



SPORTSTATION™

CHAPTER THREE

DIAGNOSTIC, AUDIT & ADJUSTMENT MENU SYSTEM FOR *NFL BLITZ 2000 GOLD EDITION* GAMES

	<p>NOTICE: Information in this manual is subject to change without notice. Midway reserves the right to make improvements in equipment as progress in engineering warrants.</p>
	<p>NOTICE: GAME-SELECTION SWITCH. Select <i>NBA Showtime</i> or <i>NFL Blitz 2000 Gold Edition</i> by flipping switch 8 at DIP bank U13. Then power down and up again. The Attract Mode for the game you select will appear. <i>The player can still play either game.</i></p>

MENU SYSTEM

WHAT IS THE MENU SYSTEM?

The game's Menu System is a series of auditing, game adjustment and diagnostic screens. You can easily access and apply these screens to optimize game performance. For instance...

- Use game audits screens to assess game performance.
- Use adjustment screens to help you to customize game performance. For instance, you can restore factory default game settings. You can also calibrate player controls for accuracy.
- Use diagnostic screens to verify proper equipment operation.

ACTIVATING THE MENU SYSTEM

Open the coin door. Find the TEST MODE switch inside. Press TEST MODE to invoke the Menu System. The game system responds by exiting Game Mode and entering Diagnostic Mode.

AUTOMATIC TESTS

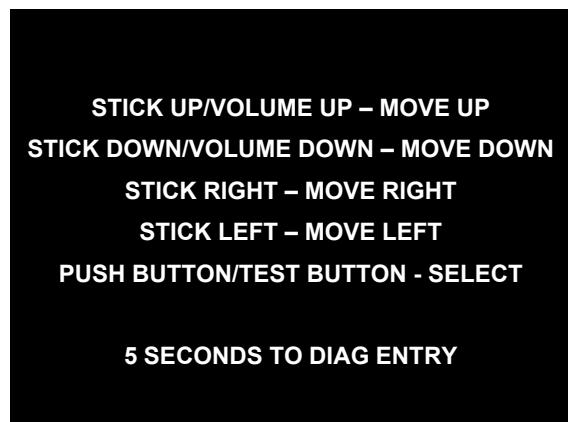
In Diagnostic Mode, the Power-On Self-Test (POST) activates. This routine runs automatically. It can detect faults that cause game or Menu System malfunctions. POST usually takes less than a minute. The test doesn't display anything. Instead, the system boot loader indicates the software revision number and serial numbers. The system boot loader also displays a sound-loading message and other useful information.

At the end of POST, the system displays the Control Functions Screen.

CONTROL FUNCTIONS SCREEN

The Control Functions Screen is purely informational. It appears for five seconds. Then the Menu System automatically displays the Dual Game Adjustment Screen.

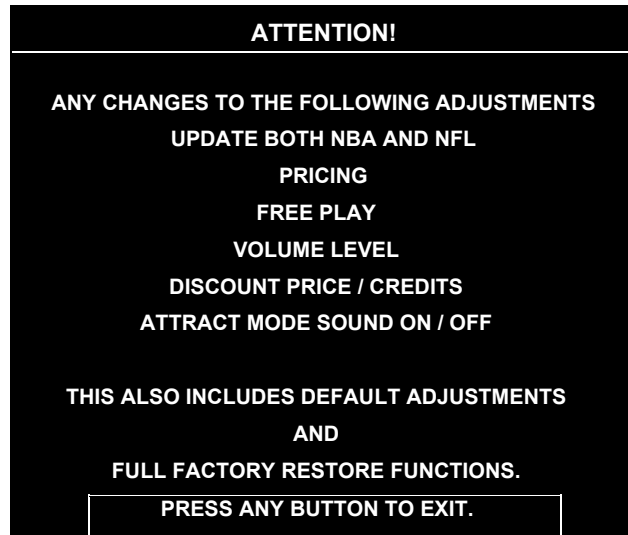
The Control Functions Screen introduces the menu navigation controls. The key point is that you can use either player or diagnostic controls to navigate menus. Diagnostic control switches are particularly helpful when you must troubleshoot player switches. This manual discusses the controls in more detail in this chapter's *Main Menu* section. Also see the page on the menu that interests you.



CONTROL FUNCTIONS SCREEN

DUAL GAME ADJUSTMENT SCREEN

The Dual Game Adjustment Screen is another informational, read-only screen. It appears until you choose to exit. This screen reminds you that some *NFL Blitz* settings also affect *NBA Showtime* game play. Press any button to exit to the Main Menu.



DUAL GAME ADJUSTMENT SCREEN

MAIN MENU

The Main Menu offers you access to the game machine's test, bookkeeping and programmable features. Game audits, adjustments and diagnostics are line items on the Main Menu. Selecting an item opens its submenu. Every submenu presents various options that you may act upon.



MAIN MENU

MENU LAYOUT

Menus differ, but related information tends to occupy the same screen locations.

- The block at the top, center of each screen displays the current menu title.
- Data (menu items, video signals, statistics, reports, etc.) appears in the center of the screen.
- Messages (explanations, control functions, revision levels) display at the bottom of the screen.

MENU NAVIGATION CONTROLS

Use any player panel joystick to highlight a desired menu item. *You can only select one highlighted item at a time.* To select a highlighted item, press any player panel button. Operator control buttons inside the coin door serve as backup menu navigation controls. Press VOLUME UP or VOLUME DOWN buttons to highlight a menu item. Press TEST MODE to select a highlighted item.

EXIT OPTIONS

To exit the NFL menus and simultaneously enter the NBA menus, choose NBA MAIN MENU. To return the game to play, highlight either EXIT TO NFL or EXIT TO NBA. Your choice determines the game that will boot. Next, press any button.

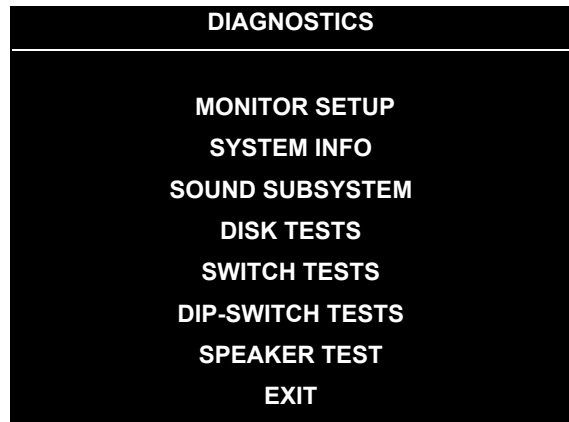
Main Menu (continued)

Diagnostics Menu

DIAGNOSTICS MENU

Select DIAGNOSTICS at the Main Menu. Diagnostic tests allow you to verify the condition of the electrical and electronic hardware in the game.

Highlight a test with any player panel joystick. Select the option with any player panel button.



DIAGNOSTICS MENU

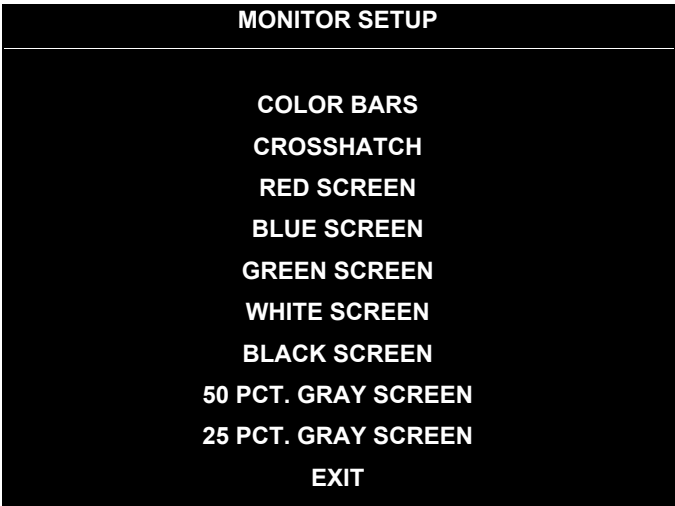
Diagnostic tests assist you in checking and adjusting the game's major systems. By running diagnostics, you can gain an insight into both system hardware and game software. Periodically running diagnostics is a crucial part of maintaining game performance and player satisfaction. Sometimes you can improve game performance by running a diagnostic test and making appropriate adjustments.

