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California Customer Service Office
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Milpitas, CA 95035-1110
Telex 17-2976
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Warranty

Seller warrants that its printed-circuit boards and parts thereon are free from defects in material and workmanship under normal use and service for a period of ninety (90) days from date of shipment. Seller warrants that its video displays and LaserVideo disc players (in games supplied with displays and video-disc players) are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from date of shipment. None of the Seller's other products or parts thereof are warranted.

If the products described in this manual fail to conform to this warranty, Seller's sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

(a) Seller is promptly notified in writing upon discovery by Buyer that said products are defective;

(b) Such products are returned prepaid to Seller's plant; and

(c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, installation, or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

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P.O. Box 361110
Milpitas, California 95035

Printed in the U.S.A. **10P**

Gauntlet™

Coin Information and Game Statistics

Date: _____

Plyr 0 Coins	_____	Number of coins deposited in Warrior coin mechanism
Plyr 1 Coins	_____	Number of coins deposited in Valkyrie coin mechanism
Plyr 2 Coins	_____	Number of coins deposited in Wizard coin mechanism
Plyr 3 Coins	_____	Number of coins deposited in Elf coin mechanism
0 Plyr Mins	_____	Minutes of idle time
1 Plyr Mins	_____	Minutes played as a 1-player game
2 Plyr Mins	_____	Minutes played as a 2-player game
3 Plyr Mins	_____	Minutes played as a 3-player game
4 Plyr Mins	_____	Minutes played as a 4-player game
Total Games	_____	Total number of unique games played*
Error Count	_____	EEROM errors
Total Coins	_____	Total number of coins deposited in all four mechanisms
Avg. Time/Coin	_____	Average game time per coin in seconds

Histogram Information

Seconds	0 Warrior	1 Valkyrie	2 Wizard	3 Elf
0–29				
30–44				
45–59				
60–74				
75–89				
90–104				
105–119				
120–134				
135–149				
150–164				
165–179				
180–194				
195–209				
210–224				
225–239				
240–254				
255–269				
270–284				
285–299				
300 & up				

**One "game" is the time between leaving the Attract Mode and returning to it, regardless of time, number of coins inserted, or how many have played Gauntlet. The games are measured since the last time the statistics were cleared.*

Table of Contents

Your Comments, Please!

Your comments will assist Atari Games Corporation in improving its publications. The comments are an important part of preparing for revisions of game manuals. Please write in the space below.

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Page: Comments:

Fill in if you wish a reply:

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Firm _____ ☐ Distributor

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City _____ Country _____ ☐ Other _____

Phone: Country Code _____ Local Number _____

Safety Summary

The following safety precautions apply to all game operators and service personnel. Specific warnings and cautions will be found throughout this manual where they apply.

⚠ WARNING ⚠

Properly Ground the Game. Players may receive an electrical shock if this game is not properly grounded! To avoid electrical shock, do not plug in the game until it has been inspected and properly grounded. This game should only be plugged into a grounded three-wire outlet. If you have only a 2-wire outlet, we recommend you hire a licensed electrician to install a grounded outlet. Players may receive an electrical shock if the control panel is not properly grounded! After servicing any parts on the control panel, check that the grounding wire is firmly secured to the inside of the control panel. Only then should you lock up the game.

AC Power Connection. Before connecting the game to the AC power source, verify that the game's power supply is properly configured for the line voltage in your location.

Disconnect Power During Repairs. To avoid electrical shock, disconnect the game from the AC power source before removing or repairing any part of the game. When removing or repairing the video display, extra precautions must be taken to avoid electical shock because high voltages may exist within the display circuitry and cathode-ray tube (CRT) even after power has been disconnected. Do not touch internal parts of the display with your hands or with metal objects! Always discharge the high voltage from the CRT before servicing this area of the game. To discharge the CRT: Attach one end of a large, well-insulated, 18-gauge jumper wire to ground. Momentarily touch the free end of the grounded jumper to the CRT anode by sliding it under the anode cap. Wait two minutes and discharge the anode again.

Use Only ATARI Parts. To maintain the safety integrity of your ATARI game, do not use non-ATARI parts when repairing the game. Use of non-ATARI parts or other modifications to the game circuitry may adversely affect the safety of your game, and injure you or your players.

Handle Fluorescent Tube and CRT With Care. If you drop a fluorescent tube or CRT and it breaks, it may implode! Shattered glass can fly six feet or more from the implosion.

Use the Proper Fuses. To avoid electrical shock, use replacement fuses which are specified in the parts list for this game. Replacement fuses must match those replaced in fuse type, voltage rating, and current rating. In addition, the fuse cover must be in place during game operation.

CAUTION

Properly Attach All Connectors. Make sure that the connectors on each printed-circuit board (PCB) are properly plugged in. Note that they are keyed to fit only one way. If they do not slip on easily, do not force them. A reversed connector may damage your game and void the warranty.

Ensure the Proper AC Line Frequency. Video games manufactured for operation on 60 Hz line power (i.e., United States) must not be operated in countries with 50 Hz line power (i.e., Europe). The fluorescent light ballast transformer will overheat, causing a potential fire hazard if 60 Hz games are operated on power lines using 50 Hz. Check the product identification label of your game for the line frequency required.

Your Comments, Please!

Your comments will assist Atari Games Corporation in improving its publications. The comments are an important part of preparing for revisions of game manuals. Please write in the space below. No postage stamp is necessary if mailed in the U.S.A.

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Name _____

Firm _____ ☐ Distributor

Address _____ ☐ Operator

City _____ State _____ Zip _____ ☐ Other _____

Area Code _____ Phone _____

Inspecting the Game

CAUTION

Do not install the control panel or plug in the game until you have completed the following inspection steps.

Please inspect your Gauntlet game carefully to ensure that the game is complete and delivered to you in good condition. Figure 1-1 shows the locations of the component parts of the game. Table 1-1 lists space, power, and environmental requirements. Do not install the control panel until the following inspection is completed:

1. Examine the exterior of the cabinet and the control panel for dents, chips, or broken parts.
2. Use a Phillips screwdriver to remove the screws holding the upper and lower rear-access panels to the cabinet. Unlock the lower rear-access panel and remove both rear access panels. Unlock and open the right and left coin doors. Inspect the interior of the cabinet as follows:
   a. Ensure that all plug-in connectors (on the cabinet harnesses) are firmly plugged in. Do not force connectors together. The connectors are keyed so they only fit in the proper orientation.
   b. Ensure that all plug-in integrated circuits on each PCB are firmly plugged into their sockets.
   c. Inspect the power cord for any cuts or dents in the insulation.
   d. Inspect the power supply. Make sure that the correct fuses are installed and that the voltage plugs (for games made in Ireland only) are inserted for the proper line voltage. Check that the harness is plugged in correctly and that the fuse-block cover is mounted in place. Check that the green ground wire is connected.
   e. Inspect other major subassemblies, such as the video display, printed-circuit boards (PCBs), controls, and speakers. Make sure they are mounted securely and that the green ground wires (where provided) are connected.
   f. Make sure the game power source and operating environment is within the limits specified in Table 1-1, Game Specifications.
   g. Install the control panel as described in the following procedure.

Installing the Control Panel

Perform the following procedure to install the control panel (see Figure 1-2).

1. Stand the control panel on the front edge of the cabinet so that it is held securely by the bracket mounted under the front edge of the panel.
2. Connect the four harness connectors to the game printed-circuit board (PCB) as shown in Figure 1-2.
3. Connect the green ground wire to the corresponding green wire in the cabinet.
4. Gently lift the control panel bracket free of the cabinet and lower the panel into the proper position on the front of the cabinet.
5. Reach up through the right and left coin door openings and fasten the two spring-draw latches located under the control panel on each side of the cabinet.

Control and Switch Locations

The following control and switch descriptions are for both the U.S. and Irish versions of the Gauntlet game. Refer to Figures 1-1 and 1-3 for illustrations showing the locations of the controls and switches.

Power On/Off Switch

The power on/off switch is located at the bottom rear of the cabinet (see Figure 1-1).

Volume Control

The volume control is located behind the upper right coin door on the Audio PCB for the U.S. version and on the utility panel for the Irish version. The volume control adjusts the level of sound produced by the game.

Coin Counters

The coin counter(s) is located behind the upper right coin door on the back of the shelf for the U.S. version and on the utility panel for the Irish version. The coin counter(s) records the number of coins entered.

Self-Test Switch

The self-test switch is located behind the upper right coin door on the Audio PCB for the U.S. version and on the utility panel for the Irish version. The self-test switch selects the Self-Test Mode to check game operation. Refer to Chapter 3 for a complete description of self-test operation.

Coin and Game Option Settings

The coin and game options are selected in the Self-Test Mode. Refer to the coin and game option screens described in Chapter 3 for the recommended settings and the procedure for selecting the options.

Regulator/Audio III Printed-Circuit Board Assembly Parts List

Designator	Description	Part No.
	Capacitors	
C1	22 µF, 35 V Electrolytic Capacitor	24-350226
C2	0.22 µF, 25 V Ceramic Capacitor	122004-224
C3	0.001 µF, 50 V Ceramic Capacitor	122002-102
C4	0.1 µF, 50 V Ceramic Capacitor	122002-104
C5	22 µF, 35 V Electrolytic Capacitor	24-350226
C6	0.22 µF, 25 V Ceramic Capacitor	122004-224
C7	0.001 µF, 50 V Ceramic Capacitor	122002-102
C8	0.1 µF, 50 V Ceramic Capacitor	122002-104
C9, C10	22 µF, 35 V Electrolytic Capacitor	24-350226
C11, C12	0.1 µF, 50 V Ceramic Capacitor	122002-104
C13	3300 µF, 35 V Electrolytic Capacitor	24-350338
C14	0.22 µF, 25 V Ceramic Capacitor	122004-224
C15	3300 µF, 35 V Electrolytic Capacitor	24-350338
C16	0.22 µF, 25 V Ceramic Capacitor	122004-224
C17, C18	0.1 µF, 50 V Ceramic Capacitor	122002-104
C19	1000 µF, 25 V Electrolytic Capacitor	24-250108
C20	0.1 µF, 50 V Ceramic Capacitor	122002-104
C21	22 µF, 35 V Electrolytic Capacitor	24-350226
C22	0.001 µF, 50 V Ceramic Capacitor	122002-102
C23, C24	0.1 µF, 50 V Ceramic Capacitor	122002-104
C25–C27	3300 µF, 35 V Electrolytic Capacitor	24-350338
C28	470 µF, 25 V Electrolytic Capacitor	24-250477
C29, C30	0.1 µF, 50 V Ceramic Capacitor	122002-104
	Connectors	
J6	9-Position Header Connector	179069-009
J7	12-Position Header Connector	179069-012
J8	9-Position Polarized Header Connector with .156-Inch Centers	179213-009
	Diodes	
CR1–CR3	Type-1N4002 Diode	31-1N4002
CR4–CR7	Type-1N5401 Rectifier Diode	31-1N5401
CR9	Type-1N4002 Diode	31-1N4002
	Resistors	
R3	12 kΩ, ±5%, ¼ W Resistor	110000-123
R4, R5	100 kΩ, ±5%, ¼ W Resistor	110000-104
R7	12 kΩ, ±5%, ¼ W Resistor	110000-123
R8, R9	100 kΩ, ±5%, ¼ W Resistor	110000-104
R10, R11	1 kΩ, ±5%, ¼ W Resistor	110000-102
R12, R13	100 kΩ, ±5%, ¼ W Resistor	110000-104
R14, R15	10 kΩ, ±5%, ¼ W Resistor	110000-103
R18	100 Ω, ±5%, ¼ W Resistor	110000-101

