The manufacturer intends that this game is to be operated for amusement purposes only and not in contravention of any federal, state or local law or regulation of the United States or any foreign country governing gaming devices. All operators of this game are responsible for its operation in accordance with such laws and regulations. The manufacturer’s factory settings for this game may require adjustment in order to comply with laws applicable in an operator’s specific jurisdiction. It is the operator’s responsibility to determine whether adjustments are necessary and, if they are, to make the appropriate adjustments prior to operating the amusement game.
Touchmaster® Infinity Upright QuickStart

1. Remove items from shipping carton. Remove key from coin return. Open upper cash door. Remove keys from hook on left inside coin door. Open lower cash door. Remove cash box and locate spare parts, line cord, etc.

2. Carefully tilt cabinet and insert leg leveler and nut into each of the four corner threaded holes. Adjust levelers so cabinet is steady and balanced.

3. Plug in line cord and turn on AC power.

4. Open upper coin door and press CAL. button.

5. Calibrate Touchscreen and perform Calibration Test.

Setup and Safety

NOTICE: Information in this manual may change without notice. Midway Amusement Games, LLC. reserves the right to make improvements in equipment function, design, or components as progress in engineering or manufacturing methods may warrant. Field installed upgrade kits may also change the operating sequence or functions.
### SAFETY INSTRUCTIONS

Read safety instructions before preparing Video Game Machine for play, performing maintenance, or beginning service procedures. These instructions apply to all operators and service personnel. Specific notes, cautions, and warnings appear in manual where applicable.

<table>
<thead>
<tr>
<th>LABELS:</th>
<th>Labels posted directly on and in Touchmaster® Infinity contain important information. Most replaceable assemblies are labeled with part numbers and versions or date codes for easy identification. Caution labels are placed to alert readers to potential equipment damage. Warning labels address possibility of personal injury.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH VOLTAGE CONSIDERATIONS:</td>
<td>CRTs and their power supplies can retain energy long after power is turned off. This is especially true when a defective circuit prevents a normal discharge. Connect a well-insulated ground strap to metal chassis. Slide free end of strap under CRT anode cap until you make contact. Wait two minutes for charge recovery, then discharge anode again.</td>
</tr>
<tr>
<td>ELECTRICAL GROUND:</td>
<td>To avoid electrical shocks, do not connect line cord or turn AC power on until you have inspected Video Game Machine. Use only factory-approved AC line cords. Only plug this game into a grounded 3-wire outlet. Never use a “cheater” plug or cut off ground pin on line cord.</td>
</tr>
<tr>
<td>AC LINE VOLTAGE:</td>
<td>AC line voltage and frequency vary for different countries and continents. Measure local line voltage if you are not sure of its value. Set power supply selector switch and transformer taps for best voltage match.</td>
</tr>
<tr>
<td>HEAT:</td>
<td>When left on for long periods of time, internal components—especially heat sink—may become very hot. Check temperature of internal components before touching.</td>
</tr>
<tr>
<td>MOVEMENT:</td>
<td>This Video Game Machine contains fragile components. Avoid rough handling when moving machine to its destination. Do not relocate Touchmaster® Infinity while AC power is on.</td>
</tr>
<tr>
<td>UNPACKING:</td>
<td>Inspect shipping carton and its contents for signs of damage before removing cabinet. Begin assembly only after identifying and accounting for all parts. Keep spare parts and documents with machine.</td>
</tr>
<tr>
<td>EPILEPSY WARNING:</td>
<td>A very small portion of the population has a condition which may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are commonly present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition. If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g. seizure or loss of awareness), immediately consult your physician before using any video games. Parents should observe their children while they play video games. If you or your child experience any of the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convolutions, discontinue use immediately and consult your physician.</td>
</tr>
<tr>
<td>GAME LOCATION:</td>
<td>Do not operate Touchmaster® Infinity near equipment or vents that produce excessive heat or moisture. Ensure drapes or other furnishings do not block air circulation around cabinet vents. Platform beneath cabinet must safely support its weight and remain steady when touched. Route line cord away from possible foot traffic.</td>
</tr>
<tr>
<td>RADIATION:</td>
<td>High voltages used in monitor can generate X-rays under fault conditions. Do not substitute high voltage components or modify circuit without factory authorization. Follow manufacturer’s directions for measuring and adjusting CRT anode voltage.</td>
</tr>
</tbody>
</table>
GLASS PARTS: Wear protective gloves and use both hands when carrying or moving parts made of glass. CRTs usually implode if broken. Glass pieces can fly eight feet (more than two meters) or more from point of impact.

WARNING: Use of non-Midway parts or circuit modifications may cause serious injury or equipment damage. Use only Midway Amusement Games, LLC authorized parts.
- For safety and reliability, substitute parts and modifications are not recommended.
- Substitute parts or modifications may void CE type acceptance.
- This game is protected by Federal Copyright, trademark, and patent laws. Unauthorized modifications may be illegal under Federal law. This also applies to Midway Amusement Games, LLC logos, designs, publications, and assemblies. Moreover, facsimiles of Midway Games, Inc. equipment (or any feature thereof) may be illegal under federal law, regardless of whether such facsimiles are manufactured with Midway components.

HARD DRIVE: This machine uses a hard disk drive to store game information, custom settings, high scores, etc. Hard drives are sensitive to static electricity. When transporting or storing drives, place them in anti-static bags. Or, you can transport drive in hard drive box (part 08-8068). Handle hard drives carefully. Do not drop them or store heavy items on top of them, as this may cause damage.

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### PRODUCT SPECIFICATIONS

#### Operating Requirements

<table>
<thead>
<tr>
<th>Location</th>
<th>Electrical Power</th>
<th>Temperature</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>120VAC @ 60Hz 3.0 Amps</td>
<td>32°F to 100°F</td>
<td>Not to exceed 95% relative</td>
</tr>
<tr>
<td>Foreign</td>
<td>230VAC @ 50Hz 2.0 Amps</td>
<td>(0°C to 38°C)</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>100VAC @ 50Hz 3.0 Amps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Cabinet Statistics

<table>
<thead>
<tr>
<th>Game Dimensions</th>
<th>Shipping Dimensions</th>
<th>Shipping Weight</th>
<th>Design Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width 21.0&quot; (53.3 cm)</td>
<td>Width 23.5&quot; (59.7 cm)</td>
<td>220 Lbs (100 kg.)</td>
<td>Dedicated Video Game Machine</td>
</tr>
<tr>
<td>Depth 25.7&quot; (65.3 cm)</td>
<td>Depth 31&quot; (78.7 cm)</td>
<td></td>
<td>Upright cabinet style</td>
</tr>
<tr>
<td>Height 57.2&quot; (145.3 cm)</td>
<td>Height 60&quot; (152.4 cm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Equipment Characteristics

- **Video Display Monitor**: VGA 640 x 480 resolution
- **Audio System**: Digital Monaural
- **Currency Acceptors**: Standard 1 Coin Mechanism Door

#### Game Characteristics

- **Player Variables**: Choice of many different games, 1 or 2 players per game, High score recognition
- **Operator Variables**: Coinage, Difficulty, Graphics, Statistics
- **Diagnostics**: Automatic Power-Up Self-Test, Manual Multi-Level Menu System, Touchscreen Calibration
GAME PLAY

Touchmaster® Infinity offers opportunities for expanded gameplay, graphics, connectivity, upgradability, and earnings. The hard disk drive lets players enjoy a wider variety of games, more vivid images and action, and the chance to pit their scores against other players. It also makes upgrading simpler.

