

LAUNCH CODE™

OPERATOR'S MANUAL

1. Safety
2. Setup
3. Audits, Adjustments
& Diagnostics
4. Parts



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Chapter 1. Safety

Live Well: Keep Safe.

Observe safety instructions! Before preparing your game machine for play, make sure that you read these instructions. The Safety chapter is a collection of basic safety instructions and related data. Later chapters include further safety messages.

Key to Safety Terms

Term	Meaning
Warning	Failure to avoid this hazard <i>might</i> cause death or serious injury.
Caution	Failure to avoid this hazard <i>might</i> cause personal injury or property damage.
Notice	Helpful data about good practice. Doesn't relate to health.

Safety Instructions for Launch Code

Δ WARNING: Front glass. Avoid personal injury and property damage! The front glass weighs 100 pounds. Before opening the front glass panel, adjust the leg levelers. Otherwise, opening the glass could cause the machine to overturn.

Δ WARNING: Control panel cabinet (*pod*). If you've removed the control panel cabinet (*pod*), never open the front glass. A game machine with a removed *pod* is unstable: Opening the front glass could cause the machine tip over. Injury or property damage could result.

Δ WARNING: Disconnect power when servicing. Prevent electrical shocks and equipment damage.

Δ WARNING: Connectors. Your game machine uses keyed connectors that only fit one way. Forcing a connector could cause injury or equipment damage. Be sure that connectors fit together properly.

Δ WARNING: Cables. With power on, never connect or disconnect game machine cables or connectors. Otherwise, you might damage the game machine.

Δ WARNING: Fuses. Never jumper a fuse. Only replace a fuse with one of the same type, fusing time and current rating. Failure to observe this warning might result in fire or electrical shocks.

⚠ WARNING: Ground connection. The game machine requires a grounded, three-wire power outlet. *Never* defeat the ground pin! Ungrounded operation risks electrical shocks and equipment damage.

⚠ WARNING: Mold and Mildew can endanger your health. Mold *removal* can be hazardous to your health and that of co-workers. Spores can invade the lungs and cause respiratory disease. Removal chemicals contain chlorine bleach, which is toxic. During removal, appropriate protective clothing and strong ventilation to the outdoors is necessary. Only certified mold removal professionals should encapsulate and remove mold or mildew.

⚠ WARNING: Restraining chains. You might need to angle the front glass beyond the extent of restraining chains. In that case, you must disconnect these chains. Take care to protect the fragile glass. Don't let it free-fall out of the cabinet! The glass might slam into the control panel and break. Shards of glass could fly in every direction.

⚠ WARNING: LCD. Handle the liquid crystal display with care. Avoid serious injuries from shattered glass.

⚠ WARNING: Transporting. Movers should watch out for one another, avoid injury and be respectful of heavy equipment. Glass and fragile components require special care.

⚠ WARNING: Water. Never allow the game machine to come into contact with water, sewage or mud. If such contact occurs, drying the machine *won't* render the machine safe again. Shut off the machine and service it. Repair or replace the electronics. Lube mechanical joints and moving parts. Disinfect surfaces to protect users from bacterial or mold exposure. Otherwise, death or injury by fire, shock, contamination or illness is likely.

Ⓢ CAUTION: AC Mains Supply Cord. If you have a damaged AC mains detachable supply cord, replace it with a factory approved cord assembly. This cord is available from the manufacturer.

Ⓢ CAUTION: AC Mains Supply Cord. For 230 VAC operation *only*, use a detachable AC mains supply cord. The cord *must* comply with the specifications below.

230 VAC Cord	H05VV-F, 3x1.00mm ² , 3conductor, unshielded, CEE color code; GREEN/YELLOW insulation for earthing conductor
Connector	IEC320-C13 right angle connector
Plug	IEC 884 certified plug compatible with country standards and requirements

Ⓢ **CAUTION: Auto Drop Ball** serves balls randomly. While a technician may use this feature to diagnose blower and gantry problems, normal gameplay is impossible. Before restoring the game machine to service, disable this feature.

Ⓢ **CAUTION**

- **Avert accidents and malfunctions!** Your installation must be safe and mechanically stable. It must comply with building codes, ordinances and procedures in this manual.
- **For safety's sake**, turn off any malfunctioning game device. Have a qualified technician service the machine. Call your distributor and see if your warranty covers the service fee. Your warranty is in force for six months after your purchase.

Ⓢ **CAUTION: ESD.** The term ESD stands for electrostatic discharge. Wiring can inductively pick up pulses that may affect your gameplay. Both natural and technological sources can produce ESD. ESD effects vary from software disruption to hardware malfunctions, damage or destruction.

Ⓢ **CAUTION: Marquee.** Before transporting a game machine, remove the marquee. Otherwise, the marquee could break off.

Ⓢ **CAUTION: Liability.** This equipment might be subject to damage from static discharges or power surges. Team Play assumes no liability for equipment damage. We recommend a surge protector.

Ⓢ **CAUTION: Hard drive handling.** The hard drive is sensitive to mechanical shocks. Gentle handling will reward you with long and reliable operation. Otherwise, a sharp rap to an operating hard drive can destroy it.

Ⓢ **CAUTION: Playfield surface.** The playfield surface is a soft plastic. A mild cleaner is necessary. Use of abrasives will scratch this plastic surface. Abrasives can also pit the glass monitor screen.

Ⓢ **CAUTION**

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- Intellectual property laws protect the game machine's hardware, software and content.
- Product specifications might change without notice.

Ⓢ **CAUTION: Show FPS.** Before putting the game into service, disable this feature. Otherwise, code will overwrite game graphics and spoil gameplay.

⊙ **CAUTION: Start Mode.** When you start the game machine, don't go straight into Diagnostic Mode. Instead, allow the machine to start in Game Mode so that the switches initialize properly. Then after a few moments, you may enter Diagnostic Mode. Otherwise, switches might start in the wrong position during a game, causing a malfunction.

⊙ **CAUTION: The menu, Reset Adjustables to Factory Defaults** can reset both coin and game settings. Take care: There is no "undo" feature.

⊙ **CAUTION: The Coin Audits menu** can reset both coin and game settings. Take care: There is no "undo" feature.

⊙ **CAUTION: Flood water** can contain minerals that could damage your equipment.

⊙ **CAUTION: The Game Audits menu** can reset both coin and game settings. Take care: There is no "undo" feature.

⊙ **CAUTION: Ventilation.** Allow at least two inches of clearance for ventilation between the back of the game machine and the building wall. Otherwise, the wall will obstruct ventilation fans at the top of the cabinet. The machine might overheat.

⊙ **CAUTION: When installing panels,** avoid pinching wires.

⊙ **CAUTION: You are responsible** for proper installation, maintenance and operation. Team Play Inc. isn't accountable for damage resulting from faulty assembly, maintenance or operation.

◆ **NOTICE: Balls, installing from front.** You can install balls from the front or back of the machine. To install from the front, open the front glass. Then drop the balls onto the playfield.

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◆ **NOTICE: Patent** www.teamplayinc.net/legal.html

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Chapter 2. Setup

Game Machine Details

DIMENSIONS (*without marquee*)

Height98 inches (2.49 meters)
Depth43 inches (1.09 meters)
Width41 inches (1.04 meters)

SHIPPING DIMENSIONS (*no marquee*)

Height 108 inches (2.74 meters)
Depth48 inches (1.22 meters)
Width48 inches (1.22 meters)

MARQUEE (TOPPER) DIMENSIONS

Height 33" (0.84 meters)
Depth 16" (0.41 meters)
Width 39" (1 meter)

WEIGHT (*unpacked*)

Cabinet650 lbs.(294.84 kg)
Marquee..... 20 lbs. (9.07 kg)

WEIGHT (*shipping*)

Cabinet750 lbs. (340.19 kg)
Marquee..... 40 lbs. (18.14 kg)

POWER

Domestic..... 120 VAC @ 60 Hz, 4 A
International 230 VAC @ 50 Hz, 2 A

OPERATING TEMPERATURE

Fahrenheit..... 32° F to 104° F
Centigrade0° C to 40° C

OPERATING HUMIDITY

Relative humidity, non-condensing 5 - 95%



Quick Installation Guide

You'll Need These Tools

- 7/16", open end or combination wrench
- 3/4", open end or combination wrench
- M4 (4mm hex) metric driver

<p>⚠ WARNING</p> <p>Front glass. Avoid personal injury and property damage! The front glass weighs 100 pounds. Before opening the front glass panel, adjust the leg levelers. Otherwise, opening the glass could cause the machine to overturn.</p>
<p>⚠ WARNING</p> <p>Control panel cabinet (<i>pod</i>). If you've removed the control panel cabinet (<i>pod</i>), never open the front glass. A game machine with a removed pod is unstable: Opening the front glass could cause the machine tip over. Injury or property damage could result.</p>
<p>⚠ WARNING</p> <p>Restraining chains. You might need to angle the front glass beyond the extent of restraining chains. In that case, you must disconnect these chains. Take care to protect the fragile glass. Don't let it free-fall out of the cabinet! The glass might slam into the control panel and break. Shards of glass could fly in every direction.</p>
<p>⊙ CAUTION</p> <p>Shipping insert. You <i>must</i> remove the foam shipping insert. Leaving it in might damage the gantry trolley.</p>
<p>⊙ CAUTION</p> <p>Don't Discard the Parts Box! Inside the coin door is a cardboard parts box. The box contains a red envelope with keys for the cashbox and ticket door. Also in the box are eight balls and the line cord.</p>

- | | |
|---|---|
| [] 1. Remove the game machine from its shipping skid. | [] 9. At the top of the cabinet, remove the foam shipping insert. This insert is under one side of the ball trolley. |
| [] 2. <i>Optional:</i> If your door is too narrow to allow the machine to pass, remove the machine's control panel (<i>pod</i>). | [] 10. Load the balls (<i>minimum: four; maximum, eight</i>). |
| [] 3. <i>Optional:</i> After moving the machine through the door, reconnect the control panel (<i>pod</i>). | [] 11. Assemble and install the marquee. (See <i>instructions that came with the marquee.</i>) |
| [] 4. Check for shipping damage. | [] 12. Turn on the power switch. |
| [] 5. Stand the cabinet upright. | [] 13. Verify that the game starts and Attract Mode runs. |
| [] 6. Remove two M4 (4mm hex) bolts that secure the front glass to the cabinet frame. | [] 14. Set pricing as you want it. (Use these menu settings: Coin 1, Coin 2, and Price Per Play.) |
| [] 7. Pivot the viewing glass forward. | [] 15. Are you satisfied that the game machine operates properly? Then reinstall the front glass. |
| [] 8. Adjust the leg levelers. | |

Assembly, Detailed Instructions

Unpack the Game Machine

⚠ WARNING

Transporting. Movers should watch out for one another, avoid injury and be respectful of heavy equipment. Glass and fragile components require special care.

⚠ WARNING

Disconnect power when servicing. Prevent electrical shocks and equipment damage.

⚠ WARNING

LCD cabinet is unstable. If you've separated the control cabinet from the LCD cabinet, the LCD cabinet becomes unstable. While working on the LCD cabinet, have a second person keep it steady. Otherwise, the LCD cabinet could fall over and cause injury. The cabinet, LCD and other parts might also sustain damage.

You'll Need These Tools

- 7/16", open end or combination wrench
- 3/4", open end or combination wrench
- M4 (4mm hex) metric driver
- 7/16" driver

- [] 1. Place the game machine in a suitable play or service area.
- [] 2. Remove the game machine from its shipping skid. *There are two pieces...*
 - The game cabinet (*LCD cabinet*) ships with its left side on the skid.
 - The marquee (*topper*) arrives in its own carton. You'll find this carton on the skid next to the LCD cabinet. You must assemble the marquee and mount it atop the LCD cabinet. (*Instructions are in the display carton.*)
- [] 3. Check for shipping damage to the following...
 - Cabinet back door
 - Cabinet coin door
 - Cabinet decals
 - Cabinet glass: Marquee and LCD
 - Playfield
- [] 4. Check the AC line cord for visible signs of damage. Pay particular attention to the plug and line cord insulation.
- [] 5. At the location, move the LCD cabinet upright and stand it on its bottom end. For assembly, allow at least three feet of room behind the cabinet.

⚠ WARNING

Front glass. Avoid personal injury and property damage! The front glass weighs 100 pounds. Before opening the front glass panel, adjust the leg levelers. Otherwise, opening the glass could cause the machine to overturn.

- [] 6. This step requires a 3/4-inch end wrench. On the cabinet, adjust the leg levelers as necessary. Leveling cabinets by adjusting leg levelers is a job for two people. There are two levelers under the control panel (*pod*) area. There are four levelers under the LCD cabinet.

Remove the Control Panel Cabinet (*Optional*)

You'll Need These Tools

- 3/4", open end or combination wrench
- M4 (4mm hex) metric driver
- 7/16" driver

After unpacking, the LCD cabinet is 43 inches deep. It might not fit through your door. In that case, you may remove the control panel box from the LCD cabinet.

⚠ WARNING

Control panel cabinet (*pod*). If you've removed the control panel cabinet (*pod*), never open the front glass. A game machine with a removed pod is unstable: Opening the front glass could cause the machine tip over. Injury or property damage could result.

- [] 1. This step requires an M4 (*4mm hex*) driver. Remove the two wooden side panels.
- [] 2. Inside the right side, disconnect four Molex cable connectors. (As you face the front of the machine, cables are on the *right side*.)
- [] 3. This step requires a 7/16-inch driver. Remove the ground braid that connects the control panel box to LCD cabinet.
- [] 4. With two workers, move the cabinets through your door.
- [] 5. Position the two cabinets so that you can mount them together.

Ⓢ CAUTION

When installing panels, avoid pinching wires.

- [] 6. This step requires a 7/16-inch driver. Reconnect the ground braid between the control panel cabinet and the LCD cabinet.
- [] 7. Inside the right side, connect four Molex cable connectors. (As you face the front of the machine, cables are on the *right side*.)
- [] 8. This step requires an M4 (*4mm hex*) driver. Replace the two wooden side panels.