(Continued on next page)

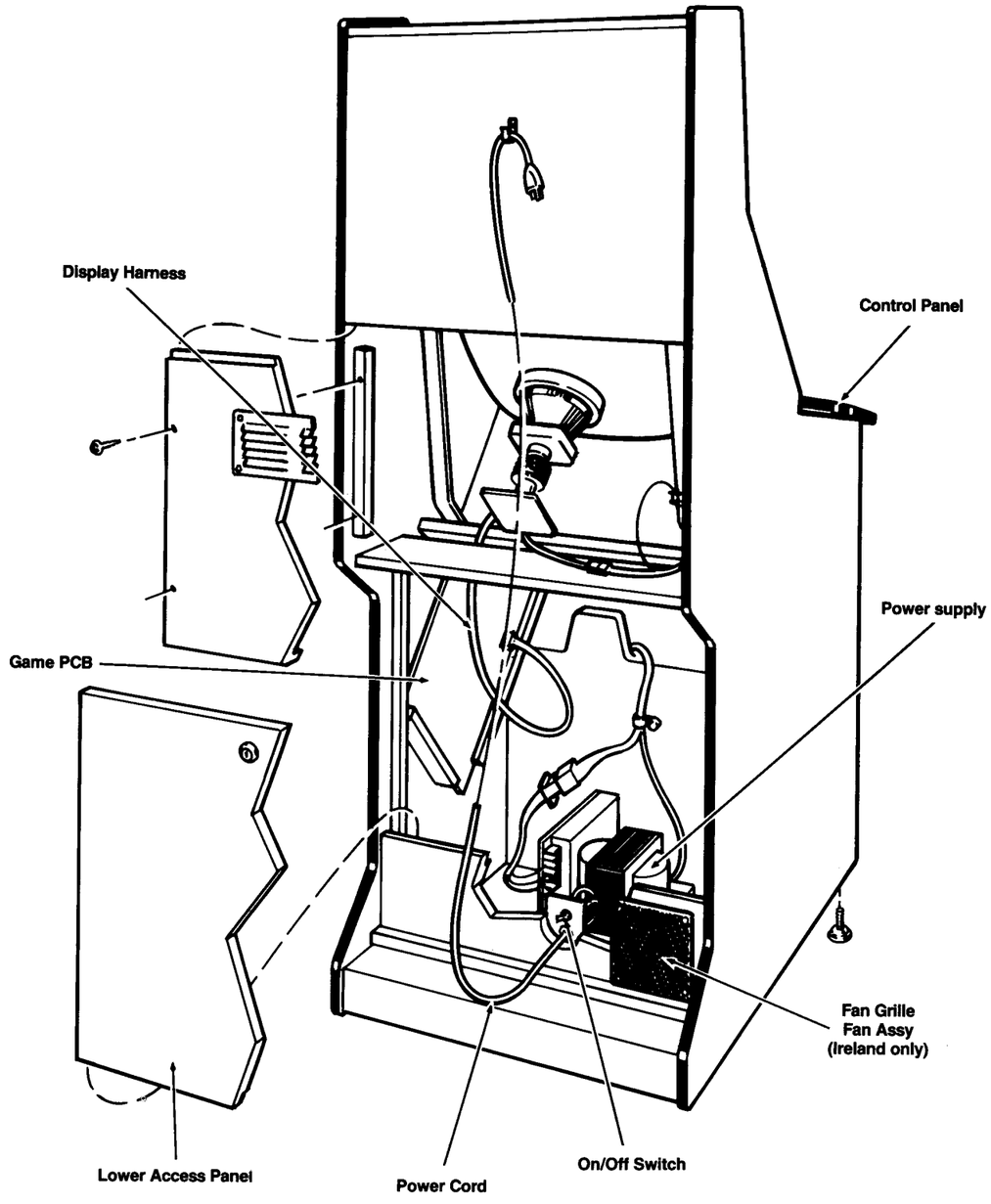


Figure 1-1 Game Overview, Continued

Audio PCB Assembly Parts List

Designator	Description	Part No.
C1–C4	Capacitor, Electrolytic, 3300 µf, 25 V	123003-338
C5, C6	Capacitor, Electrolytic, 100 µf, 25 V	24-250107
C7–C12	Capacitor, Ceramic, .1 µf, 25 V	122002-104
C13, C14	Capacitor, Electrolytic, 22 µf, 35 V	24-350226
C15–C18	Capacitor, Ceramic, .22 µf, 25 V	122006-224
C19, C20	Capacitor, Ceramic, .001 µf, 25 V	122002-102
C21, C22	Capacitor, Ceramic, .1 µf, 25 V	122002-104
CR1–4	Diode, 1N5401, 100 V, 3A	31-1N5401
CR5–12	Diode, 1N4001, 50 V	31-1N4001
J15V	Connector, Header, 9 Ckt., .156 Ctr.	179213-009
JAUX	Connector, Header, 9 Ckt., .156 Ctr.	179213-009
JCC-1, JCC-2	Term, Fast-on Tab, .187 × .020	179051-001
JCDL	Term, Fast-on Tab, .187 × .020	179051-001
JSPK	Connector, Header, 6 Ckt., .156 Ctr.	179213-006
Q1, Q2	Amplifer, TDA-2030	137301-001
R1	Resistor, Pot, 10 kΩ, Dual	119011-103
R3	Resistor, 10 Ω, ±5%, ¼ W	110000-100
R4–R7	Resistor, 22 kΩ, ±5%, ¼ W	110000-223
R8, R9	Resistor, 10 kΩ, ±5%, ¼ W	110000-103
R10, R11	Resistor, 1 kΩ, ±5%, ¼ W	110000-102
R12, R13	Resistor, 1 Ω, ±5%, ¼ W	110000-010
SW1	Self-Test Switch, Slide, Miniature, SPDT	66-004
	Heat Sink, TO-220	178190-032
	Screw, Pan-Head, Cross-Recessed, #6-32 × 3/8-Inch Long	72-1606S
	Nut/Washer Assy, #6-32	75-99516

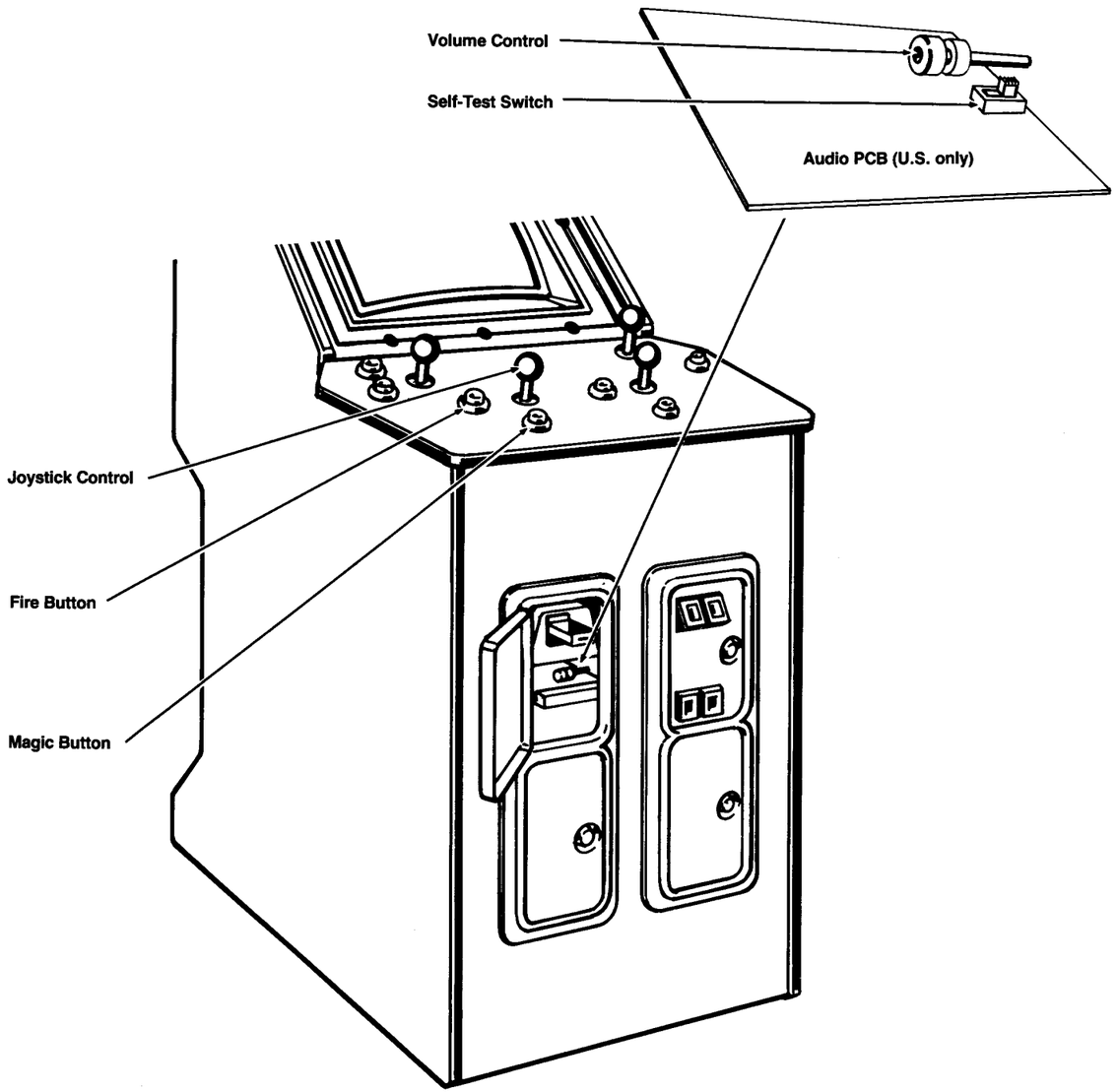


Figure 1-3 Control and Switch Locations

Gauntlet Game PCB Assembly
Parts List, Continued

Designator	Description	Part No.
	Miscellaneous	
GND 1, GND 2, GND 3	Test Point	179051-002
Y1	Crystal, 14.318 MHz	90-101
	Socket, 16-Pin	79-42C16
	Socket, 20-Pin	79-42C20
	Socket, 24-Pin	79-42C24
	Socket, 28-Pin	79-42C28
	Socket, 40-Pin	79-42C40
	Socket, 64-Pin	79-42C64

