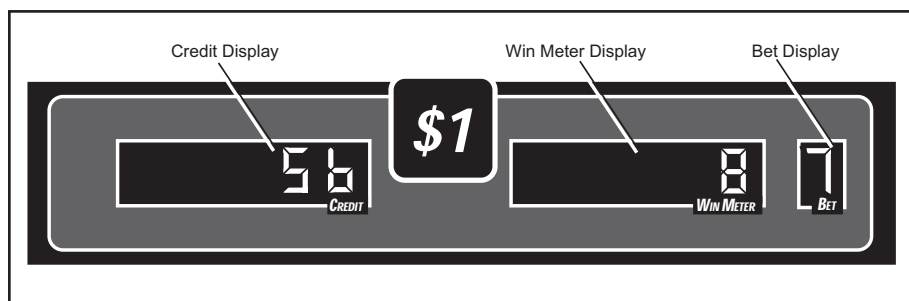


Chapter 2. Diagnostic and Adjustment Software

Using Administration Mode

Your slot machine's game software includes facilities for diagnosing problems and verifying feature operation. This software also helps you to adjust game features and performance. You can access slot machine diagnostic and adjustment functions from the Administration Mode.

Slot machine software presents Administration Mode information as numeric codes on the LED displays. The software arranges the tests and setup features in series. A test series number appears on the Bet Display. The Credit and Win Meter displays convey information about each test series. *See the display illustration below.*



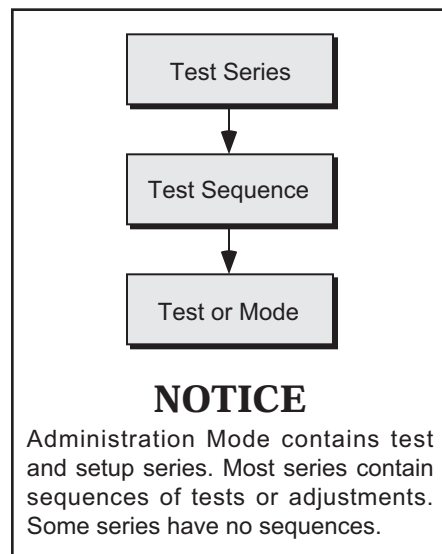
Administration Mode contains several series of test and setup options. (The *Administration Mode* table lists the series.) Each series contains numbered options. In some series, these options are tests or adjustments. In other series, the options are sequences of tests or adjustments.

Enter Administration Mode

- ❑ 1. You can enter Administration Mode while the machine operates in *Game-Over Mode* or *Tilt Mode*. (The slot machine enters Game-Over Mode between games. In this mode, no bet or jackpot is pending and the hopper is inactive. Tilt Mode means that a tilt prevents game play.) Unlock and open the machine's Main Door. The words, "door oPEn" appear on the Credit and Win Meter displays. The Bet Display is blank.
- ❑ 2. Press the DIAGNOSTIC button to select a test or setup series. You'll find this button inside the Main Door, on the front of the Card Cage Door. A zero appears on the Bet Display. This number identifies an Administration Mode test series. Typically, data for that series appears in the Credit and Win Meter displays.
- ❑ 3. Repeatedly press DIAGNOSTIC to advance through Administration Mode series. *Continue until you find the desired test series.* As in Step 2, series data usually appears on the other two displays.

NOTICE

This chapter covers slot software up to v. 5.09.



NOTICE

Administration Mode contains test and setup series. Most series contain sequences of tests or adjustments. Some series have no sequences.

Administration Mode

Series	Subject
0	Host Communications, Sound Volume; Demo, Cash and Credit Modes, Reel Speed, Etc.
1	Input Tests
2	Output Tests
3	Hopper Test
4	Pay Table Test
5	Reel Strip Test
6	Denomination Setting
7	Maximum Hopper Payout
8	Hopper Partial Pay Limit
9	Progressive ID and Level
10	Lamp Test and Custom Features Tests

NOTICE

You can't change Administration Mode selections from Tilt Mode. To change settings, you must be in Game-Over Mode. To enter Game-Over Mode, open and close the Main Door. Opening and closing the Main Door also clears most tilts.

NOTICE

You can use *either* the SPIN REELS button or the SLOT HANDLE to initiate tests. For simplicity, this chapter only mentions the SPIN REELS button.

NOTICE

You can use *either* the JACKPOT RESET KEY or MAX BET to select tests. For simplicity, this chapter only mentions the JACKPOT RESET KEY.