⚠ WARNING

Front glass. Avoid personal injury and property damage! The front glass weighs 100 pounds. Before opening the front glass panel, adjust the leg levelers. Otherwise, opening the glass could cause the machine to overturn.

- [] 9. This step requires a 3/4-inch end wrench. On the cabinet, adjust the leg levelers as necessary. Leveling cabinets by adjusting leg levelers is a job for two people. There are two levelers under the control panel (*pod*) area. There are four levelers under the LCD cabinet.

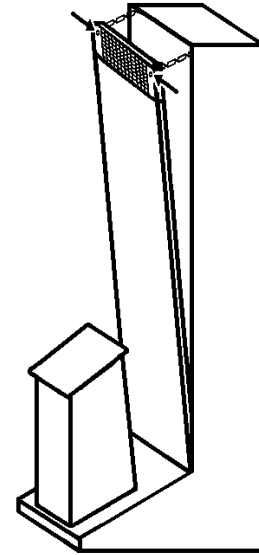
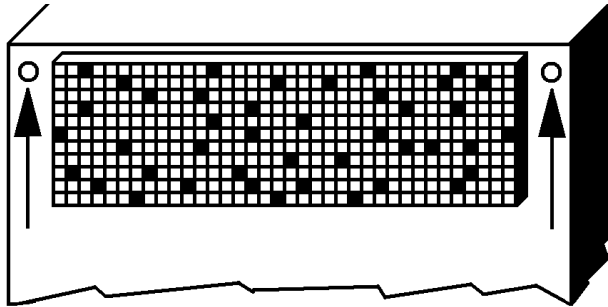
Remove the Shipping Insert

You'll Need These Tools

- M4 (4mm hex) metric driver

- [] 1. This step requires an M4 (4mm hex) driver. Remove two hex bolts from the metal LED dot display plate: At the top of the frame, one bolt is on each side of the display. (See the illustrations, below and right.)

[] 2.



- [] 3. Angle the glass forward slowly, until it rests on its retaining chains.
- [] 4. At the top of the LCD cabinet is a foam shipping insert. The foam prevents the ball-server trolley from crashing into the ends of the gantry. Remove the insert.
- [] 5. Load the balls (*minimum: four; maximum: 8*). Drop the balls onto the top of the playfield.

Δ WARNING

Restraining chains. You might need to angle the front glass beyond the extent of restraining chains. In that case, you must disconnect these chains. Take care to protect the fragile glass. Don't let it free-fall out of the cabinet! The glass might slam into the control panel and break. Shards of glass could fly in every direction.

- [] 6. The step requires an M4 (4mm hex) driver. Fasten the viewing glass to the cabinet frame. Use the two bolts that you removed during disassembly.
- [] 7. Remove the back panel of the LCD cabinet.
- [] 8. Inside the LCD cabinet, remove shipping debris that you might find in the ball trough.
- [] 9. Replace the back panel of the LCD cabinet.

Inspect Your Work

You'll Need These Tools

- 3/4", open end or combination wrench

- [] 1. Locate the AC line cord. The line cord ships in a cardboard box inside the coin door. The box also contains a red envelope with keys for the cashbox and ticket door. Also in the box are eight balls.
- [] 2. Insert the line cord into the socket in the back of the machine. The socket is on the bottom left side. (As you face the cabinet back.)
- [] 3. Plug the other end of the line cord into an AC outlet.

⚠ WARNING

Ground connection. The game machine requires a grounded, three-wire power outlet. *Never* defeat the ground pin! Ungrounded operation risks electrical shocks and equipment damage.

- [] 4. On the back of the LCD cabinet, locate the game AC power switch. The switch is on the bottom left side. (As you face the cabinet back.)
- [] 5. Turn on the power switch. After the game finishes loading, the game's Attract Mode should begin. Loading takes about 30 seconds.
- [] 6. Verify that the game starts and Attract Mode runs.
- [] 7. Check the game lamps for any that don't light.
- [] 8. If you're unfamiliar with the game machine's adjustment system, read *Chapter 3* of this manual. Then return to this instruction. Otherwise, enter the Main Menu.
- [] 9. Set pricing as you want it. (Use these menu settings: Coin 1, Coin 2/Dollar Bill, and Price Per Play.)
- [] 10. Set the volume control for the desired sound level. This *illuminated* control is inside the coin door.
- [] 11. On the side of the volume control mount is a slider. This slider controls woofer (*bass*) volume. Set the woofer control for the desired sound level.
- [] 12. If the sound volume isn't loud enough for your location, go to the Sound Volume Menu.
- [] 13. Set the Sound Volume Menu as necessary.
- [] 14. Go to the Diagnostic Menu.
- [] 15. Select Opto Switch Tests.
- [] 16. Verify that all target switches operate.
- [] 17. In the menu system, go to Blower and Gantry Tests.
- [] 18. Verify that the ball server trolley (*drop mech*) can drop a ball.

- [] 19. Check that the gantry trolley can travel all the way right and left.
- [] 20. By running the Standard Switch Tests and Opto Switch Tests, check proper game machine operation.
- [] 21. To verify normal gameplay, play a few games.
- [] 22. This is a job for two or three people. Move the game machine into to its exact position. For proper ventilation, keep the cabinet at least two inches away from the wall.
- [] 23. This step requires a 3/4-inch end wrench. Adjust the leg levelers on both cabinets as necessary. Leveling cabinets by adjusting leg levelers is a job for two people.
- [] 24. Store the keys in a safe place.

Gameplay

Launch Code is a striking redemption game with several attractions...

- **This is an oversized machine**, standing nine feet tall. Yet every nook is full of action!
- **Your master of ceremonies** is a pixie-like space alien.
- **Server.** Using the machine's movable ball server or trolley, the player drops balls into the playfield.
- **Points.** A player earns points by succeeding in landing a ball in one of the targets.
- **Landing a ball** in a target causes the system to dispense a number of tickets.
- **Button.** The SERVE BALL button controls a unique ball server chute that rides on a trolley in an overhead gantry.
- **A skilled player** can serve the ball in such a way that it falls into a particular target.
- **Progressive play** is a built-in and programmable feature. You can link up to six game machines.

Ⓢ CAUTION

Start Mode. When you start the game machine, don't go straight into Diagnostic Mode. Instead, allow the machine to start in Game Mode so that the switches initialize properly. Then after a few moments, you may enter Diagnostic Mode. Otherwise, switches might start in the wrong position during a game, causing a malfunction.

Ⓢ CAUTION

Ventilation. Allow at least two inches of clearance for ventilation between the back of the game machine and the building wall. Otherwise, the wall will obstruct ventilation fans at the top of the cabinet. The machine might overheat.

Chapter 3. Adjustments, Audits & Diagnostics

Menu System

Special software in your game machine provides a method for tailoring the customer experience and improving your bottom line. You can temporarily shut down the game machine and adjust operation or audit play statistics. Or you can diagnose problems. To help you, an operator menu system displays. Over two dozen menus give you point-and-click access to every software-controlled aspect of the game experience. The menus allow you to find and resolve game issues.

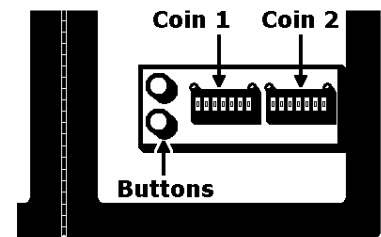
The menu system is accessible from Attract Mode or even during a game. (If you enter Diagnostic Mode during a game, the game aborts. Despite this fact, the player doesn't lose his tickets. After you exit Diagnostic Mode, the game machine dispenses the player's tickets.)

Diagnostic Button Panel

Bracket. Locate the *Diagnostic Button Panel*. (See the drawing, right.) The button panel mounts to a bracket inside the coin door, on top of the cash box vault.

To launch Diagnostic Mode, press the upper or lower diagnostic button.

Your coin meters are to the right of the buttons. The left meter counts the coin units that pass into Coin Chute 1. The right meter counts coin units (*including bills*) that pass into Coin Chute 2.



Diagnostic buttons in coin door

Navigating Through Menus

Function	Control
Move up through menu rows	TOP DIAGNOSTIC
Move down through menu rows	BOTTOM DIAGNOSTIC
Make the selected change	SERVE BALL

To move down through menu rows, press the BOTTOM DIAGNOSTIC button. To move *up* through menu rows, press the TOP DIAGNOSTIC button. The type in the selected row turns yellow. To activate a menu option, press the SERVE BALL button.

To return to the previous menu, activate the BACK option. Exiting from the Main Menu causes the game machine to enter Game Mode.

Improve Earnings

What players want. You'll want to take note of the Coin Adjustments and Game Adjustments menus. These menus can augment your bottom line. Game adjustments help you to deliver what players want, encourage repeat plays and even attract new players.

On the Coin Adjustments screen, you can change the pricing to suit your location.

Game Adjustments offers features that you can tailor to customers: Attract sounds draw the curious. The adjustable number of Targets and the ticket spin feature add pizzazz to your presentation. From Game Adjustments, you can also alter the ticket value and other ticket options.

How This Chapter Can Help

Finding your way. The menu system has four levels. That is, the top menu presents categories. You pick a category and then a lower level menu opens. This menu in turn might offer various types of choices. Two or three levels down from the main menu, you'll find what you need. For example, imagine that you're searching for a business. Here's how a menu system would allow you to find that business...

- The top menu asks what country. You choose a country.
- On the country's submenu, you choose a province.
- On the province submenu, you choose a city.
- On the city page, you locate the desired business.

To help you with the menus, this chapter provides listings of each screen. Each menu's page also includes descriptive information about the menu. At the beginning of each listing, a summary table shows what menu, submenu, etc. that this page is part of. This table will help you to trace the path to the page, starting with the main menu. See the example table below...

Main Menu →	Coin Adjustments, Submenu →	1.1.1.0, Coin 1, Sub-Submenu	
--------------------	------------------------------------	-------------------------------------	--

Tour of the Menu System

In the table below, each line represents a submenu under the Main Menu. We've numbered the lines to indicate accessibility. You can use the numbers to find which menu takes you to which submenu. Here's how the numbers work...

- Let's say that you're looking at the main menu, 1.0.0.0. The first number ("1") indicates the main menu. The trailing zeros indicate that you're on the top level for menu number 1. The main menu takes you to submenus that begin with "1." (*That's all of them!*)
- If the second number is greater than zero ("1.1.0.0," etc.), it indicates a submenu. To reach submenu 1.1.0.0, go to the main menu, 1.0.0.0.
- A nonzero third number ("1.1.1.0," etc.) indicates a sub-submenu. To reach submenu 1.1.1.0, go to submenu 1.1.0.0.
- A nonzero fourth number ("1.1.1.0," etc.) indicates a sub-sub-submenu. Submenu rules apply.

1.0.0.0 Launch Code - Main Menu

<p>1.1.0.0 Coin Adjustments</p> <ul style="list-style-type: none"> 1.1.1.0 Coin 1 1.1.2.0 Coin 2/Dollar Bill 1.1.3.0 Price Per Play 1.1.4.0 Swipe Card Mode 1.1.5.0 Reset Adjustables to Factory Defaults 	<p>1.6.0.0 Diagnostics</p> <ul style="list-style-type: none"> 1.6.1.0 Standard Switch Tests 1.6.2.0 Opto Switch Tests 1.6.3.0 Coin/Ticket Meter Tests 1.6.4.0 Ticket Dispenser Tests 1.6.5.0 Blower and Gantry Tests 1.6.5.1 Gantry Controller Test 1.6.6.0 Show FPS 1.6.7.0 Auto Drop Ball
<p>1.2.0.0 Coin Audits</p> <p>1.3.0.0 Game Audits</p> <ul style="list-style-type: none"> 1.3.1.0 Clear Current Audits 	<p>1.7.0.0 Software Update</p> <p>1.8.0.0 Sound Volume</p> <p>1.9.0.0 System Information</p> <p>1.A.0.0 Set Date – Game will Restart</p>
<p>1.4.0.0 Game Adjustments</p> <ul style="list-style-type: none"> 1.4.1.0 Attract Sounds 1.4.2.0 # of Targets 1.4.3.0 Cabinet Knocker 1.4.4.0 Single Progressive 1.4.5.0 Ticket Value 1.4.6.0 Ticket Amount Per Ticket 1.4.6.0 Remember Tickets Owed 1.4.7.0 Recall Owed Tickets & Credits 1.4.8.0 Target Value Ticket Adjustments 	
<p>1.5.0.0 Linked Game Adjustments</p> <ul style="list-style-type: none"> 1.5.1.0 # of Linked Games 1.5.2.0 What Am I? 1.5.2.0 Bonus Minimum / Start 1.5.3.0 Bonus Maximum 1.5.4.0 Increment Bonus By 1.5.5.0 Reset Bonus to Minimum 1.5.6.0 Progressive Hard Mode 1.5.7.0 Advanced Link and Diag 	

1.0.0.0, Main Menu, Menu

Main Menu

When you press either diagnostic button, the Main Menu appears. The Main Menu presents a number of selections that you can choose. As you can see in the figure below, these options cover game adjustments, audits and diagnostics.



Features on the Main Menu

Feature	What It Does
Coin Adjustments	Enter a menu that allows you to set pricing for coin acceptors. You'll also find a swipe-card option.
Coin Audits	Enter the Coin Audit Menu. Check or clear collection records for the Coin 1 or Coin 2/Dollar Bill chutes.
Game Audits	Enter the Game Audits Menu. Audit totals for ball and target statistics, plays, play time, and tickets.
Game Adjustments	Enter the Game Adjustments Menu. Set adjustable game features: Attract sounds, Multiball Mode, ticket value, etc.
Linked Game Adjustments	Enter the Linked Game Adjustments Menu. Alter features that affect or use communications between game machines, such as progressives.
Diagnostics	Enter the Diagnostics Menu. As you desire, test each peripheral device: Switches, meters, ball-server solenoids, motors, audio, and more. Check the frame rate (FPS) of the liquid crystal monitor.
Software Update	Enter a menu that allows you to update system software for the game machine.
Sound Volume	Enter the Sound Volume Menu: Default 85. Custom settings from 0 to 100.

