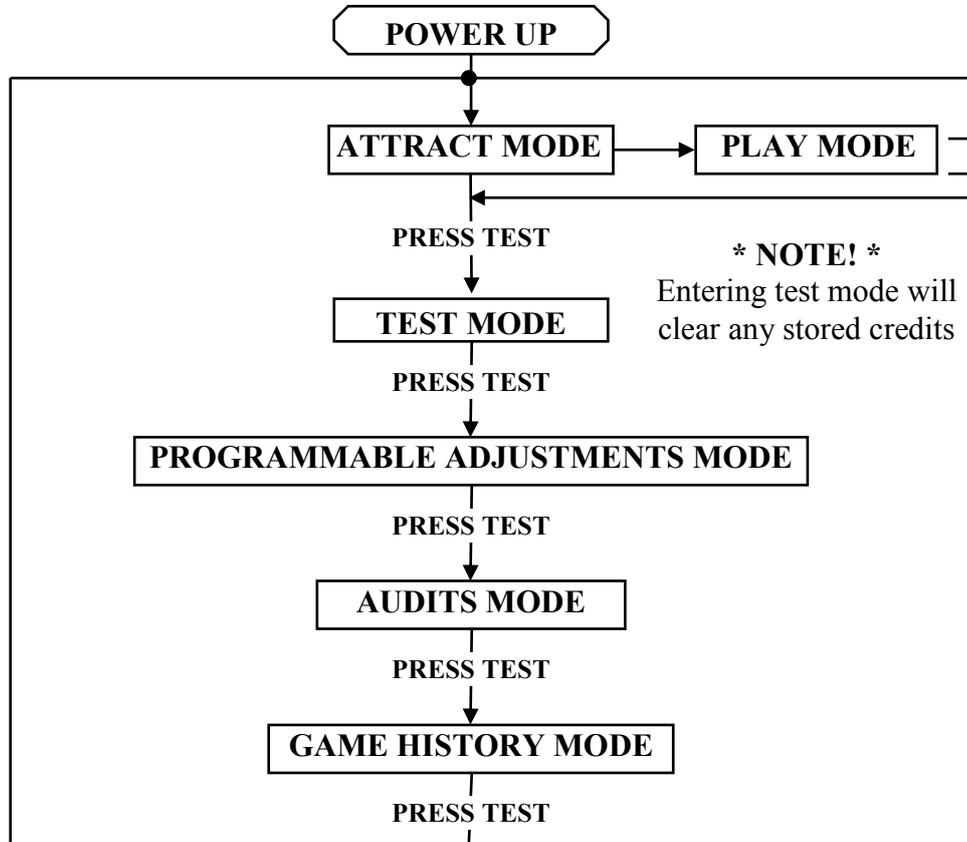
- When the time is up, the ball gate will close and tickets will be paid according to the points collected. The exact number of points per ticket is dependent on program settings.



OPERATION

The “Princess Castle” has 6 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 Princess Castle 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, **F|T|E** will be displayed on the 3-digit LED display.
- For a single free game, just press the Service button once. When issuing single free games in this manner, tickets will be dispensed as normal.



TEST MODE

The **Princess Castle** Test mode has three test configurations allowing you to test the function of the Sound, LED & Credit Displays, the Game Switches, all game lamps, and the ball gate. (Refer to the Test Mode Diagram on next page).

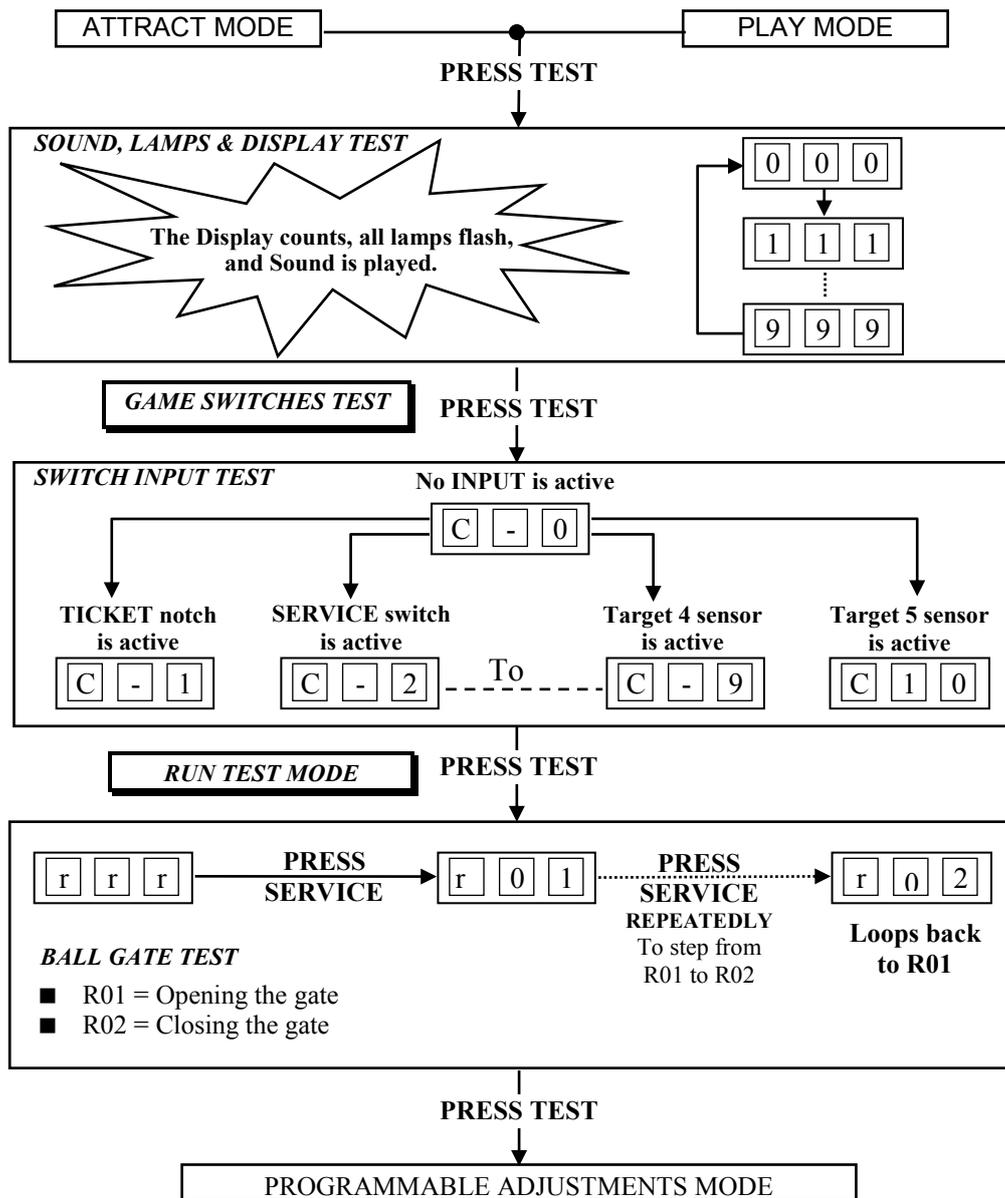
The Test mode is also used for Clearing Game Errors. If there is an active error, its code will be displayed. To try to clear the error code, press the red Test button once. The error can be bypass by quickly pressing the red Test button twice.

*** 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





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 will be played.
 - The Time Indicator lamps will light on and off in sequence.
 - The Credit display will count from 000 to 999 and then repeat.
 - The target lamps will light on and off in sequence.
 - The Start button lamps will flash on and off.
- **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, **C-XX** 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 C11 as tabled below. By activating any of the switches, their code will be displayed on the 3-digit display. If there are no switches are active then **C-0** will be displayed.

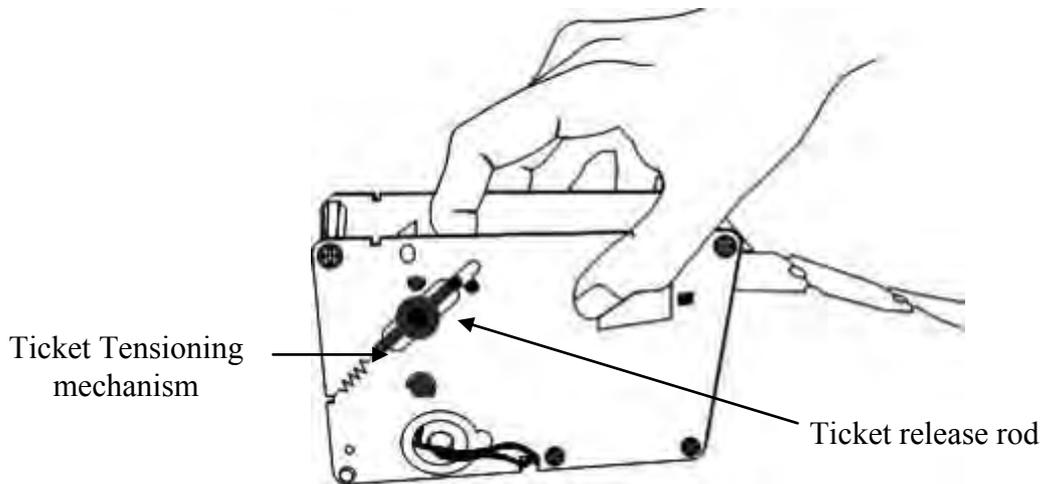
CODE	DISPLAY	SWITCH FUNCTION	SWITCH LOCATION
C0	C-0	No Switch Active	-
C1	C-1	Ticket Notch is Active	Ticket Door
C2	C-2	Service Switch is Active	Service Bracket
C3	C-3	Start button is Active	Player Control panel
C4	C-4	Coin 1 Switch is Active	Coin Door
C5	C-5	Ball Gate Switch is Active	Ball Gate
C6	C-6	Target 1 sensor is Active	Garden 1
C7	C-7	Target 2 sensor is Active	Garden 2
C8	C-8	Target 3 sensor is Active	Wall
C9	C-9	Target 4 sensor is Active	Archway
C10	C10	Target 5 sensor is Active	Window 1
C11	C11	Target 6 Sensor is Active	Window 2

Normal condition for the game no switches are active.



■ TICKET DISPENSER NOTCH

The Ticket Notch Switch (C1) 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



*** NOTE! ***

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

- **EXIT** The Switch Test is exited into Run Test Mode by pressing the Test Button once.

*** 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.



RUN TEST

- **ENTER** The Run Test can be entered by pressing the Test button once while in the Switch Test or by pressing the Test button three times while in Attract mode, **r r r** will be displayed on the 3-digit display.
- **SELECT** The Service button is pressed once to start the run test mode. The credit display will show **r 0 1**, opening ball gate. The Service button is then pressed again to close the gate, showing **r 0 2** on the 3-digit display.
- **EXIT** The Run Test is exited into Programmable Adjustments Mode by pressing the Test button once.

