MIDWAY GAMES INC.

NOVEMBER 1996
16-40050-101

CRUIS'N WORLD™

SIT-IN
OPERATORS MANUAL
for
25" DEDICATED GAME
31" DEDICATED GAME

CE

MANUAL INCLUDES

Operation & Adjustments • Parts Information
Wiring Diagrams • Testing & Problem Diagnosis

DECLARATION OF CONFORMITY

MIDWAY GAMES INC.

3401 N. CALIFORNIA AVE.
CHICAGO, IL 60618
U.S.A.

WE, HEREBY DECLARE UNDER SOLE RESPONSIBILITY THAT

THE MODEL: *"CRUISIN WORLD - 25" 40260, 40460, 41060, 42060, 42260 (VIDEO)*

TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING EUROPEAN PRODUCT SAFETY DIRECTIVES:

ELECTROMAGNETIC COMPATABILITY DIRECTIVE
(89/336/EEC AND AMENDMENTS 91/C162/08, 92/31/EEC,93/68/EEC

AS IS VERIFIED BY COMPLIANCE WITH THE FOLLOWING STANDARDS:

EN55014: 1993	**EN61000-4-2: 1995**
IEC 801-3: 1984 (EN61000-4-3)	**EN61000-4-4: 1995**
EN61000-4-5: 1995	

Date issued: **OCTOBER 29, 1996**

MANUFACTURER'S SIGNATURE



DON HASSLER

V.P. MANUFACTURING

DECLARATION OF CONFORMITY

MIDWAY GAMES INC.

3401 N. CALIFORNIA AVE.
CHICAGO, IL 60618
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WE, HEREBY DECLARE UNDER SOLE RESPONSIBILITY THAT

THE MODEL: ***"CRUISIN WORLD - 31" 40250, 40450, 41050, 42050, 42250 (VIDEO)***

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CRUIS'N WORLD™

SINGLE SIT-IN

Information current at time of release.

Fill out and mail in game Registration card. Be sure to include the game serial number. For your records, write the game serial number in the manual.

Serial Number _____

MIDWAY GAMES INC. reserves the rights to make modifications and improvements to its products. The specifications and parts identified in this manual are subject to change without notice.

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NOTES

CRUIS'N WORLD™

SINGLE SIT-IN

SECTION
ONE

Operation

SAFETY NOTICES

The following safety instructions apply to all game operators and service personnel. Specific warnings and cautions will be found throughout this manual where they apply. We recommend that you read this page before preparing your game for play.

⚠CAUTION

TRANSPORTING THE GAME: This game contains fragile electronic devices. Do not move this game with power on. Transport this game securely. Avoid rough handling.

HANDLING ELECTRONIC DEVICES: This kit uses complex electronic components that are SENSITIVE to static electricity. The following precautions must be observed and followed prior to handling any of the electronics that make up this game.

1) Discharge any static electricity build up in your body by touching the safety ground stud of the power supply chassis. This is to be done PRIOR to touching or handling the electronic assemblies.

2) Store the electronic assemblies in an anti-static area. Anti-static bags are to be used to store the CPU assembly.

3) DO NOT remove or connect any electronic assemblies when the cabinet power is on. Doing so will damage the electronic assemblies and void the warranty.

ISOLATION TRANSFORMER: This video game system does not utilize an isolation transformer. No isolation exists between the cabinet AC system and the external AC.

PROPERLY GROUND THE GAME. To avoid electrical shocks, do not plug in the game until it has been inspected and properly grounded. MIDWAY games should only be plugged into a grounded 3-wire outlet.

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.

USE THE PROPER FUSE. To avoid electrical shock, any replacement fuse must match the original fuse in fuse type, voltage rating, and current rating.

HANDLE FLUORESCENT TUBE AND CRT WITH CARE. If you drop a fluorescent tube or CRT and it breaks, it will implode! Shattered glass can fly eight feet or more from the implosion.

EPILEPSY WARNING

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 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.

ATTENTION!

PROPERLY ATTACH ALL CONNECTORS. *Make sure that the connectors on each printed circuit board (PCB) are properly connected. If the connectors do not slip on easily, do not force them. A reversed connector may damage your game and void the warranty. All connectors are keyed to fit specific pins on each board.*

Setup Procedure

GAME LOCATION REQUIREMENTS

Power Domestic 115V @ 60 Hz, 4 Amps
Foreign 230V @ 50 Hz, 2 Amps
Japan 100V @ 50 Hz, 4 Amps

Temp.: 32^{O} F to 100^{O} F
(0^{O} C to 38^{O} C)

Humidity: Not to exceed 95% relative.

DIMENSIONS

SHIPPING	Width	Depth	Height	Weight
25" Game	32"	39"	74"	300 Lbs.
31" Game	34"	53"	77"	570 Lbs.
Pedestal	22"	36"	51"	125 Lbs.

ASSEMBLED	Width	Depth	Height
25" Game	30"	66"	75"
31" Game	32"	80"	79"

INSTALLATION AND INSPECTION

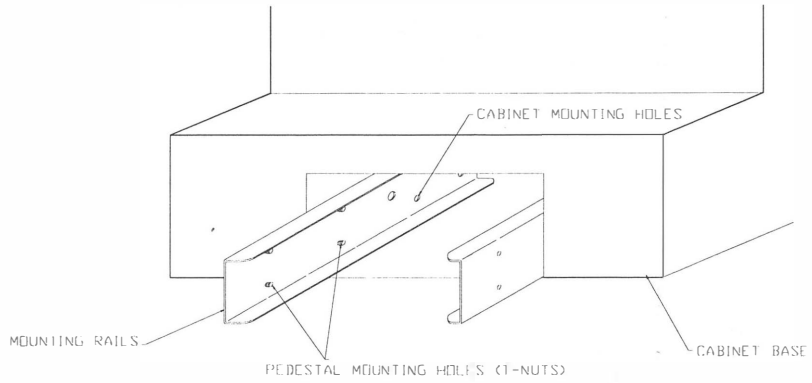
1) Remove all items from shipping containers and set them aside. Inspect the exterior of the cabinet for any signs of damage.

2) Remove keys from the taped coin return slot. Unlock and open the coin and cash box doors. (Leg levelers and spare parts are stored in the cash box).

3) Locate the four threaded holes on the bottom of the cabinet and the three threaded holes on the bottom of the pedestal. Install one leg leveler (with its hex nut) in each hole.

4) Next, install the caster wheel assemblies. The cabinet uses four casters, one in each corner. The pedestal uses three casters, one in front and two in back. Locking casters are used for the two positions at the rear of the pedestal.

5) Stand cabinet upright and make certain it is in a stable position. Level the cabinet.



6) The mounting rails for the pedestal assembly are shipped bolted to the inside the cabinet. Unbolt the 1/4-20 hex-head bolts holding the rails, pull the rails forward and re-bolt them (see above diagram for proper placement). Do not tighten bolts completely, some movement is required in the mounting rails to align holes with pedestal assembly.

7) Place pedestal assembly on mounting rails. Align the holes and carefully pull the pedestal away. Hold mounting rails in position and tighten bolts inside cabinet.

8) Attach pedestal assembly and bolt together using eight 1/4-20 tamper proof screws. Use the T27 wrench, included in the spare parts, to install these screws.

9) Remove rear door of cabinet. Inspect cabinet interior for any signs of damage. Check all major assemblies to assure that they are mounted securely.

10) Refer to the game's Cabinet Wiring Diagram (section three), and check to see that all cable connectors are correctly secured. DO NOT FORCE CONNECTIONS. Watch for damaged connectors and avoid making reversed connections.

11) Determine the value of your line voltage with a meter. Check the fluorescent lamp and power supply slide switch to be sure each corresponds to your line voltage.

12) Replace rear cabinet door and screw (lock) it securely. NOTICE: Tamper proof screws are included with the spare parts. These screws are optional and may be used to secure the rear door. The T20 wrench is used for the installation of these screws. Close and lock the front coin and cash box doors.

13) To attach line cord, the four Phillips-head screws that mount the line cord cover plate to the rear cabinet. Match the prongs on the plug with the holes in the receptacle and push line cord securely into place. Make sure cord aligns with the indentation of plate (indentation should point toward bottom of cabinet). Remount line cord cover plate. If desired, tamper resistant screws are provided to remount cover plate.

14) Connect the line cord to a grounded (3-terminal) AC wall outlet.

15) Switch ON the game using the ON/OFF switch located on the upper left top of the cabinet, to verify proper operation.

SERVICING

Always turn off power to game before servicing.

- **MARQUEE GLASS**

  Remove the five 1/4" hex-head wood screws that hold the marquee retaining strip to the top of the cabinet. Remove the strip. Lift the marquee glass out of the top grooves.

- **FLUORESCENT LIGHT ASSEMBLY**

  Remove the marquee retaining strip and the marquee glass. Disconnect the fluorescent light assembly from its power cable. Loosen the screws fastening the assembly to the cabinet and lift out the assembly.

WARNING

if a fluorescent tube drops and it breaks, it will implode! Use care in handling.

- **FLUORESCENT LAMP**

  Remove the marquee retaining strip and the marquee glass. Remove the fluorescent lamp retainer brackets. Grasp the tube, give it a quarter turn and remove it from its socket. Carefully place a new tube into the socket and turn to reinstall.

- **SEAT**

  Use the T27 tamper proof wrench to remove three screws from each side of the seat mounting plate. Lift the seat/mounting plate off the pedestal assembly and place the seat on its back, on a flat surface. The six bolts under the mounting plate can now be removed to replace the seat.

- **SEAT SLIDE ASSEMBLY**

  Use the T27 tamper proof wrench to remove three screws from each side of the seat mounting plate. Lift the seat/mounting plate off the pedestal assembly and set aside. Slide the seat assembly forward, and remove the two tamper proof torque screws from the wood panel on top of the pedestal assembly. Slide the seat back and remove the two front torque screws. Lift the wood panel out of the pedestal base and turn the unit over. Remove the four nuts holding the wood panel to the slide assembly. Place the wood panel aside and the slide assembly can be easily accessed.

- **SPEAKERS**

  NOTE: The speakers are magnetically shielded. Be sure any replacement speakers are also magnetically shielded.

  Upper (25" and 31" cabinets, dual 5.25" full range): Switch off power to the game. Remove the marquee and the marquee glass. The speakers come out from the front of the cabinet. Be sure to disconnect the cabling and remove the nuts on the mounting screws before attempting to remove the speakers from the enclosure. Carefully, reinstall the seals upon completing any task in the speaker enclosure.

  Lower (25" cabinet, 6" woofer; 31" cabinet, 8" woofer): One speaker is located near the gas and brake pedals. Open the rear door. Unscrew the rack assembly and lay it down. Reach through the cabinet and disconnect the cabling. Remove the nuts on the mounting screws and pull the speaker out of the cabinet. Carefully, reinstall the seals when replacing the speaker.

- **DASH BOARD**

  25" Cabinet: Use the T27 wrench to remove four tamper proof screws from the front corners of the dash board. Pull dash board forward and disconnect the wiring. Before reinstalling the dash board, check for proper wire connections, including ground strap.

  31" Cabinet: Use the T27 wrench to remove the seven tamper proof screws from the top cover. Lift the top cover off of the game cabinet. Then, remove the four tamper proof screws from the front corners of the dash board. Pull the dash forward and disconnect the wiring. Before reinstalling the dash board, check for proper wire connections, including ground strap.

- **VIEWING GLASS**

  25" Cabinet: Use the T27 wrench to remove four tamper proof screws holding the dash board in place. Carefully, pull the dash board away from the cabinet. Grasp the bottom of the viewing glass at the notch. Slide the glass out of the side grooves and lift it off of the cabinet.

  31" Cabinet: Use the T27 wrench to remove the seven tamper proof screws holding the top cover. Lift the top cover off of the game cabinet. Then, remove the three 1/4-20 bolts on the viewing glass retaining bracket. Grasp the viewing glass from the bottom. Slide it out of the side grooves and lift it off of the cabinet.

- **MONITOR BEZEL**

  25" Cabinet: Remove the dash board and viewing glass. The monitor bezel can be removed by lifting it out of the grooved edge at the bottom.

  31" Cabinet: Remove the top cover, viewing glass retainer bracket, and the viewing glass. The monitor bezel can be removed by lifting it out of the grooved edge at the bottom.

- **MONITOR**

  We recommend that you read the WARNINGS section thoroughly before beginning this procedure.

  ⚠CAUTION

  While removing the flange nuts, firmly support the monitor from the front of the CRT so that it will not slip.

  The monitor DOES NOT contain an isolation transformer in its chassis. It is mounted instead in the Power Chassis Assembly locate on the floor of the Cabinet. When servicing the monitor on a test bench, YOU MUST ISOLATE THE MONITOR FROM THE LINE VOLTAGE WITH AN ISOLATION TRANSFORMER.

  25" Cabinet: Remove the dash board, viewing glass, and monitor bezel. Disconnect the monitor from all of its cabling, including its chassis ground strap. Remove the four, 1/4-20 flange nuts securing the monitors mounting flanges to its mounting panel. Pull the monitor carefully from the cabinet front.

  31" Cabinet: Remove the top cover, dash board, viewing glass, and monitor bezel. Remove three, 1/4 x 20 flange nuts located above the monitor. Next, remove four tamper proof screws, two on the right and two on the left, from the outside center of the cabinet. Tilt the monitor down from the top and pull it out of the cabinet.

  Remove the bracket, held on by three 3/8-16 hex bolts, from the bottom of the monitor. Install this bracket and its hex nuts onto the bottom of the new monitor. Slide the bottom of the monitor into the cabinet and tilt it up from the top. Replace the flange nuts at the top of the monitor, and the screws on the outside of the cabinet.

- **THREE RIGHT-SIDE BUTTONS OR THE SHIFTER**

  Use the T20 wrench to remove the four tamper proof screws from the front plate surrounding the buttons or shifter. Remove the plate and the switches are accessible.

- **START AND RADIO BUTTONS**

  Use the T27 wrench to remove the four tamper holding the dash board. Pull the dash board out of the cabinet. The switches are accessible from inside the dash board.

- **WHEEL ASSEMBLY**

  Use the T27 wrench to remove the four tamper proof screws holding the dash board. Pull the dash board out of the cabinet. Remove the three screws in the middle of the wheel. Pull the wheel hoop off of the dash board. There are four 1/4 x 20 flange nuts holding the motor and shaft to the wheel assembly. Remove the flange nuts and the motor and shaft slide off of the assembly.

Game Features

CRUIS'N WORLD is a one player game.

STARTING UP

Switch ON power to the game. A "rug" pattern appears on the CRT screen. When the "rug" pattern ends, the screen shows a CPU Board map. Bad chips are indicated in red, good chips are in green. The software revision level is shown at the top of the screen.

NOTE: When an error is detected during Start-up Tests, game start-up does not progress, and an error message appears on the screen.

Insert the desired amount of coins or tokens.

PLAYER CONTROLS

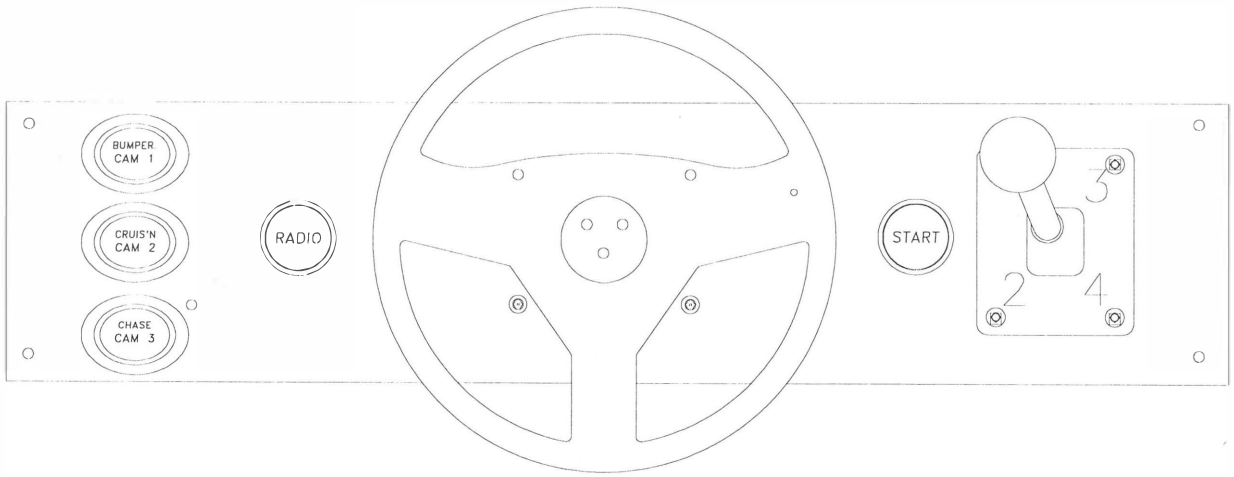
- **Start Button**
  The start button allows the player to begin game play.