You can customize up to four Attract Mode Ad Screens, calling attention to games or tournaments, advertising drink or food specials, announcing birthdays or special occasions, or promoting your establishment name.

Models in Playboy® and other erotic games strip to their bikinis or their birthday suits. You can control when and if these images are viewable, although they are turned off at the factory. You can also change the “card” games to “tactic” games and make playing cards look like tiles to comply with local regulations.

Game instructions are built into the software and appear at the start of each game. Players can recall instructions during game play by touching the button. A player unhappy with a game can stop a game with the Exit button. However, game credits are spent once play begins and are not refunded or reused.

STANDARD MAINTENANCE

This Video Game Machine uses the same surface for video display and player controls. Because players use their fingers, the entire cabinet will quickly become covered with fingerprints. We recommend you clean the cabinet frequently to ensure maximum customer interest.

CAUTION: Use only isopropyl alcohol and warm water as a Touchscreen cleaning solution. Do not use products with ammonia, chlorine, bleach, lemon, vinegar, TSP (trisodium phosphate), or any abrasive ingredients. Many common household cleaners include these chemicals.

Glass surfaces
You do not need to switch off AC power to clean glass. Apply a mixture of isopropyl alcohol and water to a clean cloth or sponge, then use this to wipe screen. Do not apply the cleaner directly on glass! Liquids could drip down into Touchscreen circuits and cause erratic operation.

Cabinet
Use only non-abrasive cleaners to avoid damaging decals and graphics. Apply the cleaner to a clean cloth or sponge, then use this to wipe. Do not apply the cleaner directly to cabinet! Liquids could enter the cabinet, damaging electronic circuits and voiding the warranty.

Calibration
After each cleaning, and after each time you move the cabinet, check screen calibration for accuracy. Use Calibrate Test to determine if recalibration is required.
CABINET FRONT AND REAR

1. Remove items from shipping container and set them aside. Line cord and spare parts bag are shipped in cash box. Inspect the exterior of the cabinet and CRT for any signs of damage.

2. Cash door keys are attached to marquee currency acceptor. Remove keys. Unlock and open lower cash door. Leg levelers and other cabinet parts are in cash box.

3. Find four leg levelers and nuts in spare parts bag. Install one nut onto each leveler. Install one leveler and nut into threaded hole in each cabinet corner. Do not tighten nuts yet.

LEG LEVELER AND NUT INSTALLATION

4. Remove and save screws from cabinet rear door. Lift door off cabinet. Inspect interior for signs of damage. Check all major assemblies to ensure they are mounted securely.
5. Refer to Cabinet Wiring Diagram in Wiring Chapter and check that all cable connectors are correctly secured. **Do not force connectors; they are keyed to fit in only one direction.** Bent pins and reversed connections may damage Touchmaster® Infinity and void warranty.

![Diagram of cabinet wiring with labels for Hasp Bracket, Key Lock Bracket, Carriage Bolt, Nut, and Lock Plate.]

**INSTALLATION OF EXTRA LOCK PLATE AND HASP**

6. You can install an extra padlock to secure rear door. Locate hasp in spare parts bag. Remove two lock bracket nuts from inside cabinet, above rear door opening. Slide hasp onto bolts so that it protrudes from hole in back of cabinet. Reinstall nuts.

7. Locate lock plate at top of rear door. Remove bolts and nuts from lock plate. Rotate plate so slot is above door. Reinstall bolts and nuts and tighten firmly.

8. Line cord is with spare parts. Match holes on IEC plug with prongs in receptacle and push firmly to seat line cord.

9. Return cash box to lower coin chamber. Close and lock coin doors. Store keys in a safe place (i.e., on key hook inside cabinet).

10. Reinstall rear door. Install screws at top and sides of rear door and tighten snugly.

11. Lift and move Touchmaster® to intended location. Do not slide cabinet; it has no wheels. Adjust leg levelers until cabinet is stable and level. Distribute weight equally on each corner. Tighten nuts firmly.

12. Plug line cord into grounded AC outlet. Do not use a “cheater” plug. Connect line cord ground wires. Turn AC power on with switch in rear of cabinet. Self-diagnostics begin. If there are no errors, Attract Mode begins.

13. If game fails to start, or if fuse blows, turn off AC power and remove line cord. Remove rear door and check voltage setting on power supply. Replace fuse.

14. Unlock and open the coin door. Press and release the CAL pushbutton to optimize the monitor screen touch sensors. Follow the screen instruction to calibrate and verify Touchscreen system.

15. Press and release the TEST pushbutton to set the game variables and verify operation.

16. Recalibrate the Touchscreen each time the cabinet is moved to a different location.

**NOTICE:** Touchmaster® Infinity has erotic software turned off at the factory and a label indicating games are suitable for all ages. Should you choose to turn erotic software on, apply appropriate red AAMA sexual content label over the original label. The additional label is included in the spare parts kit.
Service

**NOTICE:** This manual may change without notice. Midway Amusement Games, LLC reserves the right to make improvements in equipment function, design, or components as progress in engineering or manufacturing methods warrants. Installing field upgrade kits may also change the operating sequence or functions.
SERVICING TOUCHMASTER® INFINITY UPRIGHT

Only qualified service personnel should maintain and repair a Touchmaster® Infinity. Read all instructions and safety warnings carefully before beginning service. Failure to do so may cause serious injury or damage to machine. More specific notes, cautions, and warnings appear in manual where applicable.

Read the safety notices in the previous chapter thoroughly before beginning service.

This Video Game Machine uses complex electronic components that are sensitive to static electricity. Observe the following precautions when handling any electronics.

- Ensure AC power is turned off prior to servicing electronics. Do not remove or connect electronics assemblies when power is on. Doing so will damage electronics assemblies and void the warranty.
- Discharge any static electricity buildup in your body by touching the cabinet. This must be done before touching or handling electronic assemblies.
- Store electronics assemblies in an anti-static bag in an anti-static area. When replacing electronics, reuse the bag from the new part to store removed boards during service.

Fuse

Fuse is near the base of the rear of the cabinet, next to the power cord receptacle. To replace, first turn AC power off and unplug line cord. Turn fuse holder ¼ turn counterclockwise and pull straight out of cabinet. Replace with fuse of exact same type.

Coin Mechanism

Remove screws holding coin mechanism adapter plate to marquee assembly. Remove adapter plate. Disconnect coin mechanism inside marquee assembly. Replace coin mechanism and plate.

Coin Mechanism Bulb

Remove adapter plate. Remove nut holding bulb assembly on stud. Slide bulb out of socket and replace with exact same type.
ALTERNATE COIN MECHANISM ASSEMBLY

Speaker
Remove Marquee Rear Cover. Disconnect and mark polarity of speaker wires. Remove two nuts holding speaker on studs and pull speaker out of marquee.

WARNING: When you touch a halogen bulb, oil from your fingers sticks to the glass and can cause the bulb to overheat and fail. Bulbs are also extremely HOT after even a short period of use. Always handle halogen bulbs carefully, holding them with tissue or a cloth.