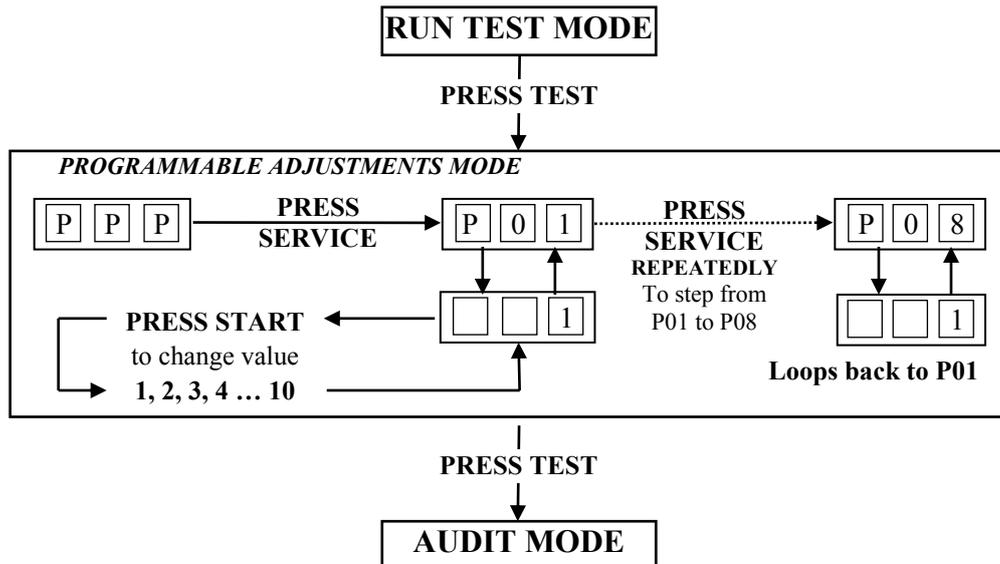


PROGRAMMABLE ADJUSTMENTS MODE

The **Princess Castle** has nine programmable adjustments that can be changed in this mode. They are P01 to P09 and their codes and values are displayed alternatively during the adjustment procedure.

Example: Code **P01** (*Number of Coins Mech 1*) is displayed as **P|0|1** 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, **P|P|P** 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 **P|P|P** display, P01 being the first step, continuing through to P09, and then looping again from P01 to P09 until the mode is exited.
- **CHANGE** The 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 1.0)

CODE	PROGRAMMABLE ADJUSTMENTS	OPTIONAL VALUES	DEFAULT SETTINGS	FEATURES
P01	1 – 10	1, 2, 3...10	1	Coin Slot 1 – Coins / Credit
P02	1 – 10	1, 2, 3...10	1	Coin Slot 1 – Games / Credit
P03	ON or OFF	ON or OFF	ON	Attract Mode Sound
P04	20s – 90s	20, 21, 22, ...90	45	Game Duration
P05	5 – 100	5, 6,7 ...100	5	Number of Points / Ticket
P06	0 – 10	0, 1, 2 ...10	4	Minimum Tickets payout
P07	OFF, P06 – 100	OFF, P06, ...100	10	Maximum Tickets payout
P08	OFF – ON	OFF,ON	ON	Ticket Option
P09	0 – 20s	0,1,2,3...20 s	0	Ball gate time out

PROGRAMMABLE ADJUSTMENTS DETAILED

■ **P01 = COIN MECH 1: NUMBER OF COINS PER CREDIT**

(Default 01) (Adjustable 1 – 10)

This 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 = 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.

■ **P04 = GAME DURATION**

(Default 45s) (Adjustable 20s – 90s)

This variable sets the number of seconds the game can be played per play. It is adjustable from 20s to 90s per play.

■ **P05 = NUMBER OF POINTS PER TICKET**

(Default 5) (Adjustable 5 – 100)

This setting sets the number of points a player must collect to win ONE ticket. The adjustment values are from 5 to 100.



■ **P06 = MINIMUM TICKETS PAYOUT**

(Default 5) (Adjustable 0 – 10)

This variable sets the minimum number of tickets the machine dispenses per play, regardless to how many points a player has collected. It is adjustable from 0 to 10.

■ **P07 = MAXIMUM TICKETS PAYOUT**

(Default 10) (Adjustable OFF, P06 – 100)

This adjusts the maximum number of tickets paid out per play, regardless to how many points a player has collected. The minimum value of this setting is the value of program setting P06. When sets to OFF, the machine will have no maximum value for dispensing tickets and will dispense tickets according to the points a player has collected and program setting P05.

*** NOTE! ***

- The maximum number of points a player can collect per play is 999. When that value is reached in a play, the score will stop incrementing.
- If P 6 is set to 0, then the minimum value of P 7 is 1.

■ **P08 = TICKET OPTION**

(Default ON) (Adjustable OFF – ON)

This adjusts how the ticket is dispense the default set to ON this mean machine will able to dispense ticket, when set to OFF machine will not be able to dispense any ticket at all.

■ **P09 = BALL GATE TIME OUT**

(Default 0) (Adjustable 0 – 20 s)

This adjust how the ball gate time out closest before the end of a game the default set to 0 this mean machine will close the gate at the end of a game, the value of 1s is the shortest gate closest and the longest is 20 s before the game ends.



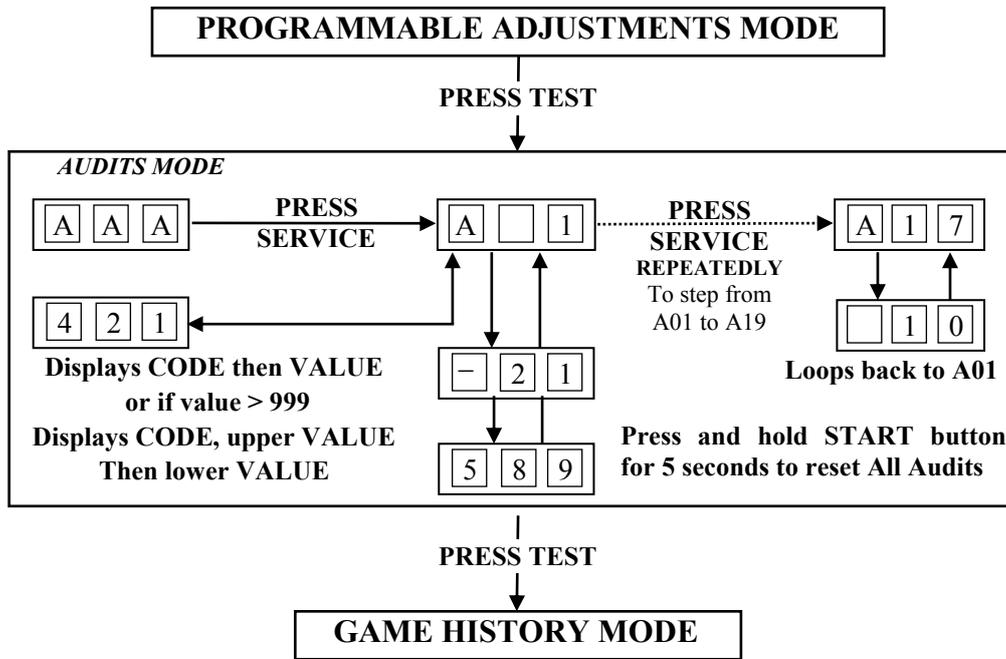
AUDITS MODE

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 **Princess Castle** has Seventeen Audits that can be viewed in this mode. They are A01 to A17 and their codes and values are displayed alternatively during the Audit Mode.

Example: Code **A01** will be displayed as **A□□1** and a value of **421** as **4□□1** on the 3-digit display.
Or it will display large values like **21589** as **□□□21** and **5□□89** on the 3-digit display.

AUDITS MODE DIAGRAM



- * NOTE! ***
- For Audit values that are greater than 4 digits the audits' values will be displayed in two steps.
 - The first number, which is displayed as **□□□21**, has leading dash symbols
 - The second value is displayed as **1589**, 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 A17, and then looping again from A01 to A17 until the mode is exited.
- **RESET** The entire set of user audits can be reset during any of the audit configurations, by holding the 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 A01, 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

CODE	DISPLAY	AUDIT FUNCTION
A01	A - 1	Total Number of Games Played
A02	A - 2	Total Coins in Coin Mechanism 1
A03	A - 3	Total Number of Service Credits
A04	A - 4	Total Number of Balls Exit Through Target 1 (Flashing)
A05	A - 5	Total Number of Balls Exit Through Target 1 (Not Flashing)
A06	A - 6	Total Number of Balls Exit Through Target 2 (Flashing)
A07	A - 7	Total Number of Balls Exit Through Target 2 (Not Flashing)
A08	A - 8	Total Number of Balls Exit Through Target 3 (Flashing)
A09	A - 9	Total Number of Balls Exit Through Target 3 (Not Flashing)
A10	A 1 0	Total Number of Balls Exit Through Target 4 (Flashing)
A11	A 1 1	Total Number of Balls Exit Through Target 4 (Not Flashing)
A12	A 1 2	Total Number of Balls Exit Through Target 5 (Flashing)
A13	A 1 3	Total Number of Balls Exit Through Target 5 (Not Flashing)
A14	A 1 4	Total Number of Balls Exit Through Target 6 (Flashing)
A15	A 1 5	Total Number of Balls Exit Through Target 6 (Not Flashing)
A16	A 1 6	Ball Gate Error
A17	A 1 7	Target Jam



AUDITS DETAILED

■ A01 = TOTAL NUMBER OF GAMES PLAYED

This Audit displays the total number of Games Played since the audits were last cleared.

*** NOTE! ***

- ALL Audits will **STOP INCREMENTING** when the “Total Number of Games Played”, audit A01, 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.

■ A02 = TOTAL COINS IN COIN MECHANISM 1

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

■ A03 = TOTAL NUMBER OF SERVICE CREDITS

This Audit displays the total number of Service Credits since the audits were last cleared. This records the number of credits given by pressing the Service Button on the service panel.

■ A04 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 1 (FLASHING)

This Audit displays the total number of exiting balls passed through target 1 as the target flashed.

■ A05 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 1 (NOT FLASHING)

This Audit displays the total number of exiting balls passed through target 1 when the target is not flashing.

■ A06 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 2 (FLASHING)

This Audit displays the total number of exiting balls passed through target 2 as the target flashed.

■ A07 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 2 (NOT FLASHING)

This Audit displays the total number of exiting balls passed through target 2 when the target is not flashing.



■ **A08 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 3 (FLASHING)**

This Audit displays the total number of exiting balls passed through target 3 as the target flashed.

■ **A09 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 3 (NOT FLASHING)**

This Audit displays the total number of exiting balls passed through target 3 when the target is not flashing.