System Information	Enter a menu that provides the current system and OS version, etc.
Set Date	Enter a menu that allows you to set the date and time.
Exit	Leave the menu system and enter Attract Mode.

Main Menu→	1.1.0.0, Coin Adjustments, Submenu		
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Coin Adjustments

From the Main Menu, pick Coin Adjustments. The Coin Adjustments Menu opens. From here, you can pick gameplay, coinage or sound adjustments. Then go to the selected menu and tailor the game to your installation.



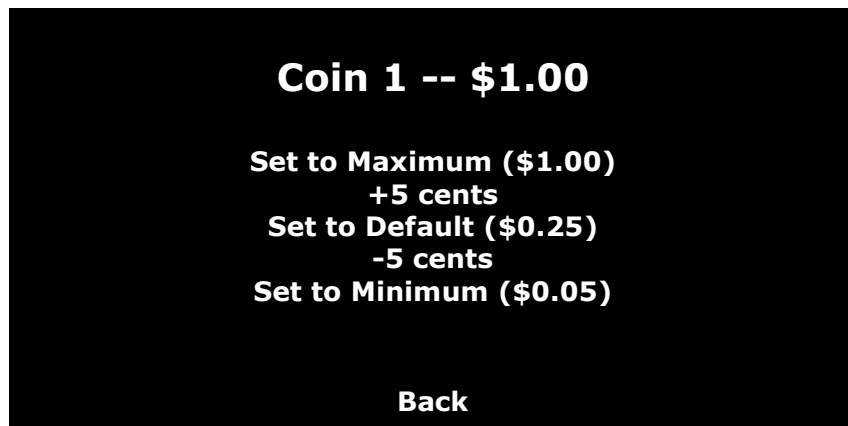
Features on the Coin Adjustments Menu

Feature	What It Does
Coin 1	Sets the value of a switch closure at Coin Chute 1 (dollar fraction).
Coin 2/Dollar Bill	Sets the value of a switch closure at Coin Chute 2 (dollar fraction).
Price Per Play	Sets the charge for one round of the game.
Swipe Card Mode	On (<i>default</i>): Accept swipe cards. Off: Ignore swipe cards.
Reset to Factory Defaults	Enter a menu that allows you to reset software to restore original settings.
Back	Returns the system to the Main Menu.

Main Menu→	Coin Adjustments, Submenu→	1.1.1.0, Coin 1, Sub-Submenu	
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Coin 1

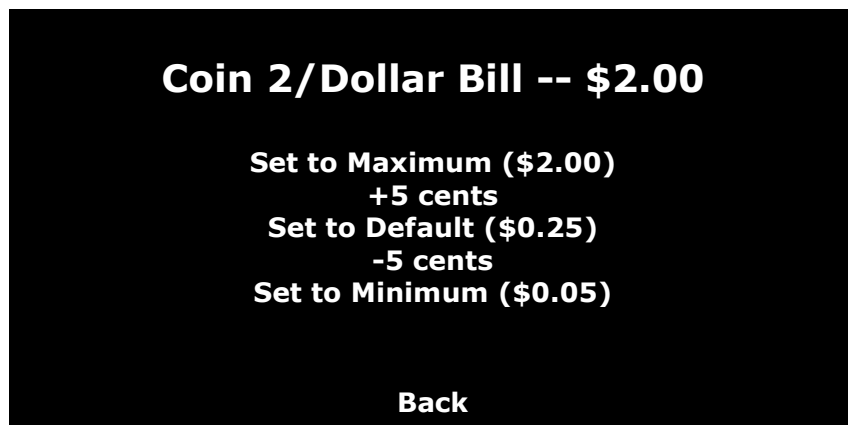
From the Coin Adjustments Menu, pick Coin 1. The Coin 1 Menu opens. From this screen, you can adjust the value of a switch closure at the Coin 1 chute. The maximum value is \$2 and the minimum is a nickel. You can raise or reduce the value in nickel increments. The default setting is 25 cents. A line option allows you to pick this default.



Main Menu→	Coin Adjustments, Submenu→	1.1.2.0, Coin 2/Dollar Bill, Sub-Submenu	
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Coin 2/Dollar Bill

From the Coin Adjustments Menu, pick Coin 2/Dollar Bill. The Coin 2/Dollar Bill Menu opens. The Coin 2/Dollar Bill chute contains a switch. This switch closes for each inserted coin or bill. The Coin 2/Dollar Bill Menu allows you to adjust the value of the switch closure. The maximum value is \$2 and the minimum is a nickel. You can raise or reduce the value in nickel increments. The default setting is 25 cents. A line option allows you to pick this default.



Main Menu→	Coin Adjustments, Submenu→	1.1.3.0, Price Per Play, Sub-Submenu	
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Price per Play

From the Coin Adjustments Menu, pick Price Per Play. The Price Per Play opens. Use this menu to set the charge for one round of the game. The maximum value is \$5 and the minimum is a nickel. You can raise or reduce the value in nickel increments. The default setting is \$1. A line option allows you to pick this default.

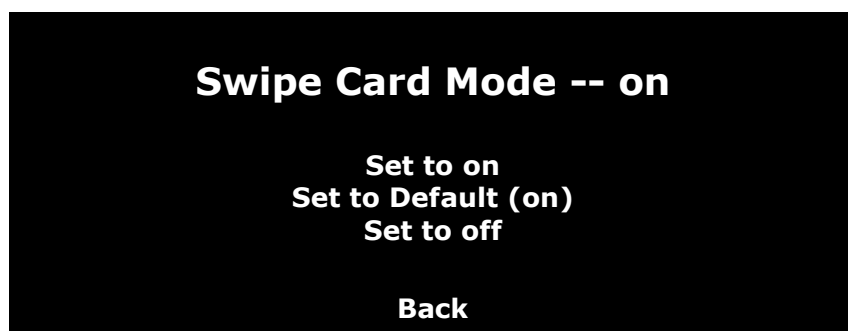


Main Menu→	Coin Adjustments, Submenu→	1.1.4.0, Swipe Card, Sub-Submenu	
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Swipe Card Mode

From the Coin Adjustments Menu, pick Swipe Card Mode. The Swipe Card Menu opens.

Use this menu to enable swipe card payments. On the swipe card screen, you can turn the swipe card option off or on. Or you can pick the default setting, which is "on."



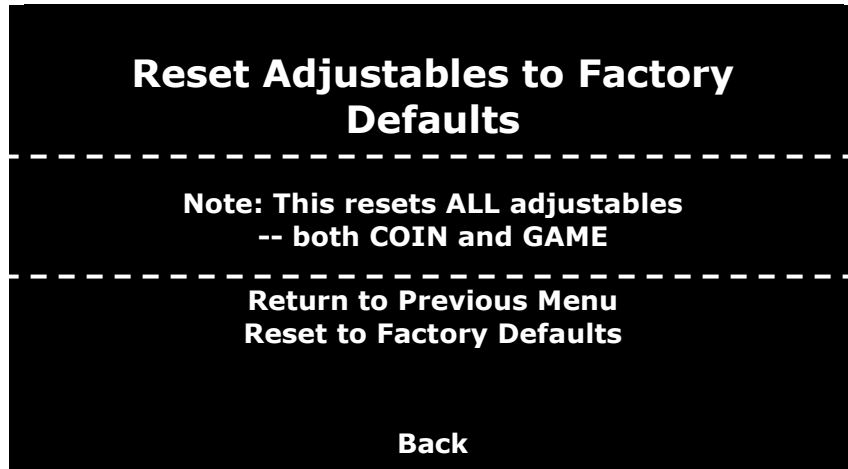
Set Swipe Card Value. The swipe card value may correspond to Coin 1 or Coin 2/Dollar Bill. Suppose that you connect the card reader to the Coin 1 wiring. Then the game system recognizes the card reader as "Coin 1." In that case, go to the Coin 1 Menu (1.1.1.0) to set the card value.

Effects Attract Mode Screen. If you select Swipe Card Mode, Attract Mode substitutes "Swipe Card" for "Insert Coin."

Main Menu→	Coin Adjustments, Submenu→	1.1.5.0, Reset Adjustables to Factory Defaults, Sub-Submenu	
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Reset Adjustables to Factory Defaults

From the Coin Adjustments Menu, pick Reset Adjustables to Factory Defaults. The Reset Adjustables Menu opens. This powerful menu can bring your game software back into compliance with the original settings.



© CAUTION

The menu, Reset Adjustables to Factory Defaults can reset both coin and game settings. Take care: There is no "undo" feature.

Main Menu→	1.2.0.0, Coin Audits, Submenu		
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Coin Audits

From the Main Menu, pick Coin Audits. The Coin Audits Menu opens. From this menu, you can check or clear collection records for the coin chutes.

Coin Audits

Coin 1 Lifetime: \$2400.00

Coin 2/Dollar Bill Lifetime: \$200.000

Plays Lifetime: 1200

Coin 1 Current: \$24.00

Coin 2/Dollar Bill Current: \$2.00

Clear Current Audits

note: This clears all audits – both COIN and GAME

Clear Current Credits / Coins

Please Clear Audits after changes

Are made to ensure correct data tracking

Back

© CAUTION

The Coin Audits menu can reset both coin and game settings. Take care: There is no “undo” feature.

Game Audits

From the General Audits Menu, pick Game Audits. The Game Audits Menu opens. Use this menu to view audit totals for ball and target statistics, plays, play time, and tickets.

Game Audits

Total Plays: 1200
Total Play Time: 2000
Plays Lifetime: 1200
Total Balls Dropped: 1500
Tickets won: 7300
Tickets Lifetime: 68000
Tickets Out Percent: 49
Missed Ball: 0
Forced Find 1: 202
Forced Find 2: 0

Targets Scored Per Game

0	Targets Hit:	107
1	Target Hit:	855
2	Targets Hit:	1205
3	Targets Hit:	473
4	Targets Hit:	41

Clear Current Audits
Note: This clears ALL audits –
Both
COIN and GAME

Back

Ⓢ CAUTION

The Game Audits menu can reset both coin and game settings. Take care: There is no “undo” feature.

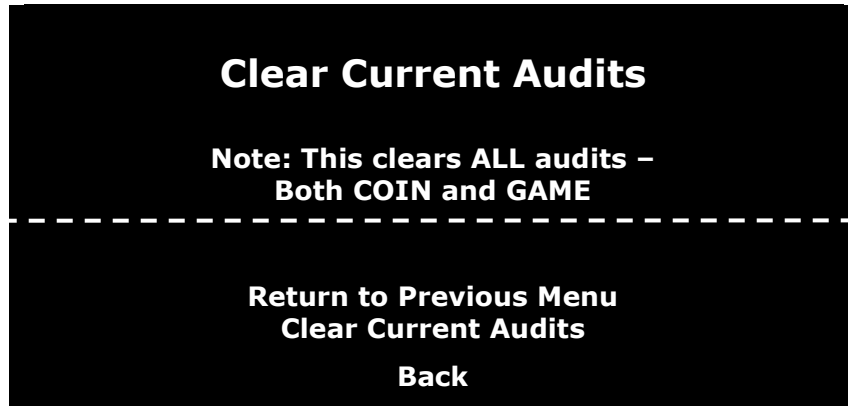
Uses for Game Audits

- Compare popularity of machines at different locations.
- Check the earnings impact of a game adjustment.
- Pinpoint mysterious problems.
- Analyze and compare the performance of games.

Main Menu→	Game Audits, Submenu→	1.3.1.0, Clear Current Audits, Sub- Submenu	
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Clear Current Audits

From the Game Audits Menu, pick Clear Current Audits. The Clear Current Audits Menu opens.



Ⓢ CAUTION

The Game Audits menu can reset both coin and game settings. Take care: There is no “undo” feature.

Main Menu→	1.4.0.0, Game Adjustments, Submenu		
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Game Adjustments

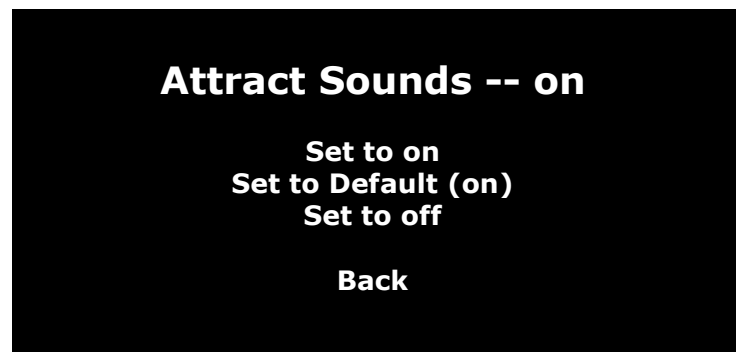
From the Main Menu, pick Game Adjustments. The Game Adjustments Menu opens. From this menu, you can set adjustable game features: Attract sounds, Multiball Mode, ticket value, etc. The Set Difficulty feature toggles between "easy," "normal," and "hard." Most other options open submenus.



Main Menu→	Game Adjustments, Submenu→	1.4.1.0, Attract Sounds, Sub-Submenu	
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Attract Sounds

From the Game Adjustments Menu, pick Attract Sounds. The Attract Sounds Menu opens. Use this menu to switch Attract Mode sounds on or off. The default setting is on.



Main Menu→	Game Adjustments, Submenu→	1.4.2.0, # of Targets, Sub-Submenu	
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of Targets

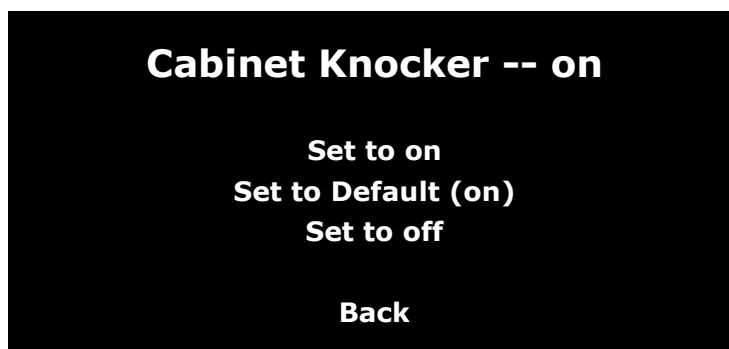
From the Game Adjustments Menu, pick # of Targets. The # of Targets Menu opens. Use this menu to alter target play. The maximum value is five targets. The minimum is four. You can raise or reduce the value by one target at a time. The default setting is three. A line option allows you to pick this default.