Marquee bulb
Remove Lamp Mounting Plate. Slide halogen bulb from socket and replace with bulb of exact same type.
### CONNECTORS:
Check that all cable connectors are correctly secured. Do not force connectors. They are keyed to fit in only one location. Bent pins and reversed connectors may damage your game and void warranty. You may choose to check all connections when you remove your game from its carton, as connections may have loosened in transit.

### ANTI-STATIC BAGS:
Store electronic assemblies in an anti-static area. Keep board assemblies in anti-static bags during service, transport, or storage.

---

**CABINET REAR**

**Rear Door**
Insert key in lock and turn clockwise. Remove screws on side of rear door. Carefully lift door off cabinet and set in safe place.

**CPU Cover**
Remove Rear Door. Remove 11 machine screws holding electronics cover to CPU Board Assembly panel.
**CPU Enclosure and CPU Panel**
Remove CPU cover. Detach cable connectors at top of CPU enclosure, as well as VGA connector and Touchscreen connector. Remove four screws that hold wood CPU panel to wood cabinet cleats. Carefully remove panel, with CPU enclosure and electronics assembly, from rear of cabinet.

**Electronics Assemblies**
Remove CPU cover. Disconnect cables at top of CPU enclosure, as well as VGA cable and Touchscreen connector. Remove screws holding electronics assembly base to CPU panel.

**Security Board Assembly**
Remove CPU cover. Disconnect cable to CPU Board Assembly. Pull Security Board Assembly away from retaining pins with a firm, gentle tug.

**Hard Disk Drive**
Remove CPU cover. Disconnect data and power cable. Remove four nuts holding bracket on studs. Remove drive from cabinet. To remove hard drive from bracket, unscrew four side screws through bracket into hard drive.

**Battery**
Remove CPU cover. Pry battery from socket and discard according to replacement instructions.

---

**ELECTRONICS ASSEMBLIES**

**STATIC ELECTRICITY:** Discharge static electricity buildup in your body by touching exterior of cabinet. Do this **before** touching or handling electronic assemblies. Failure to do this may damage assemblies.
Fan
Remove CPU cover. Remove four nuts on fan studs. Remove grill from fan. Remove fan from studs, disconnecting fan cable as you pull fan out of cabinet.

Power Supply
Disconnect all wiring leading to CPU enclosure and electronics assembly. Remove AC plug from power supply at top of CPU enclosure. Remove screws holding CPU cover to CPU enclosure. Detach power connectors from monitor, marquee light, etc. Remove screws holding power supply to CPU enclosure. Remove power supply from cabinet.

Pushbutton Switches
Open upper coin door. Remove switch nut. Reach around switch mounting bracket and disconnect wire. Pull switch through wall.

LOCATION OF CALIBRATE AND TEST SWITCHES (DOORS REMOVED FOR ILLUSTRATION)
Monitor Bezel

Remove rear door. Reach in through rear and unhook four toggle latches that restrain bezel. They are fastened to the sides of the cabinet. Remove four Torx screws at bottom front of bezel. Pull bezel towards front of cabinet and upward to remove.

CAUTION: Monitor is very heavy. Most of its weight is toward front of cabinet. Firmly support monitor as you remove it from cabinet.

Monitor

Remove monitor bezel. Remove CPU cover. Disconnect VGA cable from CPU Board Assembly. Disconnect Touchscreen Connector Cable. Disconnect ground lug and power connector. Disconnect power cable from monitor assembly. Remove four nuts holding monitor bracket to cabinet bracket. Carefully lift monitor through front of cabinet.
ISOLATION TRANSFORMER: Monitor does not require isolation from AC line voltage during normal operation. However, when operating outside cabinet or servicing monitor on a test bench, isolate monitor from line voltage with isolation transformer.

Touchscreen Controller

Remove rear door. Remove two screws holding controller on inside wall. Detach Touchscreen Connector Cable from Controller. Disconnect green wire from safety ground stud. Remove Electronics Cover and detach Cable Connector from mate on corresponding cable.

CABLE REMOVAL

Touchscreen

Remove rear door and remove screws holding Touchscreen Controller to inside wall. Detach Touchscreen Connector Cable from Touchscreen Controller. Let cable hang free inside cabinet.

Remove monitor bezel. Remove tape holding Touchscreen to monitor. Pry Touchscreen from monitor, using sharp blade to break tape seal between monitor and Touchscreen. Note orientation of Touchscreen as you remove it. To replace, follow instructions included with new Touchscreen.
System

**NOTICE**: This manual is subject to change without notice. Midway Amusement Games, LLC reserves the right to make improvements in equipment function, design, or components as progress in engineering or manufacturing methods warrants. Installing field upgrade kits may also change the operating sequence or functions.
SYSTEM SOFTWARE

Touchmaster® Infinity uses a graphical user interface for its Menu System that simplifies audits and diagnostics. The following button conventions are used at the bottom of Menu System screens.

- **OK** or **Return** Accepts modifications to current screen and returns to previous screen.
- **Cancel** Ignores recent modifications to current screen and returns to previous screen.
- **-->** Proceeds to next screen in a series.
- **Exit** Leaves Menu System and returns to Attract Mode.
- **Back** Returns to previous screen.

**Entering the system**

**FULL MENU SYSTEM ACCESS**

Open the upper cash door and press the TEST pushbutton.

Touch bottom left of Attract Mode screen to open Touch Key access screen.

Displays operator Ad Screens

When you select a game, a High Scores button lets you view top scores for that game.

Permits language selection, if available.
TOUCH KEY® MENU SYSTEM ACCESS

Touch the bottom left of the Attract Mode main screen to access the Touch Key PIN entry screen.

Touch each digit of your PIN (setup by operator). If Touchscreen does not sense a signal for about 10 seconds, Attract Mode begins again.

Asterisks representing your four digits appear here. As the fourth correct digit is recognized, the Menu System opens. If your PIN is wrong, Attract Mode resumes.

FULL MENU SYSTEM

MAIN MENU

Shows software version.

 Lets you modify game characteristics and currency settings.

Lets you view and reset game high scores.

Permits time and date, Ad Screen, Touch Key PIN, language, and other adjustments.

Details a wide variety of info about player behavior. This can help you increase earnings.

Accesses various video and sound tests.

Accesses Calibrate and Calibrate Test screens.

Increases number of free credits up to the maximum.

By default the Volume Fixed mode is visible.

Select Volume Time to show a bar chart that changes volume based on hour of day.

Move circle left or right to lower or raise volume.
TOUCH KEY MENU SYSTEM

MAIN MENU

Touchmaster Infinity
Version X.XX

Touch Key™ Main Menu

Erotic Games

Date and Time

VO LUME     VO LUME

FIXED            T IME

11 10 10 10
22 21 20 20 21 21 20
71 70
40 42 40
16 16 15

FULL MENU SYSTEM

MAIN MENU

or

TOUCH KEY MENU SYSTEM

MAIN MENU

VOLUME TIME

Drag each column up to set volume higher at the time noted beneath the column.

Reverts graph to factory-set volumes over time.

Date and Time

Time Control Volume

Touchmaster Infinity

MAX

75

50

25

MIN

Default

OK

Drag each column down to reduce volume at that time until you reach zero to shut off sound.
GAME SETUP

Players can accumulate as few as 1 and as many as 99 credits in the machine.