■ **A10 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 4 (FLASHING)**

This Audit displays the total number of exiting balls passed through target 4 as the target flashed.

■ **A11 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 4 (NOT FLASHING)**

This Audit displays the total number of exiting balls passed through target 4 when the target is not flashing.

■ **A12 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 5 (FLASHING)**

This Audit displays the total number of exiting balls passed through target 5 as the target flashed.

■ **A13 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 5 (NOT FLASHING)**

This Audit displays the total number of exiting balls passed through target 5 when the target is not flashing.

■ **A14 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 6 (FLASHING)**

This Audit displays the total number of exiting balls passed through target 6 when the target is flashing.

■ **A15 = TOTAL NUMBER OF BALLS EXIT THROUGH TARGET 6 (NOT FLASHING)**

This Audit displays the total number of exiting balls passed through target 6 when the target is not flashing.



■ **A16 = TOTAL NUMBER OF BALL GATE ERROR**

This Audit displays the total number of ball gate error.

■ **A17 = TOTAL NUMBER OF TARGET JAM**

This Audit displays the total number of Target Jam,

*** NOTE! ***

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

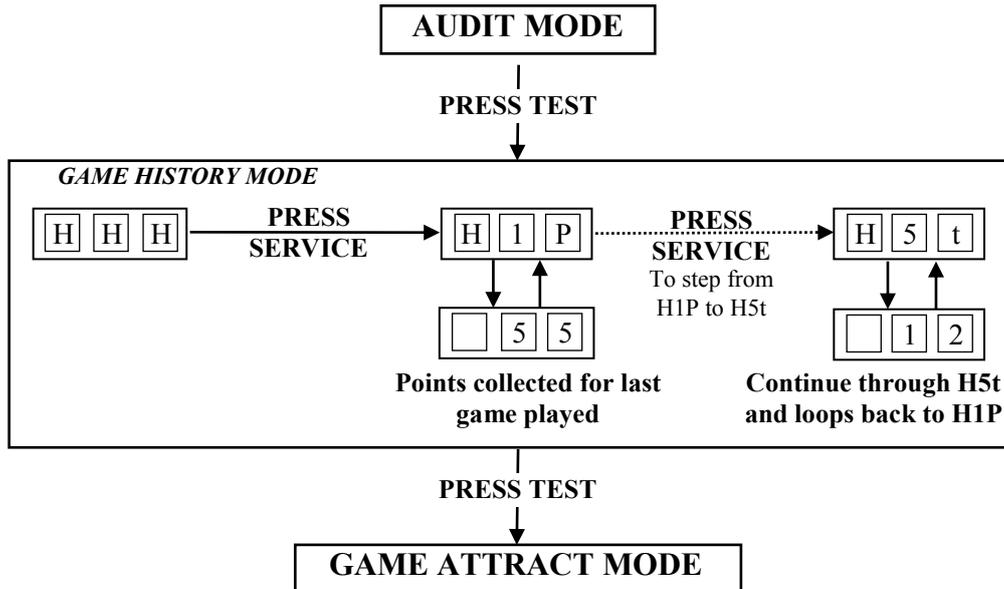


GAME HISTORY MODE

By using the Game History Mode the operator can view the results of the last five games played. This enables the operator to verify player's win results.

Example: The diagram below shows the game history for the very last game and 5th last game played. **H1P** displays the points collected by player for the very last game played. **H5t** shows the number of tickets paid out for the 5th last game played.

GAME HISTORY MODE DIAGRAM



*** 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. **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 **H H H** display, H1P being the first step, continuing through to H5t, and then looping again from H1P to H5t until the mode is exited.
- **EXIT** The Game History mode is exited into Game Attract mode, by pressing the Test button once.

GAME HISTORY QUICK REFERENCE TABLE

CODE	DISPLAY	HISTORY RESULTS
H1t	H 1 t	Number of Tickets for Very Last Game Played
H1P	H 1 P	Number of Points for Very Last Game Played
H2t	H 2 t	Number of Tickets for 2 nd Last Game Played
H2P	H 2 P	Number of Points for 2 nd Last Game Played
H3t	H 3 t	Number of Tickets for 3 rd Last Game Played
H3P	H 3 P	Number of Points for 3 rd Last Game Played
H4t	H 4 t	Number of Tickets for 4 th Last Game Played
H4P	H 4 P	Number of Points for 4 th Last Game Played
H5t	H 5 t	Number of Tickets for 5 th Last Game Played
H5P	H 5 P	Number of Points for 5 th Last Game Played



ERRORS AND TROUBLESHOOTING

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 displays as **E r X**, where „X” is the error number, listed as follows:

ERROR CODE QUICK REFERENCE TABLE

CODE	ERROR DESCRIPTION	SOLUTION
Err1	TICKET DISPENSE ERROR Jammed tickets, no tickets or no ticket notch pulse for longer than 3 seconds.	Clear ticket dispenser jam or replenish tickets. After this, push Test button once to clear error.
Err2	COIN INPUT ERROR Coin switches are active for more than 5 seconds	Check coin switches for coin jam and clear the jam. Use the Switch Test mode to check coin switches. Adjust, and/or replace if necessary.
Err3	EEPROM ERROR Problem with on-board EEPROM	The main MCU is getting errors reading the EEPROM (24C16 IC on MCU).
Err4	BALL GATE ERROR Ball gate switch is not properly closed	Check ball gate switch for jam and clear the jam. Use Switch Test to check gate switch. Press Test button to clear the error and close the gate.
Err5	TARGET SENSOR BLOCKED Target sensor are blocked for longer than 3 seconds	Clear Blockage from between target sensors or test sensor using Switch Test.



TROUBLESHOOTING GAME ERRORS

■ CLEARING GAME ERRORS

Game errors can be cleared, by pushing the test button ONCE. The game will try and check if the error is fixed. If the reason for the error is fixed, the game will continue as normal. If the error is not fixed, the error will remain on the display.

■ 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. Use the Switch Test and test the notch pulse by passing a ticket in and out of the notch sensor an active notch will be display as C1. If the game was out of tickets, 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.

■ Err2 – COIN INPUT ERROR

This error occurs if one of the coin switches is closed for more than 5 seconds. The problem can be a coin stuck in the coin switch path or the coin switch is out of adjustment or faulty. Enter Switch Test mode to check the coin mechanisms.

■ 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 message, 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 – BALL GATE ERROR

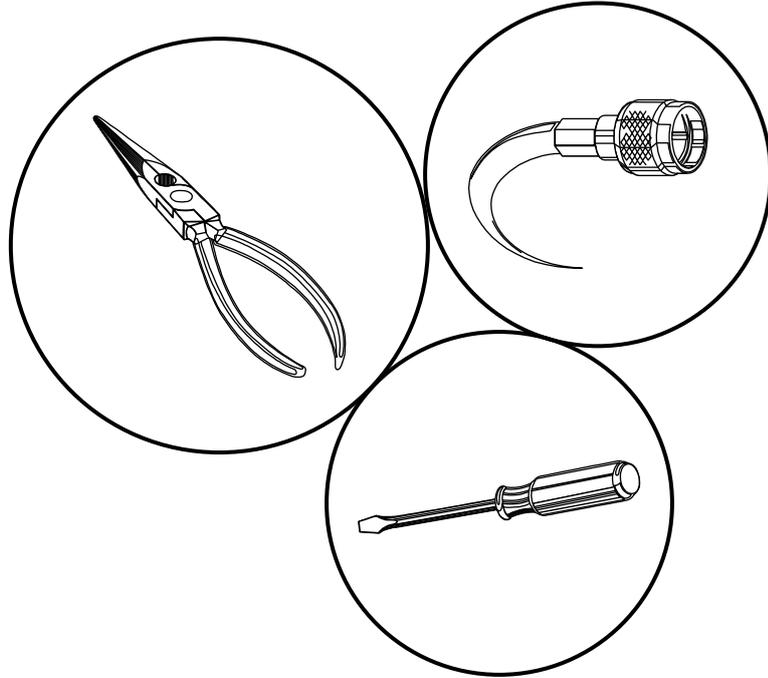
This error occurs if the ball gate switch is not properly closed after a game is played. Enter Switch Test mode to check the ball gate switch. If C5 is displayed, then the switch is not closed. The problem can be something obstructing the gate/gate switch from closing. Check for ball gate jam and clear the jam.

■ Err5 – TARGET SENSOR BLOCKED

This error usually occurs if the target sensor is blocked or a ball is jammed in the ball exit, blocking the infrared beam of the target sensor for longer than 3 seconds. The sensor can be tested using the switch test. If the sensor is blocked C6, C7, C8, C9, C10 or C11 will be displayed in this test (depends on the target). Clear whatever is blocking the sensor and the error will clear itself. If you cannot find anything blocking the sensor, there could be faulty infrared sensors. The sensor PCB's should be returned to your nearest LAI Games distributor for repair.