Main Menu→	Game Adjustments, Submenu→	1.4.3.0, Cabinet Knocker, Sub-Submenu	
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Cabinet Knocker

From the Game Adjustments Menu, pick Cabinet Knocker. The Cabinet Knocker Menu opens. Use this menu to switch the knocker feature on or off. The knocker is a solenoid whose plunger impacts the cabinet. The knocker adds sharp, acoustic and percussive sounds to the gameplay. You can switch the feature on or off. The default is on. A line option allows you to pick this default.

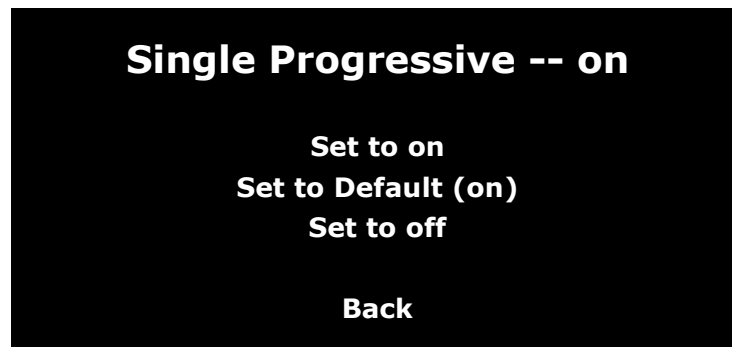


Main Menu→	Game Adjustments, Submenu→	1.4.4.0, Single Progressive, Sub- Submenu	
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Single Progressive

From the Game Adjustments Menu, pick Single Progressive. The Single Progressive Menu opens. Use this menu to enable the progressive feature. This feature allows winners across multiple game machines. Ticket awards can exceed awards from just one game machine. For this reason, progressives add excitement to games. The higher award level tends to increase game purchases.

You can switch the progressive on or off. The default is on. A line option allows you to pick this default.



Main Menu→	Game Adjustments, Submenu→	1.4.5.0, Ticket Value, Sub-Submenu	
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Ticket Value

From the Game Adjustments Menu, pick Ticket Value. The Ticket Value Menu opens. Use this menu to alter or eliminate ticket value. The ticket denomination is a fraction of a cent. Typically a ticket value is a multiple of one-one-hundredth of a penny. The figure on this screen (100 in the example below) is the penny multiplier (*PM*). Here's the formula for ticket value...

$$\text{Ticket Value} = [(0.01 \times \text{PM}) / 100]$$

Where

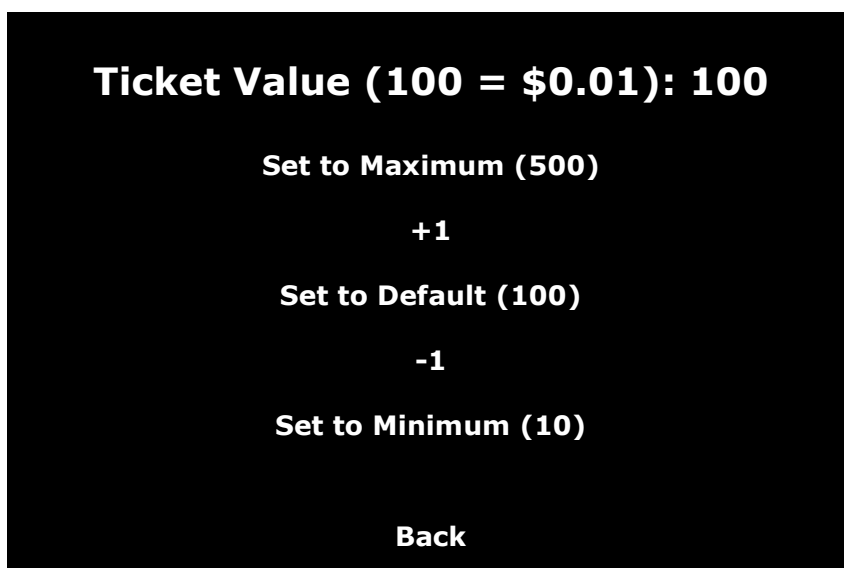
$$\text{Penny} = \$0.01 = 1 \text{ cent U.S.}$$

$$\text{PM} \leq 500$$

Reciprocal. Greater PM values result in higher ticket values. The default setting for PM is 100. A line option allows you to pick this default. In that case, one ticket is worth 1 / 100 cent.

Minimum and Maximum Ticket Values

The maximum ticket value is a nickel. The minimum value is one-tenth cent. You can raise or reduce the ticket value by hundredths of a cent.



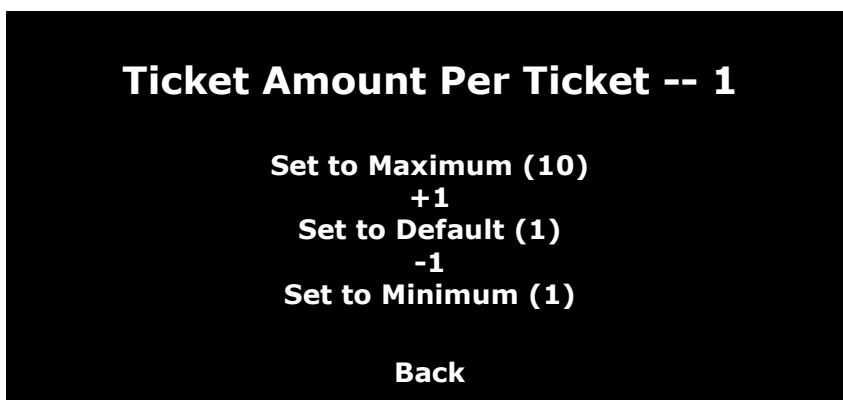
Examples	
Minimum Value	Value= $[(0.01 \times 10) / 100] = \0.001
In-Between Value	Value= $[(0.01 \times 300) / 100] = \0.03
Maximum Value	Value= $[(0.01 \times 500) / 100] = \0.05

Main Menu→	Game Adjustments, Submenu→	1.4.6.0, Ticket Amount Per Ticket, Sub-Submenu	
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Ticket Amount Per Ticket

From the Game Adjustments Menu, pick Ticket Amount Per Ticket. The Ticket Amount Per Ticket Menu opens. Use this menu to increase or decrease the value for one ticket. You can switch the feature on or off. The default is on. A line option allows you to pick this default.

You can save paper by multiplying the value of each ticket. For example, you can dispense one ticket for every two tickets the player wins. Then you fulfill the value of two tickets for every ticket that the player turns in. The system doesn't permit fractional values for this feature. (That is, causing the machine to dispense many tickets per ticket that the player won.)

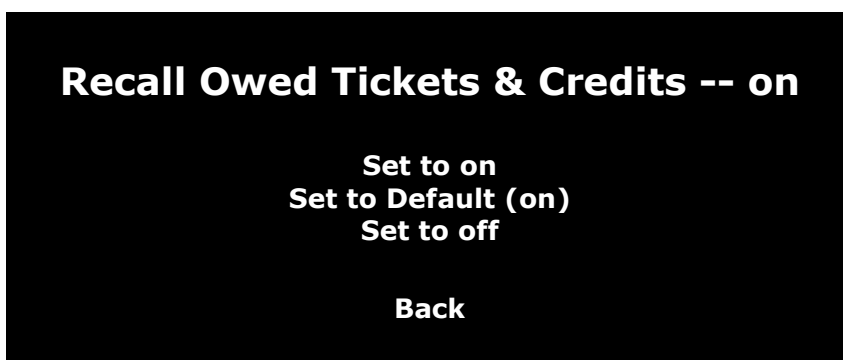


Main Menu→	Game Adjustments, Submenu→	1.4.7.0, Recall Owed Tickets & Credits, Sub-Submenu	
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Recall Owed Tickets & Credits

From the Game Adjustments Menu, pick Recall Owed Tickets & Credits. The Recall Owed Tickets & Credits Menu opens.

Use this menu to let the system recall tickets and credits that a player won before a system reboot. You can enable or disable the feature. The default is on. A line option allows you to pick this default.



Main Menu→	Game Adjustments, Submenu→	1.4.8.0, Target Value Ticket Adjustments, Sub-Submenu	
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Target Value Ticket Adjustments

From the Game Adjustments Menu, pick Target Value Ticket Adjustments. The Target Value Ticket Adjustments Menu opens.

This menu affects ticket dispensing. Use this menu to change how many tickets the game machine dispenses for making a target.

The target map, right, shows how the game machine numbers the targets. The topmost target that this function adjusts is Target 36.

How this adjustment works. Select the number of tickets to dispense when players hit the given number of targets. There is also a "Mercy" value. This value allows encouragement in the form of tickets for players who miss the targets.

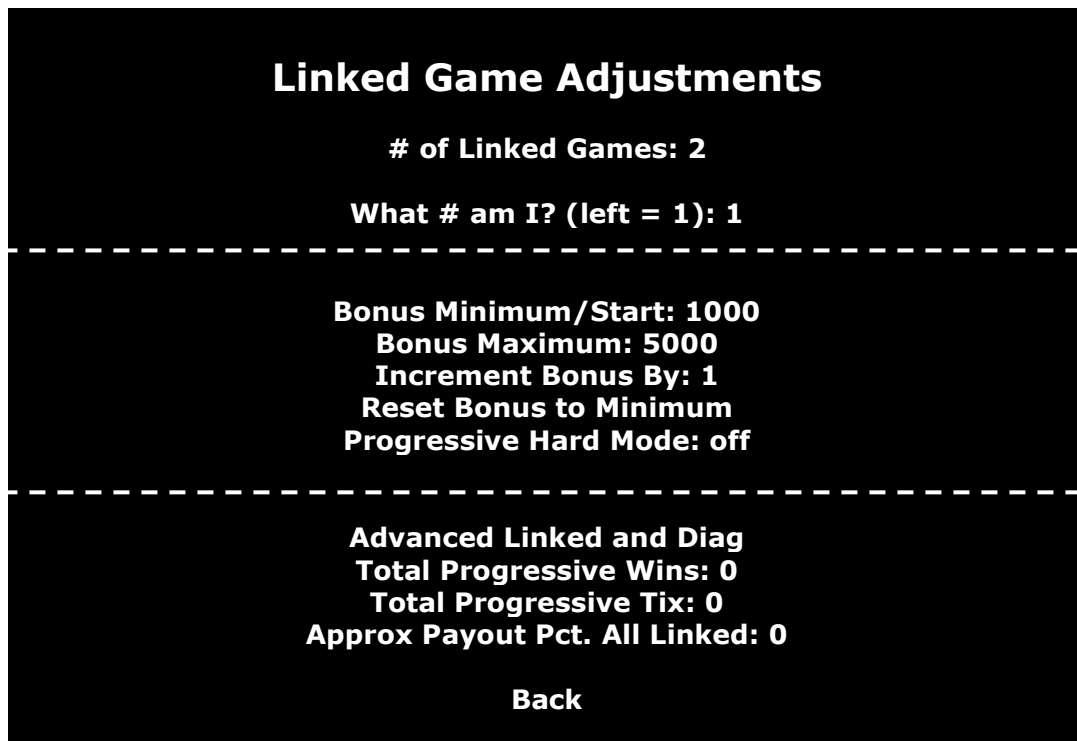
To make a change, select the desired line item. The system takes you to a submenu where you may change one award level. When you return to this menu, the relevant line will display your change in the number of dispensed tickets.



Main Menu→	1.5.0.0, Linked Game Adjustments, Submenu		
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Linked Game Adjustments

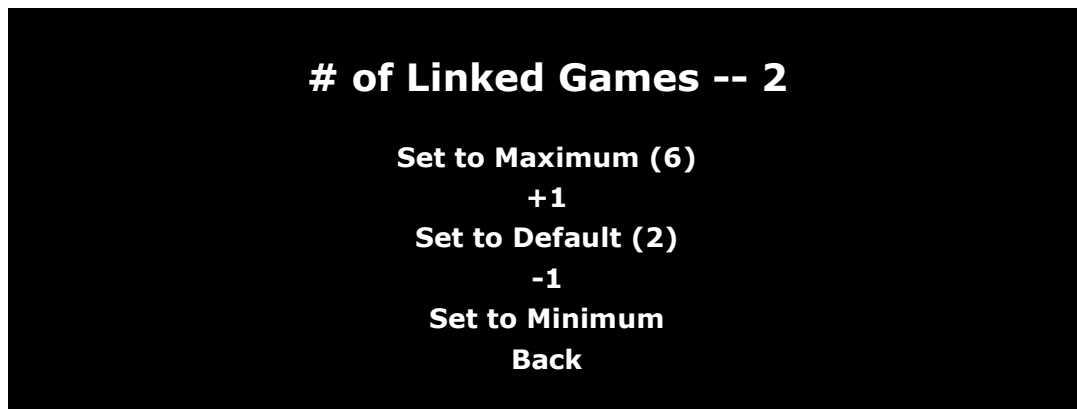
From the Main Menu, pick Linked Game Adjustments. The Linked Game Adjustments Menu opens. From this menu, you can check the identity of the linked machine that you're adjusting. You can also adjust bonus payout values and progressive details.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.1.0, # of Linked Games, Sub-Submenu	
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of Linked Games