Free Play? Show Pricing?

Max Credits: 1

Game Setup

- +

Yes No

Return

MAIN GAME ADJUSTMENTS

Buyin Credits
Card Games
Erotic Games
Trivia Answers
High Score Free Games
Fan Deck for 10sec.
Face-Up Cards

Off 1 Game Cr.
Tactic Cards
Off On/Adjust
On
Off On
On
Off On

Reset

Disables erotic games or opens Erotic Game Adjustment screen.
Rewards top scorer with free game.
After shuffle, displays all cards for 10 seconds.
Deals cards face up.

Gives right answer after a wrong guess.
Resets game adjustments to factory defaults.

Shows cost of a credit.
Shows a variety of countries and their preset coinage setups.
Resets Adjustments, Audits, and High Scores.
lets you modify both global and specific game characteristics.

Enables unlimited free play.

Let's you modify both global and specific game characteristics.

Shows a variety of countries and their preset coinage setups.
Resets Adjustments, Audits, and High Scores.

Changes cards to tiles and retitles the “Card” category to “Tactic.”

Some games (like Mah Jongg) permit players to continue after time runs out.
You can prevent continuation (Off), or price the continuation at either one (1) credit or the cost of the original game (Game Cr.).

Touchmaster Infinity Upright System - 5

Players can accumulate as few as 1 and as many as 99 credits in the machine.

Free Play? Show Pricing?

Max Credits: 1

Game Setup

- +

Yes No

Return

MAIN GAME ADJUSTMENTS

Buyin Credits
Card Games
Erotic Games
Trivia Answers
High Score Free Games
Fan Deck for 10sec.
Face-Up Cards

Off 1 Game Cr.
Tactic Cards
Off On/Adjust
On
Off On
On
Off On

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Rewards top scorer with free game.
After shuffle, displays all cards for 10 seconds.
Deals cards face up.

Gives right answer after a wrong guess.
Resets game adjustments to factory defaults.

Shows cost of a credit.
Shows a variety of countries and their preset coinage setups.
Resets Adjustments, Audits, and High Scores.

Changes cards to tiles and retitles the “Card” category to “Tactic.”

Some games (like Mah Jongg) permit players to continue after time runs out.
You can prevent continuation (Off), or price the continuation at either one (1) credit or the cost of the original game (Game Cr.).

Touchmaster Infinity Upright System - 5
To turn nudity on at a given time, touch the desired time to start, then drag up to either bikini or nude level. Set each half hour increment likewise. To turn off erotic software, drag the bar down to "off."

Select a game and adjust credits to 0 to turn game off. Or price a game at up to 9 credits.

Select a game to modify bonus level difficulty.

Let's you price all games at from 1-4 credits, as well as adjust difficulty of bonus level.

Scrolls up or down through game list.
Selecting **Restore Factory Settings** clears three settings and shows you these screens:

The first reads,

**All Game Adjustments Reset**

The next reads,

**All Game Audits Cleared**

And finally,

**Setting History to Defaults**

Note that some settings, such as Touchscreen calibration are not affected here.

Select your country to display its coinage choices. The last nation modified remains highlighted on this screen.

This duplicates the function of the Free Play button on Game Setup screen.

Let's you program custom coinage setups if no existing one meets your needs.
FULL MENU SYSTEM
GAME/COINAGE SETUP
COINAGE SETUP
Country Coinage

Select coinage choice. Not all countries offer multiple choices.

If your location requires a coin lockout mechanism, you cannot set this amount past the number of units a dollar bill will buy.
Shows a series of screens that summarize game popularity, revenues, player continuations, etc.

Allows you to send audit information to a printer or a PC.

Prints if you are already hooked up to a printer.

Number of one- and two-player games.

Number of play continuations bought.

Clears all game audit information.

Total 1P Games 0
Total 2P Games 0
Total Time Buyins 0

TOTAL GAMES PLAYED 0
AVERAGE GAME PLAYTIME 0:00
Displays total coins or bills registered in each device

Sets all audits (not just coinage) to zero.

Sorts games alphabetically by name.

Select a game to view a variety of audit details.

Clears all game audit information—not just this screen.

Scrolls through game list.

Sorts games by length of average play.

Sorts games by popularity.
Games are ranked by popularity. Histogram shows relative frequency of play.

Clears all game audit information—not just this screen.

### Top Games

<table>
<thead>
<tr>
<th>Rank</th>
<th>Game</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pairs</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Artifact</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Playboy Jet Set</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Playboy Mahkl</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Target 21</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>Playboy Undercover</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>3 Peak Deluxe</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>5 Star Generals</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Crystal Balls</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Double Take</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Solitaire Classic</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Hoop Hoops</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Lines of Sight</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>Mah Jongg Pairs</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>Mahkl</td>
<td>2</td>
</tr>
</tbody>
</table>

### Lifetime Audits

<table>
<thead>
<tr>
<th>Rank</th>
<th>Game</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3 Peak Deluxe</td>
<td>41</td>
</tr>
<tr>
<td>2</td>
<td>5 Star Generals</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Artifact</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Crystal Balls</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Double Take</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Erotic Male Sol</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Hoop Hoops</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Lines of Sight</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Mah Jongg Pairs</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Mahkl</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Male Strip Poker</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Movie Trivia</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>Pairs</td>
<td>41</td>
</tr>
<tr>
<td>14</td>
<td>Pickup 6</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>Playboy Jet Set</td>
<td>17</td>
</tr>
<tr>
<td>16</td>
<td>Playboy Mahkl</td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>Playboy Undercovers</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Quiz Wiz</td>
<td>6</td>
</tr>
<tr>
<td>19</td>
<td>Solitaire Classic</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>Super-Score Solitaire</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>Target 21</td>
<td>3</td>
</tr>
<tr>
<td>22</td>
<td>View Finder</td>
<td>23</td>
</tr>
<tr>
<td>23</td>
<td>Word Search</td>
<td>3</td>
</tr>
<tr>
<td>24</td>
<td>Wordz</td>
<td>3</td>
</tr>
</tbody>
</table>
Checking this button prepares a table of audits. Checking any other box will give that information in simple list format. In some cases this screen is replaced by a blue screen and the note: “Printing.”

Touchmaster Infinity

Report Audits To PC

Date and Time

- General Game Audits
- Coin Counts
- Game Audits & Details
  - Game High Scores
  - Game Adjustments
  - General Game Adjustments
  - General System Adjustments
  - Lifetime Audits
  - Tournament Audits
  - Tab Delimit Report

Sends selected information to the serial port, to be captured by a printer or a computer.

Sends report to serial port and clears all audits.

Select a game to see its high scores.

Sets all scores to zero.

Resets all high scores to factory-set names and scores.

If there are 10 high scores, the oldest ones can be dropped each week, after two weeks, three or four weeks, or never. There is then an opening for new players to add their scores.
**FULL MENU SYSTEM**

<table>
<thead>
<tr>
<th>TOUCH KEY MENU SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH SCORES</td>
</tr>
<tr>
<td>Typical Game</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>HIGH SCORES</td>
</tr>
<tr>
<td>Typical Game</td>
</tr>
</tbody>
</table>

Some games have separate columns for different difficulty levels.