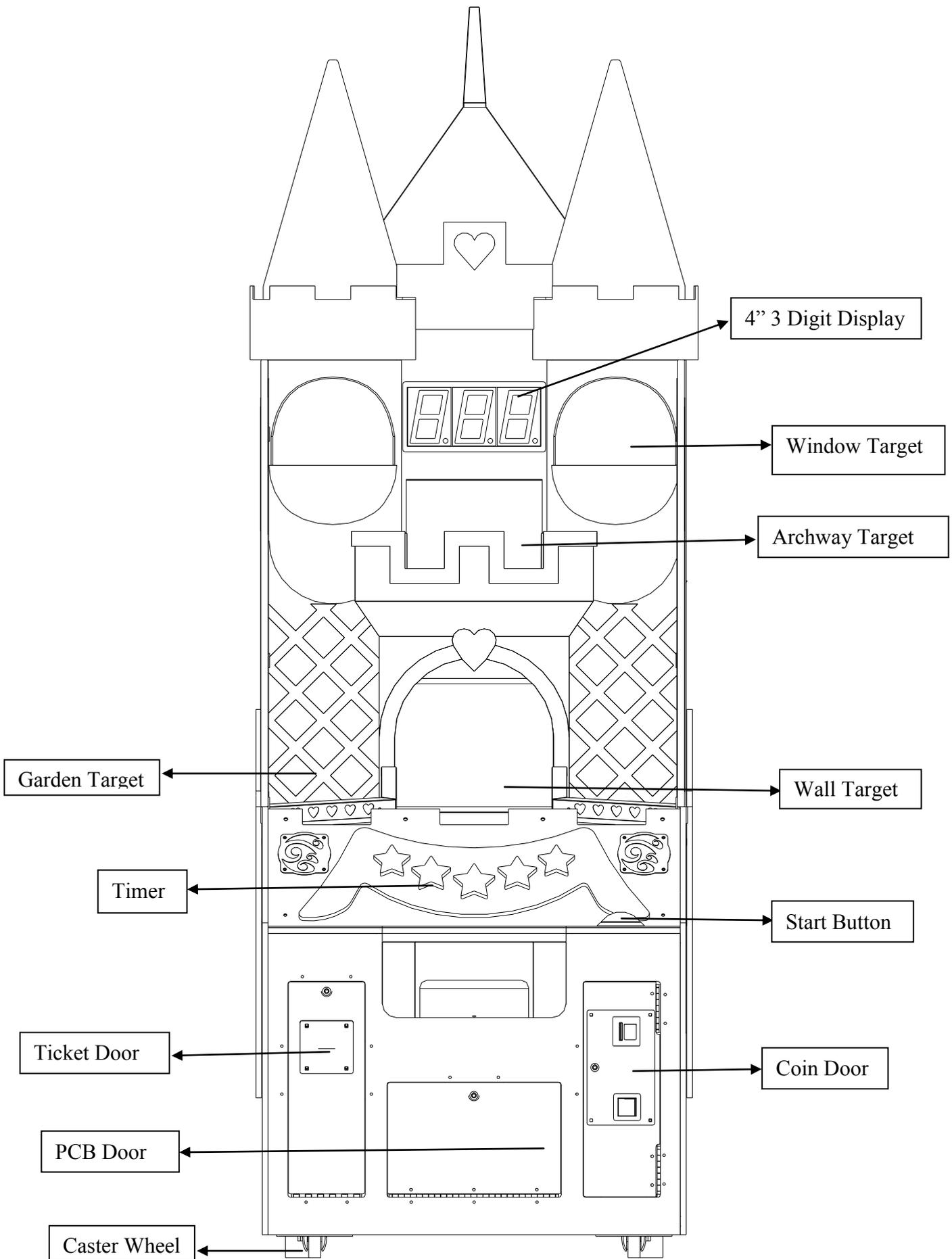
SECTION A: SERVICE INSTRUCTIONS

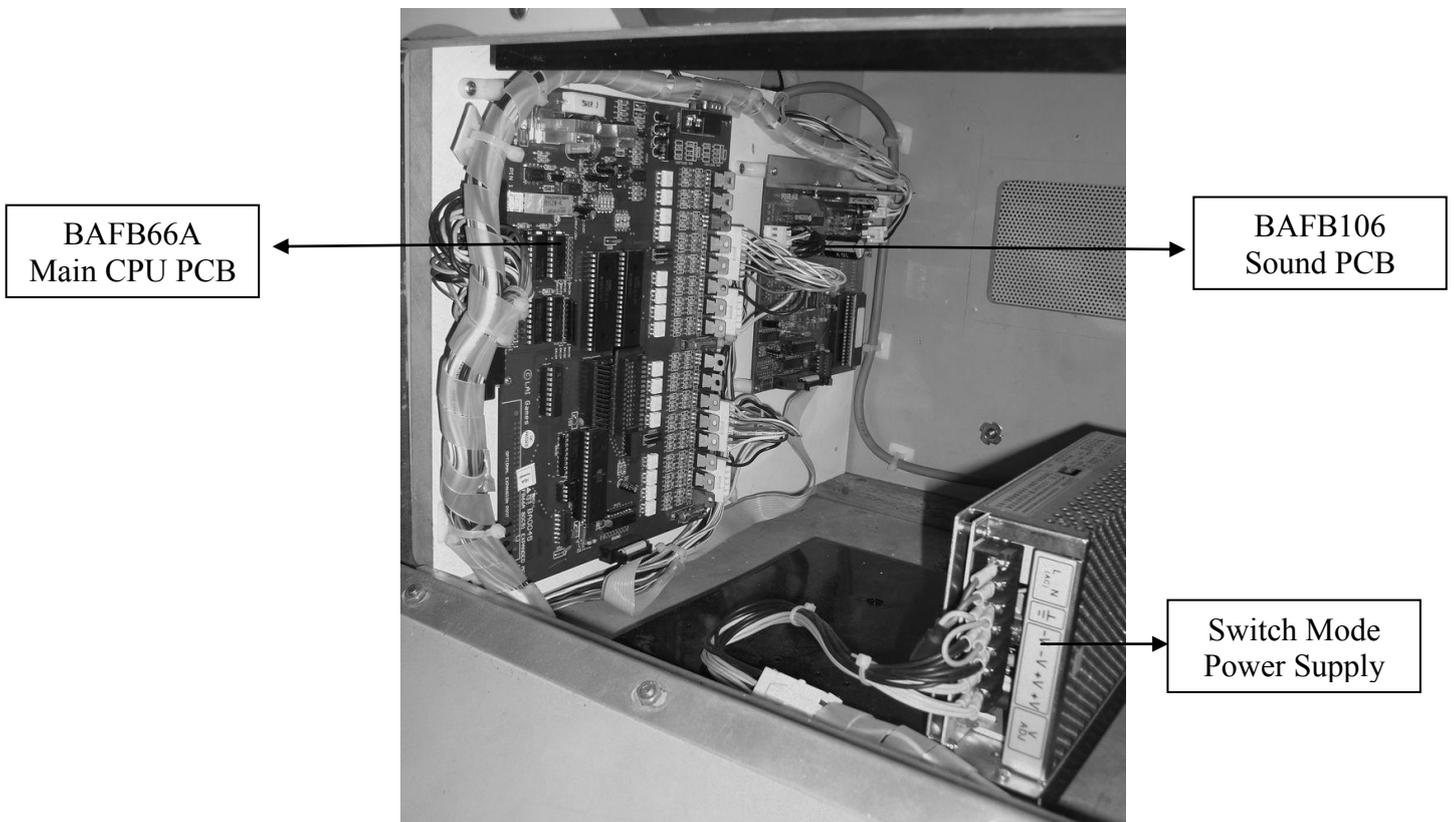
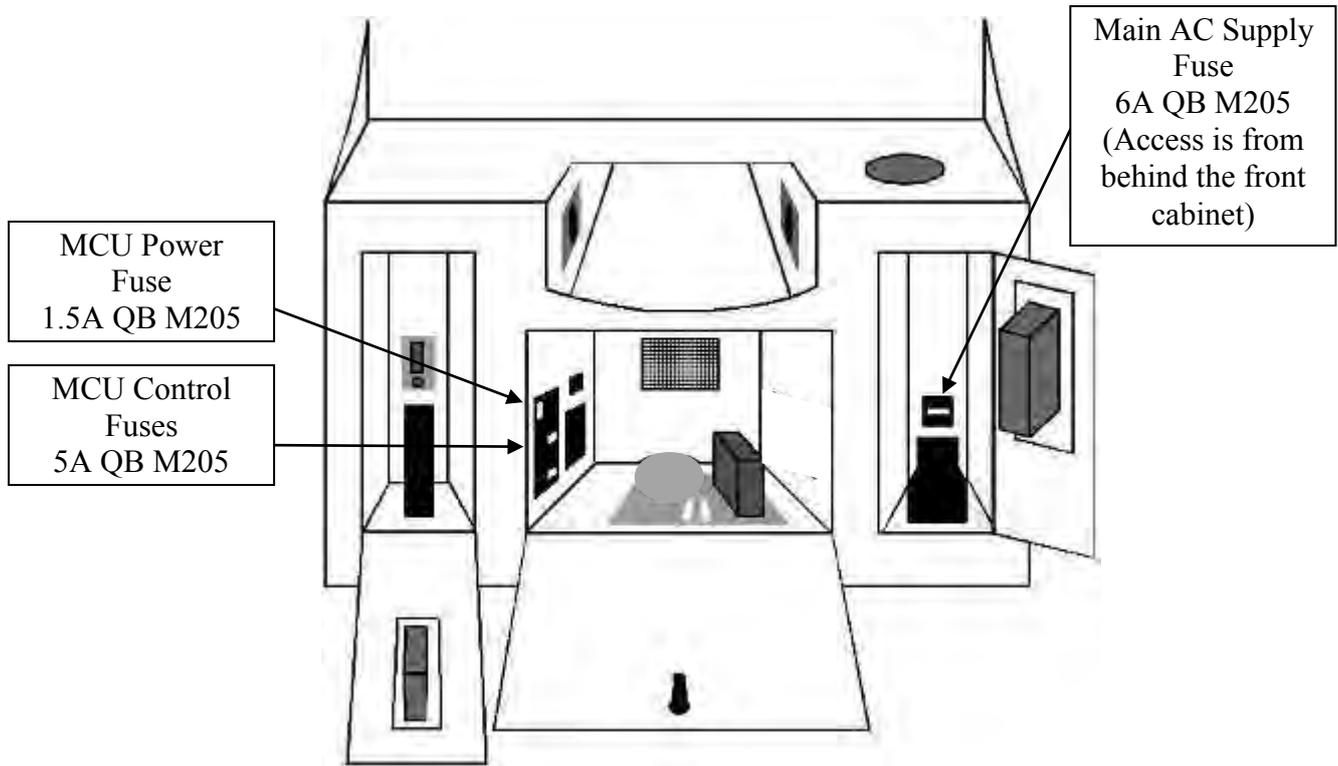


***BE SURE TO READ THE FOLLOWING
Carefully before servicing this machine***



A







PARTS DESCRIPTION

■ COIN MECHANISM

The coin mechanism is located inside the coin door located to the right on the front of the machine.

■ CASH BOX

The cash box is located inside the coin door. Access is from the front of the machine.

■ TICKET MECHANISM

The ticket mechanism is located inside the ticket door located to the left on the front of the machine.

■ SPEAKERS

Two speakers are located to the front of the cabinet inside the ball receiving through. Access is through the ticket and coin doors.

■ GAME CONTROLS

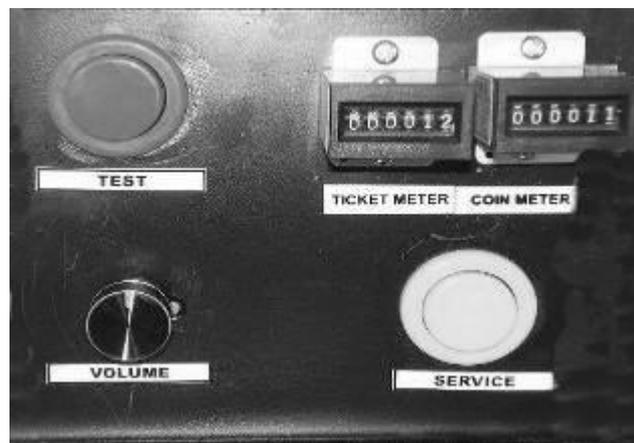
Located in front cabinet, when facing the machine. The control panel can be accessed through the coin door.

- **START BUTTON:** The Start button is the large red round illuminated button located at the right-hand side of the control panel. This button is used to start a game and for test and program adjustments.

■ SERVICE CONTROLS

Located on the service panel mounted on top of the cash box and accessed through the coin door.