Main Menu (continued)
Diagnostics Menu (continued)
Monitor Setup Menu

MONITOR SETUP MENU

Select MONITOR SETUP at the Diagnostics Menu. The Monitor Patterns routine provides test screens to verify monitor performance or make adjustments.

Highlight an option with any player panel joystick. Select the option with any player panel button.



MONITOR SETUP MENU

Color Bars fills the screen with colored stripes. Use the color bars to help you to check or adjust monitor brightness and contrast. The color bars also expose defects in horizontal linearity. Each color bar consists of 32 intensity levels. On a properly adjusted monitor, the top 31 of these levels are visible. Each bar should appear sharp, clear and distinct from bars on either side. Incorrect adjustment can cause missing detail at the top or bottom of a bar. Bent bars indicate horizontal linearity flaws, such as pie crust, pincushion or barrel distortion. (*Correct color bar colors, left to right: Red, Green, Blue, Black, White, Cyan, Yellow, Violet.*) Set controls as follows: 1. Adjust BRIGHTNESS and CONTRAST to minimum. 2. Turn up BRIGHTNESS until the pixels in the black stripe begin to glow (turn dark gray). 3. Bring up the CONTRAST control until you can see 31 bars.

Crosshatch Patterns fill the screen with a grid and a series of dots. Crosshatch Patterns help you to check or adjust several monitor parameters: These include convergence, linearity, active viewing area and dynamic focus. The grid and the dots should be all white in color, with no fringes or parallel images. The lines should be straight and the dots round. For more detail on these adjustments, consult service literature from the monitor manufacturer.

Color Screen tests fill the screen with 100% of the chosen color at normal intensity. The Color Screen tests help you to check or adjust monitor intensity, black level, blanking and color purity. Each screen should be absolutely uniform from top to bottom and side to side. No retrace lines or noise should be visible. Color Screens may not hold their uniformity if the monitor degaussing circuit is defective.

White, Gray and Black Screens fill the screen with black, gray or white at various intensities. These monochrome screens help you to check or adjust monitor convergence, purity, contrast and intensity. These screens also simplify black level and color gun control settings. The screens should be uniform with no color tints or distortion. No retrace lines or noise should be visible.

If tests indicate a need for adjustment, use the controls on the Monitor Remote Adjustment Board.

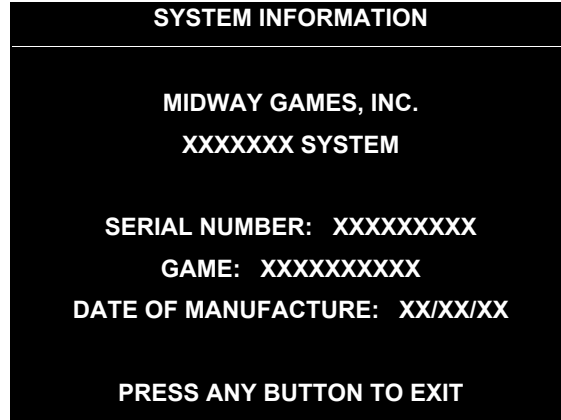
Main Menu (continued)

Diagnostics Menu (continued)

System Information Screen

SYSTEM INFORMATION SCREEN

Select SYSTEM INFO at the Diagnostics Menu. The System Information Screen provides the current version numbers of this game's hardware and software. Use these numbers to describe the system during parts replacement, service calls, etc.



SYSTEM INFORMATION SCREEN

The System Information screen reports information, but doesn't permit you to make changes. The Title line identifies the manufacturer of this game and the electronic board set used in this product. The Serial Number, Game and Date of Manufacture identify the game name and production run.

Main Menu (continued)

Diagnostics Menu (continued)

Sound Subsystem Test Menu

SOUND SUBSYSTEM TEST MENU

Select SOUND SUBSYSTEM at the Diagnostics Menu. Sound Subsystem Tests verify that audio components are connected and operate properly.

Highlight an option with any player panel joystick. Select the option with any player panel button.

```
SOUND SUBSYSTEM TEST

BOOT VERSION: XX.XX
SDRC VERSION: XX.XX
PORT STATUS: GOOD
CHECKSUM: XXXX
SRAM: OK
DRAM: OK
TONE STATUS: GOOD
OS VERSION: XX.XX

PRESS ANY BUTTON TO EXIT
```

SOUND SUBSYSTEM MENU

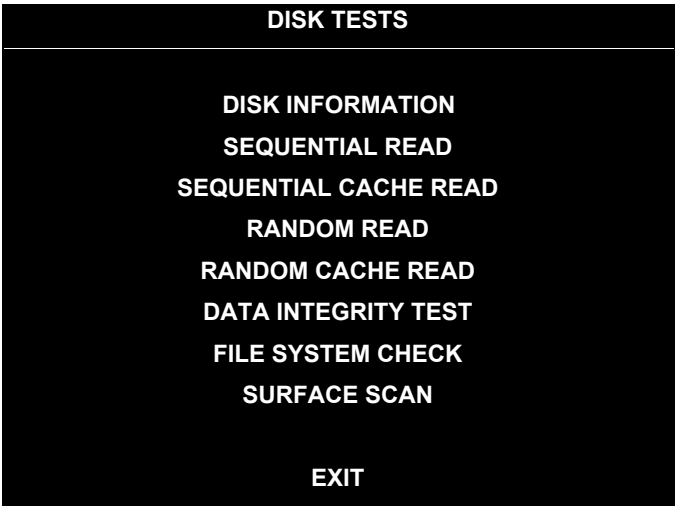
Version, Status, Checksum and RAM Reports are diagnostic routines. These routines analyze the digital sound circuits and can detect sound memory problems. Test results appear as numbers or messages. Sounds may also accompany some tests. Reports other than GOOD or OK indicate a problem.

Main Menu (continued)
Diagnostics Menu (continued)
Disk Tests Menu

DISK TESTS

Select DISK TESTS at the Diagnostics Menu. Disk Tests allow you to verify proper operation of the hard disk drive assembly.

Highlight an option with any player panel joystick. Select the option with any player panel button.



DISK TESTS MENU

Disk Information. The Disk Information routine verifies the interface between the CPU Board Assembly and hard disk drive. The processor requests disk information. Data cannot be retrieved successfully if there is a problem.

Sequential Disk Read. This routine tries to access every bit of data in the order it is stored directly on the disk. The hard disk drive media may be defective if this routine cannot be completed successfully.

Sequential Cache Read. This routine tries to access every bit of data in the order it is stored in the temporary disk memory cache. If this test is not successful, the memory circuits may be faulty.

Random Disk Read. This routine tries to access every bit of data in no particular order directly from the disk. This test may detect problems with ability to position the drive heads accurately over the requested data.

Random Cache Read. This routine tries to access every bit of data in no particular order from the temporary disk memory cache. If the cache fails this test, memory circuits may contain a fault.

Data Integrity Test. This test analyzes the data on the disk drive. The test determines if corrupted data is on the disk. Bad data can cause the program to falter even though the hard disk operates correctly.

File System Check. This routine performs a file-by-file check of the data stored on the hard disk.

Surface Scan. The magnetic material on the disk can become damaged, causing data to be unreadable. This routine locates unusable areas on the disk and marks them for future reference.