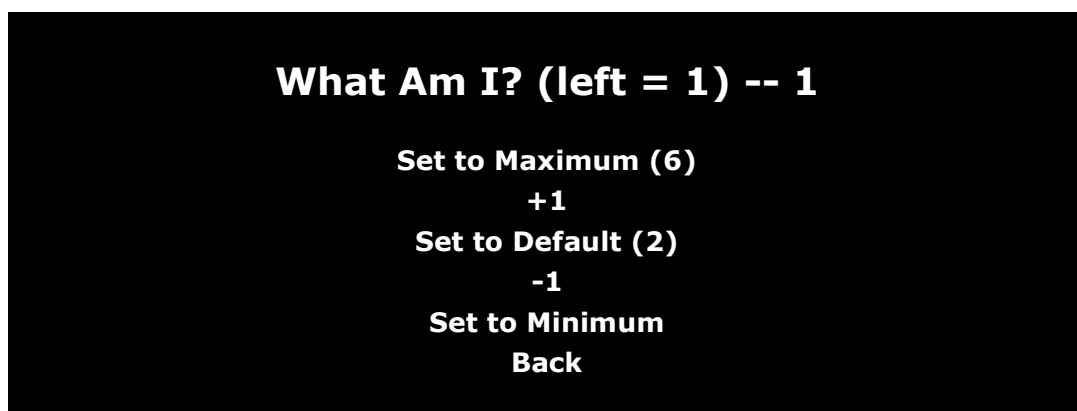
From the Linked Game Adjustments Menu, pick # of Linked Games. The # of Linked Games Menu opens. From this menu, you can increase or reduce the number of linked game machines.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.2.0, What Am I? Sub-Submenu	
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What Am I? (left = 1)

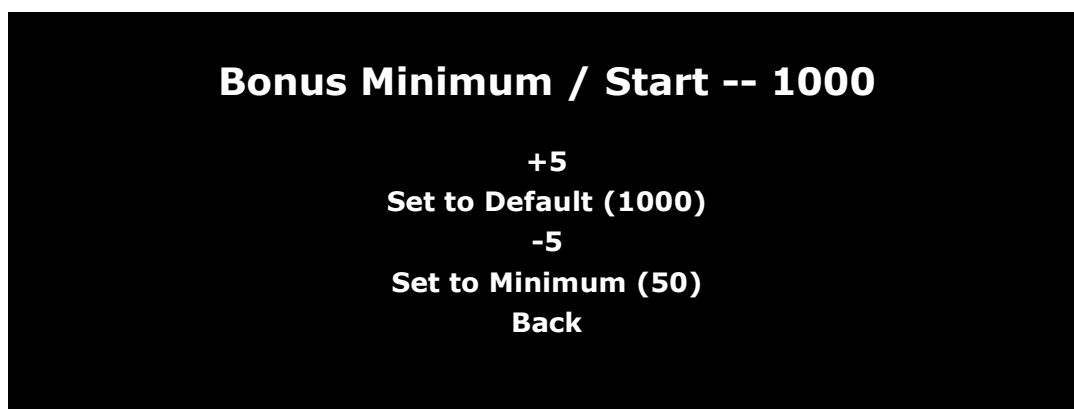
From the Linked Game Adjustments Menu, pick What Am I?. The What Am I Menu opens. This menu locates this machine on the progressive network. The number of the subject game machine appears on this menu.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.3.0, Bonus Minimum / Start Sub-Submenu	
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Bonus Minimum / Start

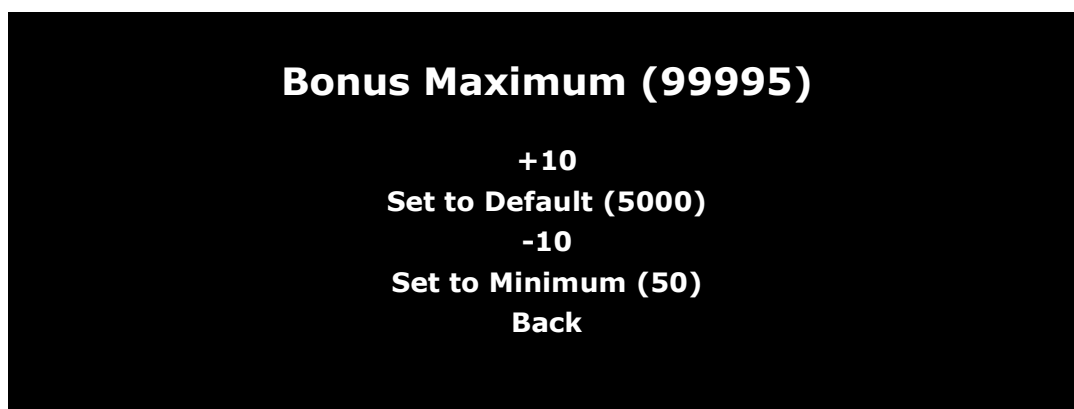
From the Linked Game Adjustments Menu, pick Bonus Minimum / Start. The Bonus Minimum / Start Menu opens. This menu allows you to adjust the minimum point level where the machine may award bonus points.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.4.0, Bonus Maximum, Sub-Submenu	
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Bonus Maximum

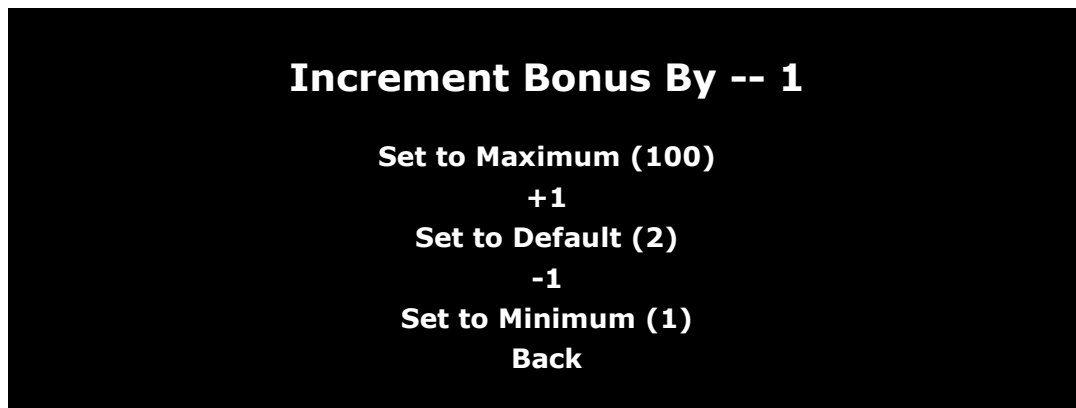
From the Linked Game Adjustments Menu, pick Bonus Maximum. The Bonus Maximum Menu opens. This menu allows you to adjust the maximum point level where the machine may award bonus points.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.5.0, Increment Bonus By, Sub-Submenu	
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Increment Bonus By

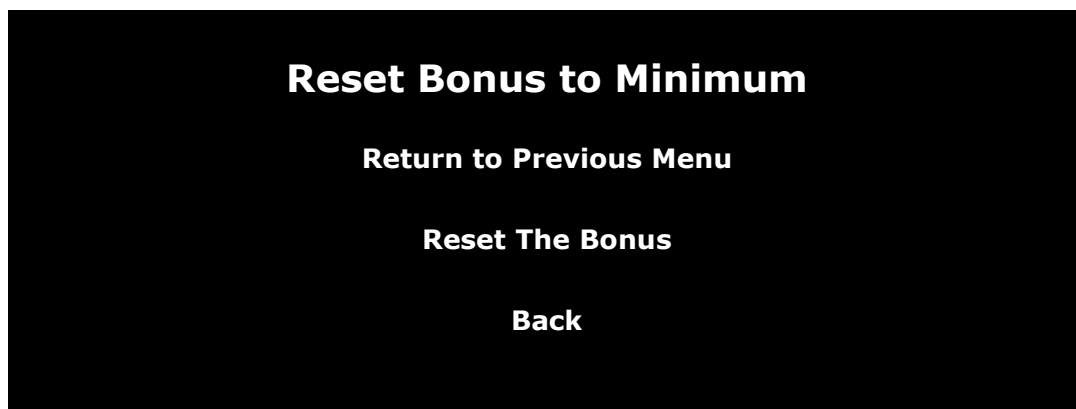
From the Linked Game Adjustments Menu, pick Increment Bonus By. The Increment Bonus By Menu opens. This menu allows you to assign bonus increments. From the default, you can increase or decrease the bonus by one-point increments.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.6.0, Reset Bonus to Minimum, Sub-Submenu	
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Reset Bonus to Minimum

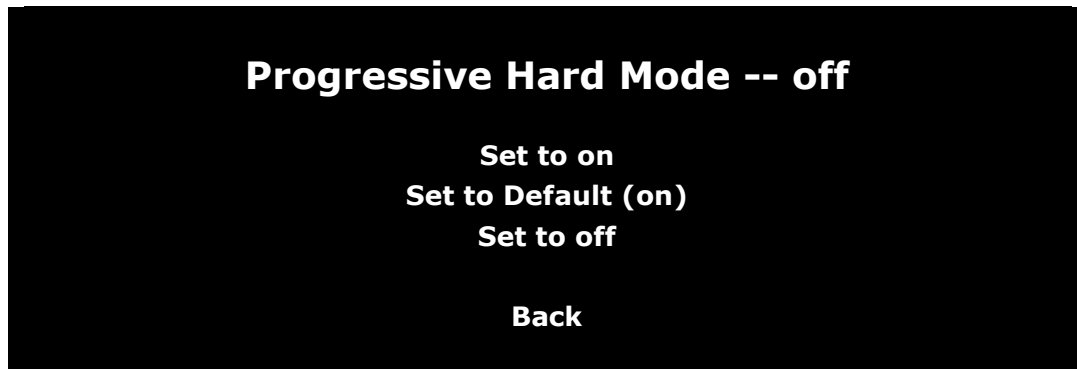
From the Linked Game Adjustments Menu, pick Reset Bonus to Minimum. The Reset Bonus to Minimum Menu opens. This menu allows you to reset the bonus to its minimum value.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.7.0, Progressive Hard Mode, Sub-Submenu	
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Progressive Hard Mode

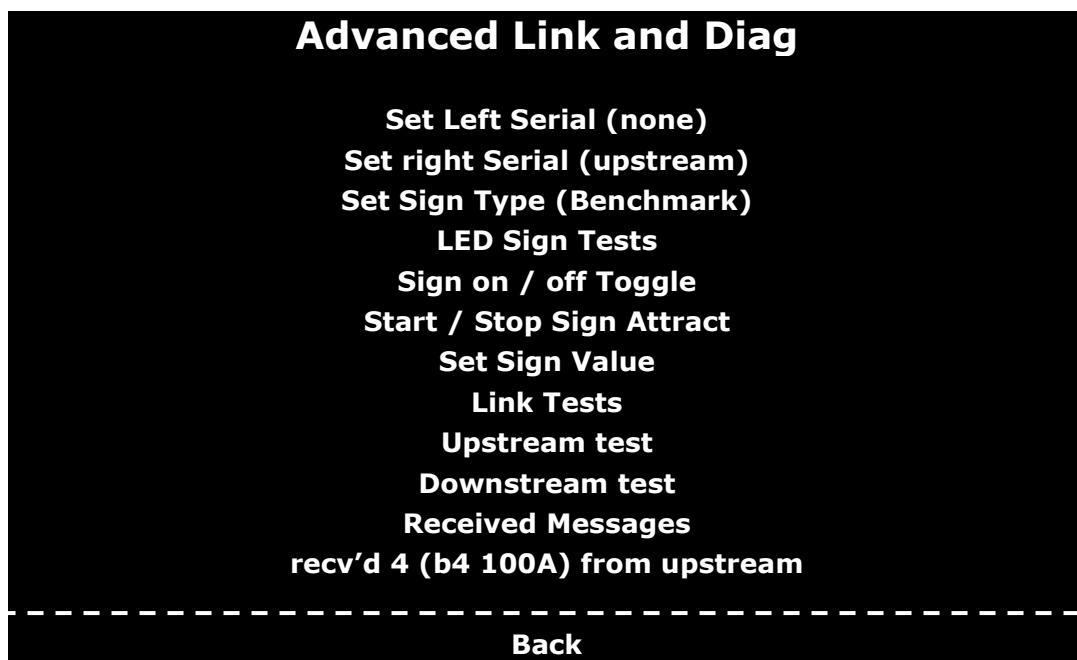
From the Linked Game Adjustments Menu, pick Progressive Hard Mode. The Progressive Hard Mode Menu opens. This menu allows you to turn the progressive hard mode on or off.



Main Menu→	Linked Game Adjustments, Submenu→	1.5.8.0, Advanced Link and Diag, Sub-Submenu	
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Advanced Link and Diag

From the Linked Game Adjustments Menu, pick Advanced Link and Diag. The Advanced Link and Diag Menu opens. This menu locates this machine on the progressive network. The number of the subject game machine appears on this menu.