1. **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.
2. **TEST BUTTON:** Used to perform the test mode, in combination with the Service button.
3. **VOLUME KNOB:** Used to adjust the speaker's sound





■ 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 control panel cabinet 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.

* WARNING! *

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

***Always** use the correct rated fuse. Refer to for fuse information.*

■ 7-SEG DISPLAY

There is a 3-digit display located on the playfield. Access is through the back of the cabinet.

■ PCB's

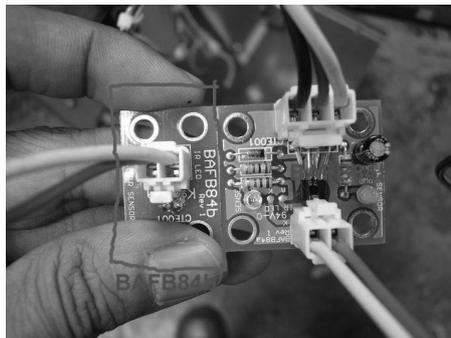
For location of all game PCB's, refer to the Parts Location diagram page of this manual.

■ POWER SUPPLY

The power supply is located at the front of the cabinet and is accessed from the front door. It is a 12V 13A switching power supply.

■ TARGET SENSORS

All seven target sensors are located on the playfield. Three target sensors are located on the underside of the upper playfield. The other four are located under the lower playfield.



BAFB84A and BAFB84B
Sensor PCB



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.

COIN DOOR LAMPS (LED)

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

BUTTON LAMPS (LED)

The button lamps all are 12V/DC 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! ***

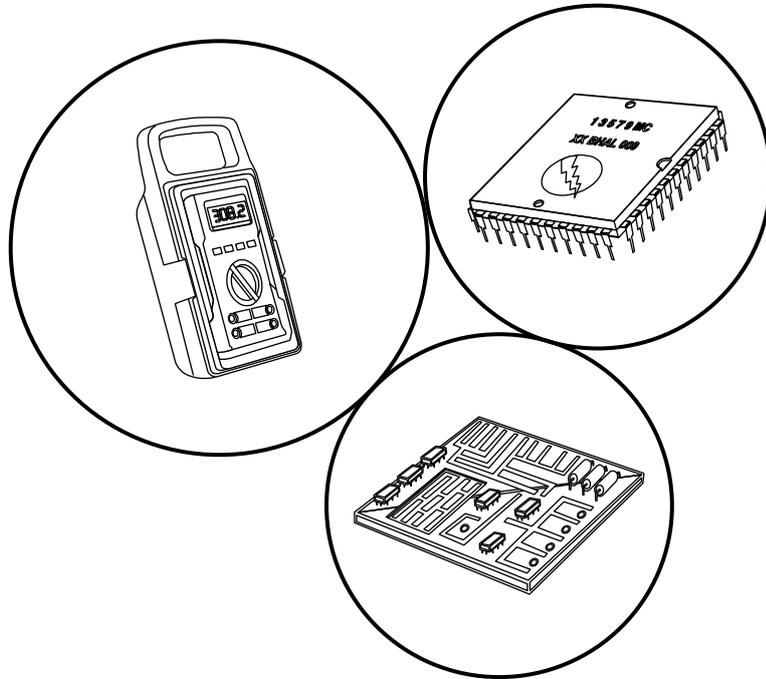
Always turn OFF Mains power and unplugged the game, before cleaning the interior of the machine.

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. Replace any globes that are not operational.



SECTION B: TECHNICAL DETAILS



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.



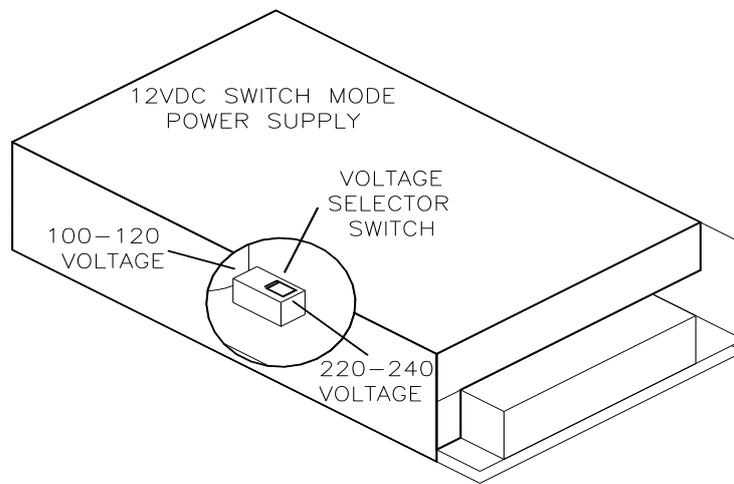
B



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)

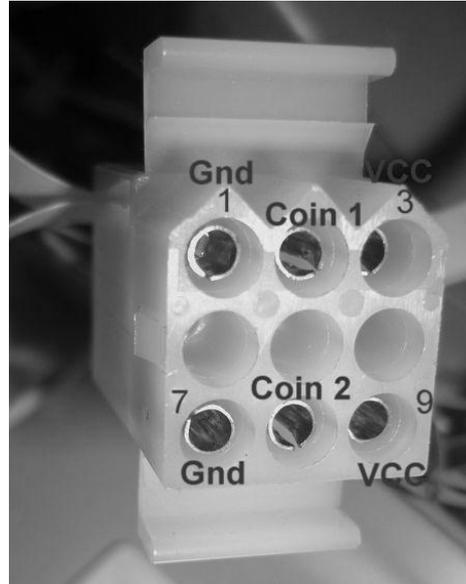




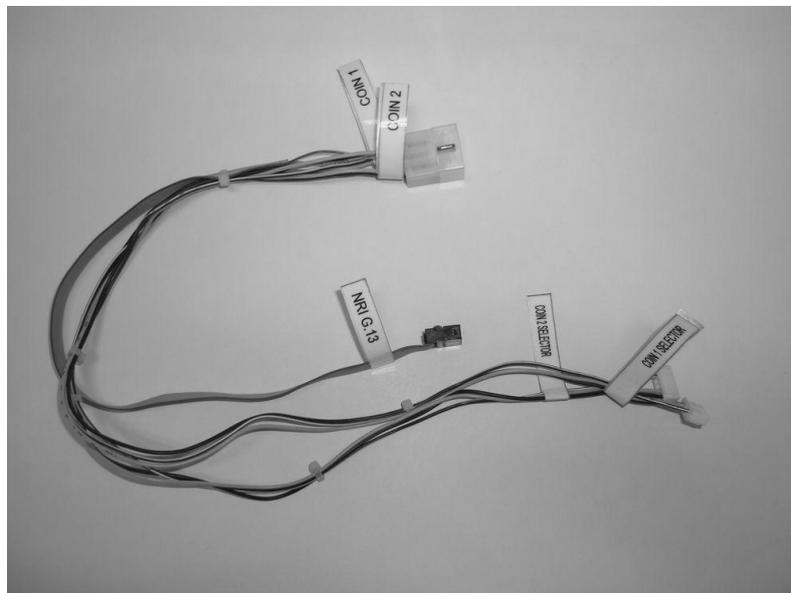
COIN OPTIONS REFERENCE GUIDE

LAI GAMES have installed the 9 way Molex connection on the coin door on every product, this coin options connector should be useable for most of electronic coin system and electronic coin comparators.

Please see below picture to understand the connection setup,



The Coin harness supplied with the game,

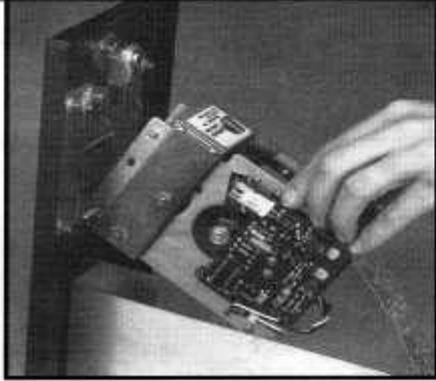


End connection to coin will fit to NRI G13 and 2x Electronic Coin Comparator (LAI GAMES standard). Other types of coin electronic harnessing can be supplied as requested, please contact your nearest LAI GAMES distributor.