Main Menu (continued)

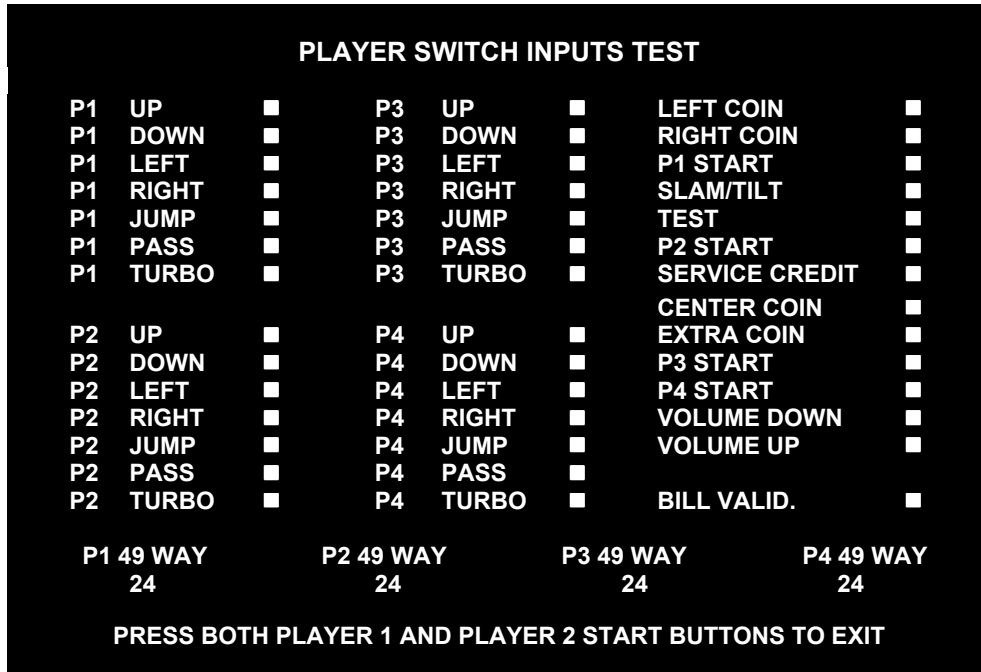
Diagnostics Menu (continued)

Switch Tests Menu

SWITCH TESTS MENU

Select SWITCH TESTS at the Diagnostics Menu. Switch Tests verify proper operation of the game's switches, including buttons and joystick switches.

Activate each switch, and the indicator on the screen changes state. Release the switch and the indicator returns to its previous, normally open or closed condition. You can test any combination of switches together. To exit the test, simultaneously press the middle two control buttons inside the coin door. The Switch Test Screen refers to these buttons as "volume buttons."



SWITCH TEST SCREEN

Switches appear on the screen as colored boxes. Red boxes indicate an open state. Green indicates closed. Any other color indicates a fault condition. A single indication on the menu screen should exactly duplicate a button or joystick change. You'll notice a unique number for a switch recognized by game electronics.

Use Switch Tests to locate crossed wires, intermittent conditions and stuck switches.



NOTICE: Some switches may not be used with this game. If you can't find one of the listed switches, check the wiring diagram.

Main Menu (continued)
Diagnostics Menu (continued)
DIP-Switch Tests Menu

DIP-SWITCH TESTS MENU

Select DIP-SWITCH TESTS at the Diagnostics Menu. Two 8-position DIP switch banks reside on the SIO Board. DIP-Switch Tests allow you to check the position of the 16 switches in these banks. You can change the setting of any DIP switch without removing the circuit board cage.

The screen displays an illustration of each switch block and the current settings. You can change DIP-switch positions with power on. Set any switch, and then check the screen to verify that the new setting is enabled.

Refer to the charts for assistance in choosing switch positions. (* indicates factory defaults.) To exit the DIP-switch Test, press the left control button (inside the coin door).

Attract Mode-Selection Switch. You can change which Attract Mode sequence the game displays. Select *NBA Showtime* or *NFL Blitz* by flipping switch 8 at DIP bank U13. Then power down and up again. Players can still play either game.

DIP Switch 1 (U13)		SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Coinage Control	DIP Switch CMOS	Off On*							
USA1	Ger1 Fr ECA1 UK1		Off*	Off*	Off*				
USA2	Ger2 Fr ECA2 UK2		On	Off	Off				
USA3	Ger3 Fr ECA3 UK3		Off	On	Off				
USA4	Ger4 Fr ECA4 UK4		On	On	Off				
USA5	Ger5 Fr ECA5 UK5		Off	Off	On				
USA9	Ger9 Fr ECA9 UK9		On	Off	On				
USA10	Ger10 Fr ECA10 UK ECA		Off	On	On				
USA	ECA / Ger ECA / Fr ECA8		On	On	On				
Free Play	(All Countries)		On	On	On				
Country	USA France Germany UK**					Off* On Off On	Off* Off On On		
Unused	-- --							Off* On	
Game	NBA Showtime NFL Blitz								Off* On

**Except Free Play, which is "on" for SW2 through SW6.

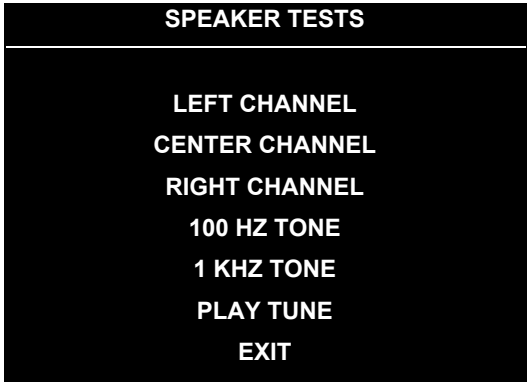
DIP Switch 2 (U12)		SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Joystick Type	8-Way 49-Way	Off On*							
Monitor Resolution	Medium Res Low Res		Off* On						
Unused	-- --			Off* On					
Unused	-- --				Off* On				
Unused	-- --					Off* On			
Player Panel Type	2-Player 4-Player						Off On*		
Power Up Test	Active Inactive							Off On*	
Operating Mode	Game Mode Test Mode								Off* On

Main Menu (continued)
Diagnostics Menu (continued)
Speaker Test Menu

SPEAKER TEST MENU

Select SPEAKER TEST at the Diagnostics Menu. The Speaker Test provides audio signals to test the loudspeakers.

Use tests on the Speaker Test menu to verify operation of audio system components. Highlight an option with any player panel joystick. Select the option with any player panel button.



SPEAKER TEST MENU

Channel and Tone Tests. The channel subtests employ voice announcements to verify speaker locations. Use the 100 Hz tone to check the speakers' bass response. Small speakers with weak magnets or poor baffles may cause poor bass response.

Play Tune repeats a series of game sounds. Use PLAY TUNE to check speaker operation and fidelity. If your game has stereo speakers, run PLAY TUNE and test speaker phasing. Muddy, weak or distorted sound during this test may indicate crossed wires or out-of-phase speaker connections. Missing sounds may indicate audio cabling errors.

	<p>NOTICE: Check the volume setting before testing. To test the speakers thoroughly, increase the volume level. Before returning to Game-Over Mode, reset the volume level to its original setting.</p>
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Main Menu (continued)

Audits Menu

AUDITS MENU

Select AUDITS at the Main Menu. The Audits menus permit you to review game play statistics. Additional menus give detailed reports for each player position on game starts, ends, cabinet abuse, fault conditions, etc.

Highlight an option with any player panel joystick. Select the option with any player panel button. The screen displays a list of the statistics available to you. Select an item to view the detailed report.



AUDITS MENU

Data in the Audits menus helps you to keep records of the game's popularity and earning potential. Use the highlight bar to select the desired subject on the Audits Menu. Each entry on the Audits Menu is the subject for an entire screen of bookkeeping information. On these screens, you can track favorite teams, frequently used offensive and defensive plays, etc.

Some audits menus also include histograms. Histogram screens allow graphical analysis of statistics. This permits visual comparisons between games. Histograms have no bar graphs until the system acquires enough data to plot.

Examine and record all game audit values before performing game service or repairs.



NOTICE: Be careful when clearing audit information. Once you clear data, you cannot restore it.