Shows the factory-set names and high scores. These cannot be cleared permanently.

Shows the list of high scores that will display in Attract Mode: either factory-set, player-set, or zero.

---

**FULL MENU SYSTEM**

**LOCATION SETUP**

Lets you assign a PIN and Touch Key access privileges. If you forget your PIN, reset it here.

Permits changes to time, time zone, and date.

Lets you choose which languages games can be played in.

The word “Language” flashes in several languages so that no matter what tongue the Menu System is in, this will guide you to the button that can change the Menu System to your language.
Touch four keys to program your PIN.

Remember that the cash box key is more powerful than the PIN. If you can access the TEST pushbutton, you can reset the PIN.

Still, exercise caution in revealing your PIN.

Your encrypted PIN appears here.

Check this box to make the PIN active. Buttons beneath determine how much control a Touch Key user has.

Moves forward a month.

Moves back a month.

Lets you choose a time zone.
FULL MENU SYSTEM
LOCATION SETUP
OPERATOR AD SCREEN

Touch the spot on the Ad Screen design workspace where text or graphic should appear.
Shows keyboard for entering messages.
Touch clip art to place on Screen.
Displays background scenes.
Scrolls through graphics choices.

Background choices include two default ad screens announcing new games. One includes Playboy® games. The other does not announce erotic software.

Deleted selected elements.
Forgets all changes.
Displays the Ad Screen in full-screen mode.
Sets duration the Screen displays in Attract Mode.
Toggles between the 4 Ad Screens.
Enlarges or shrinks selected element.
Shows pictures you can include in Ad Screens.
Displays borders.

FULL MENU SYSTEM
LOCATION SETUP
LANGUAGE SETUP

Sets the language of Attract Mode, help screens, system software, and some games. You can have only one default.

Players can override your default and choose from languages you make available by checking boxes here. You can check multiple boxes.
Shuts off tournament mode.

Allows you to prepare the internal modem to place calls.

Note that tournament mode, if permitted, may not be available on your Video Game Machine.

Takes you to an interactive questionnaire that helps place a modem phone call.

Answer Yes or No to these three consecutive questions to let Touchmaster enable tournaments for you.

If your answers are all “Yes,” the keys appear so you can enter information.

Note that tournament mode, if permitted, may not be available on your Video Game Machine.
FULL MENU SYSTEM
LOCATION SETUP
TOURNAMENT SETUP
DIAL SETTINGS

If an update is required, you will receive information on how to use this screen.
Takes you to a screen to set calibration. Immediately after that, you will be given a calibration test.

If you just want to verify calibration, touch this button.

Touch the target dead center as it changes position on the screen.
As you move your finger across the screen, verify that the crosshairs follow your finger's motion exactly.

These are the horizontal and vertical coordinates of your finger on the screen.

A number here indicates your Touchscreen Controller version.

Accesses video test patterns to diagnose monitor.

Same screen as Modem Setup under Tournament Settings.

Lets you change settings for making minor software upgrades.

Helps diagnose electronics boards and hard disk drive.

Accesses sound testing programs to diagnose speaker and sound chip.
FULL MENU SYSTEM
DIAGNOSTICS MENU
VIDEO TEST

Fills the screen with horizontal and vertical lines so you can adjust the horizontal and vertical position of the image.

Shows a series of colored screens to help you calibrate the monitor’s color levels.

When you arrive at these screens, touch the screen to advance to the next test. Use the monitor control panel above the Power Supply to adjust contrast, brightness, horizontal and vertical size, horizontal delay and vertical center.

FULL MENU SYSTEM
DIAGNOSTICS MENU
HARDWARE TEST

Runs a series of diagnostics that analyze board function.

Lets you see whether switches are open or closed.

Verifies operation of coin meter and coin lockout circuits, if present in your Video Game Machine.
FULL MENU SYSTEM

DIAGNOSTICS MENU

HARDWARE TEST

SWITCH TEST

---

**Touchmaster Infinity**

### Switch Test

<table>
<thead>
<tr>
<th>Dip Switches</th>
<th>Switch In</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (OFF) Invert Touchscreen</td>
<td>1 (OPEN) Coin 1</td>
</tr>
<tr>
<td>2 (OFF) Reserved</td>
<td>2 (OPEN) Coin 1</td>
</tr>
<tr>
<td>3 (OFF) Reserved</td>
<td>3 (OPEN) DBV</td>
</tr>
<tr>
<td>4 (OFF) Reserved</td>
<td>4 (OPEN) Reserved</td>
</tr>
<tr>
<td>5 (OFF) Reserved</td>
<td>5 (OPEN) Reserved</td>
</tr>
<tr>
<td>6 (OFF) Reserved</td>
<td>6 (OPEN) Reserved</td>
</tr>
<tr>
<td>7 (OFF) Reserved</td>
<td>7 (OPEN) Calibrate</td>
</tr>
<tr>
<td>8 (OFF) Reserved (leave off)</td>
<td>8 (OPEN) (Closed) Test</td>
</tr>
</tbody>
</table>

---

**Touch Screen to Exit**

---

Activate one of the switches to watch the response on screen.

---

**Touchmaster Infinity**

### Driver Test

<table>
<thead>
<tr>
<th></th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unused</td>
<td>Unused</td>
</tr>
<tr>
<td>OFF</td>
<td>Unused</td>
</tr>
<tr>
<td>Unused</td>
<td>Unused</td>
</tr>
<tr>
<td>Unused</td>
<td>Unused</td>
</tr>
</tbody>
</table>

---

Touching this button advances the coin meter, but does not affect the audit record.
FULL MENU SYSTEM
DIAGNOSTICS MENU
SOUND TEST

Lets you hear each game’s sounds in random sequence.

Plays a low, medium and high-range tone to help verify the speaker’s dynamic range.

FULL MENU SYSTEM
DIAGNOSTIC MENU
REMOTE UPDATE

If an update is required, you will receive information on how to use this screen.
WARNING: Use of non-Midway parts or circuit modifications may cause serious injury or equipment damage. Use only parts authorized by Midway Amusement Games, LLC.

For safety and reliability, substitute parts and modifications are not recommended. Substitute parts or modifications may void FCC type acceptance.
MONITOR ASSEMBLY (A-23496)

- SINGLE-SIDED TAPE
- TOUCHSCREEN
- TOUCHSCREEN CONTROLLER
- DOUBLE-SIDED FOAM TAPE (4 PIECES)
- REMOTE ADJUSTMENT BOARD ASSEMBLY (ATTACHED TO TOP OF CASH VAULT)

NOTE: EXPLODED VIEW SHOWN FOR REFERENCE ONLY. VIDEO MONITOR DOES NOT NEED TO BE REMOVED WHEN REPLACING TOUCHSCREEN.