Attract Mode

The Attract Mode begins when the game is powered up or after exiting the Play or Self-Test modes. The Attract Mode ends when coins or tokens are inserted. The Attract Mode continuously cycles through the following displays:

- Game play demonstration
- Legend depicting all the objects the players can collect, such as treasure, food, and magic potions
- Seven individual screens displaying the descriptions for each of the following monsters:
  Ghosts
  Grunts
  Demons
  Lobbers
  Sorcerers
  Death
  Thief
- Audiovisual credits
- High score table: One screen displays the high score per coin for each of the four characters
- Gauntlet title screen

Play Mode

The action begins as the player(s) choose a character and enter the game by depositing coins or tokens in the proper slot. One coin slot is designated for each of the four unique characters: Thor the Warrior (coin slot on the far left marked with red), Thyra the Valkyrie (blue coin slot to the left of center), Merlin the Wizard (yellow coin slot to the right of center), and Questor the Elf (green coin slot to the far right).

The object of the game is to survive as long as possible while exploring each maze to find food, treasure, and magic potions. Players must search the maze to find the exit to the next level. Playing as a team will give the players the best chance for survival.

At level 1, players will find exits going to other levels. If the players choose, they may exit level 1 and jump as far ahead as level 8 and skip six levels. The first seven mazes are always the same. On level 8 and beyond, players will find themselves on any one of over a hundred different mazes. If a player survives long enough, mazes will be repeated in a different order to provide uninterrupted entertainment.

How long a player lasts (game time) depends upon the player's "health." Health is lost by contact with various monsters and as a function of elapsed time. Health can be regained or increased by consuming the food found in the maze or by depositing more coins. Thus, a player can continue to play and explore more and more mazes.

In addition to consuming food for health, players can collect treasure for points. Treasure increases a player's score multiplier when two or more players are playing the game.

In addition, magic potions affect all the enemies on the screen. These magic potions can be held for later use when many enemies can be destroyed at once. The magic potion is the only weapon that can kill the awesome Death.

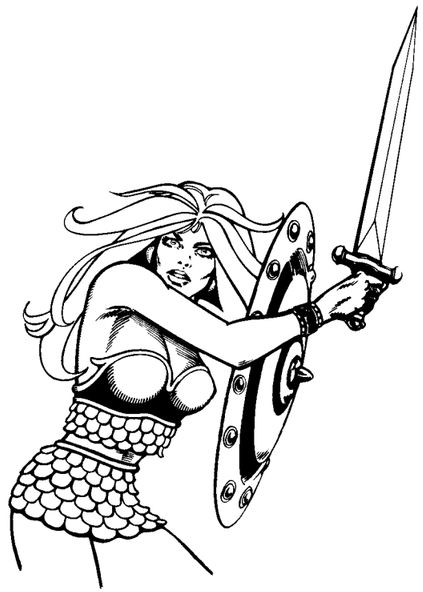
Players can find certain magic potions that strengthen their character with extra speed, extra armor, etc. These strengths will remain with the character (until the Thief steals them or the player's health reaches zero) and are an incentive for players to keep depositing coins to play the game. Once a strong character is built up, a player can play longer for each unit of health.

Gauntlet incorporates many of the attractive characteristics of popular fantasy role-playing games. The medieval theme provides a setting for players to act out fantasies of combat and conquest.

High Score Mode

On Gauntlet, qualified players are allowed to enter their initials while other players continue to play the game. Thus, a player can exit the game without disrupting a game in progress.

Upon completing a game and if a player is among the top ten scorers recorded on the game, he has 45 seconds to



Gauntlet Game PCB Assembly Parts List, Continued

Designator	Description	Part No.
R9	Resistor, ¼ W, 1.2 kΩ, ±5%	110000-122
R10	Resistor, ¼ W, 620 Ω, ±5%	110000-621
R11	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R12	Resistor, ¼ W, 4.7 kΩ, ±5%	110000-472
R13	Resistor, ¼ W, 2.4 kΩ, ±5%	110000-242
R14	Resistor, ¼ W, 1.2 kΩ, ±5%	110000-122
R15	Resistor, ¼ W, 620 Ω, ±5%	110000-621
R16	Resistor, ¼ W, 240 Ω, ±5%	110000-241
R17, R18	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R19	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R20	Resistor, ¼ W, 120 Ω, ±5%	110000-121
R21	Resistor, ¼ W, 240 Ω, ±5%	110000-241
R22	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R23	Resistor, ¼ W, 330 Ω, ±5%	110000-331
R24	Resistor, ¼ W, 390 Ω, ±5%	110000-391
R25	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R26	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R27	Resistor, ¼ W, 10 Ω, ±5%	110000-100
R28	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R29	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R30	Resistor, ¼ W, 330 Ω, ±5%	110000-331
R31	Resistor, ¼ W, 390 Ω, ±5%	110000-391
R32	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R33	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R34	Resistor, ¼ W, 10 Ω, ±5%	110000-100
R35	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R36	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R37	Resistor, ¼ W, 330 Ω, ±5%	110000-331
R38	Resistor, ¼ W, 390 Ω, ±5%	110000-391
R39	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R40	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R41	Resistor, ¼ W, 10 Ω, ±5%	110000-100
R42	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R43, R44	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R45	Resistor, ¼ W, 68 Ω, ±5%	110000-680
R46	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R47, R48	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R49	Resistor, ¼ W, 390 Ω, ±5%	110000-391
R50	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R51	Resistor, ¼ W, 4.7 kΩ, ±5%	110000-472
R52	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R53	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R54	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R55	Resistor, ¼ W, 56 kΩ, ±5%	110000-563
R56	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R57	Resistor, ¼ W, 5.6 kΩ, ±5%	110000-562
R58	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R59-64	Resistor, ¼ W, 1 kΩ, ±5%	110000-102

Gauntlet Game PCB Assembly
Parts List, Continued

Designator	Description	Part No.
14U	Integrated Circuit, 4066B	37-4066
14/15U	Integrated Circuit, 4066B	37-4066
15L	Integrated Circuit, POKEY	137430-001
15P	Integrated Circuit, 74LS245	37-74LS245
15R	Integrated Circuit, YM2151	137401-001
15S	Integrated Circuit, 74LS273	37-74LS273
15T	Integrated Circuit, YM3012	137402-001
15U	Integrated Circuit, 4066B	37-4066
15/16L	Integrated Circuit, Microprocessor, 6502-A	90-6013
15/16U	Integrated Circuit, LM324	37-LM324
16K	Integrated Circuit, 74LS244	37-74LS244
16L	Integrated Circuit, 74LS244	37-74LS244
16N/P	Integrated Circuit, HM6116	137211-001
16M	Integrated Circuit, HM6116	137211-001
16R	Integrated Circuit, EPROM, 300ns	136037-120
16S	Integrated Circuit, EPROM, 300ns	136037-119
16T/U	Integrated Circuit, 74LS259	37-74LS259
VR1	Integrated Circuit, LM7812	37-7812
VR2	Integrated Circuit, LM7905	37-7905
	Capacitors	
C1, C2	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C3-5	Capacitor, Ceramic, 1000 pf, 100 V	122016-102
C6-8	Capacitor, Mica, 470 pf, 100 V	128002-471
C9-13	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C14	Capacitor, Mica, 100 pf, 100 V	128002-101
C15	Capacitor, Mica, 39 pf, 100 V	128002-390
C16	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C17	Capacitor, Electrolytic, 100 µf, 25 V	24-250107
C18-22	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C23	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C24, C25	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C26	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C27, C28	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C30-37	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C38	Capacitor, Ceramic, .018 µf, 50 V	122015-182
C39	Capacitor, Ceramic, .0039 µf, 50 V	122015-392
C40	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C41	Capacitor, Ceramic, .22 µf, 25 V	122004-224
C42	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C43-46	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C47	Capacitor, Ceramic, 1000 pf, 100 V	122016-102
C48	Capacitor, Ceramic, .047 µf, 50 V	122015-473
C49	Capacitor, Ceramic, .0022 µf, 50 V	122015-222
C50, C51	Capacitor, Ceramic, 1000 pf, 100 V	122016-102
C52	Capacitor, Ceramic, .0022 µf, 50 V	122015-222
C53-55	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C56	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C57	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C58	Capacitor, Ceramic, .1 µf, 50 V	122002-104

RAM/ROM Test

The RAM/ROM Test, as shown in Figures 3-1 and 3-2, provides a visual check of the game RAM, ROM, and associated circuitry. If the RAM and ROM Test passes, the display will advance to the Switch Test.

The RAM/ROM Test is divided into two sections. The condition of the RAM circuitry is displayed in the bottom half of the screen. If the RAM Test passes, after about an eight-second delay, the self-test skips to the ROM Test, and the condition of the ROM circuitry is displayed in the top half of the screen.

If a *Working RAM Error* message appears in the bottom half of the screen, check the RAMs at locations 6E, 7E, 6K, or 7K on the Game PCB. If the error message resembles Figure 3-1, refer to Table 3-1 for the faulty RAM locations on the Game PCB.

Perform the following procedure to use Table 3-1.