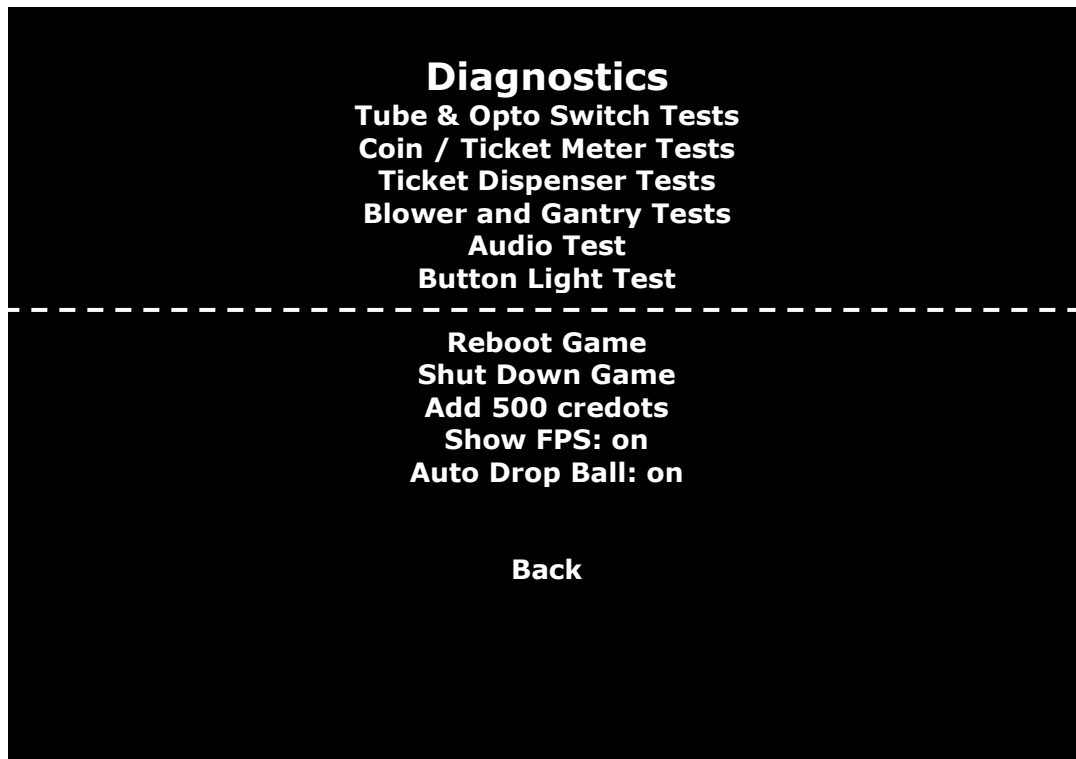
Choices for First Three Line Items

Line Item	Choice 1	Choice 2	Choice 3	Choice 4
Set Left Serial	None	Sign	Downstream	
Set right Serial	Upstream	Downstream	None	Sign
Set Sign Type	Benchmark	Anchor		

Main Menu→	1.6.0.0, Diagnostics, Submenu		
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Diagnostics

From the Main Menu, pick Diagnostics. The Diagnostics Menu opens. From this menu, you can check electromechanical features of your *Launch Code* game machine.



Features on the Diagnostics Menu

Feature	What It Does
Tube & Opto Switch Tests	Access the Tube & Opto Switch Tests Menu. You can make a switch and watch for a state change. No state change means a bad device.
Coin / Ticket Meter Tests	Access the Coin / Ticket Meter Tests Menu. Send a meter an increment command. Check to see if the meter advances.

Ticket Dispenser Tests	Access the Ticket Dispenser Tests Menu. Verify that a ticket dispenser responds to a vend command.
Blower and Gantry Tests	Access the Blower and Gantry Tests Menu. Operate the blower, gantry motors and solenoids to check for malfunctions.
Audio Test (No submenu)	Pick this option to sound a chime. Verify speaker and amplifier operation.
Button Light Test (No submenu)	Pick this option to light the player button lamp. To turn off the lamp, press the button. Helps you to check the lamp and cables.
Coin 1 Lockout on/off Test (No submenu)	If you have a New Jersey lockout mechanism, this test activates the Coin 1 coil. If the mech is good, it refuses coins.
Coin 2 Lockout on/off Test (No submenu)	If you have a New Jersey lockout mechanism, this test activates the Coin 1 coil. If the mech is good, it refuses coins.
Reboot Game (No submenu)	Reboots the game. The screen turns gray. After several moments, game software reboots and restarts in Game Mode.
Shut Down Game (No submenu)	Shuts down the game computer. The peripherals are still active. To start the machine up again, turn the main power off and on.
Show FPS: off	<i>Strictly for diagnostic use!</i> Access the Show FPS Menu. During a game, you can display the monitor frame rate. (Also other game code.) The character mode display appears sideways and superimposes over game video.
Auto Drop Ball: off	<i>Strictly for diagnostic use!</i> Access the Auto Drop Ball Menu. When active, this feature causes balls to drop randomly in Game Mode. Use Auto Drop Ball to test the blower, gantry, trolley and server mech. Then reset the feature for normal gameplay.

Ⓢ **CAUTION**

Show FPS. Before putting the game into service, disable this feature. Otherwise, code will overwrite game graphics and spoil gameplay.

Ⓢ **CAUTION**

Auto Drop Ball serves balls randomly. While a technician may use this feature to diagnose blower and gantry problems, normal gameplay is impossible. Before restoring the game machine to service, disable this feature.

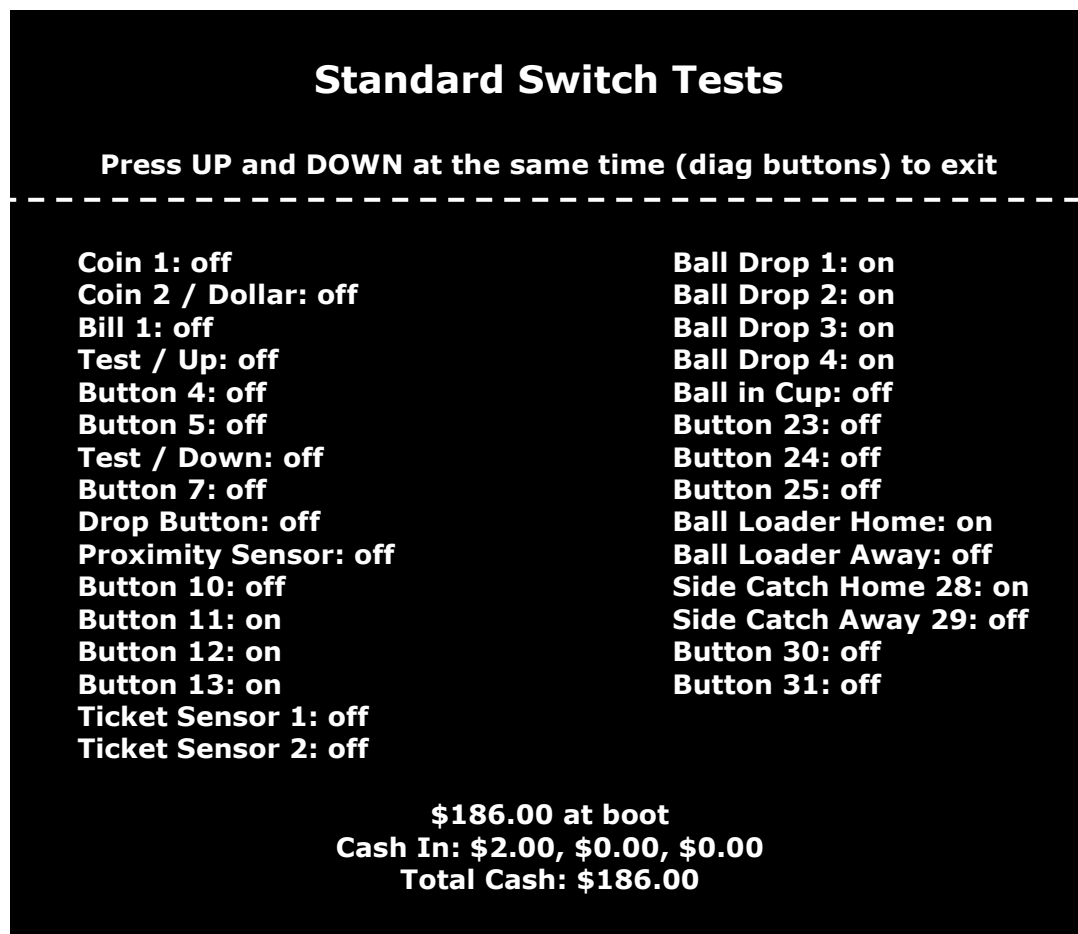
Main Menu→	Diagnostics, Submenu→	1.6.1.0, Standard Switch Tests, Sub- Submenu	
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Standard Switch Tests

From the Diagnostics Menu, pick Standard Switch Tests. The Standard Switch Tests Menu opens.

Button Switches *aren't* pushbuttons. Instead, they're tiny opto switches that read balls falling into the tubes (*chutes*). The tubes, of which there are nine, are at the bottom of the playfield. Inside each tube is a stack of four switches. Altogether, there are 36 switches.

The Standard Switch Tests cause the system to try to read the switches. The highest switch numbers might not correspond to switches in your game machine. Depending on the game revision, the highest actual switch number varies. (Yet if the system "reads" a nonexistent switch, there is a real problem!)



Ⓢ CAUTION

When you start the game machine, don't go straight into Diagnostic Mode. Instead, allow the machine to start in Game Mode so that the switches will initialize properly. Then after a few moments, you may enter Diagnostic Mode. Otherwise, switches might start in the wrong position during a game, causing a malfunction.

Main Menu→	Diagnostics, Submenu→	1.6.2.0, Opto Switch Tests, Sub-Submenu	
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Opto Switch Tests

From the Diagnostics Menu, pick Opto Switch Tests. The Opto Switch Tests Menu opens. The Opto Switch Tests cause the system to try to read the target switches.

AWAY
HOME

OPTO SWITCH TESTS

TO EXIT: PRESS BOTH DIAGNOSTIC BUTTONS AT THE SAME TIME

PRE-LOAD TUBE BALLS

4 3 2 1

SLOT 4-Top

SLOT 3

SLOT 2

SLOT 1-Bottom

BALL DROP MECH

PRESS BIG BUTTON TO DROP A TEST BALL

LOWER BALL LOADER

BALL CATCH SLIDER

CLOSED **OPEN**

TUBE 1	TUBE 2	TUBE 3	TUBE 4	TUBE 5	TUBE 6	TUBE 7	TUBE 8	TUBE 9
4	8	12	16	20	24	28	32	36
3	7	11	15	19	23	27	31	35
2	6	10	14	18	22	26	30	34
1	5	9	13	17	21	25	29	33

Thirty-six opto targets line the walls of tubes at the bottom of the game machine. The name for this collection of optos and tubes is the *lower ball loader*.

Using the Opto Switch Tests, you can check each switch to see that it operates correctly. This test is important, because dust can settle on an opto transmitter or receiver. With enough dust buildup, the opto will stop working reliably. Another reliability issue: Aging LEDs grow dim.

An opto switch closure causes current to flow at the opto receiver, a phototransistor. The target switches are normally closed switches. This is so because the infrared beam normally has a free path from transmitter to receiver.

Opto Pairs. Each target (*one through 36 in the figure below*) contains one opto pair. In each pair, the LED transmitter is on the left side of the target. The phototransistor receiver is on the right.

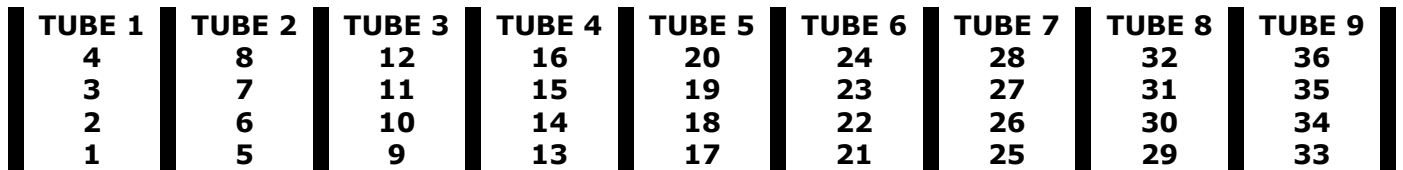


Diagram of tubes (chutes) at the bottom of the playfield, indicating 36 opto targets

Dropping through the target, a ball cuts off the infrared beam. Lacking the beam, the transistor stops passing current. This situation presents a state change. The test responds by displaying a red bar at the position of the open (*high*) receiver output. The bar only appears in the target with the open switch. When the state changes, you also hear a sound effect.

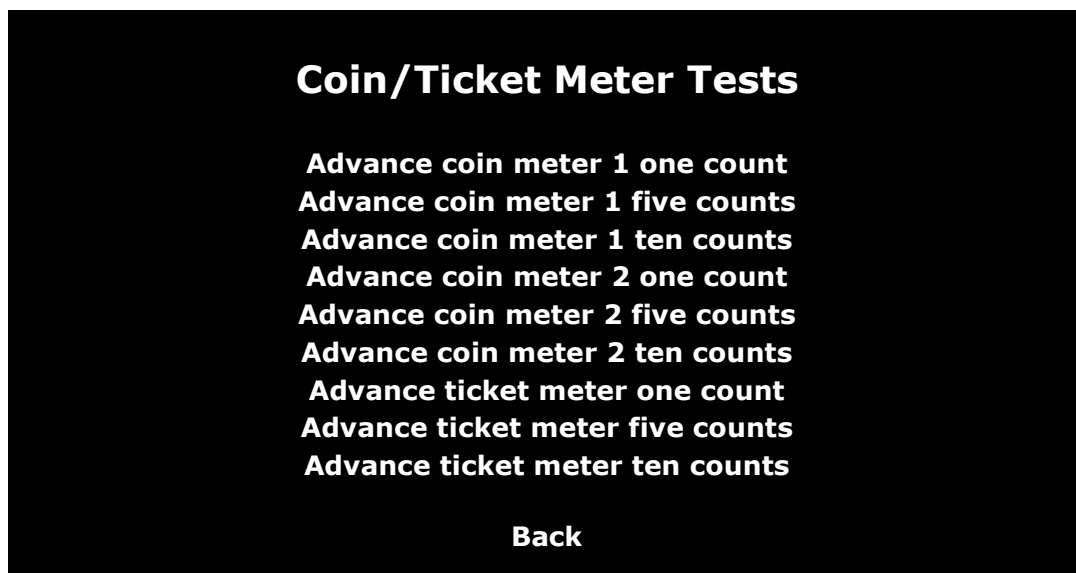
Optos on the gantry trolley operate differently. With four balls in the trolley, you'll see four bars at the top of the test screen. Each bar indicates one ball. That is, each bar shows that a ball is blocking one infrared beam. When the ball serves, the infrared beam again excites the opto. Unlike target optos, gantry optos connect directly to the I-O Board.

To review: Target switches that behave normally have no bar until something interrupts the beam. If something interrupts the beam, the bar should appear. When the state changes, you also hear a sound effect. Any other behavior indicates a problem. During this test, you can test switches by putting fingers in the targets. Watch for a change in state. Gantry trolley switches cause bars to appear at the top of the screen. Each bar indicates that the trolley is carrying one ball. Any other behavior indicates a problem. Example: Two bars despite four balls riding in the trolley.