19" MONITOR W/TOUCHSCREEN & CONTROLLER
WELLS GARDNER #WGT1972-USG519J

5677-16394-00

DEFLECTION BOARD

POWER SUPPLY (A-23503)

- 20-10613 POWER SUPPLY
### COIN MECH APPLICATION CHART

<table>
<thead>
<tr>
<th>Country</th>
<th>A-23656</th>
<th>A-23500</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
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<td></td>
</tr>
<tr>
<td>Canada</td>
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<td>Brazil</td>
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<td>Germany</td>
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<td>□</td>
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<tr>
<td>UK</td>
<td>□</td>
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<tr>
<td>Finland</td>
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<tr>
<td>Italy</td>
<td>□</td>
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<tr>
<td>Japan</td>
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<td></td>
</tr>
<tr>
<td>Switzerland</td>
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</tbody>
</table>

### LINE CORD APPLICATION CHART

<table>
<thead>
<tr>
<th>Country</th>
<th>5850-13271-00</th>
<th>5850-13272-00</th>
<th>5850-13277-00</th>
<th>5850-13772-00</th>
<th>5850-15772-00</th>
<th>5850-15646-00</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Canada</td>
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<td></td>
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</tr>
<tr>
<td>Germany</td>
<td>□</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>France</td>
<td>□</td>
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<td></td>
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<tr>
<td>Spain</td>
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<tr>
<td>New Zealand</td>
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<td>UK</td>
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<td>□</td>
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<tr>
<td>Finland</td>
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<td>□</td>
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<tr>
<td>Italy</td>
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<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>□</td>
</tr>
</tbody>
</table>
**NOTICE:** The hard disk drive, the Abyss Security Board, the CPU Board Assembly, and the Dolphin I/O Board are matched at the factory and cannot be mixed. Replacing any one of these components without the others may result in an inoperative Video Game Machine.

**ABYSS SECURITY BOARD (04-12680)**

**NLX RISER PCB ASSEMBLY (04-12791)**
CHAPTER

WARNIMG: Failure to reconnect all ground wires or replace metal shields and covers with each mounting screw installed and securely tightened may result in radio frequency interference.
Troubleshooting

CAUTION: Do not remove or install any connector when power is turned on. Doing so will damage the CPU board assembly or the warranty.

This Video Game Machine uses complex electronic components that are sensitive to static electricity. The following precautions must be observed and followed prior to handling any electronics.

- Ensure that the AC power to the Video Game Machine is turned off prior to servicing.
- Discharge any static electricity build up in your body by touching any unpainted metal on the Video Game Machine. Do this before touching or handling electronic assemblies.
- Handle electronic assemblies by their edges and store them in an anti-static area when not in use or when being transported.
- Do not touch, remove, or connect any electronic assemblies when AC power is on. Doing so will damage electronic assemblies and void the warranty.
- Always replace ground wires, shields, safety covers, etc. when maintenance or service is completed. Ensure that all ground and mounting screws are installed and tightened firmly.
## Video Game Machine Does Not Start

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine appears non-functional.</td>
<td>Lack of electricity</td>
<td>1. Check that power switch is on.</td>
</tr>
<tr>
<td>No audio</td>
<td></td>
<td>2. Verify that line cord is plugged in.</td>
</tr>
<tr>
<td>No fan</td>
<td></td>
<td>3. Try another power outlet.</td>
</tr>
<tr>
<td>No video display</td>
<td></td>
<td>4. Reset circuit breaker at rear of cabinet.</td>
</tr>
<tr>
<td>Poor AC connection</td>
<td></td>
<td>1. Check airflow out of cabinet near fan. (Lack of airflow suggests DC power is not available from power supply.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Turn off AC power.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Remove line cord cable clamp.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Test line cord, power plug and IEC connector for breaks or damage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Verify continuity of each wire in cord.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Fully seat IEC connector into mating cabinet receptacle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Replace cable clamp and its screw.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Ensure cabinet wiring harness connectors are fully seated in corresponding AC power wiring harness connectors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Verify AC wire connections at power supply terminals.</td>
</tr>
<tr>
<td>Faulty fuse</td>
<td></td>
<td>1. Remove fuse by turning ¼ turn counterclockwise.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Replace fuse with exact same type if necessary.</td>
</tr>
<tr>
<td>Faulty AC line filter</td>
<td></td>
<td>1. Examine AC line fuse on Power Supply Board Assembly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Replace faulty fuse with identical fuse of proper voltage and current rating.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Connect line cord and verify operation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Fully seat AC plug in outlet.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Verify AC line voltage is present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Turn AC power on.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Check DC wiring harness and connectors if fuse breaks again.</td>
</tr>
</tbody>
</table>
## Startup Problems *Continued*

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
</thead>
</table>
| • Machine appears non-functional, but currency acceptor price indicator is illuminated. | Poor connection | 1. Turn AC power off. Unplug AC line cord. Remove Rear Door and electronics cover.  
2. Inspect CPU Board Assembly.  
3. Ensure DC Power connector is attached and fully seated onto mating board connector.  
4. Check other wiring connectors in same way. |
| Poor DC power | 1. Turn AC power on.  
2. Using 20-Volt DC range on a digital voltmeter, measure DC voltages present at power connector pins. Refer to Cabinet Wiring Diagram for specific wiring information and voltage limits. |
| Poor AC power | 1. Using 2-Volt AC range on a digital voltmeter, measure same DC voltages as above.  
2. A reading here indicates that power supply voltages are unstable and may contain ripple or noise. |
| System errors | 1. Verify that Video Game Machine completes Power-Up Self-Test sequence without errors.  
2. Note errors and/or failures found during tests.  
3. Open upper cash door and enter Menu System by pressing TEST pushbutton.  
4. From MAIN MENU, choose [DIAGNOSTICS MENU], then [VIDEO TEST].  
5. Perform tests, then proceed to [HARDWARE TEST] and [SOFTWARE TEST].  
6. Use these tests to check function of components and software. |
## Currency Does Not Start Game

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
</thead>
</table>
| • Machine does not accept currency or tokens. • Machine cannot be started. • Audio present • Video present | Bad currency | 1. Turn AC power off. Open upper and lower cash doors.  
2. Empty cash box and DBV.  
3. Inspect revenue for counterfeit currency.  
4. Remove items that block path from coin mechanism to cash box. |
| | Blocked coin mechanism | 1. Turn AC power off. Open upper and lower cash doors.  
2. Check coin mechanism and DBV to ensure proper mounting.  
3. Remove coin mechanism and DBV and clear currency path. |
| | Unleveled coin mechanism | 1. Verify coin mechanism is level.  
2. Ensure that connector is attached and fully seated.  
3. Repair or replace mechanism if bent or damaged.  
4. Ensure cables and wiring are connected to currency acceptor or coin mechanism. |
| • Machine does not accept currency or tokens. • Audio present • Video present | Software setting | 1. Enter Menu System. At MAIN MENU, choose **GAME/COINAGE SETUP**.  
2. Check maximum credit limit. |
| • Machine accepts currency or tokens. • Machine does not start. • Audio present • Video present | Faulty coin mechanism | 1. Check coin mechanism and DBV to ensure proper mounting.  
2. Verify that each release latch is in closed and locked position.  
3. Test known good and bad coins and bills to see if mechanisms accepts and rejects currency correctly.  
4. Enter Menu System.  
5. From MAIN MENU, choose **DIAGNOSTICS MENU**, then **HARDWARE TEST** then **SWITCH TEST**.  
6. Use tests to confirm operation of each switch. |
| | Poor connection | 1. Check that external coin door indicators (pricing, flashing arrows, etc.) are illuminated.  
2. Check connectors and cables for wiring continuity from CPU board connector to coin door.  
3. Turn AC power off.  
4. Ensure No parts or wires are caught in hinges or switch contacts. |
## Currency Problems Continued