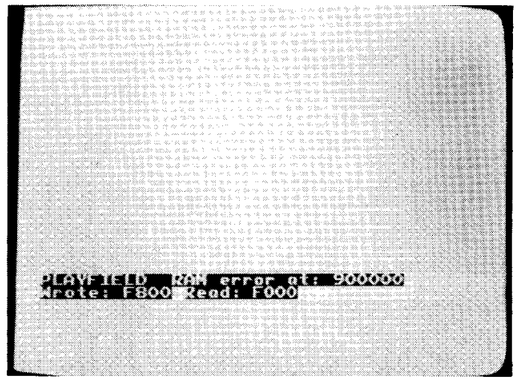


Figure 3-1 RAM Test Fails

Figure 3-2 ROM Test Fails

Table 3-1 Faulty RAM Locations

Error Position	RAM Error: Play-field 900000 to 901FFF	Motion Object 902000 to 903FFF	Alpha/ Working 904000 to 905FFF	Color* 910000 to 9107FF
?XXX	6D	6C	6E	10L
X?XX	7D	7C	7E	10M
XX?X	6J	6F	6K	9L
XXX?	7J	7F	7K	9M

**10L = Intensity*
10M = Red
9L = Green
9M = Blue

Notes

1. *If the error message itself has bad lettering, then the fault is most likely the alpha/working RAMs at locations 6E, 7E, 6K, or 7K.*
2. *A completely blank screen or several wrong-color dots can indicate a fault in the color RAMs at locations 10L, 10M, 9L, or 9M.*

1. Note the *XXXX RAM error at: 90XXXX* message. If the error address is between 900000 and 901FFF, go to the **900000 to 901FFF** column in Table 3-1. Likewise, if the error address is between 902000 and 903FFF, go to the **902000 to 903FFF** column.
2. Note the *Wrote: XXXX Read: XXXX* message. Find the characters that do not match between the *Wrote* and *Read* words. For example, if the displayed error address is 900000 and the data is *Wrote: C000 Read: 8000*, then the error is in the first characters of the wrote/read messages (C and 8, respectively). This corresponds to **?**XXX in the Error Position column of Table 3-1. Thus, the faulty RAM would most likely be at location 6D.

Another example is if the error address is 902060 and the data is *Wrote: E015 Read: E026*. Then the error is in the third and fourth characters of the wrote/read messages (15 and 26, respectively) which corresponds to XX**?**X and XXX**?** in the Error Position column of Table 3-1. Thus, the faulty RAM is most likely in locations 6F and 7F.

If the game shows RAM errors, press the Warrior Magic button to advance to the ROM Test.

If the ROM Test fails, error messages may appear in the top half of the screen as shown in Figure 3-2. If the upper (U) or lower (L) main memory ROM circuits on the Game PCB fail, a *Main ROM error U or L* message will appear at the top of the screen. Refer to Table 3-2 for the faulty upper or lower main memory ROM locations.

To exit from the RAM/ROM Test and obtain the Switch Test screen, press and hold down the Warrior Magic button for about a second, then release.

Gauntlet Game PCB Assembly Parts List, Continued

Designator	Description	Part No.
7S	Integrated Circuit, 74LS174	37-74LS174
7T	Integrated Circuit, 74LS08	37-74LS08
7U	Integrated Circuit, PROM, 82S147	136037-101
7W	Integrated Circuit, 74LS04	37-74LS04
7X	Integrated Circuit, 74LS32	37-74LS32
8C	Integrated Circuit, 74LS253	37-74LS253
8D	Integrated Circuit, 74LS253	37-74LS253
8E	Integrated Circuit, 74LS253	37-74LS253
8F	Integrated Circuit, 74LS378	137305-001
8J	Integrated Circuit, 74LS378	137305-001
8K	Integrated Circuit, 74LS153	37-74LS153
8L	Integrated Circuit, 74LS153	37-74LS153
8M	Integrated Circuit, 74LS244	37-74LS244
8P	Integrated Circuit, Custom, SYNGEN	137419-103
8T	Integrated Circuit, 74LS139	37-74LS139
8U	Integrated Circuit, 74LS253	37-74LS253
9A	Integrated Circuit, EPROM, 200ns	136037-107
9B	Integrated Circuit, EPROM, 200ns	137037-108
9C	Integrated Circuit, 74S139	37-74S139
9D	Integrated Circuit, 74S157	37-74S157
9E	Integrated Circuit, 74LS245	37-74LS245
9F	Integrated Circuit, 74LS244	37-74LS244
9J	Integrated Circuit, 74LS373	37-74LS373
9K	Integrated Circuit, 74LS245	37-74LS245
9L	Integrated Circuit, RAM, 2149H-3	137199-001
9M	Integrated Circuit, RAM, 2149H-3	137199-001
9N	Integrated Circuit, 74LS273	37-74LS273
9P	Integrated Circuit, 74LS260	137332-001
9R	Integrated Circuit, 74S04	37-74S04
9S	Integrated Circuit, 74S74	37-74S74
9T	Integrated Circuit, 7406	37-7406
10A	Integrated Circuit, EPROM, 200ns	136037-105
10B	Integrated Circuit, EPROM, 200ns	136037-106
10C	Integrated Circuit, SLAPSTIC	137412-104
10D	Integrated Circuit, 74LS138	137177-001
10E	Integrated Circuit, 74LS245	37-74LS245
10F	Integrated Circuit, 74LS244	37-74LS244
10J	Integrated Circuit, 74LS373	37-74LS373
10K	Integrated Circuit, 74LS245	37-74LS245
10L	Integrated Circuit, RAM, 2149H-3	137199-001
10M	Integrated Circuit, RAM, 2149H-3	137199-001
10N	Integrated Circuit, 74LS273	37-74LS273
10P	Integrated Circuit, 74LS260	137332-001
10T	Integrated Circuit, 7406	37-7406

- 4 Coins Give 1 Extra Coin
- 4 Coins Give 2 Extra Coins
- 5 Coins Give 1 Extra Coin
- 3 Coins Give 1 Extra Coin
- Free Play

Select the desired value. Note that the default (recommended) setting *None* is highlighted in green.

If you replace the EEPROM at location 13A or a hardware problem occurs, the coin options will switch to the default (green) settings.

If you want to cancel the coin option changes and restore the original settings, press the Warrior Fire button.

Press the Warrior Magic button to set the game for the options selected and obtain the next screen. *Exiting from the Coin Options screen by turning off the self-test switch will* ***not*** *set the game for the selected coin options.*

Game Options

The Game Options screen is shown in Figure 3-5. This screen indicates the current game option settings, and is used to reset the high score table and change the game option settings. Refer to Table 3-4 for the available options and the default (recommended) settings. Note that the default settings are highlighted in green.

Move the Warrior joystick right or left and note that the settings in the red box change. Select the desired value. Move the Warrior joystick up or down to move the red box to the desired option. Move the Warrior joystick right or left to cycle through all the available game option settings, and select the desired value. Repeat this procedure for the remaining options.

If you want to cancel the option changes and restore the original settings, press the Warrior Fire button.

Press the Warrior Magic button to set the game for the options selected and obtain the next screen. *Exiting the Game Options screen by turning off the self-test switch will* ***not*** *set the game for the selected options.*

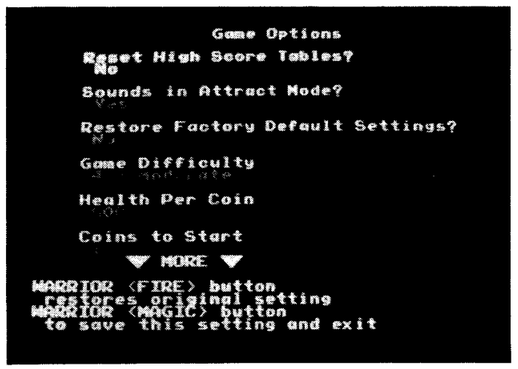


Figure 3-5 Game Options

Table 3-4 Game Option Settings

Option Name	Available Settings
Reset High Score Table	No Yes ◄
Sounds in Attract Mode	No Yes ◄
Restore Factory Default Settings	No ◄ Yes
Game Difficulty	0—Easiest 1 2—Easy 3 4—Moderate ◄ 5 6—Hard 7—Hardest
Health Per Coin	100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 550, 600 ◄, 650, 700, 750, 800, 850, 900, 950, 1000, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, and 2000
Coins to Start	1 ◄, 2, 3, 4
Automatic Reset of High Score Tables	No Yes ◄
Disable Speech	No ◄ Yes

◄ *Manufacturer's recommended settings*

Restore Factory Default Settings—If you select *Yes* and exit from the Game Options Screen by pressing the Warrior Magic button, the game option settings stored in EEPROM will be cleared and replaced by the manufacturer's default (recommended) settings when the game enters the Attract Mode.

Game Difficulty—The Game Difficulty settings adjust the frequency of monster generation (hardest game difficulty generates monsters the fastest).

Game Difficulty or Health Per Coin—If you change the game difficulty or the health per coin values and exit the Game Options screen by pressing the Warrior Magic button, a screen with the message *PRESS BOTH WARRIOR BUTTONS TO ABORT CLEARING STATS* will appear as soon as the self-test switch is turned off and the game returns to the Attract Mode. If you press the Warrior Magic and Fire buttons simultaneously within the displayed 10-second countdown, the statistics, histograms, and high score table information will be retained. Otherwise they will be cleared (reset).

Automatic Reset of High Score Tables—If you select *Yes* and exit the Game Options screen by pressing the Warrior

Gauntlet Game PCB Assembly Parts List

Designator	Description	Part No.
	Integrated Circuits	
1A	Integrated Circuit, EPROM, 300ns	136037-111
1B	Integrated Circuit, EPROM, 300ns	136037-112
1K	Integrated Circuit, Custom, SLAGS	137415-101
1L	Integrated Circuit, EPROM, 300ns	136037-113
1M/N	Integrated Circuit, EPROM, 300ns	136037-114
1W	Integrated Circuit, RAM, 2149H-2	137199-002
1X	Integrated Circuit, RAM, 2149H-2	137199-002
2A	Integrated Circuit, EPROM, 300ns	136037-115
2B	Integrated Circuit, EPROM, 300ns	136037-116
2K	Integrated Circuit, Custom, SLAGS	137415-101
2L	Integrated Circuit, EPROM, 300ns	136037-117
2M/N	Integrated Circuit, EPROM, 300ns	136037-118
2W	Integrated Circuit, RAM, 2149H-2	137199-002
2X	Integrated Circuit, RAM, 2149H-2	137199-002
⅔X	Integrated Circuit, 74S20	137423-001
3C	Integrated Circuit, 74LS374	37-74LS374
3D	Integrated Circuit, 74LS244	37-74LS244
3E	Integrated Circuit, 74LS157	37-74LS157
3F	Integrated Circuit, 74LS138	137177-001
3J	Integrated Circuit, 74LS244	37-74LS244
3K	Integrated Circuit, 74LS273	37-74LS273
3L	Integrated Circuit, 74LS283	137204-001
3M	Integrated Circuit, 74LS283	137204-001
3N	Integrated Circuit, 74LS174	37-74LS174
3P	Integrated Circuit, 74LS175	37-74LS175
3R	Integrated Circuit, 74LS163A	37-74LS163A
3S	Integrated Circuit, 74LS163A	37-74LS163A
3T	Integrated Circuit, 74LS163A	37-74LS163A
3U	Integrated Circuit, 74LS163A	37-74LS163A
3W	Integrated Circuit, 74LS163A	37-74LS163A
3X	Integrated Circuit, 74LS163A	37-74LS163A
4C	Integrated Circuit, 74LS273	37-74LS273
4D	Integrated Circuit, 74LS175	37-74LS175
4E	Integrated Circuit, 74LS378	137305-001
4F	Integrated Circuit, 74LS163A	37-74LS163A
4J	Integrated Circuit, 74LS86	37-74LS86
4K	Integrated Circuit, 74LS374	37-74LS374
4L	Integrated Circuit, 74LS169	137109-001
4M	Integrated Circuit, 74LS169	137109-001
4N	Integrated Circuit, 74LS273	37-74LS273
4P	Integrated Circuit, 74LS174	37-74LS174
4R	Integrated Circuit, PROM, 82S129	136037-103
4S	Integrated Circuit, 74LS32	37-74LS32
4T	Integrated Circuit, 74LS86	37-74LS86