Main Menu (continued)
Audits Menu (continued)
Coin Audits Screen

COIN AUDITS SCREEN

Select COIN AUDITS at the Audits Menu. The Coin Audits Screen permits you to assess the currency collection. This report screen presents revenue quantities and other important game statistics. Coin Audits is a read-only screen.

To exit, press any player panel button.

COIN AUDITS – PAGE: 1	
LEFT SLOT COINS	XXXXXXXX
RIGHT SLOT COINS	XXXXXXXX
BILLS	XXXXXXXX
CENTER SLOT COINS	XXXXXXXX
EXTRA SLOT COINS	XXXXXXXX
GAME STARTS	XXXXXXXX
MID-GAME STARTS	XXXXXXXX
CONTINUES	XXXXXXXX
FREE QUARTERS	XXXXXXXX
AWARDED	XXXXXXXX
SERVICE CREDITS	XXXXXXXX
TOTAL PLAYS	XXXXXXXX
UP - NEXT / BUTTON - EXIT	

COIN AUDITS SCREEN, PAGE 1

The Coin Audits screen reports total quantities of coins, bills or credits collected by each active device. The screen doesn't calculate the value of the collected currency.

This screen reports information, but doesn't permit you to make changes. To reset the coin, bill and credit counters to zero, use the Clear Audits menu.

We recommend that you examine and record audit information before you make changes. Once you've cleared the counters, you can't retrieve the previous data from the system.

COIN AUDITS – PAGE: 2	
TOTAL PAID CREDITS	XXXXXXXX
TOTAL	XXXXXXXX
DOWN - PREV / BUTTON - EXIT	

COIN AUDITS SCREEN, PAGE 2

Main Menu (continued)

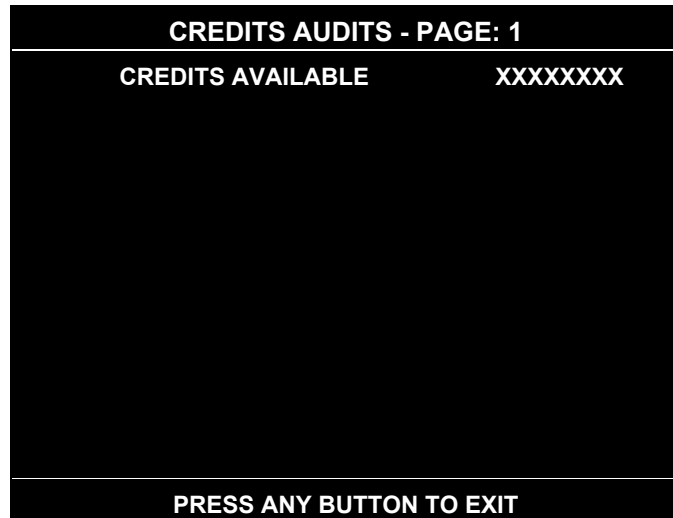
Audits Menu (continued)

Credits Audits Screen

CREDITS AUDITS SCREEN

Select CREDITS AUDITS at the Audits Menu. The Credits Audits Screen permits you to assess the currency collection. This report screen presents revenue quantities and other important game statistics. Credits Audits is a read-only screen.

To exit, press any player panel button.



CREDITS AUDITS SCREEN

Main Menu (continued)
Audits Menu (continued)
Game Audits Screen

GAME AUDITS

Select GAME AUDITS at the Audits Menu. The Game Audits Screen permits you to review the game play statistics. Game Audits is a read-only screen.

To exit, press any player panel button.

GAME AUDITS - PAGE: 1			
TOTAL UPTIME	XX	2 QUARTER GAMES	XX
TOTAL PLAY TIME	XX	3 QUARTER GAMES	XX
GAME STARTED	XX	4 QUARTER GAMES	XX
INITIALS ENTERED	XX	WENT INTO OVERTIME 1	XX
<FG> PURCHASED AT START	XX	WENT INTO OVERTIME 2	XX
CREATE PLAY SESSIONS	XX	WENT INTO OVERTIME 3	XX
1 PLAYER	XX	1 PLAYER FINISHES	XX
2 PLAYER	XX	2 PLAYER FINISHES	XX
3 PLAYER	XX	3 PLAYER FINISHES	XX
4 PLAYER	XX	4 PLAYER FINISHES	XX
2P V CPU	XX	2P V CPU FINISHES	XX
1 QUARTER GAMES	XX	H VS H LSW'S	XX
		CPU WINS (FG)	XX
		AVG H VS H TOTAL SCORE (FG)	XX
		AVG H VS CPU TOTAL SCORE (FG)	XX
		AVG H VS H WIN SCORE (FG)	XX
UP – NEXT / BUTTON - EXIT			

GAME AUDITS SCREEN, PAGE 1

The Game Audits screen reports information, but doesn't permit you to make changes. Examine and record information at GAME AUDITS before deleting data at the Clear Audits Menu. Once you've cleared the counters, you can't retrieve the previous data from the system.

GAME AUDIT MENU TERMS

SCREEN TERM	DEFINITION	SCREEN TERM	DEFINITION
AVG	Average	LSW	Your game computer's internal record-keeping counters
CPU	Central Processing Unit: The game computer	Machine Power-On	Number of power cycles (game turn-ons)
<FG>, (FG)	Full Game	OT	Overtime
H VS CPU	Human versus CPU: Competition that pits players against the game computer	P V	Player versus...
H VS H	Human versus human: Competition between human players	Total Uptime	Overall on-time for the game computer
		2PV	Two players versus...

GAME AUDITS - PAGE: 2

AVG H VS H LOSS SCORE	XX
(FG)	XX
BIGGEST CPU WIN MARGIN	XX
(fg)	XX
BIGGEST CPU LOSS	XX
MARGIN (fg)	XX
TLF'S	XX
SBLF'S	XX

DOWN – PREV / BUTTON - EXIT

GAME AUDITS SCREEN, PAGE 2

Main Menu (continued)
Audits Menu (continued)
Team Stats Screen

TEAM STATS

Select TEAM STATS at the Audits Menu. Team Stats details the number of games played by each team in the league. Team Stats is a read-only screen.

To exit, press any player panel button.

TEAM STATS – PAGE: 1			
ARIZONA CARDINALS	0	MINNESOTA VIKINGS	0
ATLANTA FALCONS	0	NEW ENGLAND PATRIOTS	0
BALTIMORE RAVENS	0	NEW ORLEANS SAINTS	0
BUFFALO BILLS	0	NEW YORK GIANTS	0
CAROLINA PANTHERS	0	NEW YORK JETS	0
CHICAGO BEARS	0	OAKLAND RAIDERS	0
CINCINNATI BENGALS	0	PHILADELPHIA EAGLES	0
CLEVELAND BROWNS	0	PITTSBURCH STEELERS	0
DALLAS COWBOYS	0	SAN DIEGO CHARGERS	0
DENVER BRONCOS	0	SAN FRANCISCO	0
DETROIT LIONS	0	SEATTLE SEAHAWKS	0
GREEN BAY PACKERS	0	ST. LOUIS RAMS	0
INDIANAPOLIS COLTS	0	TAMPA BAY BUCS	0
JACKSONVILLE JAGUARS	0	TENNESSEE TITANS	0
KANSAS CITY CHIEFS	0	WASHINGTON REDSKINS	0
MIAMI DOLPHINS	0		

PRESS ANY BUTTON TO EXIT

TEAM STATS SCREEN

Main Menu (continued)

Audits Menu (continued)

Offensive Plays Screen

OFFENSIVE PLAYS SCREEN

Select OFFENSIVE PLAYS at the Audits Menu. Offensive Plays accounts for each play type as a percentage of all offensive plays. Offensive Plays is a read-only screen.

To exit, press any player panel button.