- **Radio Button**
  The radio button allows the player to turn radio sounds on and off, and change stations.

- **Bumper Cam 1 Button**
  Bumper Cam 1 shows the view from the front bumper of the car.

- **Cruis'n Cam 2 Button**
  Cruis'n Cam 2 shows the view from inside the car.

- **Chase Cam 3 Button**
  Chase Cam 3 show the view from above the car.



CRUIS'N WORLD DASH BOARD

Game Operation

The **Cruis'n' World** Control Switches are located inside the coin door. These switches allow the operator to customize some features of the game.

CABINET SWITCHES

- The **SLAM TILT SWITCH** detects any forceful vibrations against the Coin Door. This eliminates pounding for free games. It is located on the inside of the coin door.

- The **ON/OFF SWITCH** is located on the top right side of the cabinet.

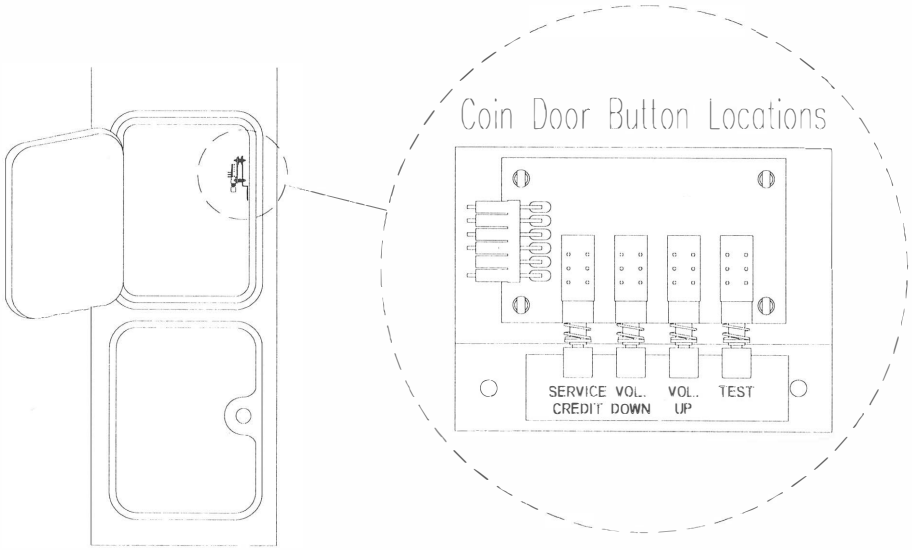
CONTROL BUTTONS

- The **TEST BUTTON** activates the games Menu System. Press the Test Button to access the Main Menu. To exit the menu system, use the Volume Down Button to select EXIT TO GAME OVER from the Main Menu, then press the Service Credit Button.

- The **VOLUME UP BUTTON** moves up through the menu selections or adjustment choices, and raises the sound level of the game when in game play.

- The **VOLUME DOWN BUTTON** moves down through the menu selections or adjustment choices, and lowers the sound level of the game when in game play.

- The **SERVICE CREDIT BUTTON** is a special feature switch that allots credit without affecting the game's bookkeeping total and is used to get out of a menu selection or return to the main menu.



Menu System Operation

OPERATION

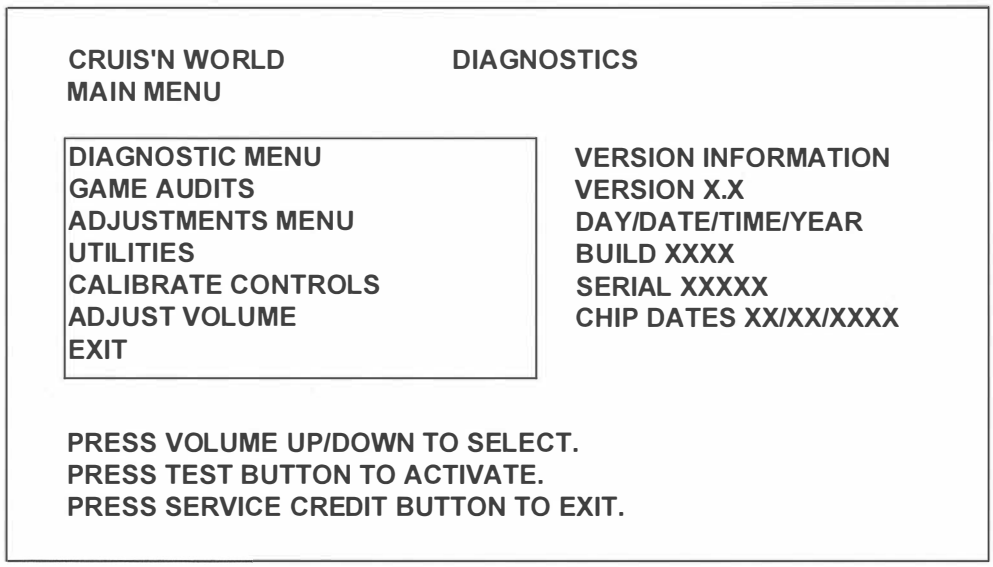
All **Cruis'n World** Game Audits, Adjustments, and Diagnostics are options of the Main Menu. Each option, in turn, has its own menu, listing several choices that may be acted upon as desired.

Press the Test Button to activate the Main Menu (shown below). Press the Volume Up Button or Volume Down Button to cycle through the menu options. Notice that the options are highlighted, by turning red, in sequence. Press Test Button to activate a red highlighted option.

Note: Only a red highlighted option can be activated.

To return to game play mode you can press the Volume Up or Volume Down Button to highlight EXIT, then press the Test Button, or press the Service Credit Button.

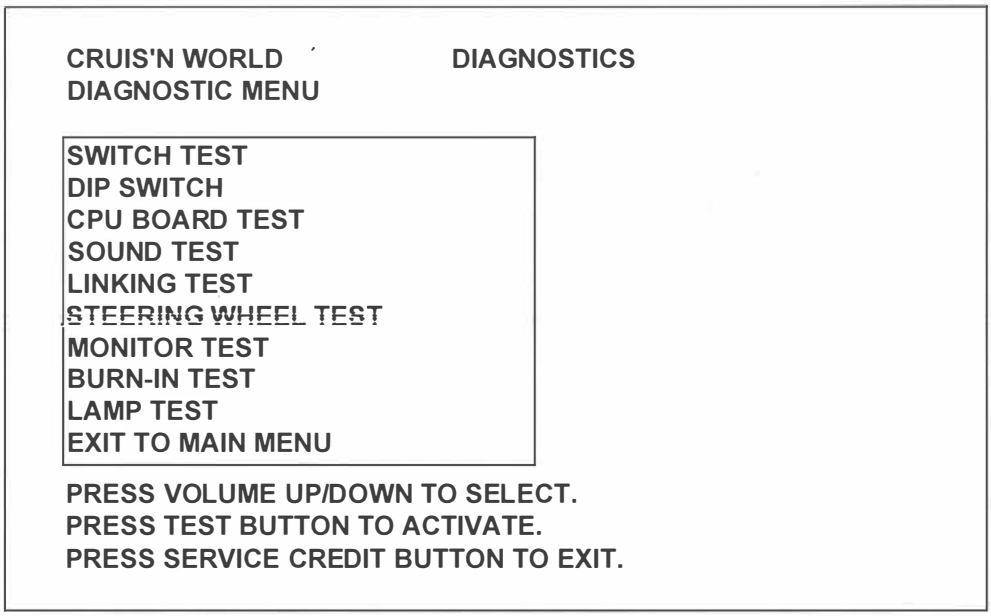
MAIN MENU



MAIN MENU

DIAGNOSTIC MENU

To enter the Diagnostic Menu from the Main Menu, press the Volume Up or Volume Down Button to highlight the option, then press the Test Button to activate. To exit the Diagnostic Menu, press the Volume Up or Volume Down Button to highlight EXIT, then press the Test Button. Or, press the Service Credit Button.

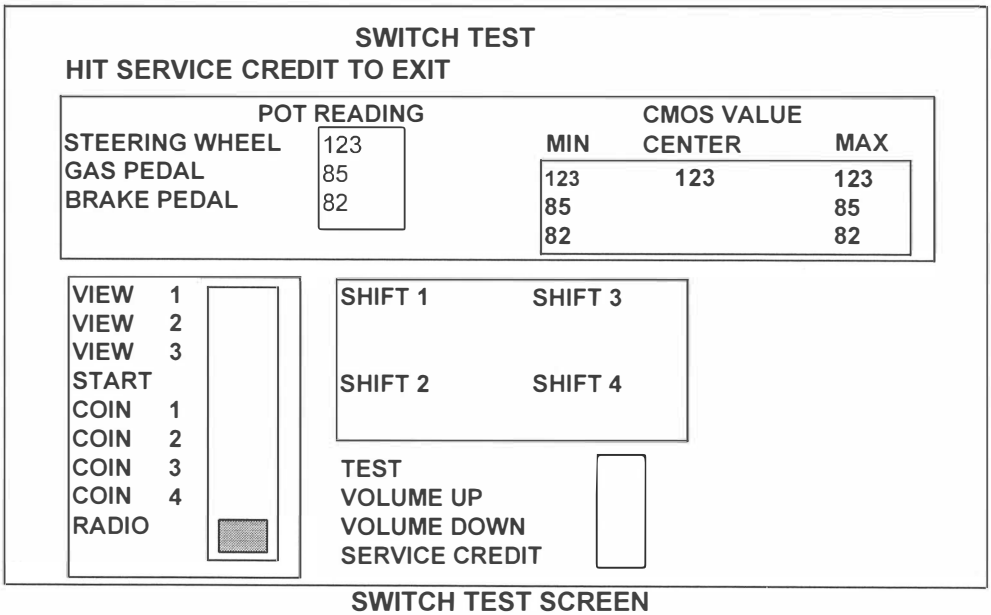


DIAGNOSTIC MENU

Switch Test

The Switch Test allows the operator to test the switches on the control panel and the coin door.

Select the Switch Test by pressing the Volume Up or Volume Down Button to highlight the option, then press Test Button. Press a switch on the control panel or coin door to cause the corresponding switch location on the screen to light.



SWITCH TEST SCREEN

Dip Switch Test

The DIP Switch Test allows the operator to check the location of the two 8-position DIP switches on the CPU Board. The operator can also change the setting of each position of each DIP Switch during this mode.

To enter the test, press the Volume Up or Volume Down Button to highlight the DIP Switch Test, then press the Test Button. The screen displays a layout of their current settings.

To change a DIP Switch setting, move the switch to the desired setting, then check the screen to verify that the switch now shows the new setting.

Press the Service Credit Button to exit the DIP Switch Test.

DIP Switch 2 Settings Table (U97)

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Test Normal	OFF ON							
Not Used		OFF ON						
Stand Up Sit Down			OFF ON					
Total Number of Games Linked 2 Linked Games 2 Linked Games 3 Linked Games 4 Linked Games				ON ON OFF OFF	ON OFF ON OFF			
Link Enable Link Disable						ON OFF		
Game Linking I.D. Number Master (#1) Slave (#2) Slave (#3) Slave (#4)							ON ON OFF OFF	ON OFF ON OFF

LINKING NOTES:

1) To set up linking, U97 switch #6 must be ON.

2) For a 2-way link, the game on the left is the master (#1), the game on the right is the slave (#2). U97, switch #4 and #5 must be set for two linked games.

3) For a 3-way link, the game on the left is the master (#1), the game in the center is a slave (#2) and the game on the right is a slave (#3). U97, switch #4 and #5 must be set for three linked games.

4) For a 4-way link, the game on the left is the master (#1), the game on the left center is a slave (#2), the game on the right center is a slave (#3), the game on the right is a slave (#4). U97, switch #4 and #5 must be set for four linked games.

DIP Switch 3 Settings Table (U19)

COIN MODE	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
USA1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
USA3	OFF	OFF	OFF	OFF	OFF	ON	OFF	
USA7	OFF	OFF	OFF	OFF	OFF	OFF	ON	
USA8	OFF	OFF	OFF	OFF	OFF	ON	ON	
GERMAN1	ON	OFF	OFF	OFF	OFF	OFF	OFF	
GERMAN2	ON	OFF	OFF	OFF	OFF	ON	OFF	
GERMAN3	ON	OFF	OFF	OFF	OFF	OFF	ON	
GERMAN4	ON	OFF	OFF	OFF	OFF	ON	ON	
FRENCH1	OFF	ON	OFF	OFF	OFF	OFF	OFF	
FRENCH2	OFF	ON	OFF	OFF	OFF	ON	OFF	
FRENCH3	OFF	ON	OFF	OFF	OFF	OFF	ON	
FRENCH4	OFF	ON	OFF	OFF	OFF	ON	ON	
CANADA1	ON	ON	OFF	OFF	OFF	OFF	OFF	
CANADA2	ON	ON	OFF	OFF	OFF	ON	OFF	
CANADA3	ON	ON	OFF	OFF	OFF	OFF	ON	
SWISS1	OFF	OFF	ON	OFF	OFF	OFF	ON	
SWISS2	OFF	OFF	ON	OFF	OFF	ON	OFF	
SWISS3	OFF	OFF	ON	OFF	OFF	OFF	OFF	
ITALY1	ON	OFF	ON	OFF	OFF	OFF	OFF	
ITALY2	ON	OFF	ON	OFF	OFF	ON	OFF	
ITALY3	ON	OFF	ON	OFF	OFF	OFF	ON	
UK1	OFF	ON	ON	OFF	OFF	OFF	OFF	
UK2	OFF	ON	ON	OFF	OFF	ON	OFF	
UK3	OFF	ON	ON	OFF	OFF	OFF	ON	
SPAIN1	ON	ON	ON	OFF	OFF	OFF	OFF	
SPAIN2	ON	ON	ON	OFF	OFF	ON	OFF	
SPAIN3	ON	ON	ON	OFF	OFF	OFF	ON	
SPAIN4	ON	ON	ON	OFF	OFF	ON	ON	
AUSTRALIA1	OFF	OFF	OFF	ON	OFF	OFF	OFF	
AUSTRALIA2	OFF	OFF	OFF	ON	OFF	ON	OFF	
AUSTRALIA3	OFF	OFF	OFF	ON	OFF	OFF	ON	
AUSTRALIA4	OFF	OFF	OFF	ON	OFF	ON	ON	
JAPAN1	ON	OFF	OFF	ON	OFF	OFF	OFF	
JAPAN2	ON	OFF	OFF	ON	OFF	ON	OFF	
JAPAN3	ON	OFF	OFF	ON	OFF	OFF	ON	
TAIWAN1	OFF	ON	OFF	ON	OFF	OFF	OFF	
TAIWAN2	OFF	ON	OFF	ON	OFF	ON	OFF	
TAIWAN3	OFF	ON	OFF	ON	OFF	OFF	ON	
AUSTRIA1	ON	ON	OFF	ON	OFF	OFF	OFF	
AUSTRIA2	ON	ON	OFF	ON	OFF	ON	OFF	
AUSTRIA3	ON	ON	OFF	ON	OFF	OFF	ON	
AUSTRIA4	ON	ON	OFF	ON	OFF	ON	ON	
BELGIUM1	OFF	OFF	ON	ON	OFF	OFF	OFF	
BELGIUM2	OFF	OFF	ON	ON	OFF	ON	OFF	
BELGIUM3	OFF	OFF	ON	ON	OFF	OFF	ON	
SWEDEN1	OFF	OFF	OFF	OFF	ON	OFF	OFF	
FINLAND1	ON	OFF	OFF	OFF	ON	OFF	OFF	
NETHERLAND1	OFF	ON	OFF	OFF	ON	OFF	OFF	
NETHERLAND2	OFF	ON	OFF	OFF	ON	ON	OFF	
NORWAY1	ON	ON	OFF	OFF	ON	OFF	OFF	
DENMARK1	OFF	OFF	ON	OFF	ON	OFF	OFF	
HUNGARY1	ON	OFF	ON	OFF	ON	OFF	OFF	
GENERAL1	ON	ON	ON	OFF	ON	OFF	OFF	
GENERAL3	ON	ON	ON	OFF	ON	ON	OFF	
GENERAL5	ON	ON	ON	OFF	ON	OFF	ON	
GENERAL7	ON	ON	ON	OFF	ON	ON	ON	
COIN COUNTER MODE								
ONE COUNTER								OFF*
TWO COUNTERS								ON

*Factory Default

Note: Switches 1 thru 5 select country. Switches 6 & 7 select one of four modes in the country.

CPU Board Test
The CPU Board Test (much like the Start-up Test) allows the operator to check the RAMs and ROMs.