Table 3-5 Motion Object Test Description

Controls	Press Fire	Press Magic	Move Joystick
Warrior	Object flips horizontally.	Selects next screen.	All objects scroll together.
Valkyrie	Object number increments.	Object number decrements.	Up—Vertical size increases. Down—Vertical size decreases. Right—Horizontal size increases. Left—Horizontal size decreases.
Wizard	Color Palette number increments.	Color palette number decrements.	Position of object moves (horizontally and vertically).
Elf	Picture number increments by 1.	Picture number decrements by 1.	Up—Picture number increments by size. Down—Picture number decrements by size.

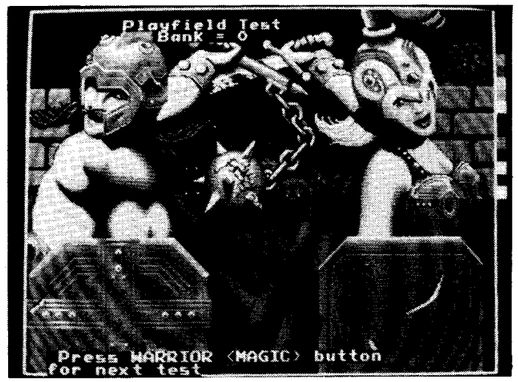


Figure 3-8 Playfield Test

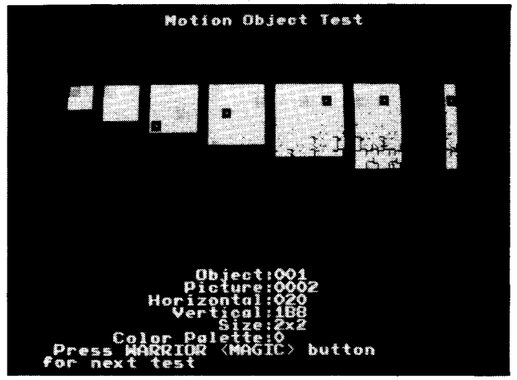


Figure 3-9 Motion Object Test

to right): 2×2, 3×3, 4 x 4, 5×5, 6×6, 7×7, and 8×8 squares. The Motion Object Test indicates the condition of the motion-object buffer circuit. The following information is provided at the bottom of the screen:

- *OBJECT* indicates the number of the motion object selected.
- *PICTURE* indicates the stamp number in ROM.
- *HORIZONTAL* indicates the horizontal position of the object.
- *VERTICAL* indicates the vertical position of the object.
- *SIZE* indicates the number of stamps across by the number of stamps down.
- *COLOR PALETTE* indicates the palette number for colors.

Perform the test procedure as described in Table 3-5.

NOTE

Upon entering the Motion Object Test, if a single object is moved down it will partially disappear under a black horizontal bar that runs across the screen on the line above the message *OBJECT:001*.

Press the Warrior Magic button to obtain the next screen.

Alpha Test

The Alpha Test should appear as shown in Figure 3-10. The Alpha Test indicates the condition of the alphanumerics circuit.

Press the Warrior Magic button to obtain the next screen.

Color Test

The Color Test appears as shown in Figure 3-11. The Color Test indicates the condition of the display color circuits.

Coin Acceptors, Inc. Coin Door Assembly Parts List

Part No.	Description
65-441C	Coin Switch
70-11-47	Miniature Bayonet Lamp
72-9406S	#4-40 × 3/8-Inch Truss-Head Screw
72-HA1404C	#4-40 × ¼-Inch Pan-Head Screw
72-JA1405B	#4-40 × 0.31-Inch Pan-Head Screw
75-1412S	#4-40 × ¾-Inch Pan-Head Screw
75-994S	#4-40 Locknut
99-10008	Retainer
99-10042	Coin Switch Assembly for Belgian 5 Fr and U.S. $.25
99-10043	Coin Switch Assembly for German 1 DM, Japanese 100 Yen, Swiss 1 Fr
99-10044	Coin Switch Assembly for German 2 DM, Italian 100 L, U.S. $1.00
99-10045	Coin Switch Assembly for Australian $.20, German 5 DM, British 10 P
99-10068	Coin Return Chute
99-10075	Switch Wire (included in coin switch assembly 99-10043)
99-10076	Switch Wire (included in coin switch assembly 99-10042)
99-10077	Switch Wire (included in coin switch assembly 99-10044)
99-10078	Switch Wire (included in coin switch assembly 99-10045)
99-10080	Lamp Socket
99-10081	Key Holder
99-10096	Fastener
99-10104	Bar Retainer
99-10105	Bar
99-10115	Spring
99-10116	Plastic Coin Return Lever
99-10117	Steel Coin Return Door
99-10118	Amber Coin Return Button
99-10119	Amber Coin Button for U.S. $.25
99-10134	Coin Button Cover
99-10139	Coin Door
99-10140	Coin Door Inner-Panel Assembly
99-10141	Die-Cast Coin Return Cover
99-10142	Die-Cast Button Housing
99-10143	Coin Door Frame
99-10148	Lock Assembly
99-10149	Service Door
99-10150	Switch Cover
99-10151	Left Coin Inlet
99-10152	Right Coin Inlet
99-10153	Coin Return Box
99-10154	Bracket Assembly
99-15066	Screw for Clamp
171006-035	Metal Coin Mechanism for U.S. $.25

Sound Test

The Sound Test (as shown in Figure 3-14) indicates the condition of the coin mechanisms and the music, speech, and sound-effects circuits.

The sound microprocessor is reset at the beginning of this test. The game may take three seconds to produce the first sound. If the sound microprocessor reset fails, the message *SOUND PROCESSOR NOT RESPONDING* should blink near the top of the screen. If the sound microprocessor is good, check the coin mechanisms and the sound microprocessor circuits by observing the following messages:

- *CURRENT COIN VALUE* consists of four zeros. For each of the coin mechanisms, the first, second, third, and fourth 0 should change to a 1 as the coin switch is held down, and should change back to 0 when the coin switch is released.

- *NUMBER OF SOUNDS* indicates of the number of sounds used in the Gauntlet game.

- *SOUND CPU STATUS* indicates the condition of the sound microprocessor. If the sound microprocessor is good, the word *GOOD* should appear. If the sound microprocessor or associated circuitry is faulty, a number will appear (to indicate sound status) in addition to an error message located at the top of the screen. Refer to Table 3-6 for the error messages and faulty sound RAM and ROM locations on the Game PCB.

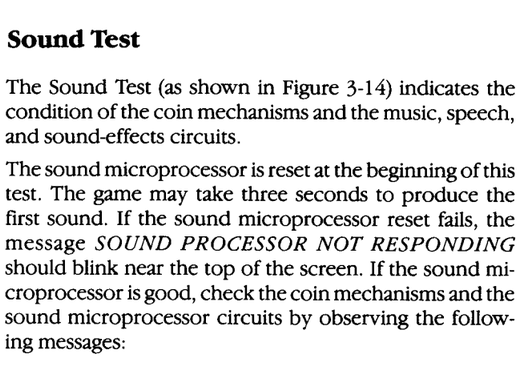


Figure 3-13 Convergence Test

- *SOUND #* indicates the sound selected by moving the Warrior joystick up (increments the sound number) or down (decrements the sound number). To hear the sound, press the Warrior Fire button one or more times. Moving the Warrior joystick right or left silences the sound. You can select the following integrated circuit (chip) tests during the Sound Test:
- *4 (Music Chip Test)* consists of eight tones in a major scale that alternate between sound channels (16 tones in all).

Table 3-6 Faulty Sound RAM and ROM Locations

Error Message	Location
Speech Chip Time Out	13/14R
Music Chip Time Out	15R
Interrupt Error	None
RAM 1 Error	16M
RAM 2 Error	16N/A
ROM 1 Error	16R
ROM 2 Error	16S
ROM 3 Error	16S

- *5 (Effects Chip Test)* consists of four tones in a major chord that come from both sound channels simultaneously.
- *8 (Speech Chip Test)* consists of a synthesized voice repeating the message "speech chip test."

Press the Warrior Magic button to return to the Switch Test.