OFFENSIVE PLAYS – PAGE: 1			
UPPER CUT	0%	REVERSE ZIP	0%
BLIZZARD	0%	SWEEP R/L	0%
HAIL MARY	0%	MIDDLE PICK	0%
TURMOIL	0%	DA BOMB	0%
BACK SPLIT	0%	UTB DEEP	0%
CRISS CROSS	0%	SUB ZERO	0%
DAWG HOOK	0%	SUPER FLY	0%
UP THE GUT	0%		
SCREEN	0%		
FIELD GOAL	0%		
FAKE FG	0%		
EXTRA POINT	0%		
PUNT	0%		
FAKE PUNT	0%		
HB BLOCK	0%		
SLANT R/L	0%		

PRESS ANY BUTTON TO EXIT

OFFENSIVE PLAYS SCREEN

Main Menu (continued)

Audits Menu (continued)

Defensive Plays Screen

DEFENSIVE PLAYS SCREEN

Select DEFENSIVE PLAYS at the Audits Menu. Defensive Plays accounts for each play type as a percentage of all defensive plays. Defensive Plays is a read-only screen.

To exit, press any player panel button.

DEFENSIVE PLAYS – PAGE: 1	
SAFE COVER	0%
GOAL LINE	0%
2 MAN BLITZ	0%
MEDIUM ZONE	0%
SUICIDE BLITZ	0%
DEEP ZONE	0%
1 MAN BLITZ	0%
NEAR ZONE	0%
ZONE BLITZ	0%
BLOCK FG	0%
BLOCK PUNT	0%
PUNT RETURN	0%

PRESS ANY BUTTON TO EXIT

DEFENSIVE PLAYS SCREEN

Main Menu (continued)
Audits Menu (continued)
Exception Dump Screen

EXCEPTION DUMP SCREEN

Select EXCEPTION DUMP at the Audits Menu. Game programmers use the Exception Dump Screen to view register contents during program development. This screen has no field purpose. Exception Dump is a read-only screen.

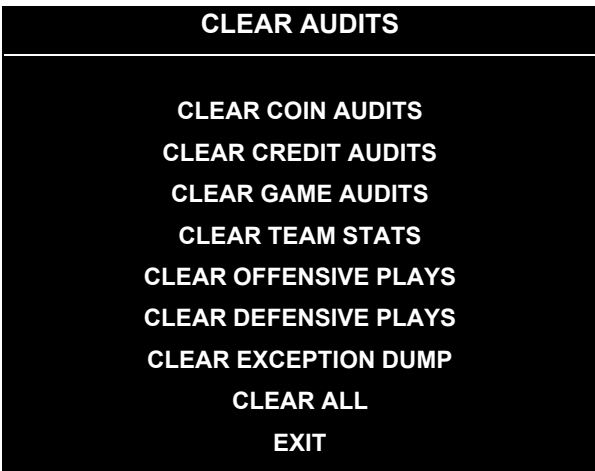
To exit, press any player panel button.

Main Menu (continued)
Audits Menu (continued)
Clear Audits Menu

CLEAR AUDITS

Select CLEAR AUDITS at the Audits Menu. The Clear Audits menu allows you to clear individual memory counters or to reset them all at once.

Highlight an option with any player panel joystick. Select the option with any player panel button.



CLEAR AUDITS MENU

You can reset any audit screen from the Clear Audits Menu. Choose an item and zero its counter. CLEAR ALL simultaneously changes all audit categories to factory default values. After you've selected an item, the system gives you the opportunity to escape this change. For example:



LAST CHANCE MENU

After you've selected and verified a clear function, the values reset. The system can't restore the previous values. Examine and record utility values before you make changes.

Main Menu (continued)

Adjustments Menu

ADJUSTMENTS MENU

Select ADJUSTMENTS at the Main Menu. The Adjustments menus permit you to change game characteristics. Use these screens to optimize game performance and earnings.

Highlight an option with any player panel joystick. Select the option with any player panel button.



ADJUSTMENTS MENU

Main Menu (continued)

Adjustments Menu (continued)

Pricing Menu

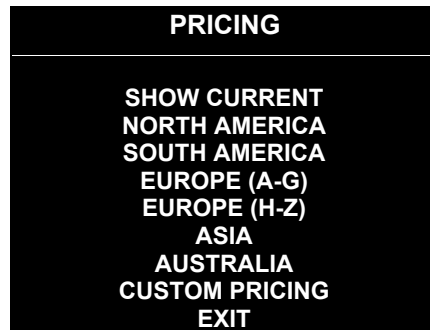
PRICING MENU

Select PRICING at the Adjustments Menu. The Pricing menus allow you to view current settings or change the cost of games. Custom pricing allows you to select the number of coins or credits required for each game. The game restores factory default values if you exchange the CPU Board or if the backup battery fails.

Highlight an option with any player panel joystick. Select the option with any player panel button.

You may reset options to factory defaults or change an option after viewing it. We recommend examining and recording pricing options before making changes.

You may save several custom prices and then choose between them as needed. On-screen instructions guide you through the process of creating custom price settings.



PRICING MENU

An additional box appears on screen to explain the available functions as you select each item.

STANDARD PRICING TABLE

NAME	START	CONTINUE	CREDITS/COIN	COIN 1	COIN 2	COIN 3	COIN4	BILL
ANTILLES	2	2	1/25¢, 4/1G	.25¢	1G			
AUSTRALIA 1	2	2	1/3X20¢, 2/\$1.00	.20¢	\$1.00			
AUSTRALIA 2	2	2	1/5X20¢, 1/\$1.00	.20¢	\$1.00			
AUSTRIA 1	2	2	1/5Sch, 2/10Sch	5 Sch	10 Sch			
AUSTRIA 2	2	2	1/2X5Sch, 3/2X10Sch	5 Sch	10 Sch			
BELGIUM 1	2	2	1/20BF	20BF	20BF			
BELGIUM 2	2	2	3/20BF	20BF	20BF			
BELGIUM 3	2	2	2/20BF	20BF	20BF			
BELGIUM ECA	2	2	1/20BF	50BF	20BF	5BF		
CANADA 1	2	2	1 / 2 x 25¢, 3 / \$1	25¢	25¢			
CANADA 2	2	2	1 / 2 x 25¢, 3 / \$1	25¢	\$1.00			
CANADA 3	2	2	3 / \$1.00, 6 / \$2.00	\$1.00	\$2.00			
CANADA ECA	2	2	1 / 2 x 25¢, 3 / \$1	25¢		\$1.00	\$2.00	
DENMARK	2	2	3/5DKr, 7/10DKr	5DKr	10DKr			
FINLAND	2	2	1/1Fmk	1Fmk	5Fmk			
FRANCE 1	2	2	2/5Fr, 5/10Fr	5Fr	10Fr			
FRANCE 2	2	1	2/5Fr, 4/10Fr	5Fr	10Fr			
FRANCE 3	2	1	1/5Fr, 3/10Fr	5Fr	10Fr			
FRANCE 4	2	1	1/5Fr, 2/10Fr	5Fr	10Fr			
FRANCE 5	2	1	2/5Fr, 5/10Fr, 11/2 X 10Fr	5Fr	10Fr			
FRANCE 6	2	1	2/5Fr, 4/10Fr, 9/2 X 10Fr	5Fr	10Fr			
FRANCE 7	2	1	1/5Fr, 3/10Fr, 7/2 X 10Fr	5Fr	10Fr			
FRANCE 8	2	1	1/5Fr, 2/10Fr, 5/2 X 10Fr	5Fr	10Fr			
FRANCE 9	2	1	1/3 X 1Fr, 2/5Fr	1Fr	5Fr			
FRANCE 10	2	1	1/2 X 1Fr, 3/5Fr	1Fr	5Fr			
FRANCE 11	2	1	1/3 X 1Fr, 2/5Fr, 5/2 X 5Fr	1Fr	5Fr			
FRANCE 12	2	1	1/2 X 1Fr, 3/5Fr, 7/2 X 5Fr	1Fr	5Fr			
FRANCE ECA 1	1	1	2/5Fr, 5/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 2	1	1	2/5Fr, 4/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 3	1	1	1/5Fr, 3/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 4	1	1	1/5Fr, 2/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 5	1	1	2/5Fr, 5/10Fr, 11/2 X 10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 6	1	1	2/5Fr, 4/10Fr, 9/2 X 10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 7	1	1	1/5Fr, 3/10Fr, 7/2 X 10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 8	1	1	1/5Fr, 2/10Fr, 5/2 X 10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 9	1	1	1/3 X 1Fr, 2/5Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 10	1	1	1/2 X 1Fr, 3/5Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 11	1	1	1/3 X 1Fr, 2/5Fr, 5/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 12	1	1	1/2 X 1Fr, 3/5Fr, 7/10Fr	1Fr	5Fr	10Fr	20Fr	
FRANCE ECA 13	1	1	1/10Fr, 2/20Fr, 4/30Fr	1Fr	5Fr	10Fr	20Fr	
FREE PLAY	--	--	--	None	None	None	None	None
GERMANY 1	2	2	1/1DM, 6/5DM	1DM	5DM			
GERMANY 2	2	1	1/1DM, 7/5DM	1DM	5DM			
GERMANY 3	2	1	1/1DM, 8/5DM	1DM	5DM			
GERMANY 4	2	1	1/1DM, 5/5DM	1DM	5DM			
GERMANY 5	2	1	1/1DM, 6/5DM	1DM	5DM			
GERMANY ECA 1	2	2	1/1DM, 2/2DM, 6/5DM	1DM	2DM	5DM		
GERMANY ECA 2	2	1	1/1DM, 2/2DM, 6/5DM	1DM	2DM	5DM		
GERMANY ECA 3	1	1	1/1DM, 2/2DM, 6/5DM	1DM	2DM	5DM		
HUNGARY	2	2	1/2X10Ft, 3/2X20Ft	10Ft	20Ft			
ITALY	2	2	1/500Lit	500Lit	500Lit			
JAPAN 1	2	2	1/100Yen	100	100			
JAPAN 2	2	2	2/100Yen	100	100			
NETHERLANDS	2	2	1/1HFI, 3/2.5HFI	1HFI	2.5HFI			
NEW ZEALAND 1	1	1	1/\$1	\$1	\$2			
NEW ZEALAND 2	1	1	2/\$1	\$1	\$2			
NORWAY	2	2	3/5NKr, 6/10NKr	5NKr	10NKr			
SPAIN 1	2	2	1/100Pta, 6/500Pta	100Pta	500Pta			
SPAIN 2	2	2	1/100Pta, 5/500Pta	100Pta	500Pta			
SWEDEN	2	2	1/3X1SKr, 2/5SKr	1SKr	5SKr			
SWITZERLAND 1	2	2	1/1SFr, 6/5SFr	1SFr	5SFr			
SWITZERLAND 2	2	2	1/1SFr, 7/5SFr	1SFr	5SFr			
SWITZERLAND 3	2	2	1/1SFr, 8/5SFr	1SFr	5SFr			