Highlight the CPU Board Test with the Volume Up or Volume Down Button then, press the Test Button. When this test is activated, a "rug" pattern appears on the screen. The screen then changes to show the layout of the RAMs and ROMs on the CPU. Any chip that is shown as gray with a white outline and should turn green during the CPU Test. During the test, chips are good if they turn green; they are faulty if they turn red. The game automatically returns to the Diagnostic Menu.

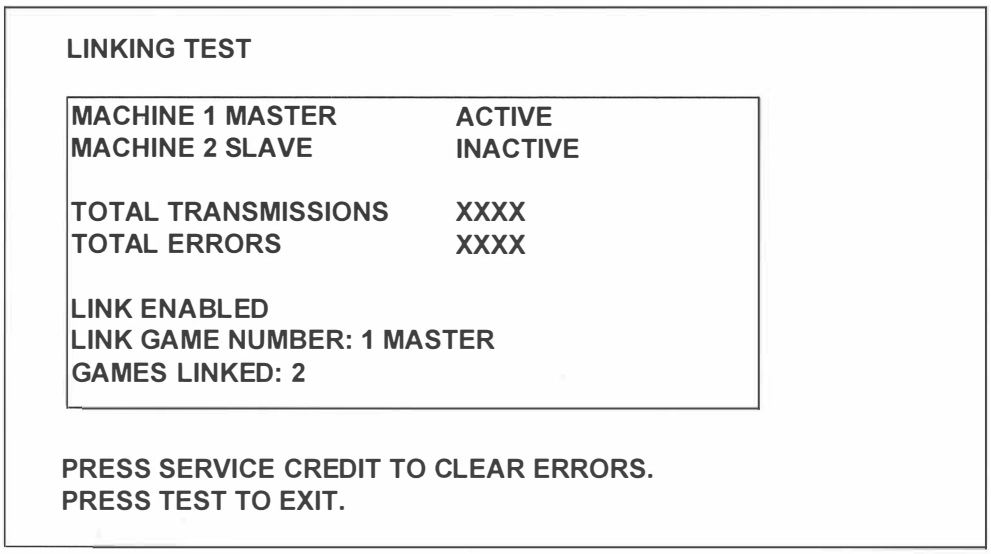
Sound Board Test
The Sound Test allows listening to some of the sounds that **Cruis'n' World** is capable of producing.

To enter the test, press the Volume Up or Volume Down Button to highlight the Sound Board Test, then press the Test Button.

Press the Volume Up Button to change the music selection. Press the Volume Down Button to trigger a sound effect. Press the Service Credit Button to exit to the Diagnostic Menu.

Linking Test
The Linking Test checks the linking between games.

To enter the test, press the Volume Up or Volume Down Button to highlight the Linking Test then, press the Test Button.



LINKING TEST SCREEN

Press the Test Button to exit to the Diagnostic Menu.

Steering Wheel Test
The Steering Wheel Test allows the operator to check the left to right movement of the steering wheel.

Before proceeding, make sure hands and any other objects are clear of the steering wheel. Upon entering this test, the steering wheel will automatically turn to the left to begin the testing procedure.

Highlight the Steering Wheel Test with the Volume Up or Volume Down Button then, press the Test Button. The steering wheel turns to the left. Press the Test Button and it turns to the right. Press Test Button again to return to the Diagnostic Menu.

Monitor Patterns
The Monitor Patterns Test provides a menu for testing the monitor. Highlight the test with the Volume Up or Volume Down Button and activate with the Test Button. Continue pressing the Test Button to cycle through the test and automatically return to the Main Menu.

The **RED, GREEN,** and **BLUE SCREEN** tests fill the screen with either red, green, or blue.

The **COLOR BARS** test fills the screen with several color bars in different shades to help with red, green, and blue level adjustments. Each color should appear sharp and clear. The Color Bars screen is useful in adjusting the monitor brightness and contrast.

The **CROSSHATCH PATTERNS** test fills the screen with a grid and a series of dots. The grid and the dots should be clear. The dots should be round. The Crosshatch pattern is useful in verifying the monitor convergence, linearity, and screen size.

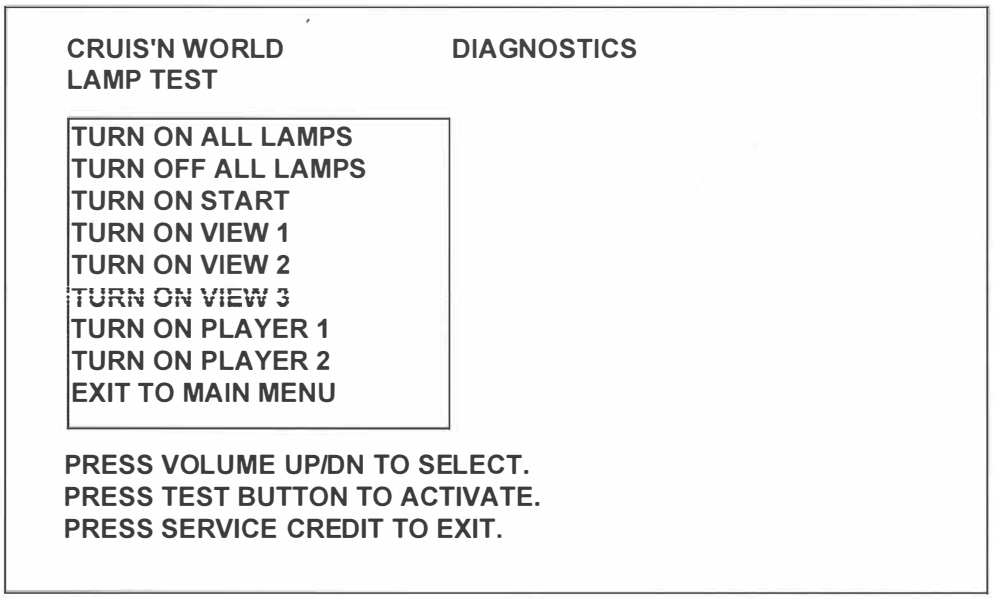
If any of the tests show a need for adjustment, use the proper knobs on the Monitor Controls board.

Burn-in Test
The Burn-in Test continually repeats the CPU Board Test. Press the Volume Up or Down Switch to highlight the Burn-in Test then, press the Test Button activate. When the Burn-in Test detects an error, the test stops and displays an error message on the screen. Use this test to find intermittent CPU problems.

To exit this test, switch the game OFF then ON again.

Lamp Test
The Lamp Test flashes the selected lamp(s).

To enter the test, press the Volume Up or Volume Down Button to highlight the Lamp Test, then press the Test Button.



LAMP TEST SCREEN

Press the Service Credit Button to exit to the Diagnostic Menu.

GAME AUDITS

To enter Game Audits from the Main Menu, press the Volume Up or Volume Down Button to highlight the option, then press the Test Button. To advance to the next page of the Game Audit Table, press the Volume Up or Volume Down Button. Press the Test Button to exit.

The Game Audits Table records the game play statistics. The left side of the table names the Audit item; the right side shows the amount of play.

GAME AUDITS

PAGE 1	COIN AUDITS	
LEFT COIN		X
RIGHT COIN		X
THIRD COIN		X
FORTH COIN		X
SERVICE CREDITS		X
TOTAL STARTS		X
TOTAL CONTINUES		X
TOTAL GAMES		X
FREE GAMES PERCENT		X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 1 OF AUDIT TABLE

GAME AUDITS

PAGE 2	MISC AUDITS	
1 PLAYER GAMES		X
2 PLAYER GAMES		X
3 PLAYER GAMES		X
4 PLAYER GAMES		X
EXPIRED RACES		X
POWER ON TIME SECS		X
GAME TIME SECS		X
AVERAGE GAME TIME SECS		X
SPINOUTS		X
EVENT		X
U-GAMES		X
WATCH DOGS		X
BURN-IN LOOPS		X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 2 OF AUDIT TABLE

GAME AUDITS CONTINUED...

GAME AUDITS

PAGE 3	VEHICLE SELECTED
VENOM SELECTED	X
KAMIKAZE SELECTED	X
HUMVEE SELECTED	X
ZOMBI SELECTED	X
GIMPEE SELECTED	X
RHINO 4X4 SELECTED	X
BANZI SELECTED	X
SEXIUM SELECTED	X
ORCA SELECTED	X
LADY BUG SELECTED	X
ROAD KING SELECTED	X
EL DIABLO SELECTED	X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 3 OF AUDIT TABLE

GAME AUDITS

PAGE 4	SPECIAL EFFECTS
AUTOMATIC SELECTED	X
MANUAL SELECTED	X
CUSTOM PAINT JOBS	X
WHEELIES	X
HORN BEEPED	X
TRICK JUMPS	X
JUMP OVER CAR	X
CAM 1 TIME SECS	X
CAM 2 TIME SECS	X
CAM 3 TIME SECS	X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 4 OF AUDIT TABLE

GAME AUDITS CONTINUED...

GAME AUDITS

PAGE 5	INDIVIDUAL TRACK SELECTED
SELECT HAWAII	X
SELECT AUSTRALIA	X
SELECT JAPAN	X
SELECT CHINA	X
SELECT AFRICA	X
SELECT EGYPT	X
SELECT MOSCOW	X
SELECT GERMANY	X
SELECT ITALY	X
SELECT FRANCE	X
SELECT ENGLAND	X
SELECT MEXICO	X
SELECT NEW YORK	X
SELECT FLORIDA	X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 5 OF AUDIT TABLE

GAME AUDITS

PAGE 6	CRUIS'N WORLD STARTS
SELECT HAWAII	X
SELECT AUSTRALIA	X
SELECT JAPAN	X
SELECT CHINA	X
SELECT AFRICA	X
SELECT EGYPT	X
SELECT MOSCOW	X
SELECT GERMANY	X
SELECT ITALY	X
SELECT FRANCE	X
SELECT ENGLAND	X
SELECT MEXICO	X
SELECT NEW YORK	X
SELECT FLORIDA	X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 6 OF AUDIT TABLE

GAME AUDITS

PAGE 7	TRACK WINS
HAWAII WINS	X
AUSTRALIA WINS	X
JAPAN WINS	X
CHINA WINS	X
AFRICA WINS	X
EGYPT WINS	X
MOSCOW WINS	X
GERMANY WINS	X
ITALY WINS	X
FRANCE WINS	X
ENGLAND WINS	X
MEXICO WINS	X
NEW YORK WINS	X
FLORIDA WINS	X

PRESS VOLUME UP/DN FOR NEXT PAGE.
PRESS SERVICE CREDIT BUTTON TO EXIT.

PAGE 7 OF AUDIT TABLE

ADJUSTMENTS MENU

NOTE: Game Adjustments are explained in more detail on the following pages.

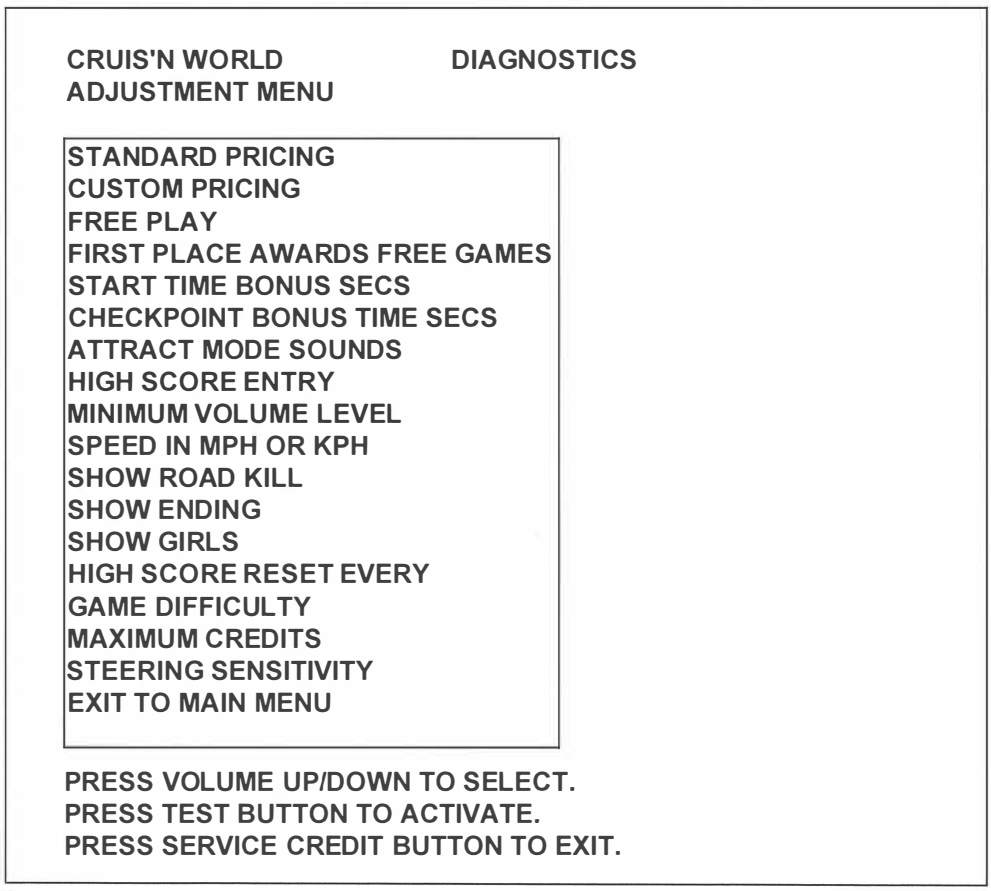
Press the Volume Up or Volume Down Button to highlight the Adjustments Menu option on the Main Menu, then press the Test Button.

The Adjustments Menu option allows the owner/operator to change the Game Pricing and Game Difficulty.

The Adjustments Menu offers several options. Press the Volume Up or Volume Down Button to highlight an option, then press the Test Button. The activated item provides a setting choice. Press the Volume Up or Volume Down Button to change the current setting value. A confirmation box appears. For example:

```
SELECT THIS PRICING?
ARE YOU SURE?
YES                NO
TEST TO ACCEPT
UP TO INCREASE
DOWN TO DECREASE
```

Press the Volume Up or Volume Down Button to select YES or NO, then press the Test Button to lock in the new setting.



GAME ADJUSTMENT MENU

To exit the Adjustments Menu, press the Volume Up or Volume Down Button to highlight EXIT TO MAIN MENU, then press Test Button. Or, press the Service Credits Button.

Standard Pricing

Standard Pricing allows the operator to choose any of the "Standard" selections for the Standard Pricing Table.