Main Menu→	Diagnostics, Submenu→	1.6.3.0, Coin Meter Tests, Sub-Submenu	
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Coin/Ticket Meter Tests

From the Diagnostics Menu, pick Coin Meter Tests. The Coin Meter Tests menu opens.



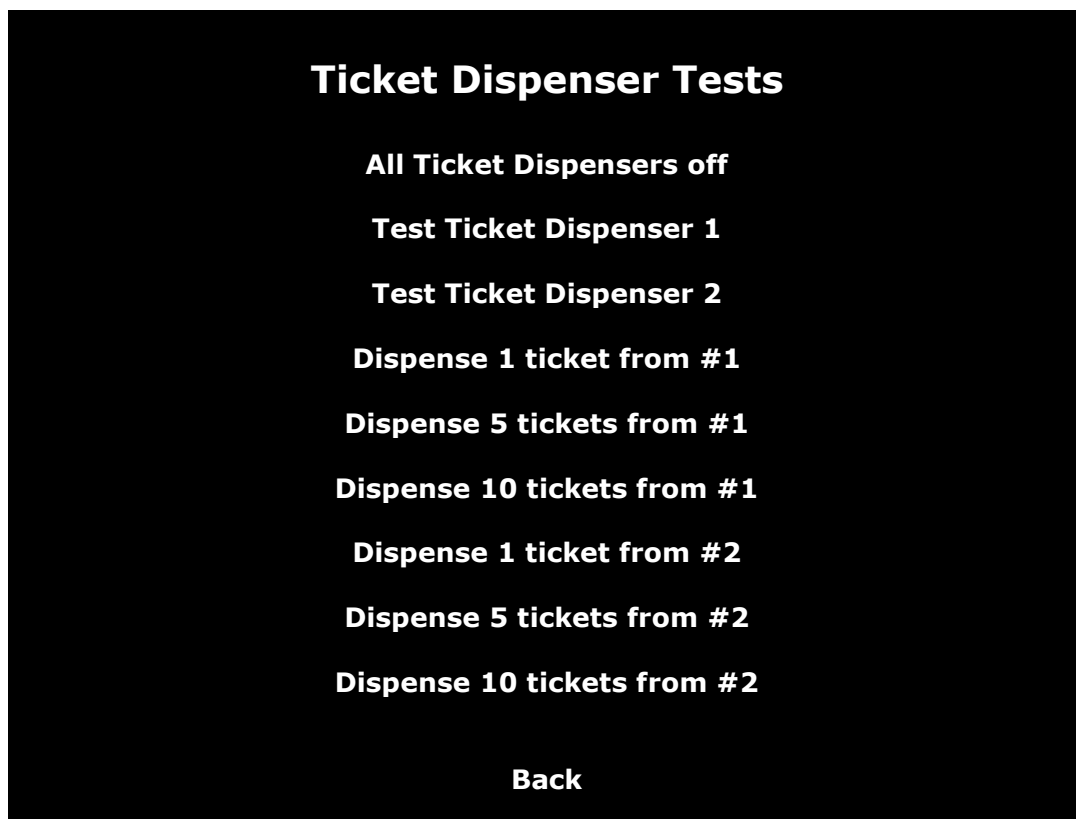
Watch the Meter. You'll find two coin meters on the switch bracket behind the coin door. The left one is Coin Meter 1. The right one is Coin Meter 2. With this test, you can test each one in turn. Watch one of your game machine's mechanical coin meters. Select the desired number of meter increments (one to ten). If you can increment by one or several counts, the meter and drive circuit are okay. If the meter doesn't click, then it probably isn't receiving a pulse from the game machine. You might have a broken cable or a bad driver. The driver would be on the I-O Board. Troubleshoot the problem. If the meter clicks, but doesn't increment, replace the meter.

Main Menu→	Diagnostics, Submenu→	1.6.4.0, Ticket Dispenser Tests, Sub-Submenu	
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Ticket Dispenser Tests

From the Diagnostics Menu, pick Ticket Dispenser Tests. The Ticket Dispenser Tests Menu opens. Use this menu to set up or check your game machine's two ticket dispensers. For example, you can verify the operation of either ticket mechanism by dispensing one, five or 10 tickets.

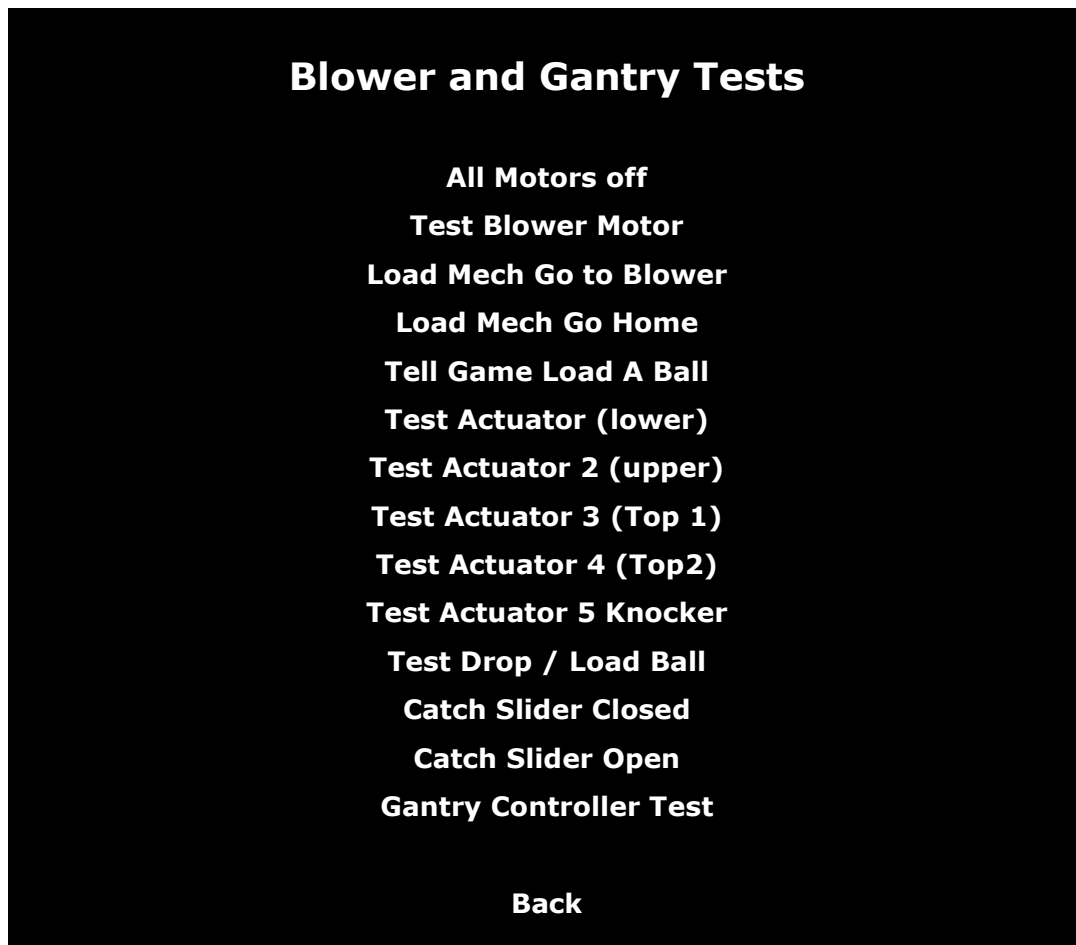
Or if you want to continuously dispense tickets, pick Test Ticket Dispenser 1 (or 2). The dispenser will feed tickets as long as you hold down the SERVE BALL button.



Main Menu→	Diagnostics, Submenu→	1.6.5.0, Blower and Gantry Tests, Sub- Submenu	
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Blower and Gantry Tests

From the Diagnostics Menu, pick Motor and Gantry Tests. The Motor and Gantry Tests Menu opens. Use this menu to check input performance of gantry parts: The gantry motor, blower motor, switches, belts and solenoids. You can also use this menu to check the mechanical alignment and operation of the ball server gantry.



Main Menu→	Diagnostics, Submenu→	Blower and Gantry Tests, Sub- Submenu→	1.6.5.1, Gantry Controller Test, Sub- Sub-Submenu
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Gantry Controller Test

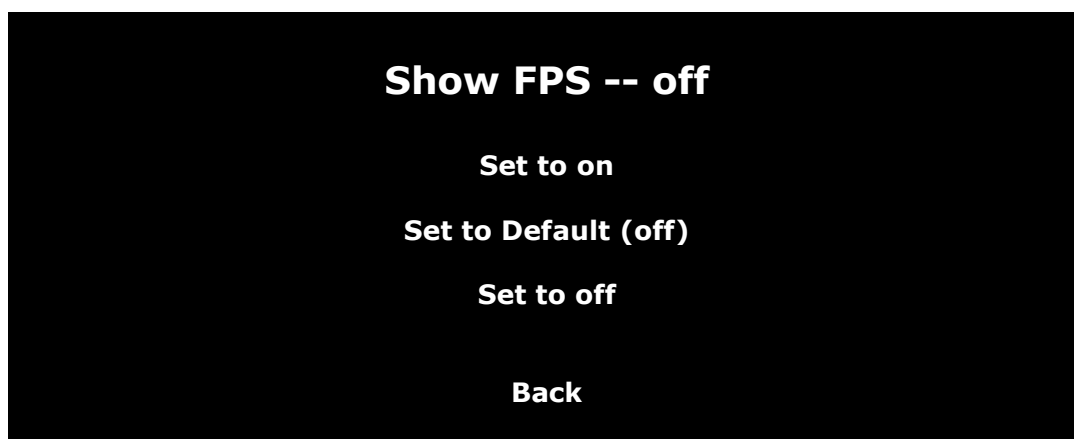
From the Blower and Gantry Tests Menu, pick Gantry Controller Test. The Gantry Controller Test Menu opens. Each line item pulses one of the motors or solenoids. A test pulse is the same as a normal control signal. This pulse should cause the motor or solenoid to activate. If you don't detect any movement, check the device and its cables. (The drop chute is another name for the trolley.)



Main Menu→	Diagnostics, Submenu→	1.6.6.0, Show FPS, Sub-Submenu	
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Show FPS

From the Diagnostics Menu, pick Show FPS. The Show FPS Menu opens. Use this menu to enable or disable the frames per second (*FPS*) display. The FPS display lets you know how fast the monitor is scanning. The standard for this panel is 30 Hz.



Ⓢ CAUTION

Show FPS. Before putting the game into service, disable this feature. Otherwise, code will overwrite game graphics and spoil gameplay.

Main Menu→	Diagnostics, Submenu→	1.6.7.0, Auto Drop Ball, Sub-Submenu	
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Auto Drop Ball

From the Diagnostics Menu, pick Auto Drop Ball. The Auto Drop Ball Menu opens. From this menu, you can activate the auto-drop function. This function allows you to use Game Mode for tests of the ball server. With the Auto Drop diagnostic on, the SERVE BALL button loses control of the ball. Instead, the game machine assumes control and randomly drops balls.



ⓘ CAUTION

Auto Drop Ball serves balls randomly. While a technician may use this feature to diagnose blower and gantry problems, normal gameplay is impossible. Before restoring the game machine to service, disable this feature.

Main Menu→	1.7.0.0, Software Update, Submenu		
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Software Update

From the Main Menu, pick Software Update. The Software Update Menu opens. Use this menu when updating game software from a USB thumb drive.

To update game software, insert a thumb drive with the game files into the game CPU Board. You can use any free USB port. The file names will appear on the LCD screen. You may select a file with the diagnostic buttons and the player button. The game machine can only access files that are in the root directory. (The machine ignores files that are in folders or subdirectories.)

Software Update

Select file to load (Note: will only look for files at the top of the drive--no subdirectories)

Log - 20160603_
155727.zip

Back

Main Menu→	1.8.0.0, Sound Volume, Submenu		
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Sound Volume

From the Main Menu, pick Sound Volume. The Sound Volume Menu opens. Use this menu to check sound level and quality.

Missing sounds indicate digital flaws. Distorted sounds suggest analog flaws. The lack of sound implies disconnected or bad cables, speakers or amplifiers. Of course, for a sound test to be valid, the rest of the game must operate.

Sound Volume -- 85

Set to Maximum (100)

+5

Set to Default (85)

-5

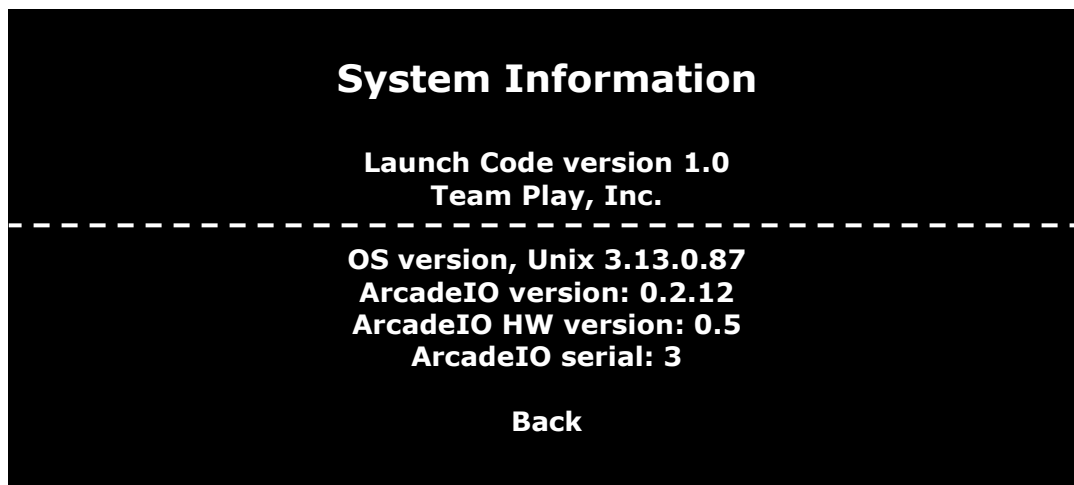
Set to Minimum (0)

Back

Main Menu→	1.9.0.0, System Information, Submenu		
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System Information

From the Main Menu, pick System Information. The System Information Menu opens. This is a data display page. There are no user settings.