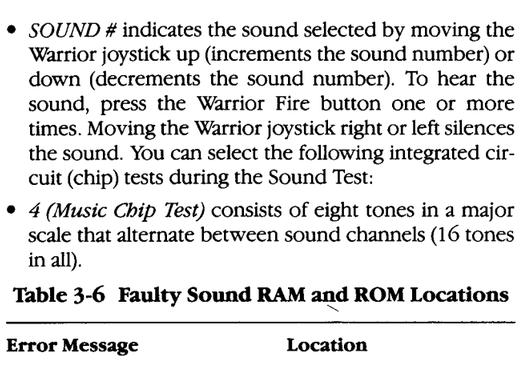


Figure 3-14 Sound Test

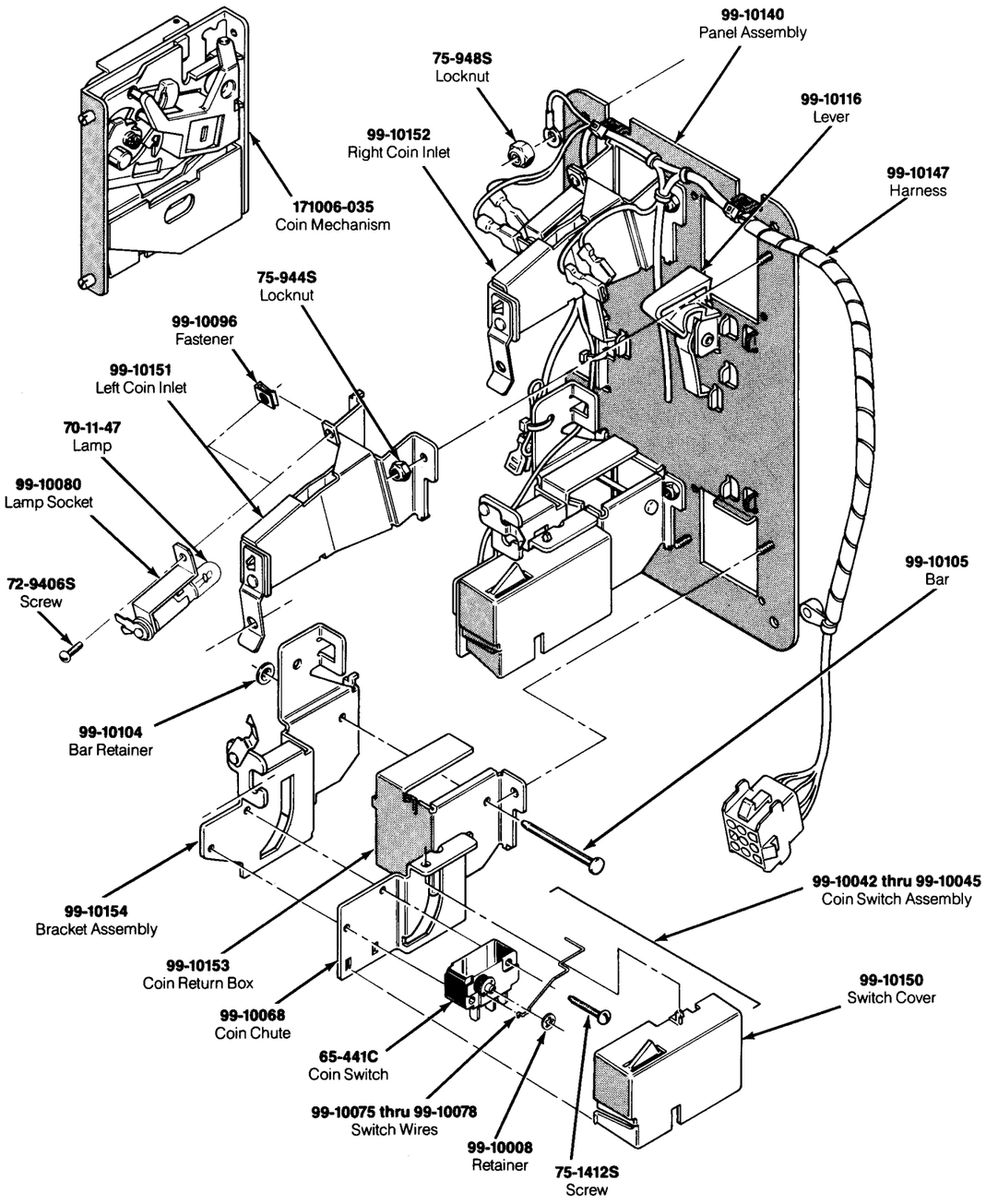


Figure 5-7 Coin Acceptors, Inc. Coin Door Assembly 171027-001 A

Preventive Maintenance

Preventive maintenance includes cleaning, lubricating, and tightening hardware. How often preventive maintenance is performed depends upon the game environment and frequency of play. However, for those components listed in Table 4-1 Preventive-Maintenance Intervals, we recommend that preventive maintenance be performed at the intervals specified.

Preventive-Maintenance Intervals

The preventive-maintenance intervals specified in Table 4-1 are the recommended minimum requirements for the components listed.

⚠ WARNING ⚠

To avoid possible electrical shock, turn off the game before performing any maintenance procedures.

Removing the Control Panel

Perform the following procedure to remove/replace the control panel (see Figure 4-1).

1. Unlock and open the right and left coin doors.
2. Carefully reach up through the right and left coin door openings and release the four spring-draw latches located under the control panel: two latches are on each side of the cabinet.
3. Grasp the control panel on the top edge (next to the display) and gently tilt the panel up to the vertical position. Check that the control panel is held securely to the front edge of the cabinet by the bracket mounted under the front edge of the panel.
4. Disconnect the four joystick control harness connectors from the game PCB and disconnect the green ground wire.
5. Carefully lift the control panel from the cabinet.
6. Replace the control panel in the reverse order of removal.

Table 4-1 Recommended Preventive-Maintenance Intervals

Joystick Control	Lubricate and tighten hardware at least every three months.
Coin Mechanism	Inspect and clean (if required) whenever you collect coins. Because there is only one mechanism per player, the mechanisms may need to be cleaned more often than other games.

Cleaning the Pushbutton Leaf Switches

Perform the following procedure to clean the leaf switch contacts and tighten the securing hardware.

1. Follow the procedure described in steps 1–3 above for removing the control panel.
2. Use electrical contact cleaner to clean the contacts. Do not burnish them. When the pushbutton is pressed, the wiping action of the cross-bar contacts provides a self-cleaning feature. Then use the Self-Test to verify proper switch contact (see Figure 3-3).
3. Using a 15/16-inch open-end wrench, tighten the stamped nut securing the pushbutton leaf switches to the control panel.

Cleaning the Coin Mechanism

Use a soft-bristled brush to remove loose dust or foreign material from the coin mechanism. A toothbrush may be used to remove any stubborn build-up of residue in the coin path. After cleaning the coin mechanism, blow out all of the dust with compressed air.

Cleaning the Interior Components

Perform the following procedure to clean the components inside the cabinet.

⚠ WARNING ⚠

Turn off the game power, but do not unplug the power cord before cleaning inside the cabinet. The power cord provides a ground path for stray static voltages that may be present on the cleaning tools.

1. Unlock and remove the lower access panel.
2. Use a vacuum cleaner with a soft long-bristled brush attachment or a soft-bristled paint brush to remove loose dirt and dust accumulated on the inside of the cabinet. Be sure to clean the electrical components thoroughly (power supplies, PCB assemblies, display, etc.).