Standard Pricing Table

Name	Settings Credit/Coin	Left Chute	Center Chute	Right Chute	Fourth Chute
USA 1	1/3X25	.25	.25	.25	$1.00
USA 2	1/2X25	.25	.25	.25	$1.00
USA 3	1/4X25	.25	.25	.25	$1.00
USA 4	1/5X25	.25	.25	.25	$1.00
USA 5	1/6X25	.25	.25	.25	$1.00
USA 6	1/8X25	.25	.25	.25	$1.00
USA 7	1/8X25, 1/2X100, 3/500	.25	.25	.25	$1.00
USA 8	1/25, 3X25/START, 2X25 CONT	.25	.25	.25	$1.00
USA 9	1/25, 2X25/START, 1/25 CONT	.25	.25	.25	$1.00
USA 10	200/START, 150 CONT	.25	.25	.25	$1.00
USA 11	1/8X25, 4/500	.25	.25	.25	$1.00
USA 12	100/START, 3X25/CONT	.25	.25	.25	$1.00
GERMAN 1	1/3X1DM, 2/5DM	1DM		5DM	
GERMAN 2	1/1DM, 5/5DM	1DM		5DM	
GERMAN 3	1/2X1DM, 3/5DM	1DM		5DM	
GERMAN 4	2/5DM, 1/3X1DM ECA	5DM	1DM	2DM	
GERMAN 5	3/5DM, 1/2DM, 1/2X1DM ECA	5DM	1DM	2DM	
GERMAN 6	1/3X1DM, 2/5DM NO BONUS	1DM		5DM	
GERMAN 7	1/2X1DM, 3/5DM NO BONUS	1DM		5DM	
GERMAN 8	1/1DM, 6/5DM NO BONUS	1DM		5DM	
FRANCE 1	2/5F, 5/10F	5F	10F		
FRANCE 2	2/5F, 4/10F	5F	10F		
FRANCE 3	1/5F, 3/10F	5F	10F		
FRANCE 4	1/5F, 2/10F	5F	10F		
FRANCE 5	2/5F, 5/10F, 11/2 X 10F	5F	10F		
FRANCE 6	2/5F, 4/10F, 9/2 X 10F	5F	10F		
FRANCE 7	1/5F, 3/10F, 7/2 X 10F	5F	10F		
FRANCE 8	1/5F, 2/10F, 5/2 X 10F	5F	10F		
FRANCE 9	1/3 X 1F, 2/5F	1F	5F		
FRANCE 10	1/2 X 1F, 3/5F	1F	5F		
FRANCE 11	1/3 X 1F, 2/5F, 5/2 X 5F	1F	5F		
FRANCE 12	1/2 X 1F, 3/5F, 7/2 X 5F	1F	5F		
FRANCE ECA	1/3 X 1F, 2/5F, 5/2 X 5F		5F	10F	10F
CANADA 1	1/2X25, 2/100	.25		$1.00	
CANADA 2	1/4X25, 1/100	.25		$1.00	
CANADA3	1/4X25, 1/100, 3/2X100	.25		$1.00	
SWISS 1	1/2X1F, 3/5F	1F		5F	
SWISS 2	1/1F, 5/5F	1F		5F	
SWISS 3	1/3X1F, 2/5F	1F		5F	
ITALY 1	1/500LIRE	500 LIRE		500 LIRE	
ITALY 2	1/2X500LIRE	500 LIRE		500 LIRE	
ITALY 3	1/4X500LIRE	500 LIRE		500 LIRE	
UK 1	2/100P, 1/50P, ECA	100P	20P	50P	10P
UK 2	1/100P, 1/2X50P, ECA	100P	20P	50P	10P
UK 3	1/3X20P, 1/50P	20P		50P	
SPAIN 1	1/100PESETA, 6/500PESETA	100P		500P	
SPAIN 2	3/2X100PESETA, 7/500PESETA	100P		500P	
SPAIN 3	100PESETA, 5/500PESETA	100P		500P	
SPAIN 4	1/2X100PESETA, 3/500PESETA	100P		500P	
SPAIN 5	2/100PESETA, 10/500PESETA	100P		500P	
SPAIN 6	1/100PESETA ECA	25P	200P	100P	500P
AUSTRALIA 1	1/5X20, 1/100	.20		$1.00	
AUSTRALIA 2	1/10X20, 1/2X100	.20		$1.00	
AUSTRALIA 3	1/2X100	$1.00		$2.00	
AUSTRALIA 4	1/3X100	$1.00		$2.00	

Custom Pricing

Custom Pricing allows the operator to install pricing other than that of the Standard Pricing Table. Custom Pricing also allows the operator to select the amount of credits required to start a game and the amount of credits required to continue a game. This option is adjusted from the Dip Switch Settings.

Custom Pricing

COIN SLOT (1) UNITS
COIN SLOT (2) UNITS
COIN SLOT (3) UNITS
COIN SLOT (4) UNITS
BONUS UNITS
MINIMUM UNITS
UNITS TO START
SELECT CUSTOM PRICING
SHOW FRACTIONS
EXIT TO MAIN MENU

Coin Slot (1) Unit: Coin Slot (2) Unit: Coin Slot (3) Unit: Coin Slot (4) Unit:	Coins inserted accumulate units. This adjustment specifies the number of units given for each coin in each chute (see "units/credit").
Bonus Units:	One bonus credit is awarded after this many coin units have accumulated.
Minimum Units:	No credits will be awarded until this many coin units have accumulated.
Units to Start:	Units needed for one credit.
Select Custom Pricing:	When set to yes custom pricing is enabled.
Show Fractions:	When set to yes, fractional credits will be seen on the credits screen.

Free Play

This option selects free play. The setting choices for this adjustment are:

-On
-Off
-Factory Setting: Off

First Place Awards Free Game

Awards a player a free game on 1st position. The setting choices for this adjustment are:

-On
-Off
-Factory Setting: Off

Start Time Bonus Seconds

This determines the initial time a player is given to finish a race. The setting range is:

-Maximum: 90
-Minimum: 60
-Factory Setting: 75

Checkpoint Bonus Time Seconds
This awards the player a time bonus for passing a checkpoint.

-Maximum: 10
-Minimum: 25
-Factory Setting: 20

Attract-Mode Sound
This determines whether the game will make sounds in the attract mode. The settings for this adjustment are:

-On
-Off
-Factory Setting Off

High Score Entry
This determines whether the game will allow High Score Entry and Display Table. The setting choices are:

-On
-Off
-Factory Setting On

Minimum Volume Level
This determines the minimum level allowed when setting the volume of the Sound Board. The setting range is:

-Maximum: 30
-Minimum: 0
-Factory Setting: 11

Speed in MPH or KPH
This determines speedometer setting in miles per hour or kilometers per hour. The setting choices are:

-MPH
-KPH
-Factory Setting MPH

Show Road Kill
This determines if dead animals are shown in the game. The setting choices are:

-Yes
-No
-Factory Setting Yes

Show Ending
This determines if an image of a president shows in the game. The setting choices are:

-Yes
-No
-Factory Setting Yes

GAME ADJUSTMENTS CONTINUED...

Show Girls
This determines is "sexy" girls are shown in the game. The setting choices are:
-Yes
-No
-Factory Setting **Yes**

High Score Reset Every
The number of games played before an automatic reset of High Score occurs. The setting range is 1000 to 25,000.
-Factory Setting: **5000**

Game Difficulty
This allows the operator to select the difficulty level of the game. The setting range is:
-Easiest: 0
-Hardest: 9
-Factory Setting: **5**

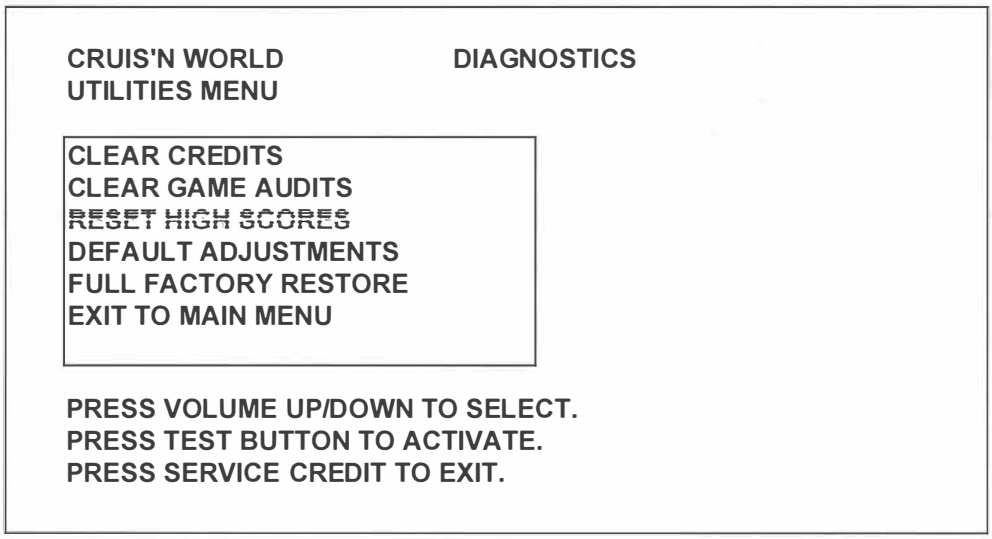
Maximum Credits
This determines the maximum credits allowed to begin a game. The setting range is:
-Maximum: 10
-Minimum: 30
-Factory Setting: **30**

Steering Sensitivity
This determines the "feel" of the steering. The setting range is:
-Light: 0
-Heavy: 5
-Factory Setting: **3**

UTILITIES

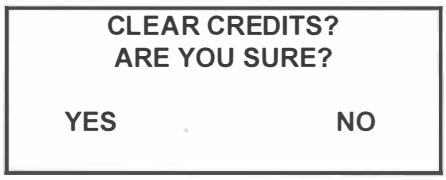
Press the Volume Up or Volume Down Button to highlight the Utilities option on the Main Menu then, press the Test Button.

The Utilities Menu allows the owner/operator to clear the games bookkeeping memory and to install a custom message.



UTILITIES MENU

Press the Volume Up or Volume Down Button to highlight an item from the Utilities Menu, then press the Test Button. After an item has been activated, you are given the option of resetting that item or not. For example:



Press the Volume Up or Volume Down Button to choose YES or NO, then press the Test Button to lock the choice and return to the Utilities Menu.

To exit the Utilities Menu, press the Volume Up or Volume Down Button to highlight EXIT TO MAIN MENU, then press Test Button. Or, press the Service Credit Button.

CALIBRATE CONTROLS

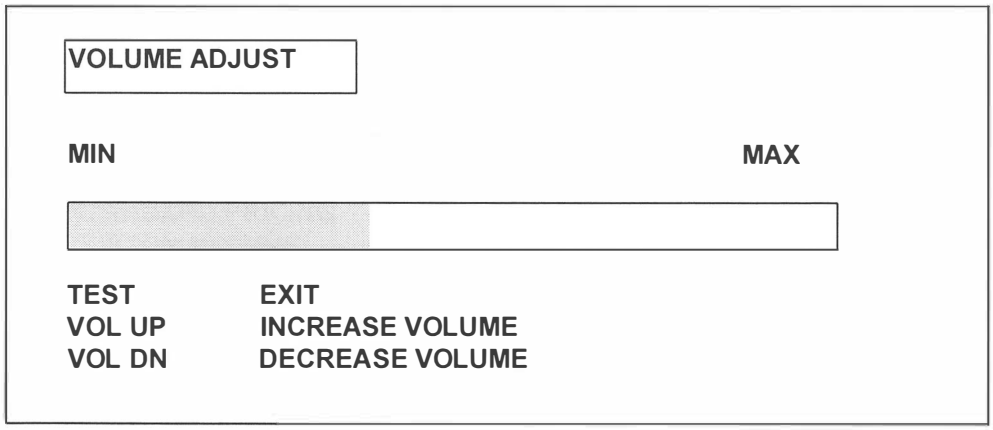
Press the Volume Up or Volume Down Button to highlight the Calibrate Controls option on the Main Menu, then press the Test Button.

Remove hands and feet from all controls. Set the steering wheel to the center position, then press the Test Button. Turn the steering wheel to the left-most position, then press the Test Button. Turn the steering wheel to the right-most position, then press the Test Button. Push the gas pedal to the maximum position, then press the Test Button. Push the brake pedal to the maximum position, then press the Test Button to complete the calibration and return to the Main Menu.

ADJUST VOLUME

Press the Volume Up or Volume Down Button to highlight the Adjust Volume option on the Main Menu, then press the Test Button.

Press the Volume Up Button to increase, or the Volume Down Button to decrease the sound level of the game. Press the Test Button to lock the volume level and return to the Main Menu.