TICKET DISPENSER REFERENCE GUIDE

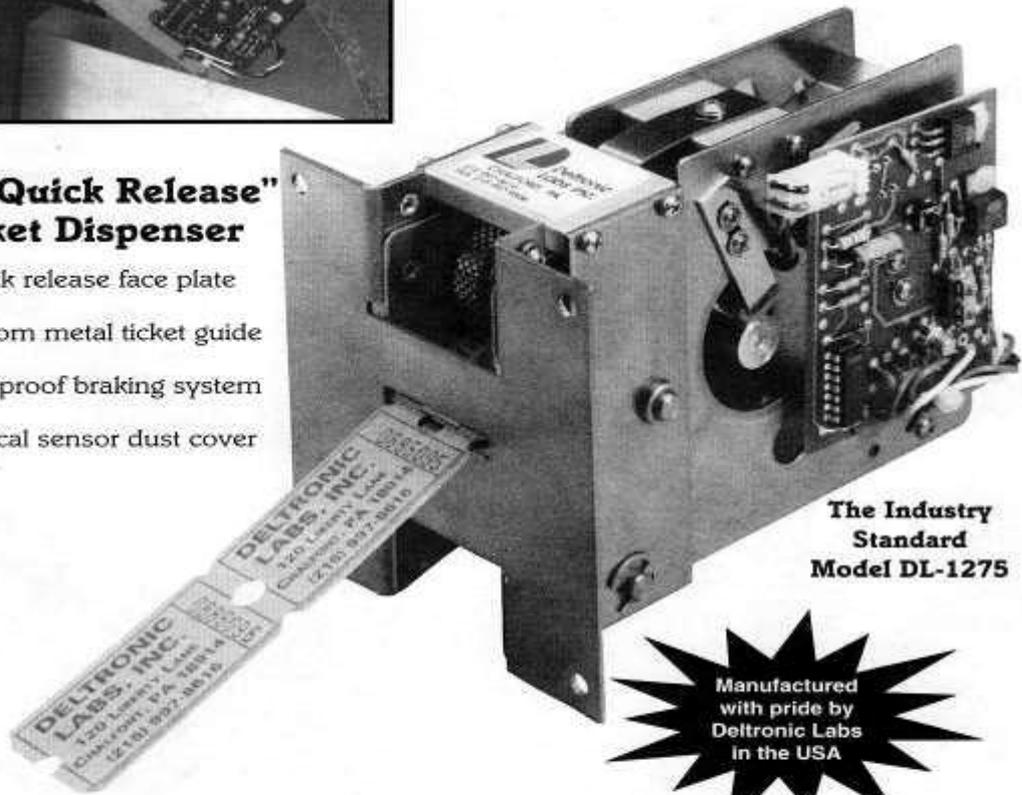
“Quick Release” Ticket Dispenser Manual



U.S. Patent 5833104
Additional Patents Pending

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



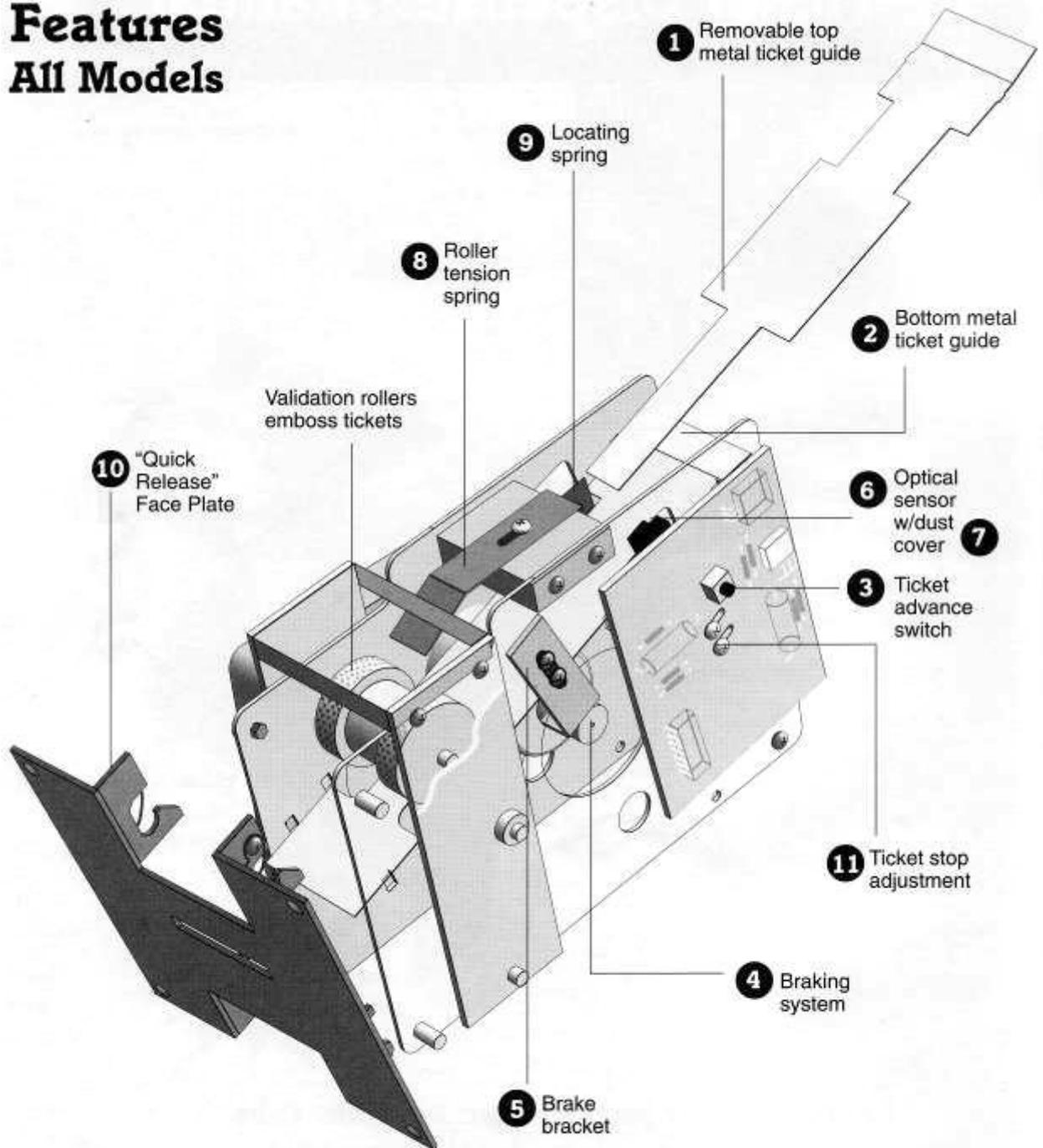
**Another quality product from Deltronic Labs . . .
the industry leader in ticket dispensers.**



Deltronic Labs, Inc. 120 Liberty Lane, Chalfont, PA 18914
215-997-8616 • FAX# 215-997-9506 • Web Site: www.deltroniclabs.com

“Quick Release” Ticket Dispenser

Features All Models



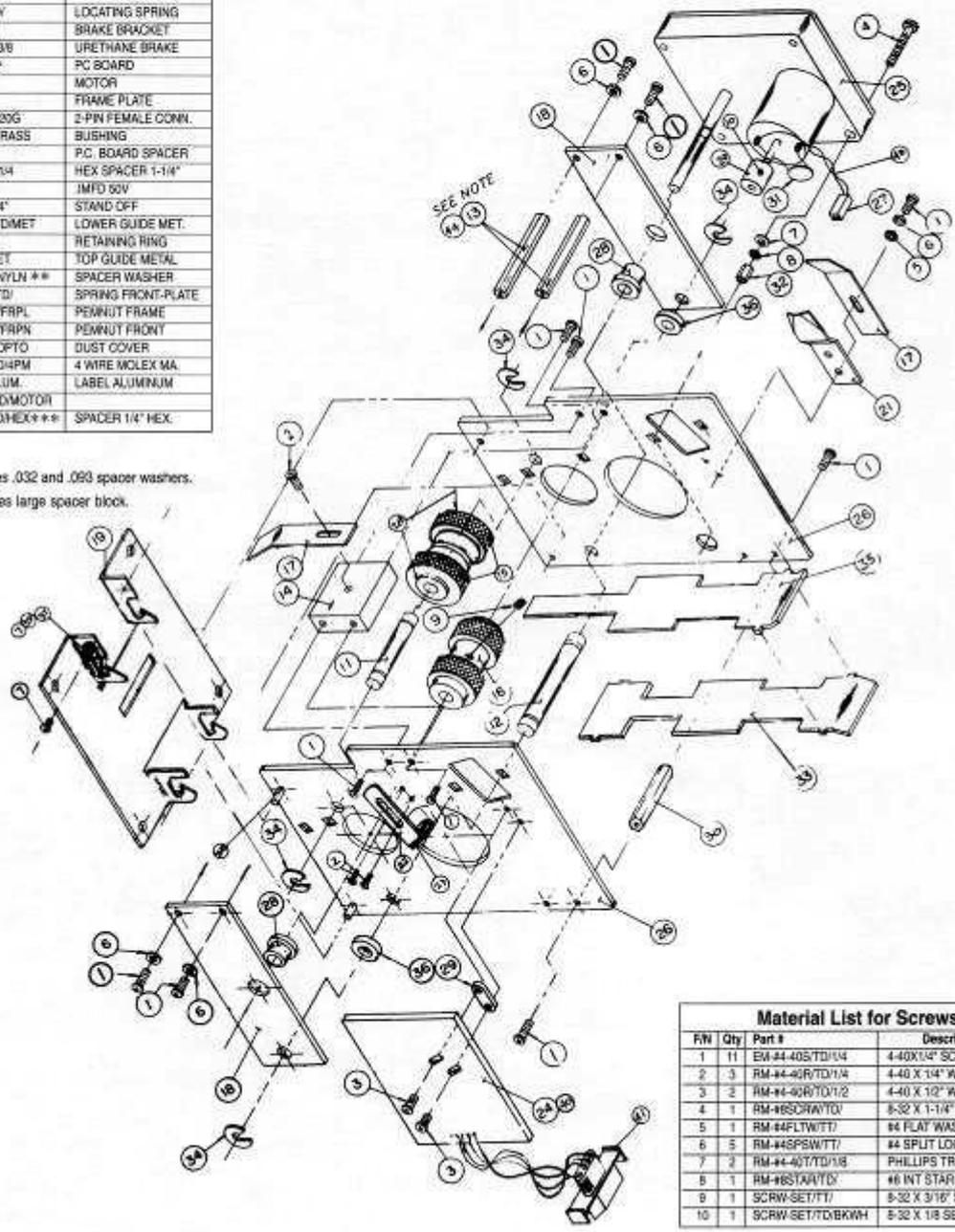
Deltronic Labs, Inc. 120 Liberty Lane, Chalfont, PA 18914 • 215-997-8616 • FAX# 215-997-9506 • www.deltroniclabs.com



Ticket Dispenser Assembly

Details of Parts			
F/N	Qty	Deltronic Labs P/N	Name
11	1	SHFT-IDLR/R/TD/	IDL. ROLLER SHAFT
12	1	RM-SFTMTR/TD/	MOTOR PIVOT SHAFT
13	1	SPAC PIVBLK/TD/HCL	PIVOT BRACKET SPAC
14	1	RM-SPCPB/TD/	SPACER BLOCK
15	2	RM-PLRDL/TD/VALD	IDLER ROLLER
16	1	RM-PLRDRV/TD/VALD	DRIVE ROLLER
17	2	SPRG-TENSN/TD/	TENSION SPRING
18	2	RM-BKTPVT/TD/	MTR PIVOT BKT
19	1	RM-FMFLT/TD/NCFM	FRONT PANEL
20	1	RM-WHLBRK/TD/	BRAKE WHEEL
21	1	SPRG-LOCAT/TD/	LOCATING SPRING
22	1	RM-BKTBRK/TD/	BRAKE BRACKET
23	1	RM-BKTLUB/TD/3/8	URETHANE BRAKE
24	1	PCBD-1275/TD/+	PC BOARD
25	1	RM-MOTOR/TD/	MOTOR
26	2	RM-PLATFR/TD/	FRAME PLATE
27	1	RM-CONN2PTE/35G	2-PIN FEMALE CONN.
28	4	BRNG-F312/TD/BRASS	BUSHING
29	1	SPAC-PCBD/TD/	P.C. BOARD SPACER
30	1	SPAC-HEX/TD/1-1/4	HEX SPACER 1-1/4"
31	1	RM-1M/TD/50V	IMFD 50V
32	1	SPAC-HEX/TD/1/4"	STAND OFF
33	1	GUID-BOTTOM/TD/MET	LOWER GUIDE MET.
34	4	RING-E25R7/TD/	RETAINING RING
35	1	GUID-TOP/TD/MET	TOP GUIDE METAL
36	2	PULY-SP12/TD/EN/YN **	SPACER WASHER
37	2	SPRG-FRONT/TD/	SPRING FRONT-PLATE
38	4	RM-PEMNU/TD/FRPL	PEMNUIT FRAME
39	2	RM-PEMNU/TD/YRPN	PEMNUIT FRONT
40	1	COVR-H21A/TD/OPTO	DUST COVER
41	1	CONN-MOLEX/TD/HPM	4 WIRE MOLEX MA
42	1	RM-LABEL/TD/ALUM.	LABEL ALUMINUM
43	1	WIRE-FEEDBLK/TD/MOTOR	
44	2	SPAC-PIVBRK/TD/HEX***	SPACER 1/4" HEX.