(Table continues on next page)

STANDARD PRICING TABLE, *continued*

NAME	START	CONTINUE	CREDITS/COIN	COIN 1	COIN 2	COIN 3	COIN4	BILL
UK ECA 1	1	1	1/50p, 3/£1.00	£1.00	50p	20p	10p	£2.00
UK ECA 2	1	1	1/50p, 2/£1.00	£1.00	50p	20p	10p	£2.00
UK ECA 3	1	1	1/30p, 2/50p, 5/£1.00	£1.00	50p	20p	10p	£2.00
UK 4	1	1	1/50p, 3/£1.00	£1.00	50p			
UK 5	1	1	1/50p, 2/£1.00	£1.00	50p			
UK ECA 6	1	1	1/30p, 2/50p, 4/£1.00	£1.00	50p	20p	10p	£2.00
UK ECA 7	1	1	3/£1.00	£1.00	50p	20p	10p	£2.00
UK ECA 8	1	1	1/50p, 2/£1.00, 4/£2.00	£1.00	50p	20p	10p	£2.00
USA1	2	2	1/25¢	25¢	25¢			\$1.00
USA2	2	1	1/25¢	25¢	25¢			\$1.00
USA3	1	1	1/25¢	25¢	25¢			\$1.00
USA4	1	1	1/50¢, 3/\$1.00	25¢	25¢			\$1.00
USA5	2	1	1/50¢, 4/\$1.00	25¢	25¢			\$1.00
USA6	1	1	1/50¢	25¢	25¢			\$1.00
USA7	1	1	1/50¢, 3/\$1.00	25¢	25¢			\$1.00
USA8	2	2	1/50¢, 4/\$1.00	25¢	25¢			\$1.00
USA9	3	2	1/25¢, 4/\$1.00	25¢	25¢			\$1.00
USA10	3	3	1/25¢, 4/\$1.00	25¢	25¢			\$1.00
USA11	4	2	1/25¢, 4/\$1.00	25¢	25¢			\$1.00
USA12	4	3	1/25¢, 4/\$1.00	25¢	25¢			\$1.00
USA13	4	4	1/25¢, 4/\$1.00	25¢	25¢			\$1.00
USA ECA	3	3	1/25¢, 4/\$1.00	\$1.00	25¢	10¢	05¢	\$1.00

Main Menu (continued)
Adjustments Menu (continued)
Pricing Menu (continued)
Current Pricing Screen

Current Pricing Screen

Select SHOW CURRENT at the Pricing Menu. The Current Pricing Screen is a read-only screen. Use it to check pricing parameters for the pricing table your game is using. To select a new pricing table, return to the Pricing Menu. To invent your own pricing table, select Custom Pricing on the Pricing Menu.

Press any player panel button to exit.

CURRENT PRICING	
LEFT SLOT UNITS	XX
RIGHT SLOT UNITS	XX
CENTER SLOT UNITS	XX
EXTRA SLOT UNITS	XX
BILL VALIDATOR UNITS	XX
UNITS PER CREDIT	XX
UNITS PER BONUS	XX
MINIMUM UNITS	XX
CREDITS TO START	XX
CREDITS TO CONTINUE	XX
MAX CREDITS	XX
COINS PER BILL	XX
PRESS ANY BUTTON TO EXIT	

CURRENT PRICING SCREEN

The following table clarifies Pricing Menu terms:

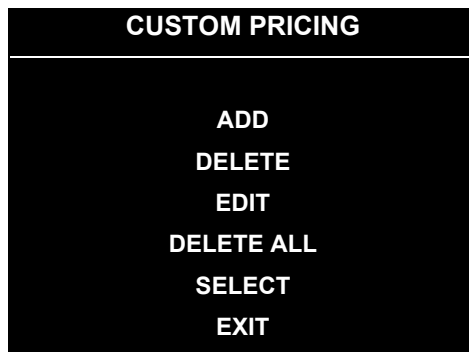
SCREEN TERM	DISCUSSION
Slot Units; Bill Validator (DBV) Units	Cyber-currency. This adjustment assigns a number of "units" to each coin mechanism or bill acceptor. For instance, if a quarter buys 1 unit, then \$1 buys 4 units. (<i>See Coins per Bill.</i>) You insert a coin into a 1-unit coin acceptor. The system, due to its programming, knows that your coin is worth one unit.
Units per Credit	How many units equal one credit. (Units buy credit, the price of one game.)
Units per Bonus	Units awarded when a player earns a bonus.
Minimum Units	Until this many units accumulate, the system awards no credits.
Credits to Start	Number of games a player must purchase to begin play.
Credits to Continue	Number of games a player must purchase to resume play.
Max Credits	Limits the number of credits that the game will accept.
Coins per Bill	How many coins one bill is worth.

Main Menu (continued)
Adjustments Menu (continued)
Pricing Menu (continued)
Custom Pricing Menu

Custom Pricing

Select CUSTOM PRICING at the Pricing Menu. The Custom Pricing Menu permits you to program and use your own pricing table. You can save several pricing schemes and chose between them as desired.

Highlight an option with any player panel joystick. Change the option with any player panel button. Press any START button to save your pricing table and exit from the menu.