ADJUST VOLUME SCREEN

NOTES

CRUIS'N WORLD™

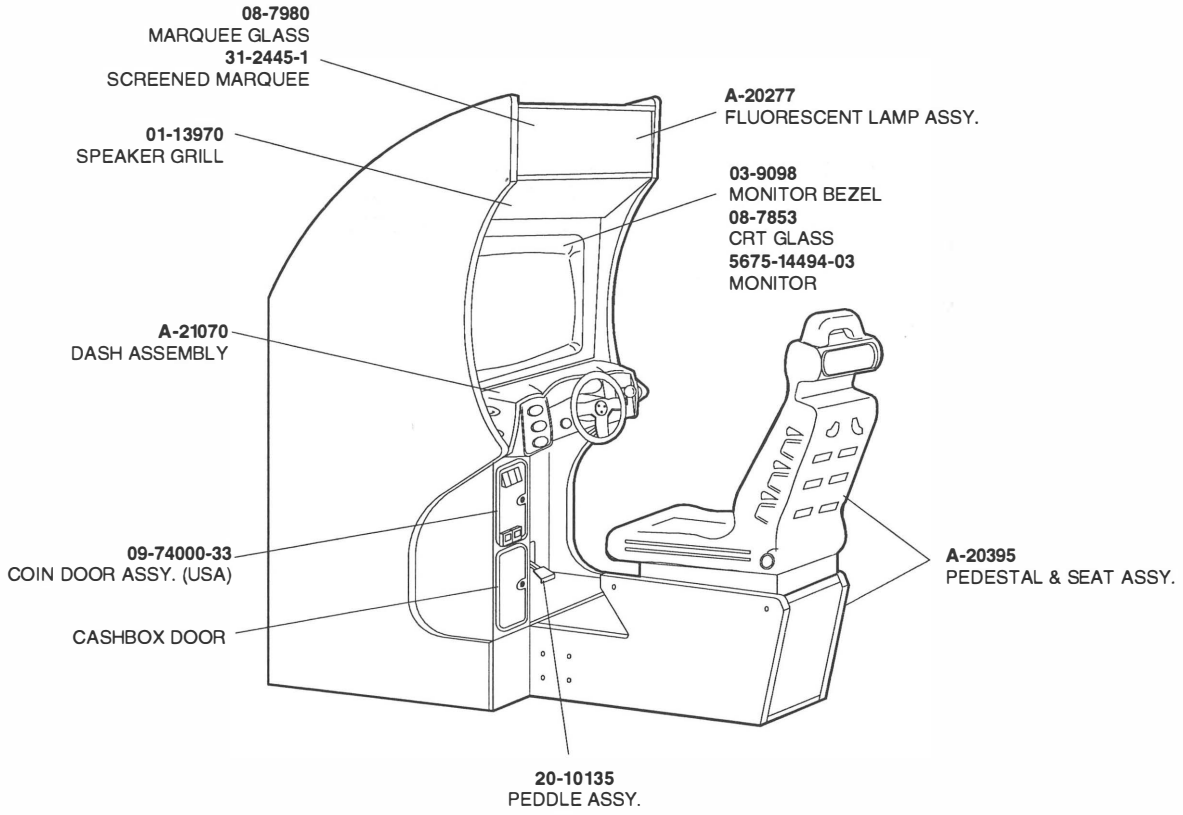
SINGLE SIT-IN

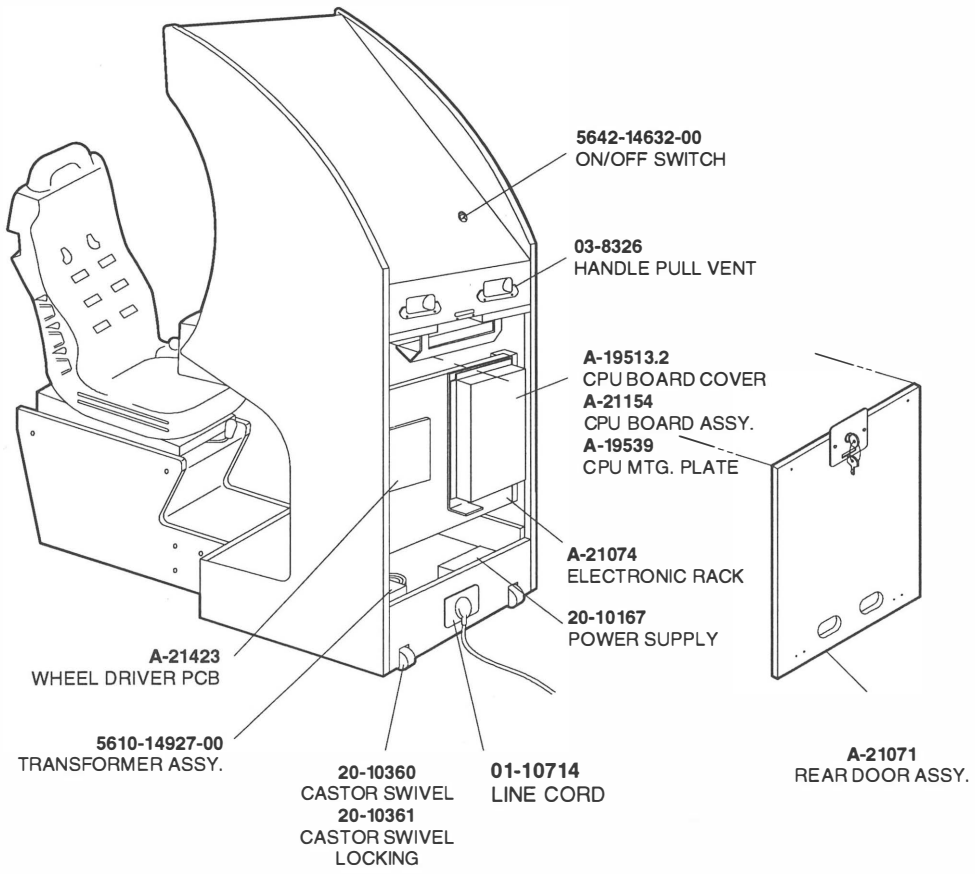
SECTION TWO

Parts

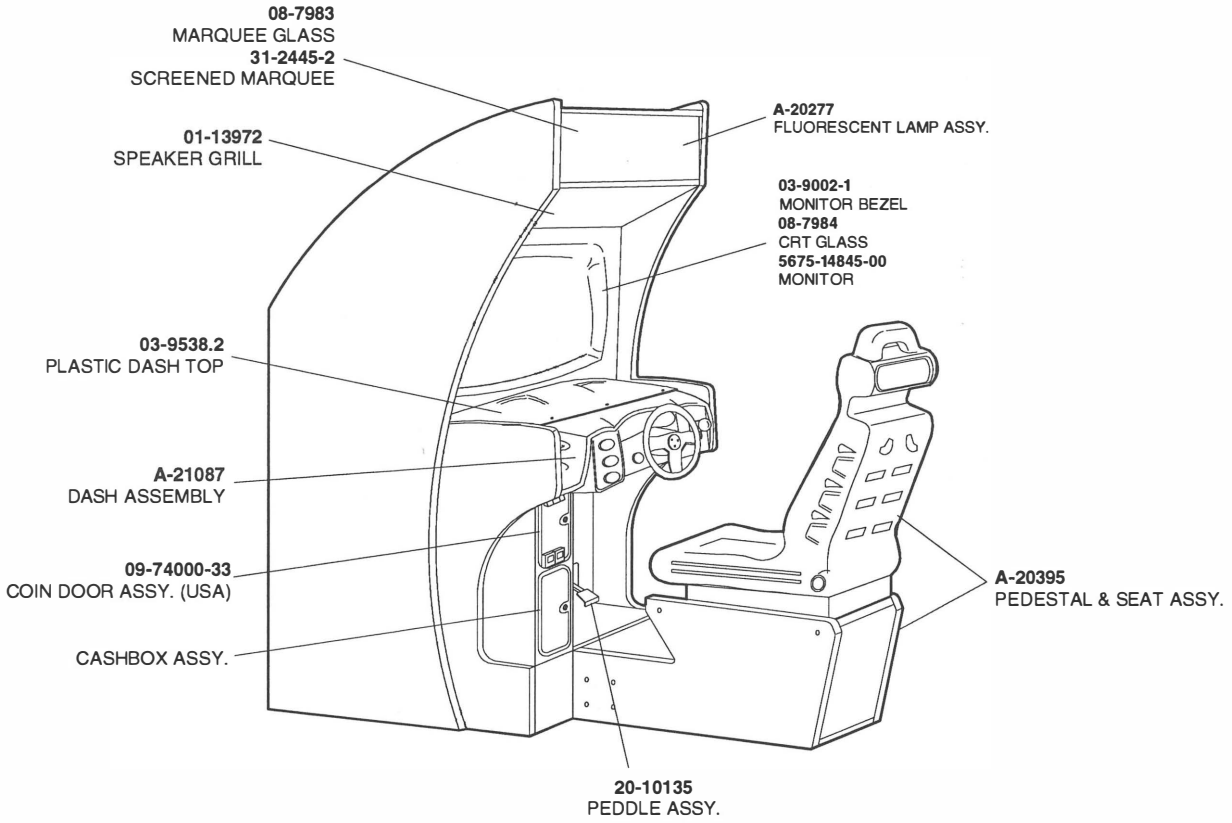
This game uses a monitor made by either Neotech or Wells Gardner. Verify the monitor manufacturer before ordering a new monitor.

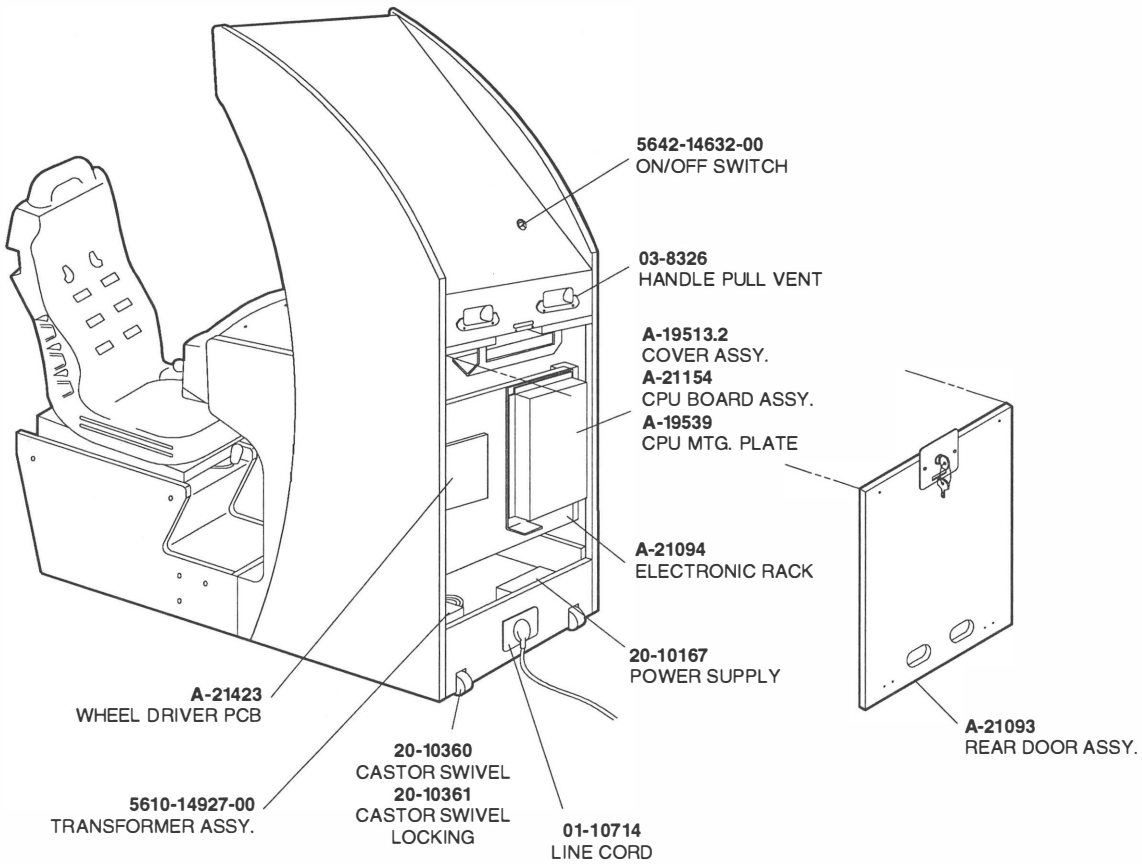
40060-C
25" Cabinet Assembly





40050-C
31" Cabinet Assembly



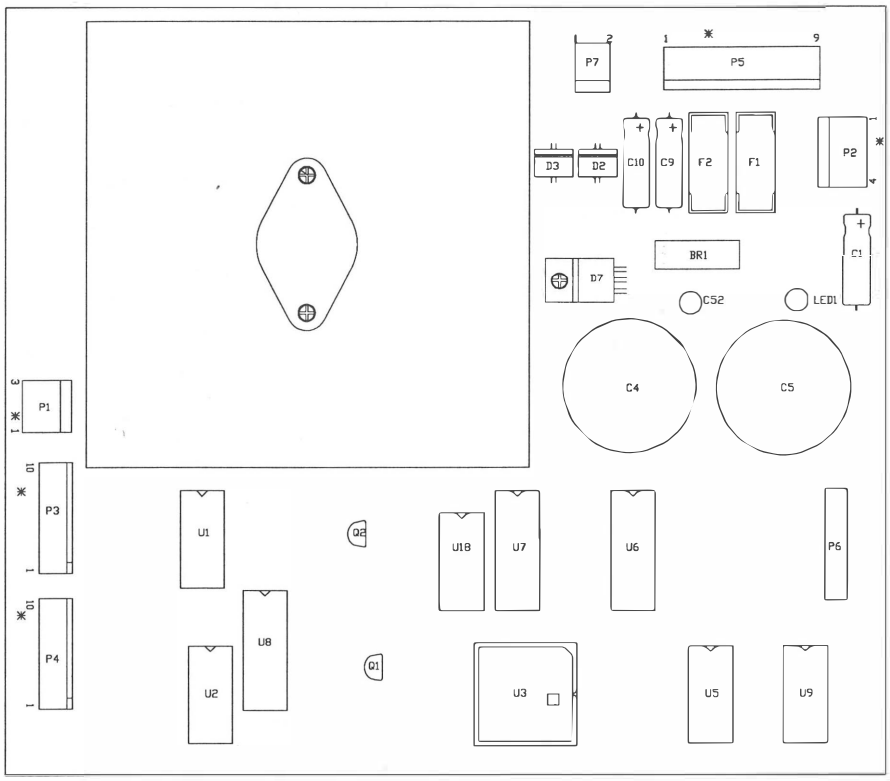


A-21423
Wheel Driver Board Assembly

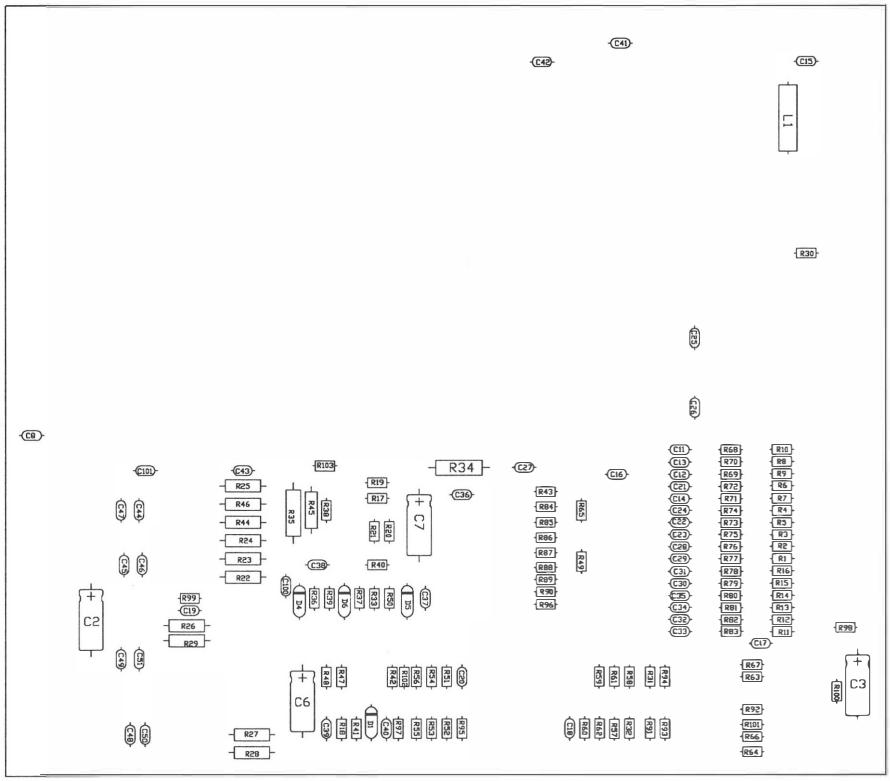
GAME: 40050 & 40060

Part Number	Designator	Description
A-21422		**Wheel Driver Sub-Assembly**
5340-12958-00	U9	IC 26LS31 Bal Drvr
5340-12959-00	U5	IC 26LS32
5311-14068-00	U7, U8	IC 74HC574 Octal D-Latch
5371-14070-00	U18	IC D/A converter 8 Bit
5370-12602-00	U1, U2	IC ULN 2064B
5370-14069-00	U4	IC LM12 Power Op Amp
5160-10269-00	Q2	Trans 2N390404 NPN
5100-13945-02	BR1	Bridge Diode SIP
5040-08986-00	C1	Capacitor, 100M, 10v, 20%
5040-12298-00	C9, C10	Capacitor, 100M, 40v
5040-13417-00	C4, C5	Capacitor, 10000MF, 35v
5791-10862-09	P5	Connector, 9H STR Pin .156
5791-10862-02	P7	Connector, 2H STR Sq. Pin .156
5791-10862-04	P2	Connector, 4H STR Pin .156
5791-09437-00	P6	20HCN 2x10 ST
5791-12461-10	P3, P4	Connector, 10H STR Sq. Pin .100
5070-14526-00	D2, D3	Diode MR751 3.0A.
5671-13732-00	LED1	LED Dspl RED
5733-14113-00	F1, F2	Fuse Holder 5x20mm
5705-15102-00	U4	Heat Sink
5701-14092-00	U4	Thermal Pad
4006-01003-08	U4	MS 6-32 x ½"
4406-01128-00	U4	Nut 6-32 KEPS
5070-15115-00	D7	Diode MUR1605
5281-12887-00	U6	IC 74LS541
5162-08976-00	Q1	Transistor
4004-01003-04	D7	Screw, 4-40 x ¼"
4404-01124-00	D7	Nut 4-40
5700-13173-00	U3	Socket
20-10345	U4	Teflon Tubing ¼"
03-9129	U4	Spacer
5791-10862-03	P1	Connector, 3-pin Header Sq. Pin .156
A-21436	U3	Wheel Driver Plfd Assembly
5731-14094-00	F1, F2	Fuse SB 4A 5x20mm
A-21422-AI		Wheel Driver Assy., Auto-Insert
5043-08980-00	C8, C15-C20, C25-C27, C36, C43	Capacitor, .01M, 50v, 20%
5043-08996-00	C37, C38, C40-C42	Capacitor, .1µF, 50v, 20%
5048-12577-00	C39	Capacitor, .47µF, 50v, 20%
5048-13375-00	C11-C14, C21-C24, C28-C35, C44-C51	Capacitor, 100PF, 50v, 20%
5040-09343-00	C2, C3, C6, C7	Capacitor, 10µF, 16v, 20%
5070-08919-00	D1	Diode 1N4148 150MA
5010-13363-00	R65, R99-R101	Resistor, 100Ω, 1/8w, 5%
5010-13593-00	R17, R19-R21, R33, R38-R40, R51, R54, R102	Resistor, 10KΩ, 1/8w, 5%
5010-10271-00	R46	Resistor, 110KΩ, ¼w, 5%
5010-13594-00	R18	Resistor, 1KΩ, 1/8w, 5%
5010-08931-00	R34, R35	Resistor, 1KΩ, ½w, 5%
5010-13372-00	R32	Resistor, 220Ω, 1/8w, 5%
5010-09999-00	R22-R29	Resistor, 2KΩ, ¼w, 5%
5010-13364-00	R1-R16, R49, R55-R64, R66, R67, R91-R97	Resistor, 33Ω, 1/8w, 5%
5010-13365-00	R42, R43, R68-R90	Resistor, 4.7KΩ, 1/8w, 5%
5010-13366-00	R30, R31, R36, R50	Resistor, 470Ω, 1/8w, 5%
5010-09342-00	R45	Resistor, 36KΩ, 1/4w, 5%
5075-09135-00	D6	Zener Diode, 1N4740A, 10v, 1w
5075-14066-00	D4, D5	Zener Diode. 1N4744A, 15v
5556-14181-00	L1	Ferrite Bead
5048-11028-00	C101	Capacitor, 22PF, 20%
5010-15209-00	R103	Resistor, 30K, 1/8w, 5%