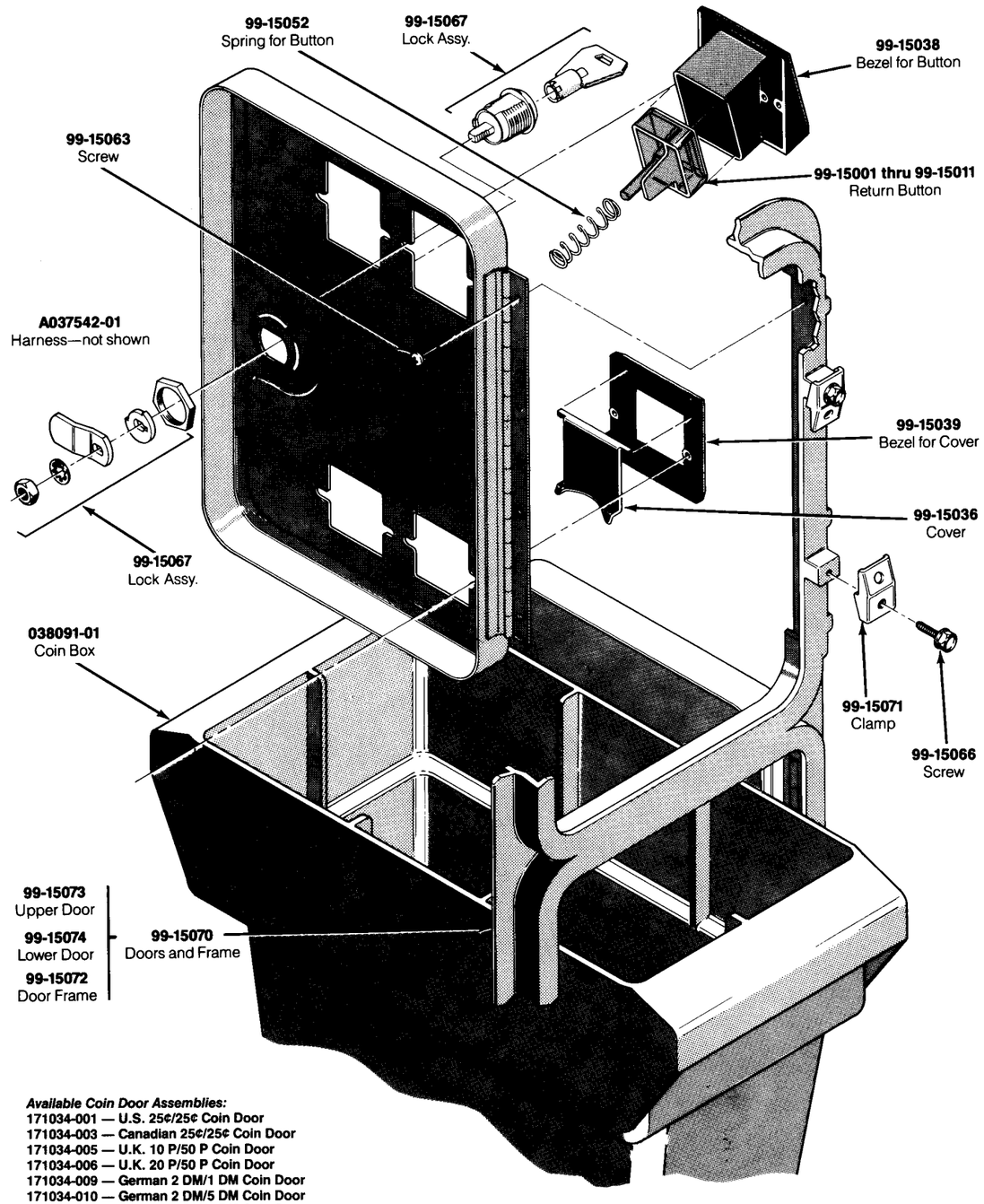


Figure 5-6 Coin Controls, Inc. Coin Door Assembly, continued 171034-xxx A

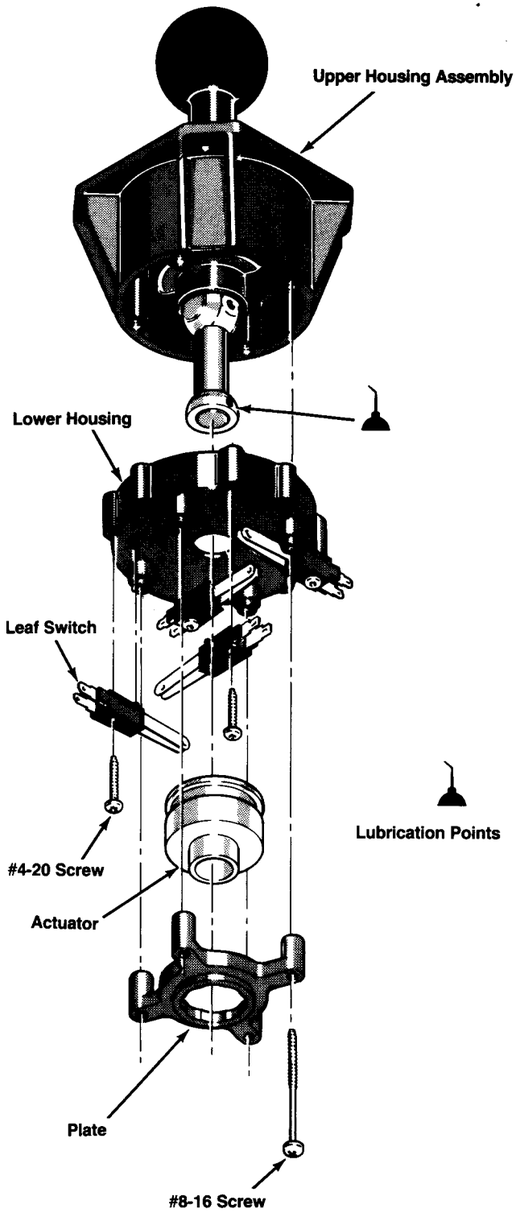


Figure 4-2 Joystick Lubrication

Removing the Pushbutton Leaf Switches

Perform the following procedure to remove/replace the pushbutton leaf switches or contacts (see Figure 4-3).

NOTE

Pushbutton leaf switches can be checked for proper operation by using the Self-Test.

Fire switches must be suitable for heavy-duty use. Replace only with switches of Atari part number 160013-002.

1. Open the control panel as described in steps 1 through 3 under *Removing the Control Panel*.
2. Using a 15/16-inch wrench, remove the stamped nut on the underside of the control panel. The button assembly on the top side of the control panel should not turn (see Figure 4-3).
3. Install the pushbutton switch in the reverse order of removal. Reconnect the harness wires to the switch terminals as shown in Figure 4-3.

Removing the Joystick

Perform the following procedure to remove/replace the joystick (see Figure 4-3).

1. Remove the control panel as described under *Preventive Maintenance*.
2. Disconnect the harness wires from the four leaf switch terminals.
3. Using a 3/8-inch wrench, remove the four nuts and washers holding the joystick assembly to the control panel.
4. Lift the joystick assembly out of the control panel.
5. Replace the joystick in the reverse order of removal. Reconnect the harness wires to the leaf switch terminals as shown in the Game Wiring Diagram in the *Schematic Package Supplement* (SP-284).

Disassembling the Joystick

Perform the following procedure to disassemble/reassemble the joystick assembly (see Figure 4-2).

1. Using a ¼-inch wrench (or appropriate tool), remove the four screws holding the positioning plate to the lower housing.
2. Remove the leaf switch actuator.
3. Remove the lower housing with the four leaf switches.

Reassembling the Joystick

Replace the joystick parts in the reverse order of removal. After reassembling the joystick, make sure the control handle returns freely to the center position.

Linear Power Supply Assembly Parts List

Designator	Description	Part No.
C1	27,000 μF, 15 VDC Electrolytic Capacitor	29-053
C1	2-Inch-Diameter Capacitor Mounting Bracket	78-70501SC
CR1	Type-MDA3501 Bridge Rectifier	3A-MDA3501
F1	Label with Fuse Value	037639-02
F1	4 A, 250 V, 3AG Slow-Blow Glass Cartridge-Type Fuse (Acceptable substitute is part no. 46-2014001)	46-2014002
F1	Panel-Mounting Non-Indicating 3AG Cartridge-Type Fuse Post	79-4411001
F2–F6	5-Position 3AG Fuse Block with ¼-Inch Quick-Disconnect Terminals	79-3206
F2–F6	Fuse Block Cover	034544-02
F2–F6	Label with Fuse Values	037641-02
F2, F4–F6	4 A, 250 V, 3AG Slow-Blow Glass Cartridge-Type Fuse (Acceptable substitute is part no. 46-2014001)	46-2014002
F3	25 A, 32 V, 3AG Slow-Blow Glass Cartridge-Type Fuse	46-301253
FL1	RFI Filter Assembly (designation not marked)	A034630-01
J2	Power Harness Assembly	A035890-01
J3	European Voltage Plug Assembly	A037479-02
J4A	AC Harness Assembly	A034629-01
T1	Transformer Assembly (Acceptable substitute is part no. A035888-02)	A035888-01
	Violet Jumper Assembly	A035889-01
	Orange Jumper Assembly	A035889-02
	White Jumper Assembly	A035889-04
	Violet/White Jumper Assembly	A035889-05
	Orange/Black Jumper Assembly	A035889-06
	Orange/White Jumper Assembly	A035889-07
	Black/Yellow Jumper Assembly	A035889-09
	Fuse Harness Assembly	A035891-02
	Shorting Power Plug Assembly	A039270-01
	#6-32 × 3/8-Inch Pan-Head, Cross-Recessed, Thread-Rolling, Zinc-Plated Steel Screw	72-HA4606S
	#8-32 × ¼-Inch Pan-Head, Cross-Recessed, Thread-Rolling, Zinc-Plated Steel Screw	72-HA4804S
	#8-32 × ¾-Inch Pan-Head, Cross-Recessed, Thread-Rolling, Zinc-Plated Steel Screw	72-HA4812S
	#8 × 1-Inch Round Unthreaded Aluminum Spacer	74-3816A
	#8-32 Nut/Washer Assembly	75-99518
	Nylon Type-6/6 Hole Bushing with 5/8-Inch Inside Diameter × 55/64-Inch Outside Diameter × ¼ Inches Thick	78-2708
	2-Circuit Single-Row Terminal Block	79-15021001
	#6-32 × 1 ½-Inch Pan-Head, Cross-Recessed, Type F, Zinc-Plated Steel Screw	85-22F624
	Power Supply Chassis Base	034482-02

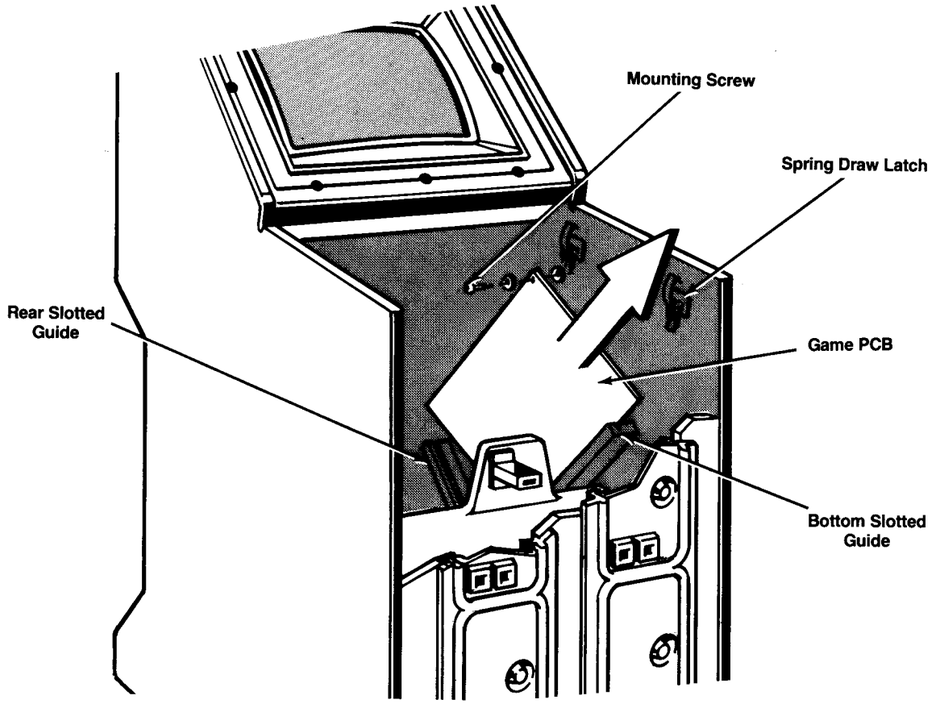


Figure 4-4 Game PCB Removal

6. Gently lift the PCB out of the bottom slotted guide. Be careful to avoid hitting the PCB on the spring-draw latches.
7. Replace the game PCB in the reverse order of removal. Attach the harness connectors as shown in Figure 4-1.

Removing the Video Display

Perform the following procedure to remove/replace the video display (see Figure 4-5).

1. Turn the game power off and wait two minutes. Unplug the power cord.
2. Remove the control panel as described under *Preventive Maintenance*.
3. Using a 1/8-inch hex driver, remove the eight screws holding the bezel to the front of the cabinet.
4. Remove the bezel.
5. Using a Phillips screwdriver, remove the four screws holding the upper access panel to the rear of the cabinet.

⚠ WARNING ⚠

High Voltage

The video display contains lethal high voltages. To avoid injury, do not attempt to service this display until you observe all precautions necessary for working on high-voltage equipment.

X-Radiation

The video display has been designed to minimize X-radiation. However, to avoid possible exposure to soft X-radiation, **never** modify the high-voltage circuitry.

Implosion Hazard

The cathode-ray tube may implode if struck or dropped. Shattered glass may cause injury within a 6-foot radius. Use care when handling the display.

6. Discharge the high-voltage from the cathode-ray tube (CRT) before proceeding. The display assembly contains a circuit for discharging the high voltage to ground when power is removed. However, to make certain, always discharge the display as follows.

Switching/Linear (SL) Power Supply Assembly Parts List

Part No.	Description
043396-01	Power Supply Chassis Base
A043365-01	5V Switching Power Supply Assembly
A042384-01	Line Filter Assembly
A043367-01	Jumper Assembly
46-2013002	Fuse, 3 A, Slow-Blow, 250 V
46-2032002	Fuse, 2 A, Normal-Blow, 250 V
72-HA4606S	Screw, Thread-Forming, Pan-Head, Cross-Recessed, #6-32 x 3/8-Inch
72-1806S	Screw, #8-32 x 3/8-Inch-Long, Cross-Recessed, Pan-Head
79-15021001	Terminal Block, 2-Position
79-3206	Fuse Block, 5-Position
034544-01	Cover, Fuse Block
043385-01	Label, Power Supply (Fuses)
142041-001	Transformer

⚠ WARNING ⚠

To avoid dropping the video display, use extreme care when replacing the display in the cabinet. We recommend that a second person *carefully* hold the display chassis from the back of the cabinet while the other person places it in the front of the cabinet.