CUSTOM PRICING OPENING MENU

Add allows you to write a new custom pricing scheme. If you choose ADD, the system directs you to...

- [] 1. Name your scheme.
- [] 2. Program pricing information.
- [] 3. Select the coin denomination for your scheme.
- [] 4. Compose a pricing screen message.

Delete permits you to eliminate a single custom pricing scheme.

Edit lets you modify a stored custom pricing scheme.

Delete, when enabled, clears all custom pricing schemes.

Select enables you to choose which custom pricing scheme is the active one.

Main Menu (continued)
Adjustments Menu (continued)
Pricing Menu (continued)
Custom Pricing Menu (continued)
Creating Pricing Scheme Menu

Creating Pricing Scheme Menu

After you name your custom pricing scheme, you encounter the Creating Pricing Scheme Menu. This menu is where you program the pricing scheme. You can save several pricing schemes and chose between them as desired.

Highlight an option with any player panel joystick. Select Change Mode with with any player panel button. Use a joystick to change the option. Save your setting by pressing any player panel button. Press any START button to save your pricing table and exit from the menu.

CREATING XXXX			
LEFT UNITS	XX	RIGHT UNITS	XX
CENTER UNITS	XX	EXTRA UNITS	XX
DBV UNITS	XX	UNITS PER CREDIT	XX
UNITS / BONUS	XX	MINIMUM UNITS	XX
CREDITS TO START	XX	CREDITS TO CONT.	XX
MAX CREDITS	XX	COINS / BILL	XX
SHOW FRACTIONS	XX	LEFT COUNT	XX
RIGHT COUNT	XX	CENTER COUNT	XX
EXTRA COUNT	XX	DBV COUNT	XX
USE STICK TO SELECT AN ITEM TO MODIFY			
PRESS ANY BUTTON TO MODIFY THE ITEM			
PRESS ANY START BUTTON TO SAVE AND EXIT			

CUSTOM PRICING MENU

The Custom Pricing Menu employs the same terms that appear on the Current Pricing Table. See the table below for definitions of these terms.

PRICING MENU TERMS

SCREEN TERM	DISCUSSION
Slot Units; Bill Validator (DBV) Units	Cyber-currency. This adjustment assigns a number of "units" to each coin mechanism or bill acceptor. For instance, if a quarter buys 1 unit, then \$1 buys 4 units. (<i>See Coins per Bill.</i>) You insert a coin into a 1-unit coin acceptor. The system, due to its programming, knows that your coin is worth one unit.
Units per Credit	How many units equal one credit. (Units buy credit, the price of one game.)
Units per Bonus	Units awarded when a player earns a bonus.
Minimum Units	Until this many units accumulate, the system awards no credits.
Credits to Start	Number of games a player must purchase to begin play.
Credits to Continue	Number of games a player must purchase to resume play.
Max Credits	Limits the number of credits that the game will accept.
Coins per Bill	How many coins one bill is worth.

BASIC CUSTOM PRICING. Custom pricing creates an imaginary currency exchange. In this currency exchange, the coins of the realm are “units.” Think of units as a type of cyber-currency, useful only within the game software. By inserting coins, you purchase units.

Since units are only negotiable within game software, the system stores your units for you. When the system receives enough units, it buys a game for you. The price of a game is one “credit.” You can think of credits as a second form of cyber-currency.

Even though you’ve now bought one game, you may not be able to begin playing. In many pricing schemes, you must buy two or more credits to begin play. The idea here is something like a minimum order of goods at a store. That is, the operator can “shrink-wrap” two or more games in a package. You can’t play unless you buy the entire package.

•**1 / 25¢ COIN; 1 CREDIT TO START.** In a simple, quarter pricing scheme, the player inserts one coin to buy one unit. The system exchanges that unit for one credit. If CREDITS TO START contains the value one, then play commences. A dollar bill buys four units.

Left Slot Units	Validator Units	Units / Credit	Credits to Start	Coins / Bill
1	4	1	1	4

•**1 / 3 X 25¢; 2 CREDITS TO START.** Again, assuming quarter slots, here’s one way to implement 75¢ pricing... In this scheme, each coin that the player inserts buys one unit. The system exchanges three units for one credit. CREDITS TO START contains the value two. To play, the player must pay for two credits. In this scheme, a dollar buys four units.

Left Slot Units	Validator Units	Units / Credit	Credits to Start	Coins / Bill
1	4	3	2	4

•**2 / 1 COIN; 6 CREDITS TO START.** Now let’s consider a more unusual pricing scheme. Here, the player can buy two units with one coin. The system exchanges each of these units for one credit. Notice that CREDITS TO START contains the value six. To play, the player must insert two more coins to pay for six credits. Also notice that if the player pays with a bill, the system throws in an extra unit.

Left Slot Units	Validator Units	Units / Credit	Credits to Start	Coins / Bill
2	9	1	6	4

Main Menu (continued)
Adjustments Menu (continued)
Pricing Menu (continued)
Custom Pricing Menu (continued)
Screen Message Menu

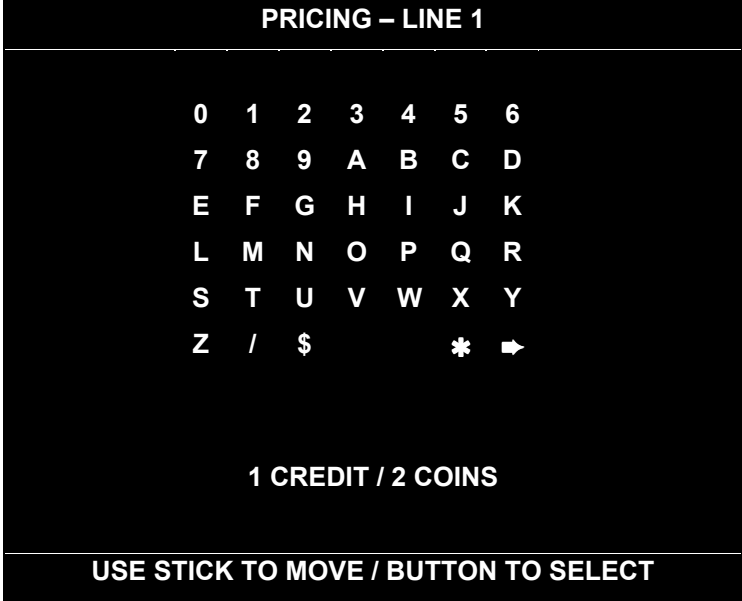
Screen Message Menu

Towards the end of the Custom Pricing Menus, you encounter the Screen Message Menu. The Screen Message Menu allows you to enter a brief pricing or advertising message. The video game machine displays your message during the Attract Mode.

You may enter one or two lines of text. Each line may include up to 32 alphanumeric characters. Here's an example of a typical message...

1 CREDIT / 2 COINS
EAT AT JOE'S

Highlight a letter with any player panel joystick. Select the letter with any player panel button. Delete the rightmost character of the default message by selecting the on-screen asterisk (*). Watch the bottom of the screen to see your message line develop. Save the entire line and proceed to the second line by selecting the arrow (>).



SCREEN MESSAGE MENU

After you complete your message, you may edit it by reentering the Screen Message Menu. To reenter the menu, choose EDIT from the Custom Pricing Menu.

Main Menu (continued)
Adjustments Menu (continued)
Free Play Menu

Free Play Menu

Select FREE PLAY at the Adjustments Menu. Free play is a useful feature for promotions and long-term testing under play conditions. Enable free play to allow players to play the game without inserting currency. Disable free play to sell games.