A-21423
Wheel Driver Board Assembly



A-21422 Wheel Driver Board Assembly



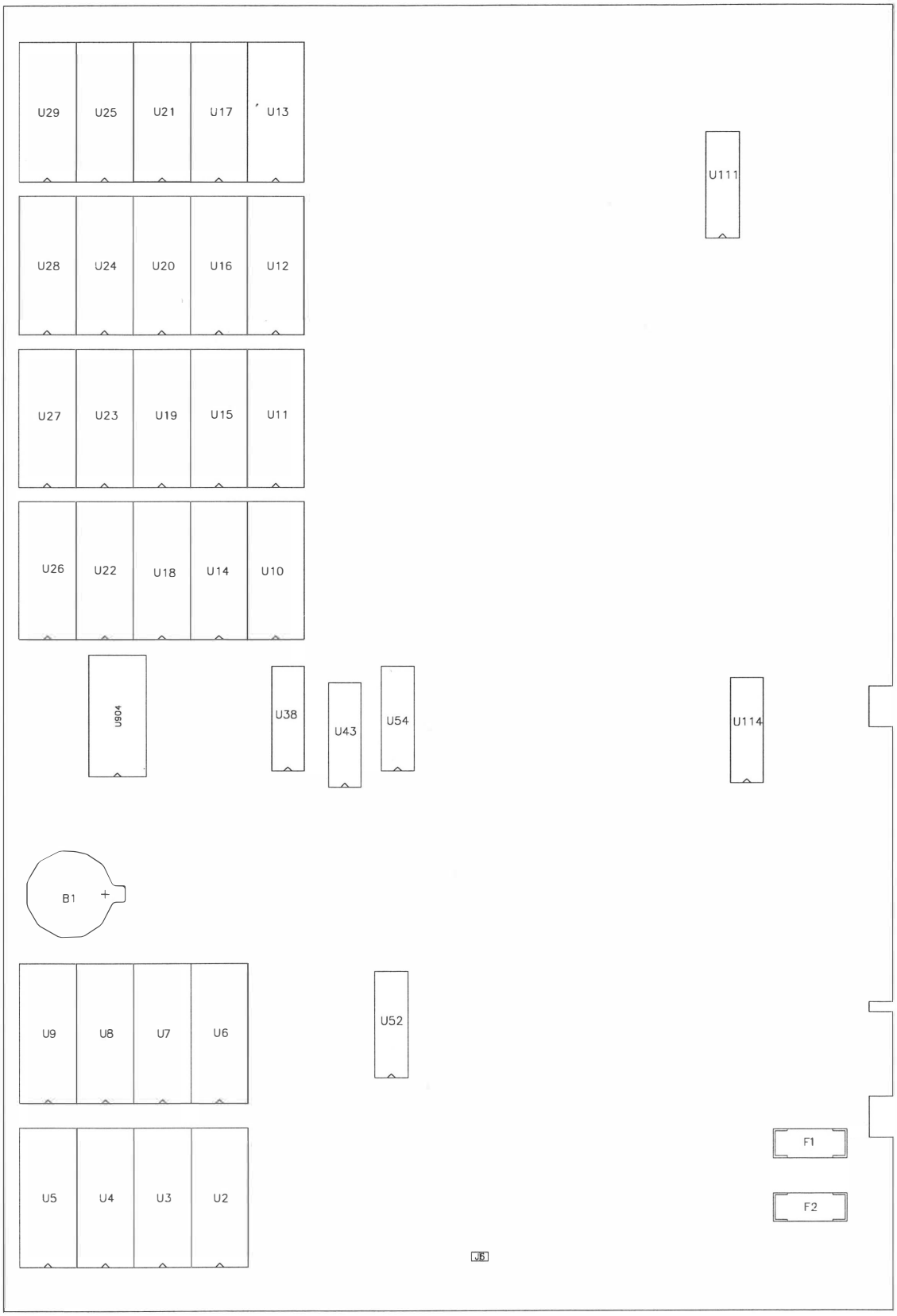
A-21422-AI Wheel Driver Assembly, Auto-Insert

A-21154
CPU Board Assembly

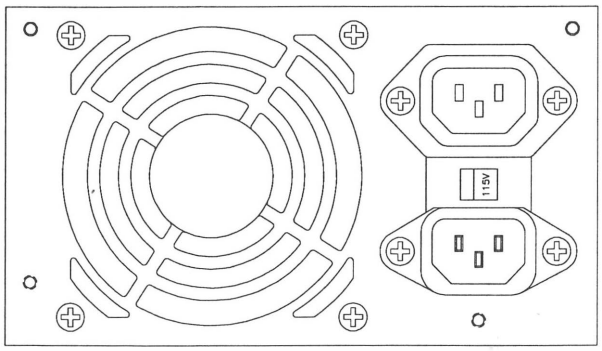
GAME: 40050 & 40060

Part Number	Designator	Description
5880-11056-00	B1	Battery - Lithium 3v
5731-14468-00	F1, F2	Fuse SB 3A 5x20mm
A-5343-40060-2	U2	EPROM Assembly
A-5343-40060-3	U3	EPROM Assembly
A-5343-40060-4	U4	EPROM Assembly
A-5343-40060-5	U5	EPROM Assembly
A-5343-40060-6	U6	EPROM Assembly
A-5343-40060-7	U7	EPROM Assembly
A-5343-40060-8	U8	EPROM Assembly
A-5343-40060-9	U9	EPROM Assembly
A-5343-40060-10	U10	EPROM Assembly
A-5343-40060-11	U11	EPROM Assembly
A-5343-40060-12	U12	EPROM Assembly
A-5343-40060-13	U13	EPROM Assembly
A-5343-40060-14	U14	EPROM Assembly
A-5343-40060-15	U15	EPROM Assembly
A-5343-40060-16	U16	EPROM Assembly
A-5343-40060-17	U17	EPROM Assembly
A-5343-40060-18	U18	EPROM Assembly
A-5343-40060-19	U19	EPROM Assembly
A-5343-40060-20	U20	EPROM Assembly
A-5343-40060-21	U21	EPROM Assembly
A-5343-40060-22	U22	EPROM Assembly
A-5343-40060-23	U23	EPROM Assembly
A-5343-40060-24	U24	EPROM Assembly
A-5343-40060-25	U25	EPROM Assembly
5882-13046-00	J6	Shunt
A-21437	U904	PIC Assembly (use w/ 25" Cabinet)
A-21506	U904	PIC Assembly (use w/31" Cabinet)

A-21154
CPU Board Assembly



20-10167
Power Supply

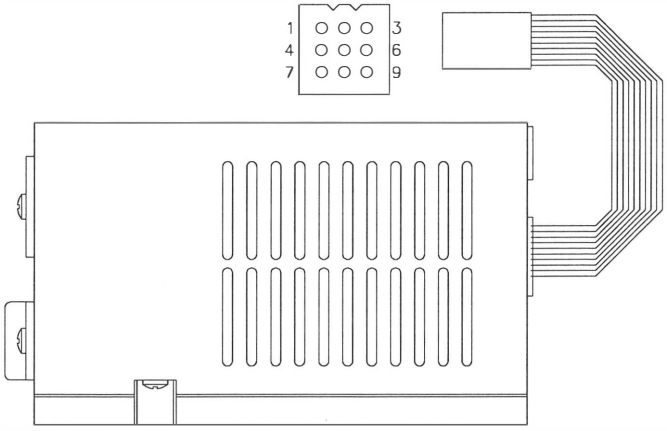


REAR VIEW

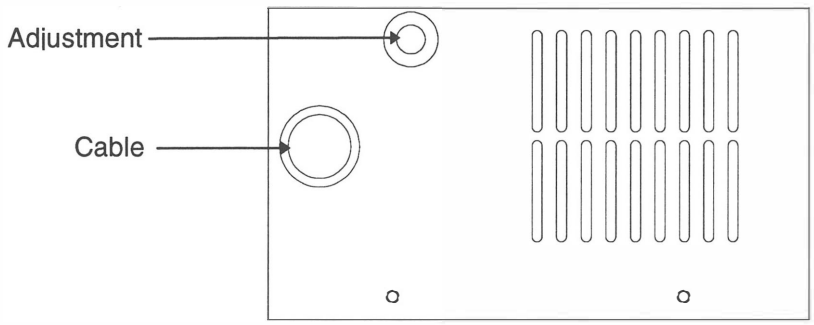
Connector	**Pin**	**Designation**
Pin #	*Function*	*Wire Color*
1, 2, 3	+5VDC	Red
4, 5, 6	Ground	Black
7	-5VDC	Yellow*
8	+12VDC	Orange*
9	-12VDC	Blue*

***Note:** Many computer grade power supplies use yellow for +12V, blue for -5V, and white for -12V. This is acceptable as long as the pinout is correct.

SIDE VIEW



FRONT VIEW

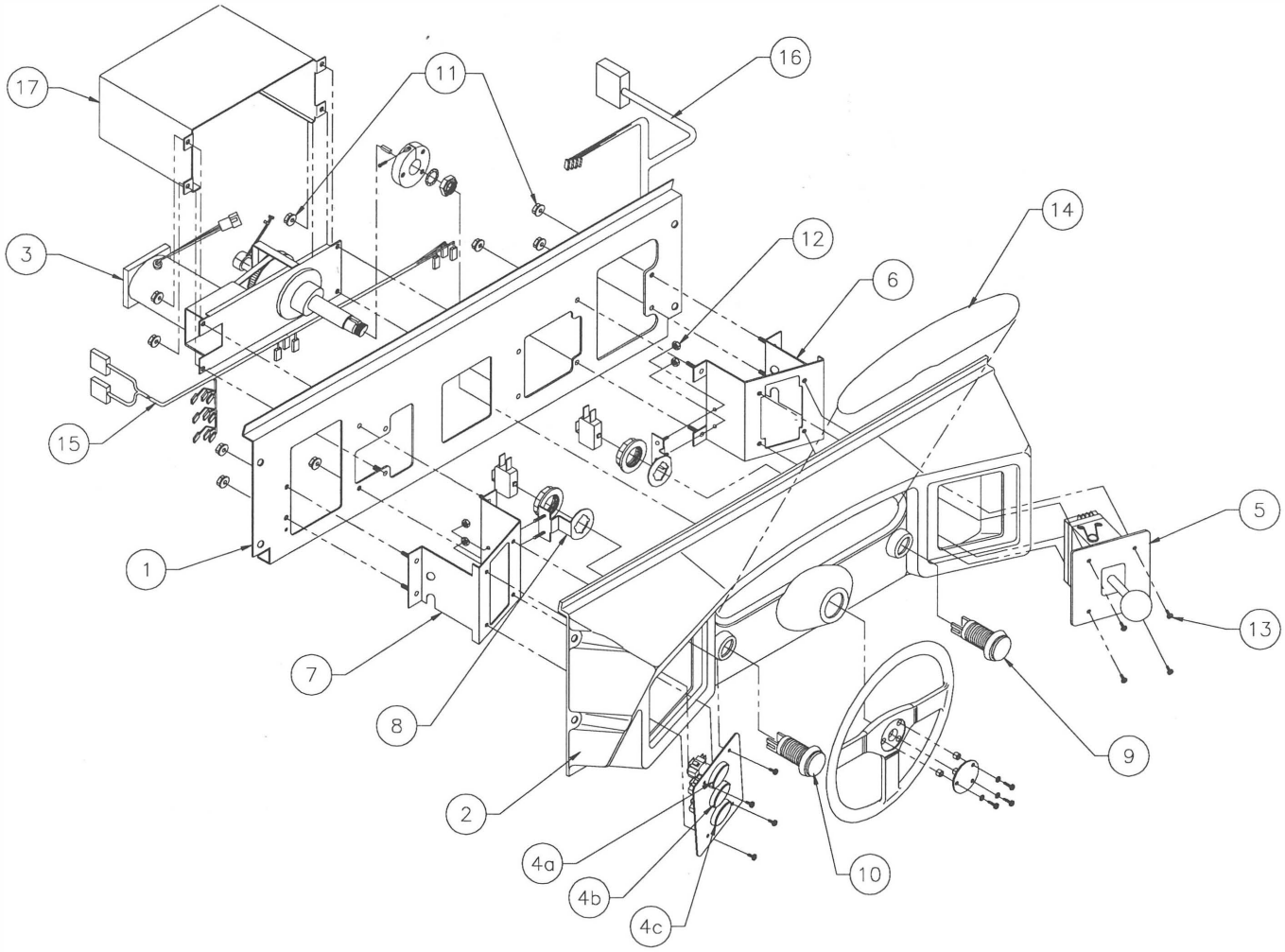


A-21070 Dash Assembly

CRUISIN WORLD SIT 25" (40060)

A-21087 Dash Assembly

CRUISIN WORLD SIT 31" (40050)

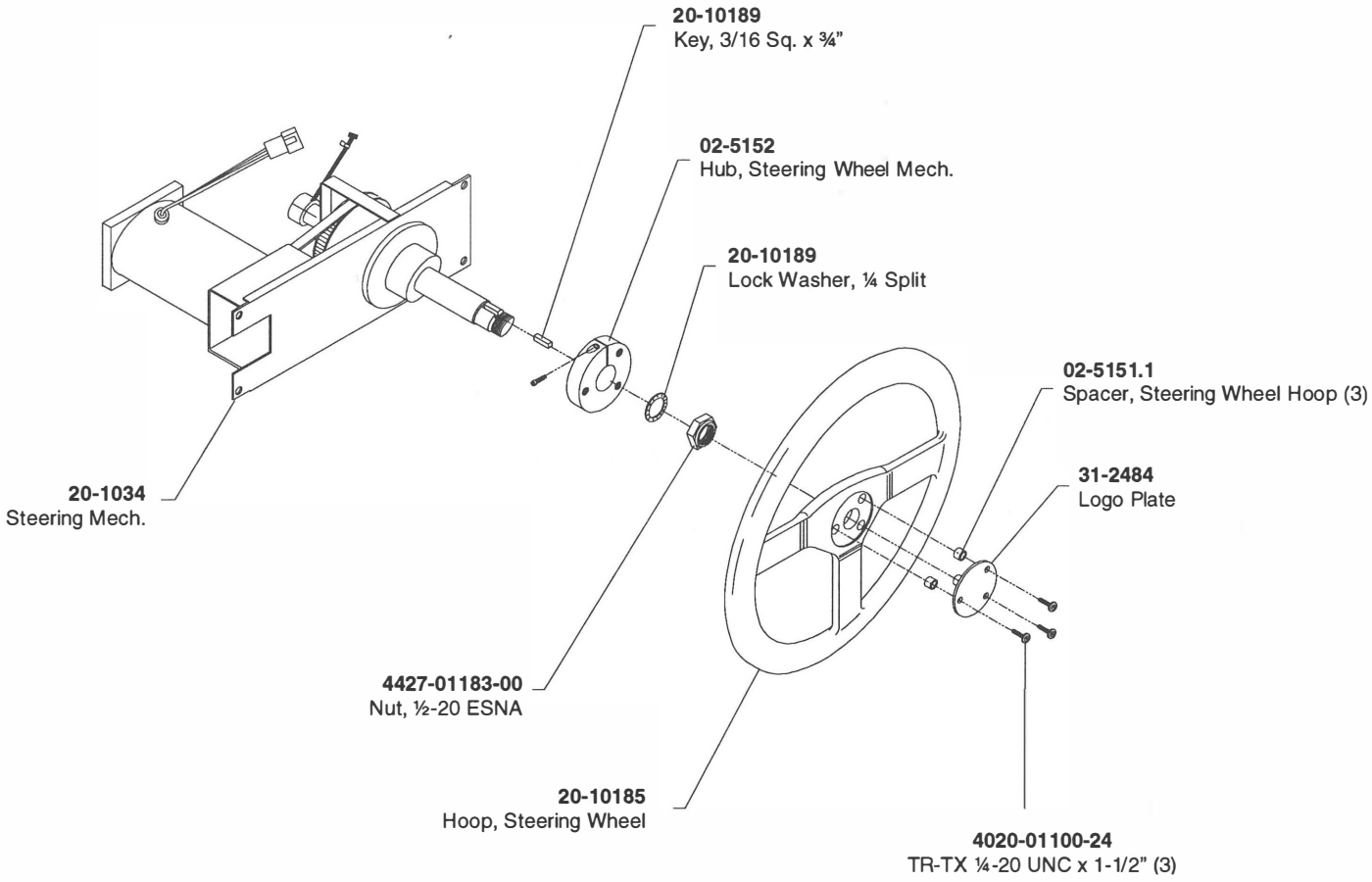


Item	Part Number	Description
1	04-10145.1	Dash Plate *(use w/A-21070)*
	04-10192.1	Dash Plate (*use w/A-21087)*
2	03-9524-1	Dash-Plastic Molded *(use w/A-21070)*
	03-9524-2	Dash-Plastic Molded *(use w/A-21087)*
3	20-10134	Steering Mechanism
4	A-21075	Sw. Push Button Assy., Oval
a)	31-2390-1	Push Button - Oval Red
b)	31-2390-2	Push Button - Oval White
c)	31-2390-3	Push Button - Oval Blue
5	20-10267.1	4-Speed Shifter
6	04-10146	Shift Mounting Bracket
7	04-10147	Button Mounting Bracket
8	04-10184.1	Start Button Bracket
9	20-10129-5	P/B Switch (Start)
10	20-10129-6	P/B Switch (Radio)
11	4420-01141-00	Nut ¼-20 Flangrip
12	4408-01128-00	Nut 8-32 KEPS
13	4008-01093-10B	Mach. Screw, 8-32 x 5/8"
* 14	31-2444	Decal (Cntl Pnl Plus)
15	H-21090.1	Cable, Con. Panel
16	H-21124.1	Cable, Gear Shift w/Dual Gnd.
17	01-14529	Motor Shield (use w/A-21070)

*Not for individual sale. Order Decal Set 31-2444.