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect program</td>
<td>Examine currency acceptor for programmable features. Some devices require operator adjustment for each specific type of currency recognized. Refer to manufacturer’s literature for assistance in setting acceptor features to required values.</td>
<td></td>
</tr>
<tr>
<td>Faulty switch</td>
<td>Check for continuity in each suspect switch connection (Common to Normally Open or Common to Normally Closed). Replace faulty switches (bent levers, broken actuators, etc.).</td>
<td></td>
</tr>
<tr>
<td>Defective mechanism</td>
<td>Verify that each mechanism operates properly by placing in a known good unit.</td>
<td></td>
</tr>
<tr>
<td>System error</td>
<td>1. Open upper cash door. Enter Menu System by pressing the TEST pushbutton.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. From MAIN MENU, choose DIAGNOSTICS MENU, then HARDWARE TEST, then SWITCH TEST.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Use these tests to confirm operation of each switch.</td>
<td></td>
</tr>
<tr>
<td>Incorrect pulse width</td>
<td>1. From MAIN MENU, choose GAME/COINAGE SETUP and verify that currency acceptor is enabled.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Consult manufacturer’s literature and adjust pulse width to long setting.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Verify that currency acceptor operates correctly by placing in a known good unit.</td>
<td></td>
</tr>
<tr>
<td>Incorrect acceptor program</td>
<td>Refer to manufacturer’s literature. Set acceptor features to required values.</td>
<td></td>
</tr>
<tr>
<td>Poor wiring</td>
<td>Check that cabinet wiring is correct. Ensure that coin meter and coin switches are properly connected. Refer to Cabinet Wiring Diagram for specific information.</td>
<td></td>
</tr>
<tr>
<td>Defective acceptor</td>
<td>Verify that each acceptor operates properly by placing in a known good unit.</td>
<td></td>
</tr>
</tbody>
</table>
## Touchscreen Problems

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Touchscreen is not accurate for two or more players.</td>
<td>Dirty screen</td>
<td>Clean cabinet often, especially Touchscreen area. It is not necessary to switch off AC power to clean Video Game Machine. Apply isopropyl alcohol and warm water to a clean cloth or sponge, then use this to wipe surface. <em>Do not apply cleaner directly on unit.</em> Liquids dripping into circuits can cause erratic operation. Turn off AC power. Remove monitor bezel. Clean Touchscreen, especially areas normally behind bezel.</td>
</tr>
<tr>
<td>Overzealous touching</td>
<td>Dirty screen</td>
<td>Warn players to use only one finger at a time. Simultaneous touches confuse Touchscreen Controller.</td>
</tr>
<tr>
<td>Players need grounding</td>
<td>Dirty screen</td>
<td>Some players find Touchscreen response improves when they touch the metal surface of cabinet with one hand as they operate the Touchscreen with other hand.</td>
</tr>
</tbody>
</table>
| • Touchscreen chooses incorrect items.       | Incorrect calibration         | 1. Open upper cash door. Enter Menu System by pressing TEST pushbutton.  
2. From MAIN MENU, choose [CALIBRATE TOUCHSCREEN] Calibrate, then test calibration.  
3. Confirm that Touchscreen detects and properly tracks finger position in all areas of the screen. |
| • Touchscreen does not respond when certain areas are touched. | Incorrect calibration         | 1. Open upper cash door. Enter Menu System by pressing TEST pushbutton.  
2. From MAIN MENU, choose [CALIBRATE TOUCHSCREEN] Calibrate, then test calibration.  
3. Confirm that Touchscreen detects and properly tracks finger position in all areas of the screen. |
| Bad controller                               | Incorrect calibration         | Ensure Touchscreen Controller operates properly by placing in a known good unit.                                                                     |
| • Touch controls are intermittent or completely non-functional. | Poor connection               | 1. Open upper cash door. Enter Menu System by pressing TEST pushbutton.  
2. From MAIN MENU, select [DIAGNOSTICS MENU] then [HARDWARE TEST] and then [SWITCH TEST].  
3. Confirm operation of each switch in cabinet. |
| Machine starts normally.                    | Poor connection               | Remove Rear Door and Electronics Cover. Observe CPU Board Assembly while touching touch screen. Red LED glows if touch is sensed.                                                                         |
| CPU board power                              | Poor Controller power         | Green LED at end of Touchscreen Controller glows if voltage is in circuits. If the LED fails to glow, check power connection to Controller.                                                              |
| Poor Controller connection                   | Poor Controller connection    | 1. Turn AC power off. Remove Rear Door.  
2. Check that Touchscreen Controller Cable is fully seated in connector of Touchscreen Controller.                                                                                       |
| • Touchscreen does not calibrate.           | Bad controller or Touchscreen | 1. Ensure that Touchscreen Controller operates properly by placing in a known good unit.  
2. If Controller works, replace Touchscreen.                                                                                                                                           |
| • “Touch Controller Not Found” error message | Poor connection               | 1. Turn AC power off. Remove Rear Door.  
2. Check that Touchscreen Controller Cable is fully seated in connector of Touchscreen Controller.  
3. Ensure Touchscreen Controller operates properly by placing in a known good unit.                                                                                                     |
## Audio Problems

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Suggested Solution</th>
</tr>
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</table>
| Audio is non-functional. | Volume set too low in software | 1. Open upper cash door. Enter Menu System by pressing TEST pushbutton.  
2. From MAIN MENU, observe Volume Fixed level.  
3. Verify that volume is not set at zero. Change level to maximum to make sounds audible. |
| Video present | Volume set too low on CPU board assembly (some models) | 1. Select an endlessly repeating sound track.  
2. With screen audio level at maximum, turn CPU Board Assembly master volume control full up. Some models do not have master volume control.  
3. Reduce master volume until sound is as loud as possible without distortion.  
4. Use screen adjustments to set a comfortable playing level. |
| Machine appears to operate normally. | Software error | 1. While in SOUND TEST menu, select **GAME SOUNDS** and listen to sounds to confirm operation of audio amplifier and speaker.  
2. Note if any sounds are unintelligible voice messages, strange noises, missing, etc. |
| Faulty speaker wiring | | 1. Turn AC power off.  
2. Verify that cabinet wiring is correct. Refer to Cabinet Wiring Diagram.  
3. Ensure speaker is properly connected to audio output wires from the audio connector.  
4. Verify speaker continuity. |
| Missing DC voltage | | 1. Turn AC power off.  
2. Using 20-Volt DC range on a digital voltmeter, measure DC voltages at Power connector pins.  
3. Verify +5V, -5V and +12V sources.  
4. Refer to Cabinet Wiring Diagram for specific wiring information and voltage limits. |
| Ripple in DC supply | | Using 2-Volt AC range on a digital voltmeter, measure same DC voltages as above. Any reading here indicates that power supply voltages are unstable and may contain ripple or noise. |
| Bad CPU board | | Verify proper operation of CPU Board Assembly by placing in a known good Machine. |
## Audio Problems Continued