1. Gently place the video display through the front of the cabinet and onto the shelf.
2. Position the display so that the four slots in the chassis are aligned with the corresponding mounting holes in the cabinet shelf.
3. From the back of the cabinet, insert the four carriage bolts into the four slots in the chassis and through the mounting holes in the shelf.
4. From the control panel opening, attach the four flat washers, four lock washers and nuts to the carriage bolts under the display shelf.
5. Place the bezel into the display opening and position it so that the eight mounting holes are aligned with the corresponding holes in the cabinet. Be sure to inspect the foam tape applied to the bottom lip of the bezel. This tape must be in good condition because it acts as a seal to prevent liquid from entering the cabinet interior.
6. Using a 1/8-inch hex driver, securely tighten the eight screws holding the bezel to the cabinet.
7. From the back of the cabinet, slide the display forward until the CRT face fits tightly against the bezel seal. Hold the display in position.
8. From the control panel opening, a second person must tighten the four mounting nuts under the shelf using a 7/16-inch wrench.
9. Connect the display harness to the display PCB.

Removing the Speakers

Perform the following procedure to remove/replace the speakers (see Figure 4-5).

1. Using a 1/8-inch hex driver, remove the three screws on top and two screws on the front of the speaker grille.
2. Lift the speaker grille from the cabinet.

CAUTION

Do not touch the speaker cones when handling the speakers. The cone material is fragile and can be easily damaged.

3. Using a Phillips screwdriver, remove the four screws holding the speaker to the cabinet. Do not let the speaker fall.
4. Lower the speaker just far enough to disconnect the two speaker wires.
5. Replace the speaker in the reverse order of removal.

Joystick Assembly Parts List

Part No.	Description
A040932-01	Upper Housing Assembly
041287-01	Lower Housing
041508-01	Leaf Switch
039714-01	Actuator
039717-03	8-Position Positioner Plate with Detents
176002-140	#8-16 x 2.50-Inch-Long Self-Tapping Hex Washer-Head Screw
176030-110	#4-20 x .62-Inch-Long Hex Washer-Head Self-Tapping Screw

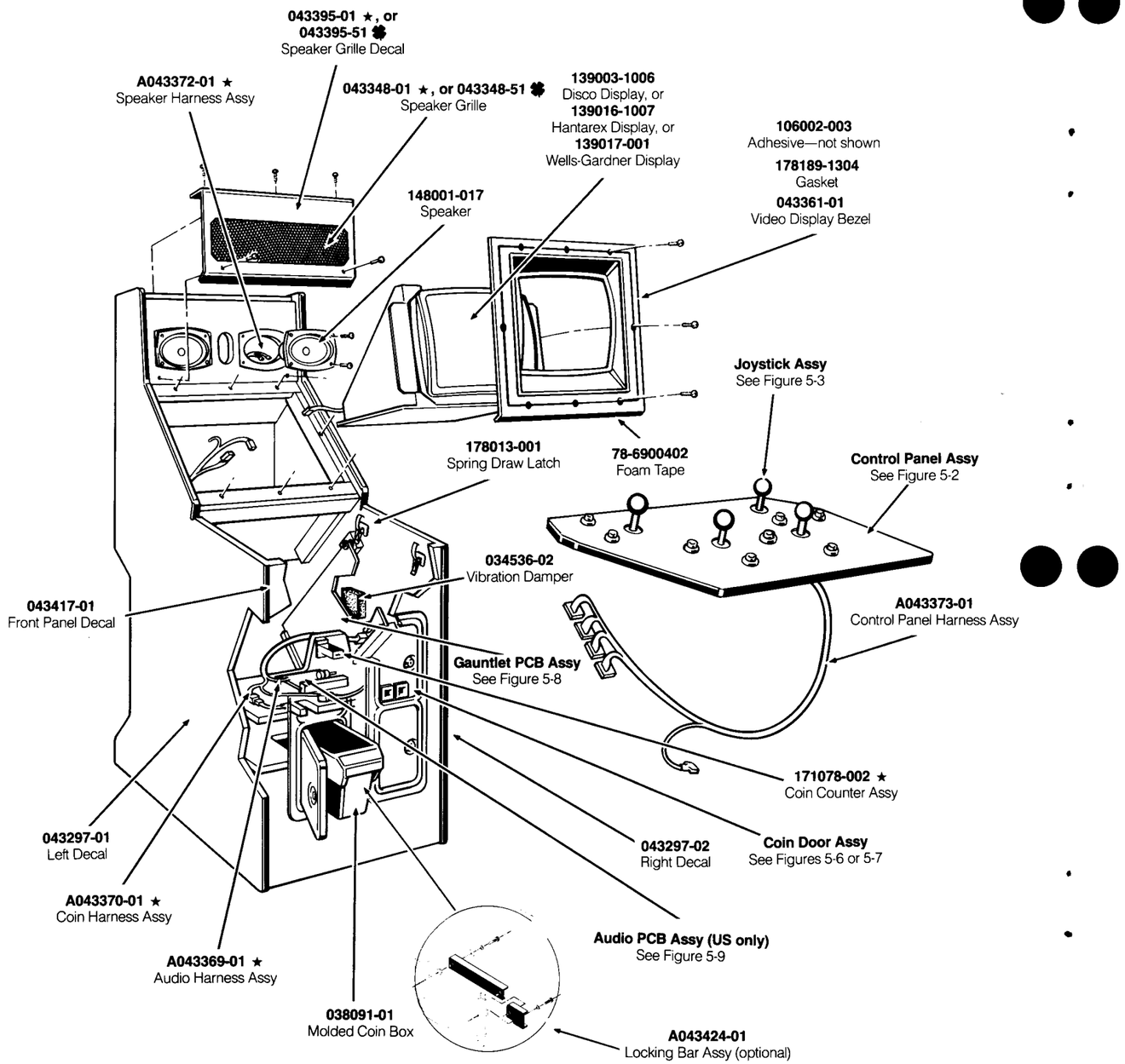


Figure 5-1 Cabinet-Mounted Assemblies A043350-01 and -51 D

Control Panel Assembly Parts List

Part No.	Description
A043373-01	Control Panel Harness Assembly
75-030S	Washer, Flat, Wide-Pattern, #10
75-5116B	Bolt, Carriage, Blk, #10-24 × 1 Inch Long
75-5124B	Bolt, Carriage, Black, #10-24 × 1.50 Inch Long
75-9910N0	5/8-11 Stamped Nut
75-99511	#10-24 Nut/Washer Assembly
043309-01	T-Molding with Bead
043341-01 or 043341-51	Base, Control (U.S.) / Base, Control (Ireland)
043347-01 or 043347-51	Panel, Control (U.S.) / Panel, Control (Ireland)
043387-01 or 043387-51	Decal, Control Panel (U.S.) / Decal, Control Panel (Ireland)
043389-01 or 043389-51	Bracket, Spring Draw Latch (U.S.) / Bracket, Spring Draw Latch (Ireland)
043390-01 or 043390-51	Bracket, Control Panel Support (U.S.) / Bracket, Control Panel Support (Ireland)
150030-024	Braid, Tinned Copper, 3/8-Inch Flat
160013-001	Leaf Switch with Button Holder (Embossed, Nickel-Silver-Plated Contacts)
160013-002	Leaf Switch with Button Holder (Gold-Plated Cross-Bar Contacts)
176015-112	Screw, Deep-Thread, Pan-Head, Cross-Recessed, #10 × ¾-Inch Long
178030-003	Button Assy, Black

Cabinet-Mounted Assemblies Parts List

Part No.	Description
	US-Built Cabinet Only
A043055-01	On/Off Switch with Power Cord
A043340-01	Cabinet Assembly
A043368-01	Power Harness Assembly
A043369-01	Audio Harness Assembly
A043370-01	Coin Harness Assembly
A043372-01	Speaker Harness Assembly
A043377-01	Display Power Harness Assembly
043323-01	Lower Rear Access Panel with Lock
043324-01	Upper Rear Panel with Ventilation Grille
043348-01	Speaker Grille
043349-01	Fan Grille
043395-01	Speaker Grille Decal with Graphics
171078-002	Coin Counter Assembly
	Ireland-Built Cabinet Only
A040413-02	Utility Panel, consisting of the following three items:
A002465-01	Coin Counter Assembly
A039254-01	Volume Control Harness Assembly
040412-01	Dual Volume Control Bracket
A043003-01	Ventilation Fan Assembly
A043036-51	PCB Power Harness Assembly
A043055-04	On/Off Switch with Power Cord
A043340-51	Cabinet Assembly
A043379-01	Main Harness Assembly
A043380-01	Power Harness Assembly
043323-51	Lower Rear Access Panel with Lock
043324-51	Upper Rear Panel with Ventilation Grille
043348-51	Speaker Grille
043349-51	Fan Grille
043395-51	Speaker Grille Decal with Graphics
	US- and Ireland-Built Cabinets
A043371-01	Display Harness Assembly
A043373-01	Control Panel Harness Assembly
A043424-01	Locking Bar Assembly (optional—can be used with either brand of coin door)
78-3201	Adjustable Glide
78-6900402	¼-Inch-Wide × 1/8-Inch-Thick Foam Tape (24 inches required)
034536-02	.50-Inch-Thick Foam Vibration Damper
038091-01	Molded Coin Box
043297-01	Left Side Panel Decal
043297-02	Right Side Panel Decal
043361-01	19-Inch Formed Video Display Bezel
043417-01	Front Panel Decal (above coin doors)
106002-003	Cyanoacrylate Adhesive
139003-1006	Disco (now known as ADI) 19-Inch Color Raster Display OR
139016-1007	Hantarex 19-Inch Color Raster Display OR
139017-001	Wells-Gardner 19-Inch Color Raster Display
148001-017	6 × 9-Inch, 8Ω, Shielded Speaker

Cabinet-Mounted Assemblies Parts List, Continued

Part No.	Description
171078-002	Coin Counter Assembly
178013-001	Spring Draw Latch
178189-1304	Neoprene Gasket (5 feet required)
	The following six items are the technical information supplements to this game:
TM-284	Gauntlet™ Operators Manual
SP-284	Gauntlet Schematic Package Supplement
ST-284	Gauntlet Label with Self-Test Procedures and Option Settings
TM-210	Disco (now known as ADI) 19-Inch Color Raster Display Manual OR
TM-274	Hantarex 19-Inch Color Raster Display Manual OR
TM-283	Wells-Gardner 19-Inch Color Raster Display Manual