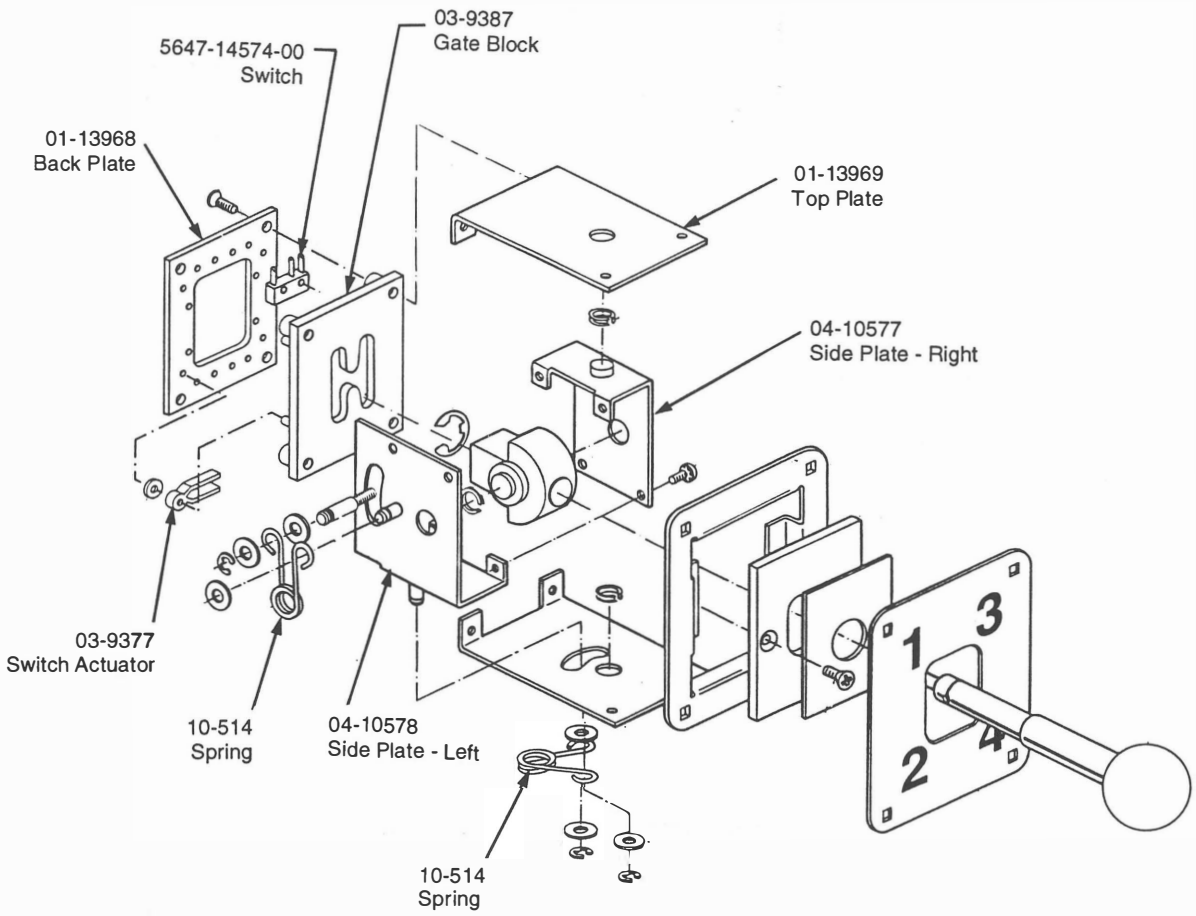
20-10134
Steering Mechanism w/Associated Parts

GAME: 40050 & 40060



20-10267.1
4-Speed Shifter

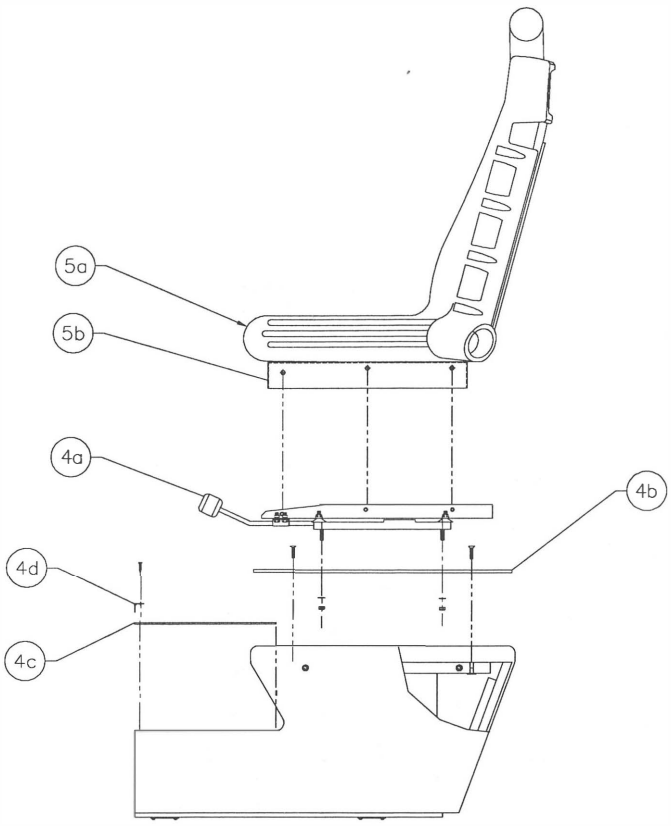
GAME: 40050 & 40060

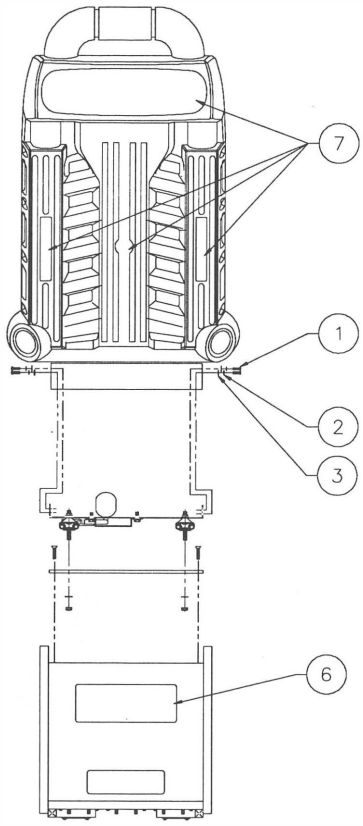


Ref. Source: HAPP CONTROLS

A-20395
Seat w/Pedestal Assembly

GAME: 40050 & 40060



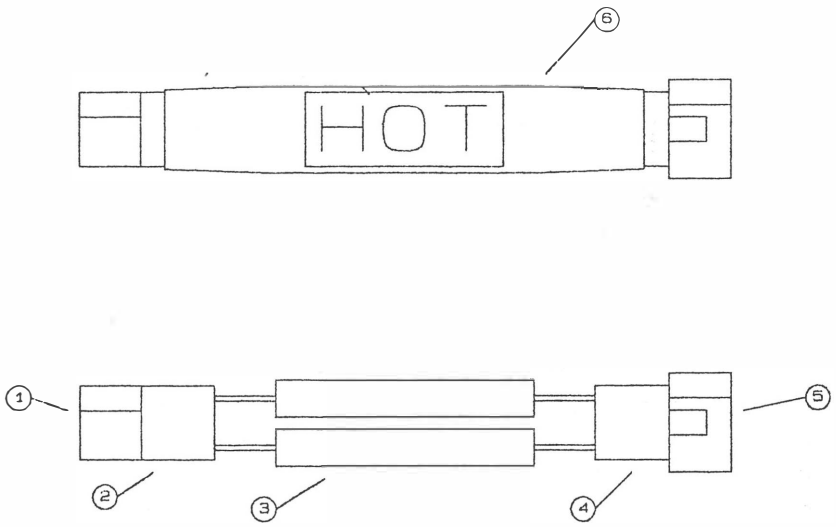


Item	Part Number	Description
1	4020-01100-08	TR TX ¼-20x1/2 BH
2	4702-00014-00B	Lock Washer ¼-20 Internal Tooth
3	4700-00072-00	FW, 17/64 x ½ x 21ga.
4	A-20396	Pedestal Assembly
a)	04-10185	Seat Slide Assembly
b)	01-13837	Seat Plate
c)	23-6741	Floor Mat Pedestal
d)	01-13551	Pedestal Edge Bottom
5	A-20397	Seat Assembly
a)	04-10173	Seat
b)	04-10186	Seat Mounting Plate
* 6	31-2446	Decal (License Plate)
* 7	31-2625	Decal (Seat)

* Not available for individual sale. Order decal set 31-2446 and 31-2625 respectively.

A-19807
Wheel Limit Resistor Assembly

GAME: 40050



Item	Part Number	Description
1	5821-13238-00	Female Reel Pin 18-22G
2	5792-12561-00	Female Connector
3	5012-13138-00	Resistor, 1Ω, 10w
4	5791-12570-00	Male Connector
5	5820-13237-00	Male Reel Pin 18-22G
6	RM-23-07	Heat Shrink Tubing 1"

LINE CORD APPLICATION CHART

Part Number / Country	5850-13271-00	5850-13272-00	5850-13273-00	5850-13275-00	5850-13276-00	5850-13277-00	5850-13278-00
USA	√						
England			√				
Italy				√			
Japan							√
New Zealand						√	
Germany		√					
Spain		√					
Switzerland					√		
Hungary		√					
Canada	√						
Austria		√					
France		√					
Australia						√	
Belgium		√					

COIN DOOR CHART

Part Number / Country	09-74000-2	09-74000-3	09-74000-6	09-74000-7	09-74000-14	09-74000-15	09-74000-17	09-74000-20	09-74000-22	09-74000-23	09-74000-25	09-74000-33	09-74000-10	09-74000-4
USA												√		
England													√	
Italy					√									
Japan						√								
New Zealand							√							
Germany	√										√			
Spain								√						
Switzerland									√					
Hungary										√				
Canada														
Austria		√												
France														√
Australia			√											
Belgium				√										

TRANSFORMERS CHART

COUNTRY	TRANSFORMERS		
	5610-14926-01	5610-15275-00	5610-14927-00
EUROPEAN	√		
JAPAN		√	
DOMESTIC			√

Other Parts Necessary to *CRUISIN WORLD* 25" & 31" (*unless otherwise stated)*

AC Distribution Assembly	A-20278	
AC Distribution Cable	H-20279	
AC Distribution Chassis	04-10103	
Switcher Power Supply	20-10167	
MS 4-40x 3/8"	4004-01041-06	
MS 6-32 x 3/8"	4006-01003-06	
Line Filter, 6A, 250v	5102-14240-00	
Fuse Holder Panel	5733-12869-00	
Fuse, 3A, 250v, SB	5731-10356-00	
Nut, 6-32 KEPS	4406-01128-00	
Nut, 8-32 KEPS	4408-01128-00	
Cruisin World Seat w/Box	A-21593	
Pedestal & Seat Assy.	A-20395	
Castor/Leg Leveler Kit	A-21594	
Leveler Leg ½-13	08-8023	
Castor Swivel	20-10360	
Castor Swivel Locking	20-10361	
Nut ¼-20 Flangrip	4420-01141-00	
Bulb Fluorescent 15w, 18"	21-8809	
Ferrite Bead 2-Piece 1-1/4"	5556-13956-00	
Front Grill	01-13980	(use w/25" Cabinet)
Front Grill	01-13992	(use w/31" Cabinet)
Fuse SB 4A 250v	5731-06314-00	
Key Lock Bracket	01-11287	
Lamp Lock	03-8327	
Marquee Retainer 28-3/8"	03-8252-5	(use w/Cabinet 25")
Marquee Retainer 29-7/8"	03-8252-6	(use w/Cabinet 31")
Pad Lock Bracket	01-11286	
Pedestal Support Beam	04-10112	
Pin Jumper Plug-MARS	5797-13606-00	
Speaker, 4Ω, 6", 25w	5555-12929-00	(use w/25" Cabinet)
Speaker,40Ω Shield, 5-1/2"	5555-15098-00	
Speaker 8" Full Range	5555-15078-00	(use w/31" Cabinet)
Test Switch Bracket Assy.	A-19542	
Ribbon Cable 25-pin 9"	5795-14465-09	
Ribbon Cable 20-pin	5795-10937-09	(use w/Cabinet 31")
USA DBV Cable	H-18136	
AC Distribution Cable	H-19297	
Cable IDC ACK12	H-20353	(use w/Cabinet 31")
Line Voltage Cable	A-21155	
Line Voltage Cable	A-21095	(use w/Cabinet 31")
Linking Cable	5797-14511-00	
Lower Speaker Cable	H-21128	
Cabinet Speaker Cable	H-19599	
Main Harness Cable	H-21089	
Control Panel Cable	H-21090.1	

CRUIS'N WORLD™

SINGLE SIT-IN

SECTION
THREE

Wiring

JAMMA Chart

FUNCTION	WIRE COLOR	PIN	PIN	WIRE COLOR	FUNCTION
Ground	Black	A	1	Black	Ground
Ground	Black	B	2	Black	Ground
+5VDC	Red	C	3	Red	+5VDC
+5VDC	Red	D	4	Red	+5VDC
-5VDC	Yellow	E	5	Yellow	-5VDC
+12VDC	Orange	F	6	Orange	+12VDC
	Key	H	7	Key	
	N/C	J	8	Brown	Coin Counter 1
	N/C	K	9	N/C	
Speaker -, Upper	Brown-Gray	L	10	Red-Gray	Speaker +, Upper
Speaker -, Lower	Brown-White	M	11	Red-White	Speaker +, Lower
Video Green	Yellow-Green	N	12	Yellow-Red	Video Red
Video Sync	Yellow-White	P	13	Yellow-Blue	Video Blue
Service Credits	White-Gray	R	14	Yellow-Black	Video Ground
Slam Tilt	Black-Green	S	15	Black-Blue	Test Switch
Coin 2	Black-Red	T	16	Black-Brown	Coin 1
	N/C	U	17	White	1 Start
	N/C	V	18	N/C	
	N/C	W	19	White-Brown	Radio Switch
	N/C	X	20	N/C	
	N/C	Y	21	N/C	
	N/C	Z	22	White-Yellow	View 1 Switch
	N/C	a	23	White-Green	View 2 Switch
	N/C	b	24	White-Blue	View 3 Switch
	N/C	c	25	N/C	
	N/C	d	26	N/C	
	N/C	e	27	N/C	
Ground	Black	f	28	Black	Ground
SOLDER SIDE			**COMPONENT SIDE**		

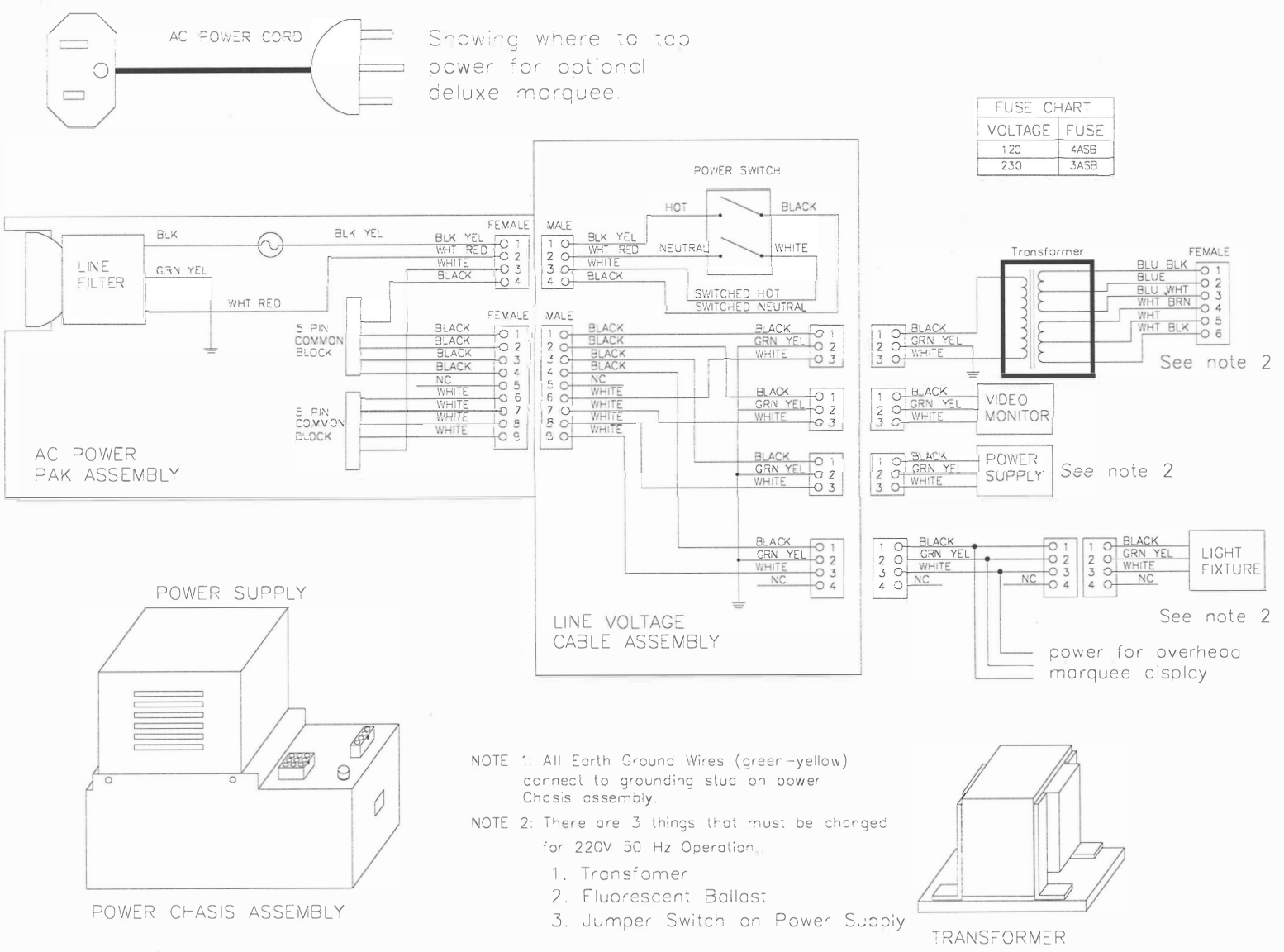
Dash Board wires that are not part of the Main JAMMA Harness.