<table>
<thead>
<tr>
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<th>Suggested Solution</th>
</tr>
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</table>
| - Audio distorted or muffled  
- Constant low hum present  
- Sounds missing          | System error             | 1. Open cash door. Enter Menu System by pressing TEST pushbutton.  
2. From the SYSTEM SETUP menu, go to DIAGNOSTICS and choose SOUND TESTS. These tests verify some functions of the audio circuits. |
|                          | Wrong speaker            | 1. Turn AC power off.  
2. Remove Rear Marquee Cover and locate speaker.  
3. Ensure speaker is full range (100 to 10,000 Hz response) and rated for at least 15 watts continuous power. |
|                          | Poor connection          | Inspect speaker and wires. Ensure that no loose parts or wires are caught in speaker cone, terminals, mounting screws, or stuck to magnets.       |
| - Sounds missing         | Poor wiring, bad ground | Check that cabinet wiring is correct for this Video Game Machine. Ensure all cabinet ground wires are connected. Refer to Cabinet Wiring Diagram for specific wiring information. |
|                          | Defective speaker        | Verify that speaker operates properly by placing it in a known good unit.                                                                          |
|                          | Defective amplifier      | Temporarily connect a different speaker to Video Game Machine to test CPU Board Assembly audio amplifier operation.                                |
## Video Problems

<table>
<thead>
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</table>
| Monitor non-functional | No power to monitor | 1. Remove Rear Door.  
2. Verify AC Power is connected to the Video Monitor.  
3. Inspect neck of the CRT under low light level conditions.  
4. You can see a glow near the CRT base if there is voltage in the filament circuits. This does not mean that other voltages or signals are as they should be, but it does indicate that some of the monitor circuits are receiving power. |
| Audio present |  |
| Controls operate as expected. |  |
| Poor connection | 1. Turn AC power off. 
2. Verify that video signal and the Remote Adjustment Board connectors are fully seated on the Video Monitor Board Assembly. 
3. Check the other monitor connectors in the same way. Do not operate a monitor without a Remote Adjustment Board. |
| Faulty fuse | Examine AC line fuse on Video Monitor Board Assembly. If faulty, replace it with an identical fuse of the proper voltage and current rating. |
| Bad settings | Check that the brightness (intensity) and contrast have not been set to their minimum levels. |
| Defective monitor | Verify that the video monitor operates correctly by placing it in a known good Machine. |
| Power-Up Self Test runs. | System error | 1. Note and record any error messages that occur during self-test.  
2. Turn AC power off.  
3. Restore power after one minute.  
4. Note and record any new messages that appear on the screen.  
5. Open upper cash door. Enter Menu System by pressing TEST pushbutton.  
6. From the SYSTEM SETUP menu, go to [DIAGNOSTICS] and choose [VIDEO TEST]. These tests verify some functions of video circuits. |
| Game does not appear. |  |
| No audio |  |
### Video Problems *Continued*

<table>
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</table>
| Faulty DC voltage source | 1. Turn AC power on.  
2. Using the 20-Volt DC range on a digital voltmeter, measure DC voltages present at the Power connector pins.  
3. Refer to the Cabinet Wiring Diagram (Wiring Chapter) for specific wiring information and voltage limits.  
4. Adjust the +5V source if it is variable. |                     |
| Ripple on DC supply pins | Using the 2-Volt AC range on a digital voltmeter, measure the same DC voltages as above. Any reading indicates that the supply voltages are unstable and may contain ripple or noise. |                     |
| Faulty power at CPU Board Assembly | Compare CPU Board Light Emitting Diode states with the CPU Indicator Chart (Wiring Chapter). |                     |
|                          | - Monitor does not lock onto signal.  
- Picture unstable  
- Colors are missing, etc.  
- Machine operates normally.  
- Picture wavers or rolls, has dark bars, uneven colors, etc. | Poor connection: Check connectors and cables for wiring continuity from the CPU Board to the Video Monitor. |
|                          | Defective monitor: Verify that the Video Monitor operates correctly by placing it in a known good unit. |                     |
|                          | Poor connection:  
1. Check connectors and cables for wiring continuity from the CPU Board Assembly to Video Monitor.  
2. Ensure that all cabinet ground wires are connected, especially at Video Monitor frame. |                     |
<p>|                          | Interference: Move cabinet away from machines, appliances, other Machines, etc. Some equipment emits very strong electrical or magnetic fields. |                     |
|                          | Defective monitor: Verify that Video Monitor operates correctly by placing it in a known good Video Game Machine. |                     |</p>
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</table>
| • Machine operates normally.  
• Cabinet gets very warm after several hours of use.  
• System may reset or freeze after time. | Poor air circulation | 1. Check bottom and rear of cabinet for blocked airflow. Move Machine away from sources of heat.  
2. Turn AC power off.  
3. Apply high power vacuum cleaner to vent holes to remove dust.  
4. Remove Rear Door.  
5. Ensure all fans are connected and operate at full speed. |
| • Touchscreen requires excessive recalibration to maintain Machine accuracy. | Dirty screen | 1. Clean entire cabinet frequently, especially video screen glass and Touchscreen area. It is not necessary to switch off AC power to clean.  
2. Apply an isopropyl alcohol and warm water to a clean cloth or sponge.  
3. Use the sponge or cloth to wipe the surface.  
4. *Do not apply the cleaner directly on unit.* Liquids could drip into circuits and cause erratic operation. |
| | Overzealous touching | Warn players to use only one finger at a time. Simultaneous touches confuse Touchscreen Controller. |
| | Relocation | Repeat Calibrate and Calibrate Test sequence each time cabinet is relocated. |
| • Error messages appear on screen.  
• Machine does not work.  
• No audio | System error | 1. Check any assembly (RAM, ROM, battery, Touchscreen, etc.) identified in Error Message.  
2. If errors seem to occur at random, try to determine what conditions are connected with appearance of message (i.e., time of day, when other equipment is turned off or on, when room temperature is elevated, only with certain players, periods of low or high humidity, etc.).  
3. Call your authorized distributor for help with unresolved screen messages |
| • “Security Key Error” message | Security failure | 1. Check to see if security key is missing or incorrectly installed on board assembly.  
2. Confirm that security key version matches software version. |
| • Unable to update software, high scores, etc. | Modem not functional | 1. Ensure modem is seated in PCI slot.  
2. Ensure telephone cord is well seated in wall jack and modem port.  
3. Check wall jack for dial tone.  
4. Place modem in working unit to test. Replace if faulty. |
WARNINGS & NOTICES

WARNING

• Use of non-Midway parts or circuit modifications may cause serious injury or equipment damage!
• Federal copyright, trademark and patent laws protect this game. Unauthorized modifications may be illegal under Federal law. The modification ban also applies to Midway Amusement Games, LLC and game logos, designs, publications and assemblies. Moreover, facsimiles of Midway equipment (or any feature thereof) may be illegal under federal law, regardless of whether or not such facsimiles are manufactured with Midway components.

WARNING
Prevent shock hazard and assure proper game operation. Plug this game into a properly grounded outlet. Do not use a cheater plug to defeat the power cord’s grounding pin. Do not cut off the ground pin.

CAUTION

A very small portion of the population has a condition which may cause epileptic seizures or momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.

If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g. seizures or loss of awareness), immediately consult your physician before using any video games.

We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions, DISCONTINUE USE IMMEDIATELY and consult your physician.

CAUTION

Information in this manual is subject to change without notice. Midway reserves the right to make improvements in equipment function, design, or components as progress in engineering or manufacturing methods warrants.

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