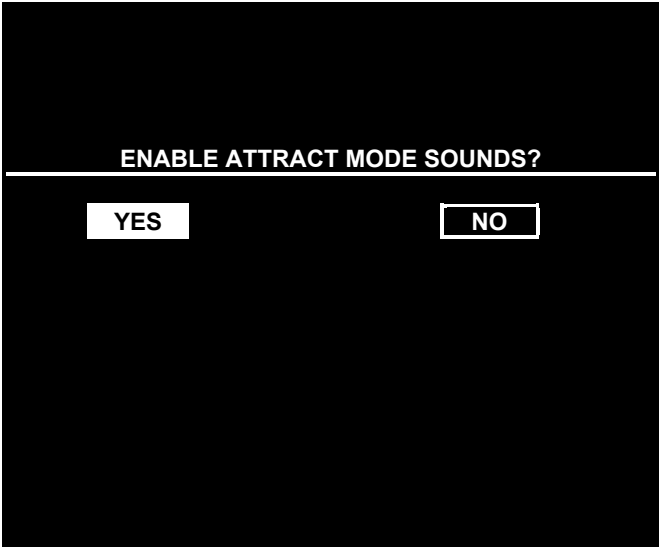
Highlight an option with any player panel joystick. Select the option with any player panel button.

Main Menu (continued)
Adjustments Menu (continued)
Attract Sound Menu

Attract Sound

Select ATTRACT SOUND at the Adjustments Menu. The Attract Mode operates between games. It attempts to lure prospective players into trying your game. Attract Mode sound may not be appropriate for some locations. The Attract Sound Menu allows you to enable or disable the Attract Mode sound feature. You can turn Attract Mode sound on or off without changing the game volume level.

Highlight an option with any player panel joystick. Select the option with any player panel button.



ATTRACT SOUND MENU

Main Menu (continued)
Adjustments Menu (continued)
Additional Adjustments Menu

ADDITIONAL ADJUSTMENTS MENU

Select ADDITIONAL ADJUSTMENTS at the Adjustments Menu. Additional Adjustments menu items allow you to set the game to match player requirements. These adjustments affect speed, challenge, rewards, etc. that determine player enjoyment.

Highlight an option with any player panel joystick. Select the option with any player panel button.



ADDITIONAL ADJUSTMENTS MENU

Game Difficulty allows you to alter the challenge that a game poses to players. Choose the level that most closely matches the players' skills.

Discount Price / Credits adjusts the quantity of buy-in points to encourage multiple game purchases.

Clock Speed alters how much game time that a player can purchase for one credit. Choose one of these settings: Extra slow, slow, medium, fast or extra fast.

Operator Message. Enter your own, custom message at this menu. Program the message to turn on at the appropriate day and time.

Free Games and Free Quarters. Use these features to provide incentives to good players.

Violence. You can remove violence from the game without affecting other game play characteristics.

Bad Language. You can remove rough language without affecting other game play characteristics.

Clear Player Records allows you to delete stored game play data.

Tournament Mode, when enabled, adapts your game's scoring for tournament-style play.

Attract Movie Sound, when enabled, allows Attract Mode movie sound with Attract Mode sound off. The Attract Mode movie is only one component of the Attract Mode graphics.

Main Menu (continued)

Adjustments Menu (continued)

Full Factory Restore Menu

FULL FACTORY RESTORE MENU

Select FULL FACTORY RESTORE at the Adjustments Menu. The Full Factory Restore menu allows you to clear all memory counters at once.

Highlight an option with any player panel joystick. Select the option with any player panel button.

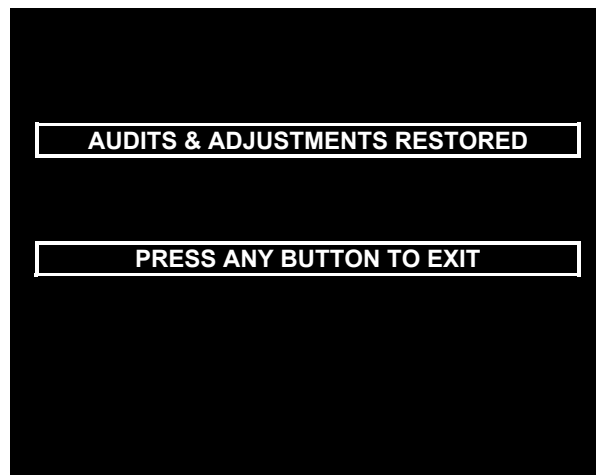


FULL FACTORY RESTORE MENU



NOTICE: Examine and record audit information before you make changes. Once you've cleared the counters, you can't retrieve previous data from the system.

Examine and record utility values before you make changes. If you choose YES, the system restores all adjustments and audits to factory default values. This change isn't reversible. The system can't restore the previous values. With the settings restored, the system displays the Reset CompletedScreen.



RESET COMPLETED SCREEN

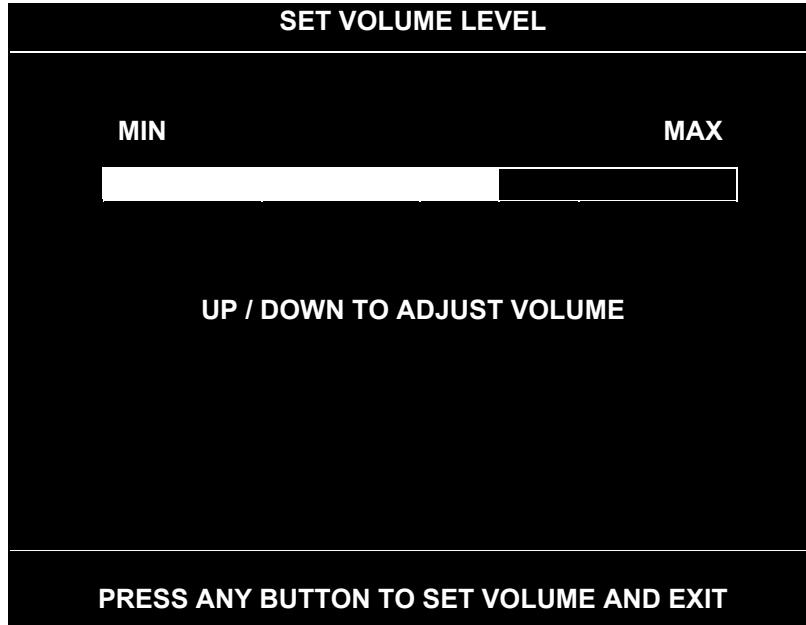
Main Menu (continued)

Volume Level Menu

VOLUME LEVEL

Select VOLUME LEVEL at the Main Menu. Music plays continuously with the Volume Level Menu.

Raise or lower the game's sound level with any player panel joystick. (You can also use the volume up/down buttons on the diagnostic switch bracket.) Save your change and return to the Main Menu by pressing any player panel button.



VOLUME LEVEL MENU

Loud games attract more player interest than games with low-level sound. The Attract Mode sound level is lower than the game play sound level.

You can turn Attract Mode sound on or off without changing the game volume level (see Adjustments).



NOTICE: These adjustments affect the volume of tests as well as of game play. If you set volume levels to minimum (zero), the speakers are silent during audio tests. We recommend setting volume levels to a moderately high value whenever you perform sound tests. After you complete tests, you may return sound levels to previous settings.

Main Menu (continued)

Utilities Menu

UTILITIES MENU

Select UTILITIES at the Main Menu. Utilities Menu items allow you to clear bookkeeping totals. From the Utilities Menu, you can also restore game adjustments to factory settings.

Highlight an option with any player panel joystick. Select the option with any player panel button.



UTILITIES MENU

Dump Audits allows you to send data to the game computer's serial port. You can connect a serial printer to make a paper record of your audit data.

Clear Credits opens a menu that allows you to zero the game's credit data. Examine and record audit information before you make changes.

Clear Audits opens a menu that allows you to zero the game's audit data.

Reset High Scores permits you to delete player names and scores that appear in the Attract Mode. This feature may be useful if players insert inappropriate language into the high score table.

Default Adjustments opens a menu that allows you to reset game adjustments to factory settings.

Full Factory Restore allows you to reset game adjustments and audits to factory settings.



NOTICE: Be careful when clearing audit information. Once you clear data, you can't restore it.