- Start Lamp	Violet-Black	Green-Brown	Gear Shift 1
+ Start Lamp	Orange	Green-Red	Gear Shift 2
- View 1 Lamp	Violet-Brown	Green-Orange	Gear Shift 3
+ View 1 Lamp	Orange	Green-Yellow	Gear Shift 4
- View 2 Lamp	Violet Red	Black	Gear Ground
+ View 2 Lamp	Orange	Red	+5V Steering
- View 3 Lamp	Violet-Orange	Orange-Blue	Steering
+ View 3 Lamp	Orange	Black	Ground Steering
- Wheel Motor	Brown-White		
+ Wheel Motor	Brown		

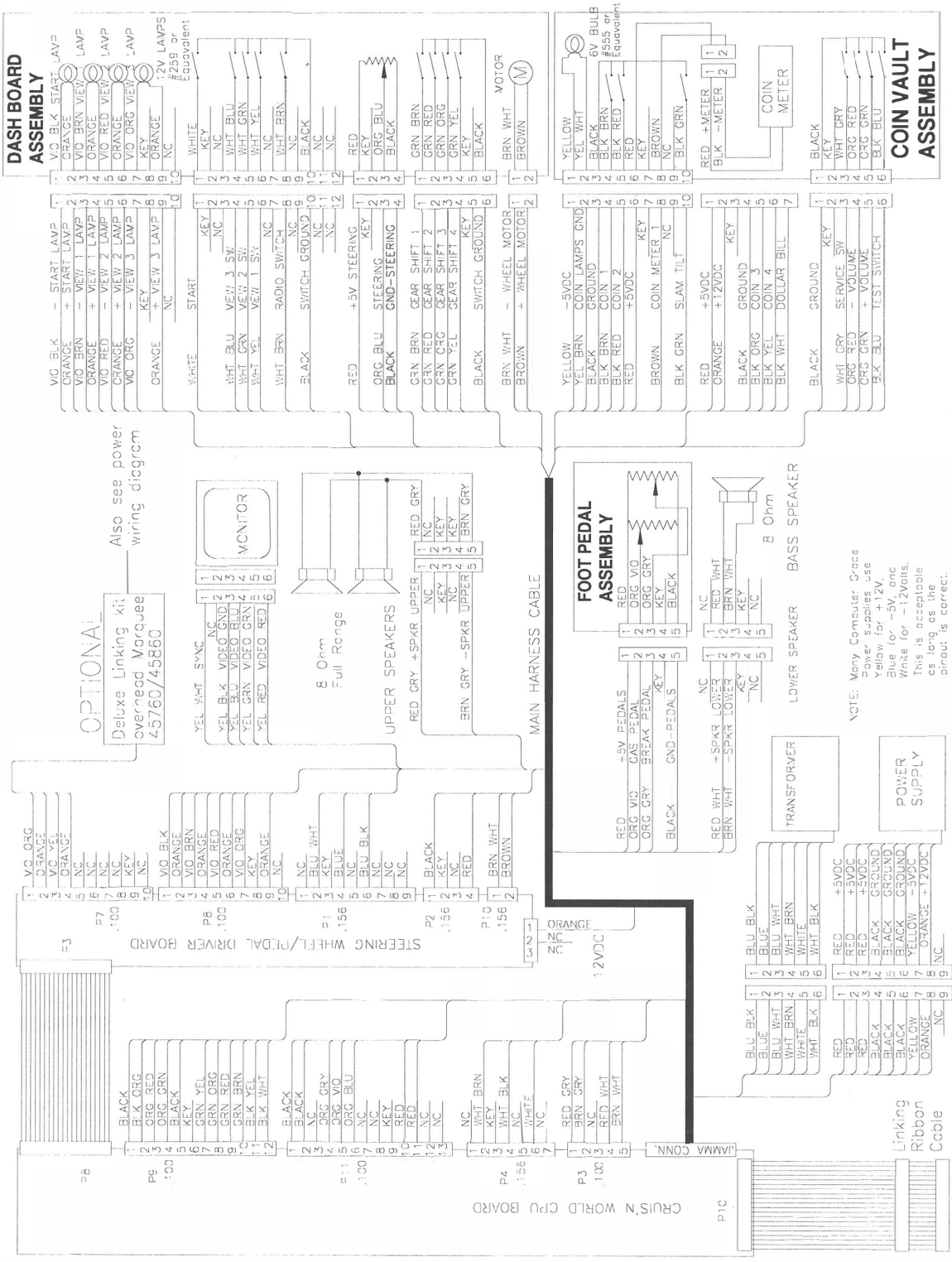
Foot Pedal wires that are not part of the Main Harness

+5V Pedals	Red	Orange-Gray	Break Pedal
Gas Pedal	Orange-Violet	Black	Pedal Ground

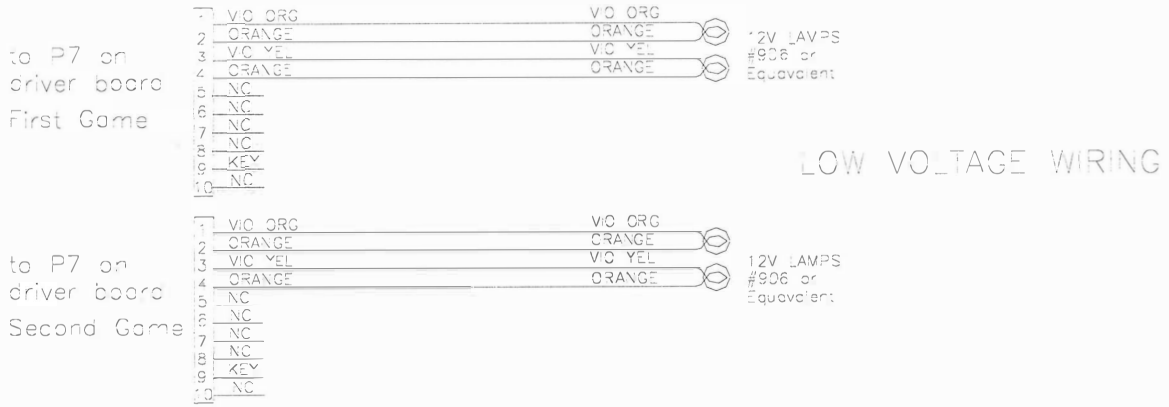
POWER WIRING DIAGRAM

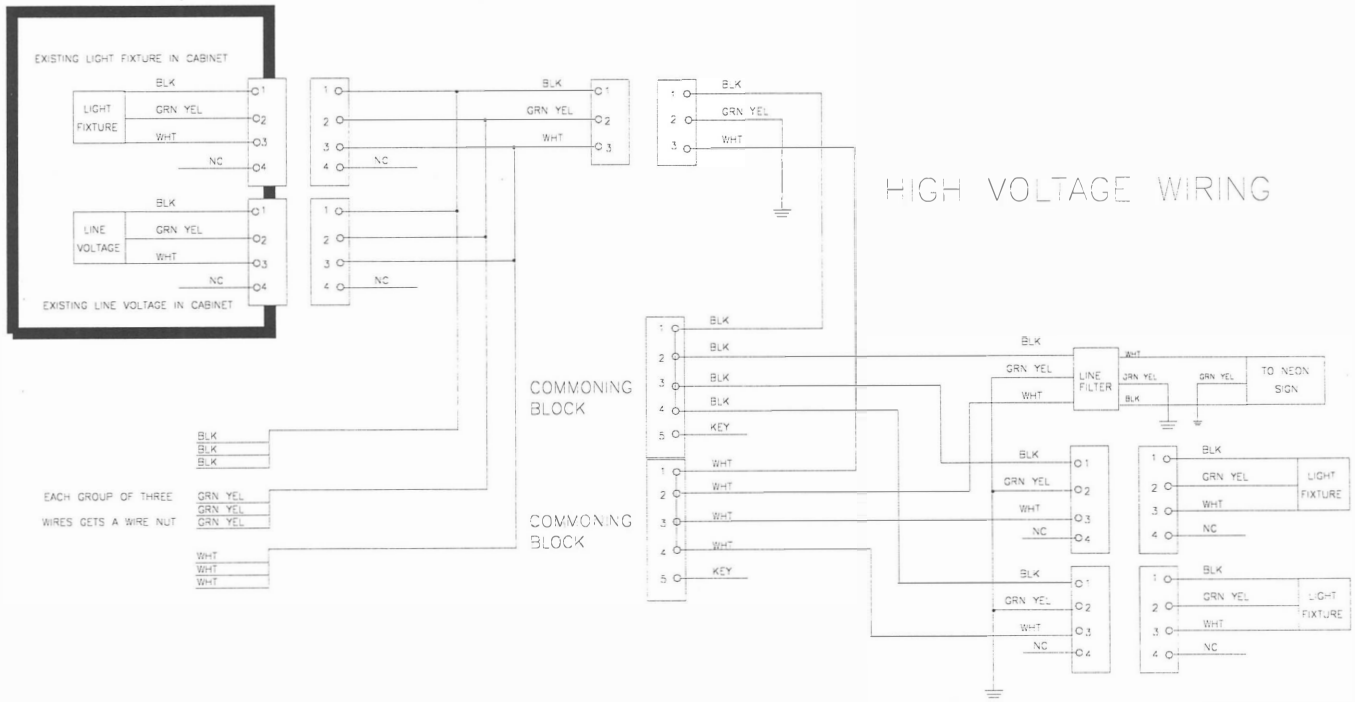


CABINET WIRING DIAGRAM



LINKING KIT OVERHEAD MARQUEE WIRING DIAGRAM





NOTES

CRUIS'N WORLD™

SINGLE SIT-IN

SECTION FOUR

Troubleshooting

HANDLING ELECTRONIC DEVICES: This game uses complex electronic components that are SENSITIVE to static electricity. The following precautions must be observed and followed prior to handling any of the electronics that make up this game.

1) Ensure that the A.C. power to the game is turned off prior to servicing the electronics.
2) Discharge any static electricity build up in your body by touching the safety ground stud of the power supply chassis. This is to be done PRIOR to touching or handling the electronic assemblies.
3) Store the electronic assemblies in an anti-static area. Anti-static bags are to be used to store the game CPU assembly.
4) DO NOT remove or connect any electronic assemblies when the cabinet power is on. Doing so will damage the electronic assemblies and void the warranty.

1: Game appears completely non-functional.

A: Verify that the game power switch located on the top left rear of the game cabinet is turned on.

B: Verify that I.E.C. line cord connector is firmly and correctly seated into I.E.C. power entry module of A.C. power chassis. If not, then gently but firmly insert the I.E.C. power cable completely into the mating receptacle of the A.C. power chassis.

C: Check and verify A.C. line fuse of A.C. power chassis is not blown. If the fuse is blown, replace it with an identical fuse of the proper voltage and current rating. Note that a spare fuse is provided with the spare parts bag located in the cash box.

D: Check and verify that the correct A.C. line voltage is present the outlet.

E: Ensure that cabinet A.C. cable 4-pin and 9-pin connectors are firmly and correctly mated with the corresponding connectors of the A.C. power chassis.

2: Marquee lamp is non-functional.

A: Check and verify that the fluorescent lamp is properly inserted into the lamp holders.

B: Check and verify that the lamp pins are making good contact with the mating pins of the lamp holders.

C: Check and verify that the proper A.C. voltage is present at the power connector of the lamp assembly. If no A.C. power is present, then check the cabinet A.C. wiring from the A.C. power chassis up to the fluorescent lamp itself.

D: Check and verify that the starter and lamp are functional by replacing them with known working units.

E: Check and verify that the fluorescent lamp ballast is correct for the local A.C. line voltage and frequency.

3: Monitor appears non-functional.

A: Check and verify that the cabinet A.C. line voltage cable is firmly and properly connected to mating A.C. connector on monitor.

B: Check and verify that the cabinet video signal cable connector is firmly and properly connected to the mating video signal input connector of the monitor.

C: Check and verify that the monitor remote adjustment board is properly installed and connected to the monitor chassis.

D: Verify monitor is operating correctly by replacing with a known good unit.

4: Sound is non-functional.

A: Check and verify the cabinet wiring is correct. Ensure that the speakers are properly connected to the audio out wires from the JAMMA connector. Refer to the cabinet wiring diagram for specific wiring information.

Sound is non-functional continued...

B: Check and verify that the power supply is providing :

+5V	+/- 0.1V
+12V	+/- 0.5V
-5V	+/- 0.25V

C: Check and verify that the above listed D.C. voltages are present at the correct JAMMA connector pins. Refer to the cabinet wiring diagram for specific wiring information.

D: Check and verify that the game volume has been turned up.

E: Verify proper operation of game PCB assembly by replacing it with a known good game PCB assembly.

5: Video game appears non-functional.

A: Check and verify that the JAMMA wire harness connector is firmly and properly seated to the mating JAMMA PCB edge connector.

CAUTION: **DO NOT REMOVE OR INSTALL JAMMA CONNECTOR WHEN POWER IS TURNED ON. DOING SO WILL DAMAGE THE GAME CPU ASSEMBLY AND VOID THE WARRANTY.**

B: Check and verify that the D.C. power supply voltages at the game CPU assembly are set as follows:

+5V:	+4.9V to +5.1V
+12V:	+11.5V to +12.5V
-5V:	-4.75V to -5.25V

The above voltages should be set when the game CPU assembly is connected and the game is powered on.

C: Check and verify that the non JAMMA connectors are attached at the proper location and are firmly seated.

D: Verify that the game CPU assembly completes the power on self test sequence. Note any errors and/or failures during power on self test. The game CPU assembly should complete the power on diagnostics without error.

E: Check and verify that the game CPU DIP Switches are set properly. Review the switch configuration information from Section One.

6: The video screen exhibits complete loss of SYNC or consistent horizontal tearing.

This game uses a MEDIUM Resolution, 25Khz scan rate monitor. Ensure that the monitor used is compatible with this requirement. Use of a standard video game LOW Resolution monitor will result in what appears to be horizontal tearing or complete loss of sync.

7: The audio sounds distorted, muffled or missing frequencies.

A: This game uses true Stereo Sound, with a separate audio amplifier for right and left speakers. The audio outputs from War Gods video PCB assembly are run directly from the JAMMA connector up to the separate speakers. Ensure that the cabinet wiring provides separate wiring (and not a common return) for each speaker.

B: The audio amplifiers are designed to drive full range speakers, and not discrete woofer and tweeter speakers. Ensure that the speakers are FULL RANGE response (100 to 10,000 Hz) and are rated at a minimum of 25 Watts.

8: The game will execute the power on diagnostics, but not enter normal game play.

A: Check and verify that the D.C. power supply voltage are within specification. Use the 2 Volt A.C. setting on a digital V.O.M. and verify that the supply voltages are stable and do not contain any ripple or noise.

B: Check and verify that the video CPU assembly is correct for the game.

WARNINGS & NOTICES

WARNING

USE OF NON-MIDWAY PARTS OR CIRCUIT MODIFICATIONS MAY CAUSE SERIOUS INJURY OR EQUIPMENT DAMAGE! USE ONLY MIDWAY AUTHORIZED PARTS.

* For safety and reliability, substitute parts and modifications are not recommended.
* Substitute parts or modifications may void FCC type acceptance.
* Use only MIDWAY Manufacturing authorized components and parts. Failure to do so will void warranty and may result in incorrect and/or unsafe operation.
* This game is protected by federal copyright, trademark and patent laws. Unauthorized modifications may be illegal under federal law. This also applies to MIDWAY 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

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generated, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Prevent shock hazard and assure proper game operation. Only 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.

WARNING

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 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.

NOTICE

When MIDWAY ships a game, it is in compliance with FCC regulations. Your sticker is proof. If the sticker is missing or damaged, legal repercussions to the owner or distributor of the game may result. If your game does not contain an FCC sticker, call MIDWAY immediately.

NOTICE

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