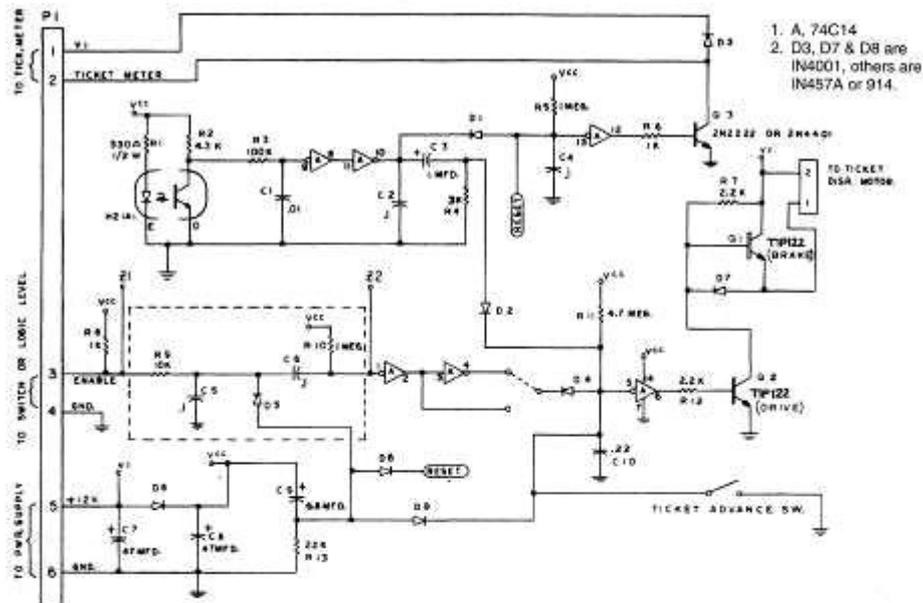
* Order by Model #
 ** Note: F/N #36 replaces .032 and .093 spacer washers.
 *** Note: F/N #44 replaces large spacer block.



Material List for Screws			
F/N	Qty	Part #	Description
1	11	EM-#4-40S/TD/1/4	4-40X1/4" SCREW
2	3	RM-#4-40R/TD/1/4	4-40 X 1/4" WASHER HEAD
3	2	RM-#4-40R/TD/1/2	4-40 X 1/2" WASHER HEAD
4	1	RM-#6SCRW/TD/	6-32 X 1-1/4"
5	1	RM-#4FLW/TD/	#4 FLAT WASHER
6	5	RM-#4SPSW/TD/	#4 SPLIT LOC. WASHER
7	2	RM-#4-40T/TD/1/8	PHILLIPS TRUSSHEAD
8	1	RM-#6STAR/TD/	#6 INT STAR WASHER
9	1	SCRW-SET/TD/	6-32 X 3/16" SET SCREW
10	1	SCRW-SET/TD/BKWH	6-32 X 1/8 SET SCREW

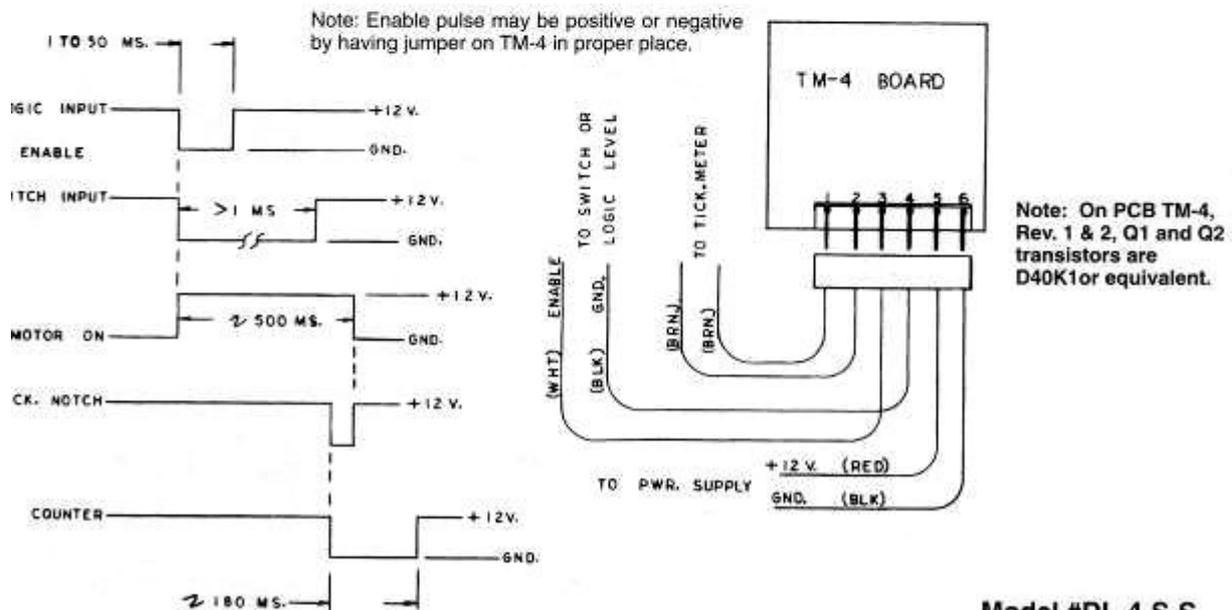
Control Board

Models DL-4-S-S DL-4-P-S



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

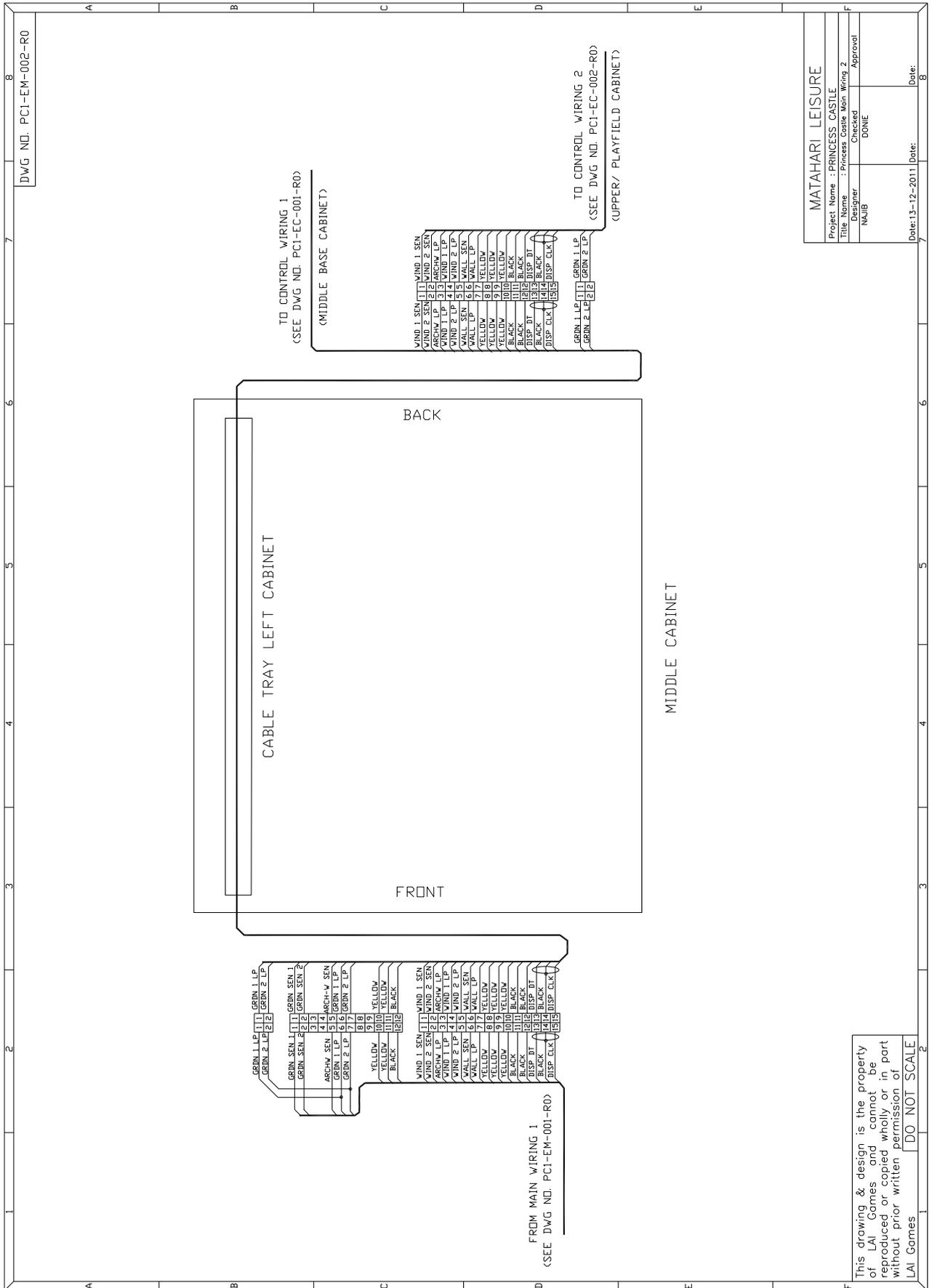
Note: With logic input components and dotted lines are omitted and Z1 is jumpered to Z2.