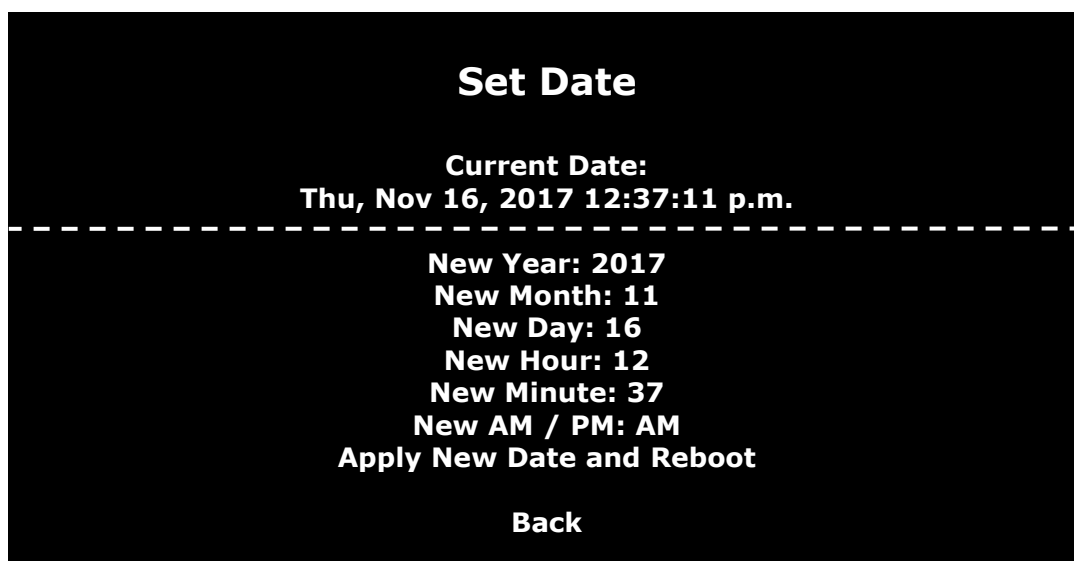


Main Menu→	1.A.0.0, Set Date, Submenu		
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Set Date

From the Main Menu, pick Set Date. The Set Date menu opens. Above the dashed line is the system date. Below the line is a date-entry form. To set the date, follow these steps...

1. On this menu, set each line item.
2. Pick "Apply New Date and Reboot." The system then assembles the date from your entries.



Chapter 4. Parts

Understanding the Parts Chapter

Data Organization. We've organized each component alphabetically by a descriptive noun in the name. For example...

Marquee, LED Bonus Progressive
Drive, disk, 2.5-inch, SATA

The part number by which you can order the part is on the right side of the page.

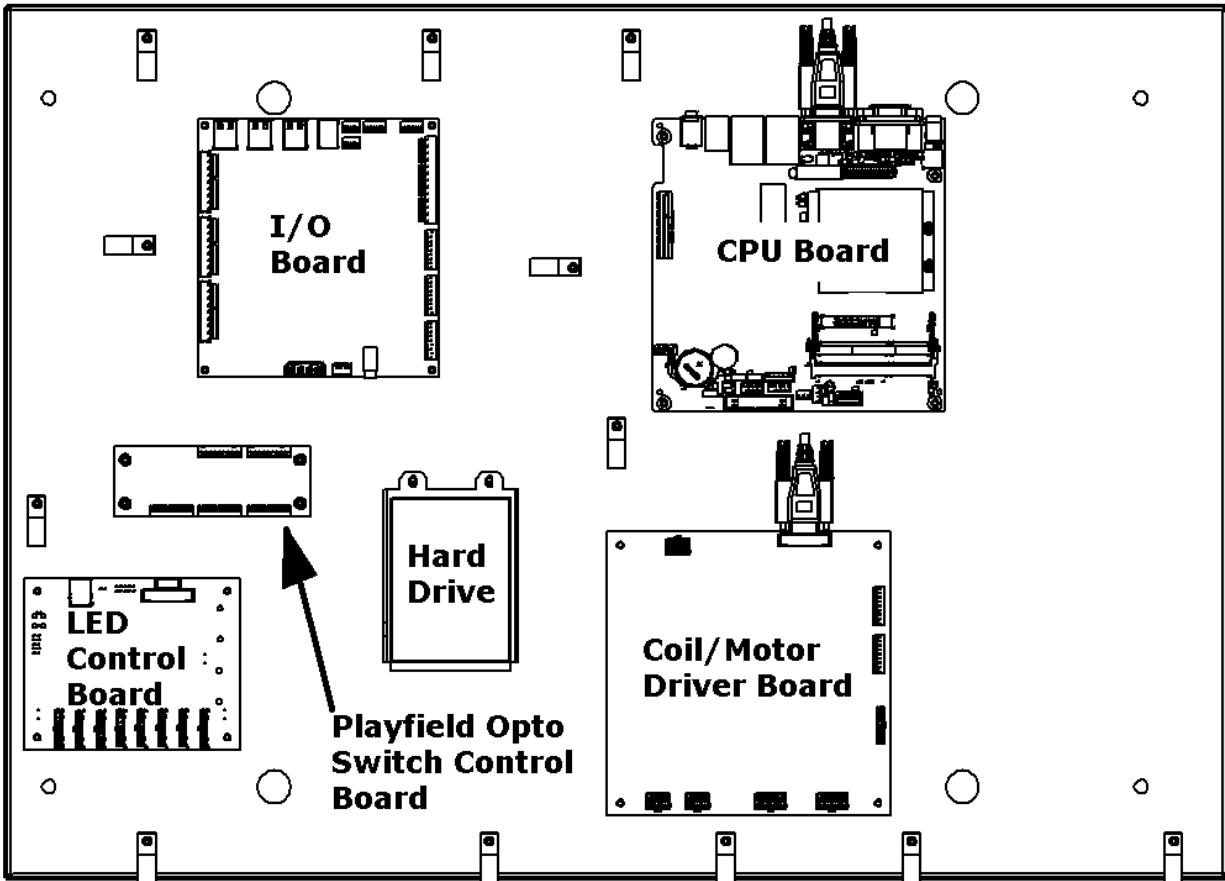
Use the part description to find the part number. The number allows you to order the part. Yet some parts are unavailable through your distributor. For example, common screws and nuts that you'd find at hardware stores.

• **PARTS, ELECTRONIC**

Boards, Circuit

Board, 4-channel coil / 4-channel motor driver	H-A-SEL-0005-00
Board, Memory, 2 GB, DDR3-1600 SO-DIMM	G-A-SEL-0002-00
Board, I/O	A-A-SEL-0004-07
Boards, Progressive Marquee Controller	X-A-SEL-0004-00
Motherboard, IMB-A180	F-A-SEL-0021-00
PCB, PS2 opto switch interface	F-A-SEL-0022-00
PCBa, bowl ball drain opto emitter	F-A-SEL-0012-00
PCBa, bowl ball drain opto receiver	F-A-SEL-0013-00
PCBa, drop chute opto emitter	F-A-SEL-0016-00
PCBa, drop chute opto receiver	F-A-SEL-0017-00
PCBa, playfield ball chute (4 channel opto pcba interconnect)	H-A-SEL-0001-01
PCBa, playfield ball chute (4-channel opto pcba)	H-A-SEL-0001-00
PCBa, wide gap opto	F-A-SEL-0020-00

PC Boards Drawing



Buttons

Button, 100mm red, +12, G.I. F-A-RBT-0001-00

Fuses & Fuse Holders

Fuse, 1.50 ASB, 3AG, glass F-A-REL-0036-00
 Fuse, 6.30 ASB, 5 x 20mm, glass..... A-A-REL-0016-00
 Holder, fuse, 16A, 5 x 20 mm, glass..... A-A-REL-0015-00

Peripherals & Power Supply

Controller, LED 8-channel RGB, 8-channel WS2811 X-A-SEL-0002-00
 Dispenser, ticket, Deltronics DL-1275 B-A-REL-0007-00
 Drive, disk, 2.5-inch, SATA..... D-A-REL-0004-XD
 Marquee, LED Bonus Progressive..... X-A-REL-0006-00
 Monitor, AUO 65" LCD, T650HVN13.1 X-A-REL-0001-00
 Kit, A/D, VGA / DVI / HDMI, +12, AUO T650HVN13.1 X-A-REL-0002-00

Sensor, motion	X-A-REL-0004-00
Speakers, powered, 50W, 120VAC/60Hz, stereo, 2.1	F-A-REL-0026-ST
Supply, 750W power	X-A-REL-0003-00

• **PARTS, MECHANICAL**

Electromechanics

Blower, 230 V / 50 Hz (***) <i>European machines</i>	X-A-REL-0008-00
Blower, 120 V / 60 Hz (***) <i>U.S. machines</i>	X-A-REL-0007-00
Coil, ball drop mechanism (<i>Assembly</i>)	X-A-SAS-0038-00-00
Coil, ball holding mechanism (<i>Assembly</i>)	X-A-SAS-0032-00-00
Motor, 24 V / 14-RPM ball loader	F-A-SEL-0019-00
Motor, 24 V / 100-RPM, gantry mech	H-A-SEL-0003-00
Motor, 24 V / 10-RPM, playfield ball drop	H-A-SEL-0004-00

Glass

Panel, front glass	X-A-RGL-0001
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Graphics

Graphics, cabinet right side	X-A-RGR-0006-00
Graphics, cabinet left side	X-A-RGR-0004-00
Graphics, control panel	X-A-RGR-0001-00
Graphics, marquee Plexiglas®	X-A-RGR-0003-00
Graphics, pod box, left side	X-A-RGR-0008-00
Graphics, pod box, right side	X-A-RGR-0009-00
Graphics, pod left side	X-A-RGR-0005-00
Graphics, pod right side	X-A-RGR-0007-00

Hardware

Ball, yellow, Team Play (***) <i>Kit of 12</i>	F-A-RBL-0001-00
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Lighting

Strip, LED, RGB, 3-channel, +12 V, w/conn (<i>button stack bottom</i>)	X-A-RLT-0004-00
Strip, LED, RGB, 3-channel, +12 V, w/conn (<i>button stack top</i>)	X-A-RLT-0003-00
Strip, LED, RGB, 3-channel, +12 V, w/conn (<i>control panel edge light</i>)	X-A-RLT-0005-00
Strip, LED, RGB, WS2811, 27", w/conn (<i>pod U-channel lights</i>)	X-A-RLT-0001-00
Strip, LED, RGB, WS2811, 73", w/conn (<i>cabinet U-channel lights</i>)	X-A-RLT-0002-00
Strip, LED, white, 10", +12 V, w/conn (<i>drop chute</i>)	-A-RLT-0006-00

Strip, LED, white, 36", +12 V, w/conn (*gantry mech panel*)..... X-A-RLT-0008-00
 Strip, LED, white, 36", +12 V, w/conn (*marquee*) X-A-RLT-0007-00

Metal

Cam, trap doorX-A-RMT-0047-00

Plastic

Cap, divider.....X-A-RPL-0004-00
 Deflector, angleX-A-RPL-0005-00
 Door, trapX-A-RPL-0009-00
 Lens, cabinet LED.....X-A-RPL-0010-00
 Lens, pod LED.....X-A-RPL-0012-00
 Panel, gantry coverX-A-RPL-0021-00
 Plastic, control panel LEDX-A-RPL-0017-00
 Arrow, drop chuteX-A-RPL-0018-00

Power Distribution Table

+3.3 VDC, Orange Wires	+5 VDC, Red Wires	+12 VDC, Yellow Wires	+15 VDC, Green Wires	+24 VDC, Blue Wires
CPU	CPU	Ticket Dispenser	Chase Light Controller	LCD Backlight
////////////////////	Optos	Coin Door Lights	////////////////////	Gantry Motor
////////////////////	////////////////////	Meters	////////////////////	Playfield Motor
////////////////////	////////////////////	User Push Button Light	////////////////////	////////////////////
////////////////////	////////////////////	Gantry Backlight	////////////////////	////////////////////
////////////////////	////////////////////	Marquee	////////////////////	////////////////////
////////////////////	////////////////////	Ball Load Mech Motor	////////////////////	////////////////////

Fuses, AC Mains

Name	Delay	Volts	Amps	Size	Type	Location
•For 120VAC/60Hz game machine	T4A	250VAC	4ASB	5x20mm	Glass	Back of game machine, lower-left, by power cord and on-off switch
•For 230VAC/50Hz game machine	T2A	250VAC	2ASB	5x20mm	Glass	Back of game machine, lower-left, by power cord and on-off switch

Fuses, Low-Voltage DC

Name	Delay	Volts	Amps	Size	Type	Location
• Motor 1 (<i>Gantry</i>)	T2A	250VAC	2ASB	5x20mm	Glass	Driver Board, inside back of game machine.
• Motor 2 (<i>Playfield Ball Drop</i>)	T2A	250VAC	2ASB	5x20mm	Glass	Driver Board, inside back of game machine.
• Motor 3 (<i>Ball Load Mech</i>)	T2A	250VAC	2ASB	5x20mm	Glass	Driver Board, inside back of game machine.
• Motor 4 (<i>unused channel</i>)	T2A	250VAC	2ASB	5x20mm	Glass	Driver Board, inside back of game machine.
• Ticket Dispenser 1	T1.5A	250VAC	1.5ASB	3AG	Glass	Left side wall of control pod cabinet \$\$\$Pod Cabinet floor, inside ticket dispenser door
• Ticket Dispenser 2	T1.5A	250VAC	1.5ASB	3AG	Glass	Left side wall of control pod cabinet \$\$\$Pod Cabinet floor inside ticket dispenser door
• Marquee	T3A	250VAC	3ASB	3AG	Glass	External Marquee Topper

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201 Crossen Avenue, Elk Grove Village, IL 60007

TEAM PLAY
WWW.TEAMPLAYINC.COM™

(847) 952-7533 phone
(847) 952-7534 fax
Sales@teampplayinc.com