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



PRINCESS CASTLE MAIN WIRING 1



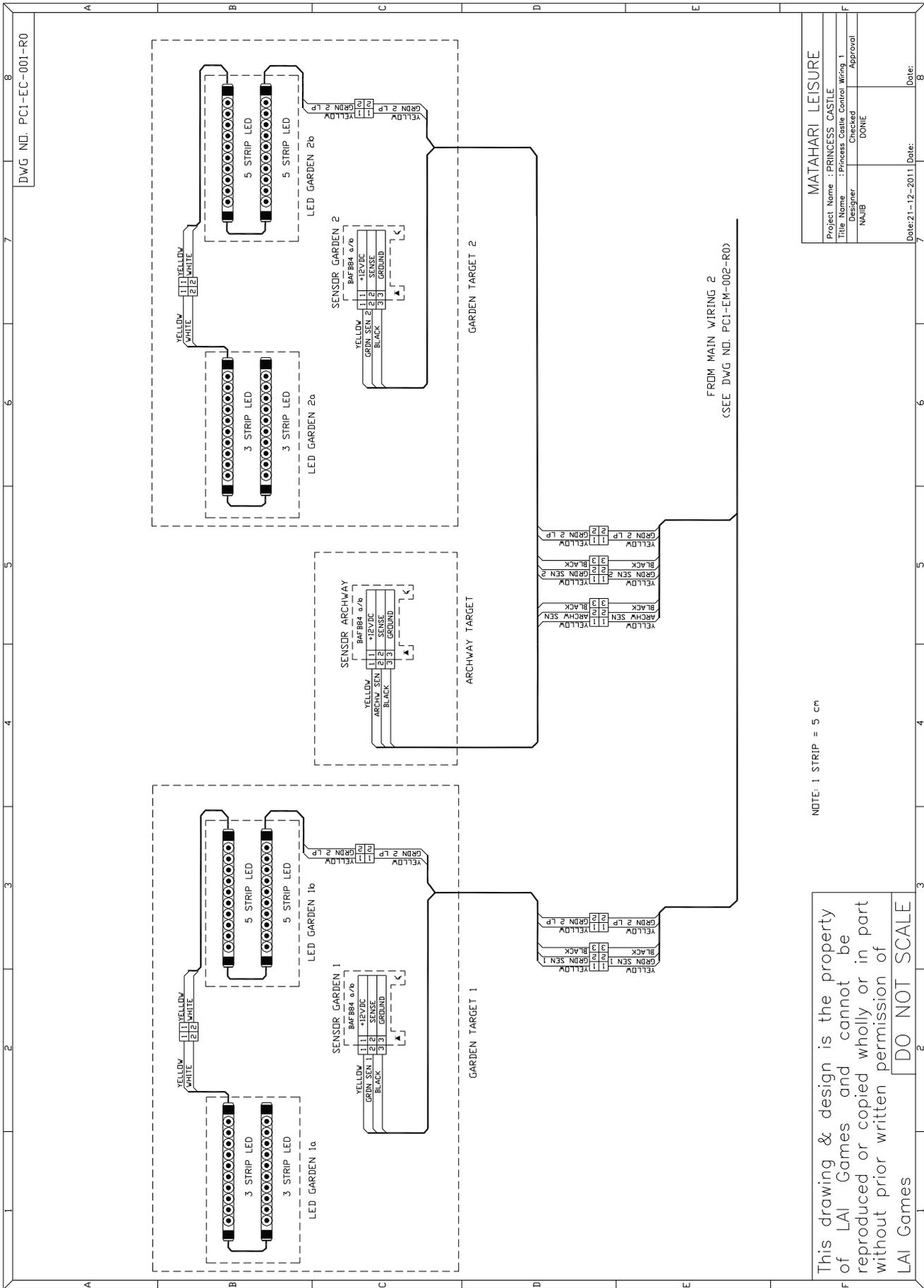
MATAHARI LEISURE	
Project Name	: PRINCESS CASTLE
Title Name	: Princess Castle Main Wiring 2
Designer	NAJIB
Checked	DOHIE
Approval	
Date	: 13-12-2011

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DO NOT SCALE



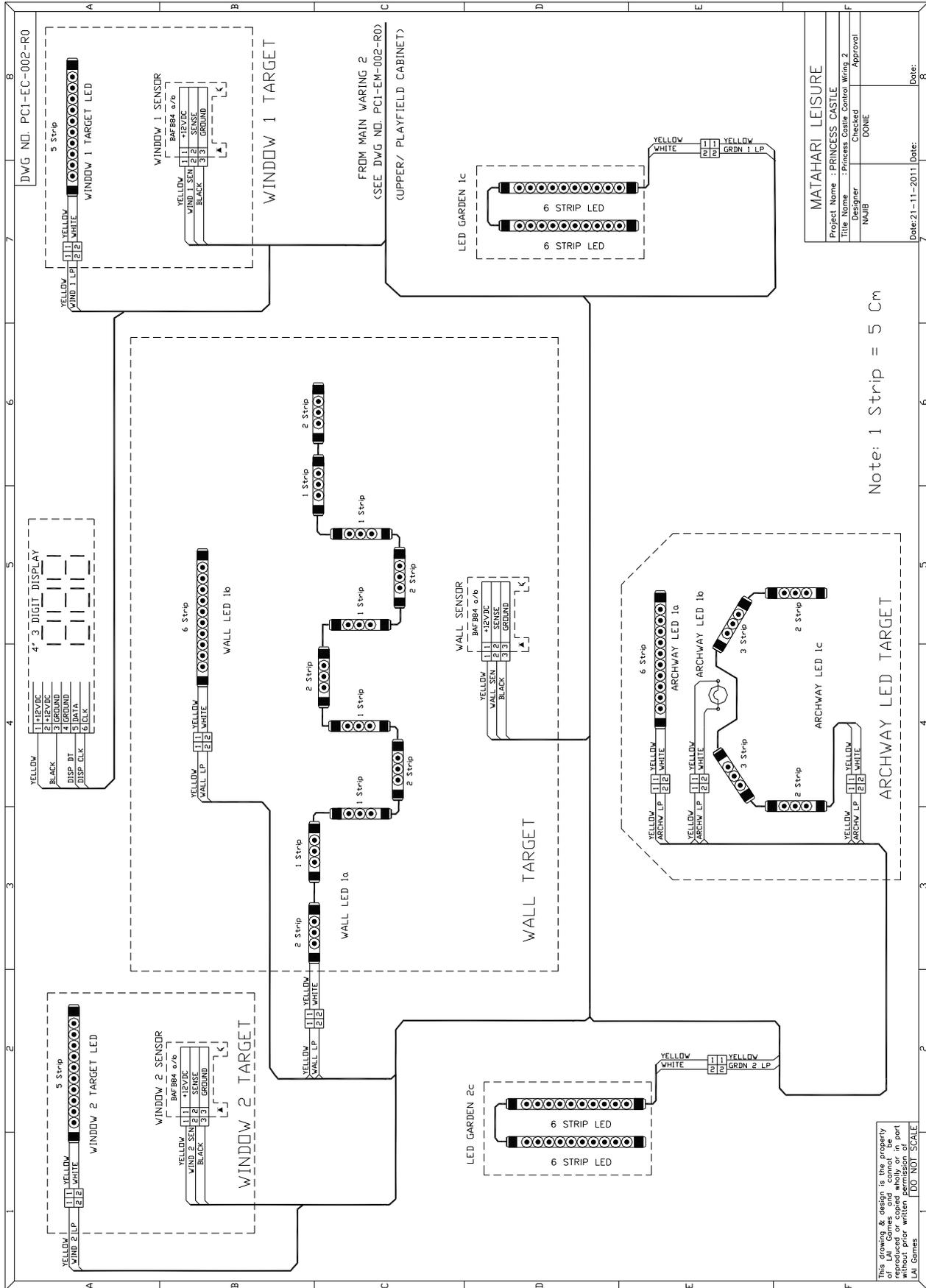
PRINCESS CASTLE CONTROL WIRING



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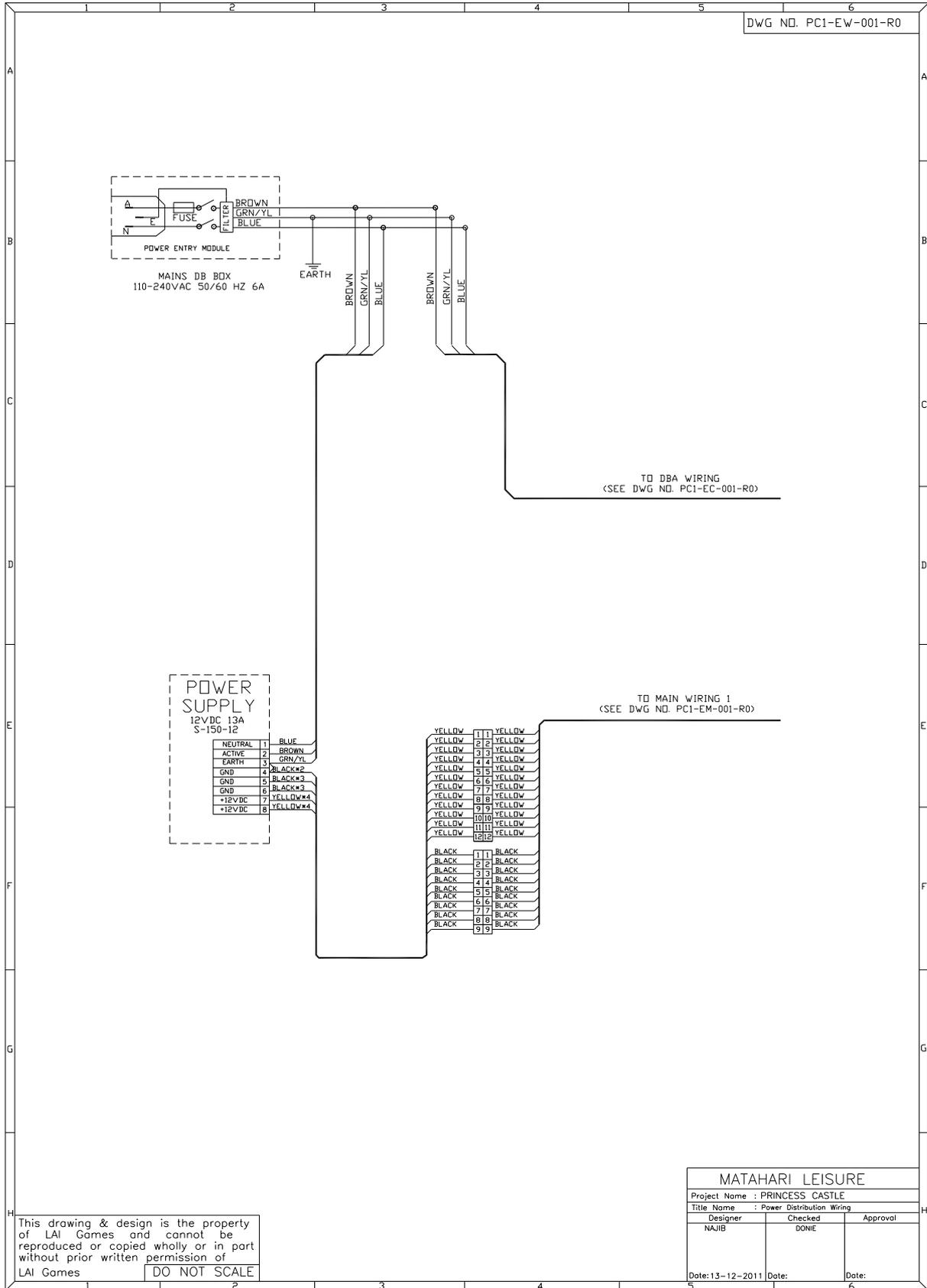


PRINCESS CASTLE CONTROL WIRING 1





PRINCESS CASTLE POWER WIRING



DISCLAIMER

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LAI Games exclusive obligation is to repair any item with any defects as a result of faulty workmanship or materials, providing the defective item or items of equipment are returned to the LAI GAMES distributor from which the machine was purchased.

LAI Games shall have no obligation to make repairs necessitated by negligence or interference to any component by any unauthorized personal. This will automatically void any existing warranty.

IF MAKING A WARRANTY CLAIM:

- (a) A Copy of the sales invoice must accompany the claim.
- (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.