NOTICE

In this manual, switch or button names appear in CAPITAL letters. For example, this manual often instructs you to “press DIAGNOSTIC.” DIAGNOSTIC is the DIAGNOSTIC button behind the Main Door. See the table *Administration Mode Controls* for other common switch names.

Administration Mode Controls

Switch	Administration Mode Function
• DIAGNOSTIC	Enters and advances through Administration Mode test series, sequences
• JACKPOT RESET KEY	Selects tests within a series or sequence
• MAX BET	Usually has same effect as JACKPOT RESET KEY
• SLOT HANDLE	Same effect as SPIN REELS
• SPIN REELS	Initiates tests (<i>except for input tests</i>); selects setup options

Perform Test and Setup Functions

- 1. Turn the JACKPOT RESET KEY to select a test within a series or sequence. You'll find the JACKPOT RESET KEY switch near the SLOT HANDLE. Insert and turn the key.
- 2. Press the SPIN REELS button to initiate a test. SPIN REELS is on the player panel. The button lights up to remind you to start the test.

Exit Administration Mode

To exit Administration Mode, either...

- Close the Main Door (*except during Door Switch Test, Series 1, Test 13*).
- Repeatedly press DIAGNOSTIC until "door open" appears on the display. Displays that read this way indicate Door-Open Mode, one of many slot machine states. When a game reports a tilt condition, the LED displays indicate the tilt type ("coinJ," "HPrE," etc).

Administration Mode Displays

This chapter introduces an Administration Mode series or sequence with a highlighted table. (A test series may contain several *test sequences*.) Each table presents initial values for the Credit, Win Meter and Max Bet displays. These values document the way a typical display reads before you make adjustments. Sometimes, a series and its first sequence display identical values. In that case, a table appears only at the sequence. *Take a look at the table for Series 0, Sequence 1 below...*

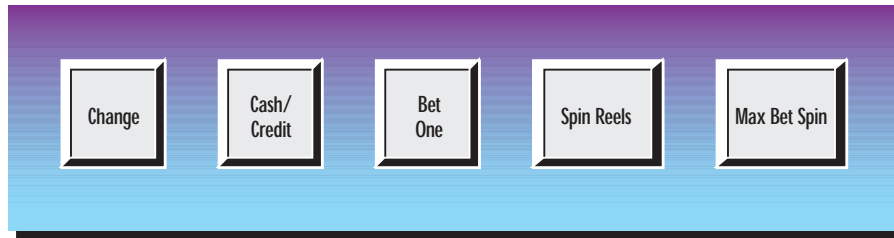
Series 0. Host Communications, Sound Volume; Demo, Cash and Credit Modes, Reel Speed, Etc.

Series 0 includes 10 sequences... Sequences 1 and 2 deal with host communications protocol. Sequences 3 through 6 affect the sound system. Sequence 7 is Reel Speed. Sequences 9 and 10 enable special game modes.

Series 0 Host Communications Protocol is the first sequence in Administration Mode.

Supported Host Protocols

Credit Display	Protocol
NONE	No Host Communication
SAS	IGT System
SdS	Bally System
ACP	WMS Protocol



Player Panel Buttons

NOTICE

Older machines use a CALL ATTENDANT button, instead of the CHANGE button shown.

Sequence 1. Host Communications Protocol

Initial Display Values:

Credit	Win Meter	Bet
NONE	ON	0

The Credit Display provides a mnemonic for a host communications protocol. The Win Meter Display indicates whether this mnemonic represents the selected protocol. "On" identifies the selected protocol.

Your slot machine supports several protocols. See the table *Supported Host Protocols*.

Slot machines that use protocols with configurable addressing display Sequence 1.

- To view each protocol, turn the JACKPOT RESET KEY.
- To select a protocol, press SPIN REELS. If you aren't using a host system, select "NONE."
- To save settings, skip Sequence 2 and enter Sequence 3, press the DIAGNOSTIC button.

NOTICE

You can exit Administration Mode and save changes anytime by closing the Main Door.

Sequence 2. Machine Protocol Address (SAS)

Initial Display Values:

Credit	Win Meter	Bet
Addr	3-Digit No.	0

The Credit Display contains the expression, "Addr," the abbreviation for "Address." The Win Meter Display indicates the slot machine's communication address. If you haven't set the address yet, three zeros appear. You can vary this level from 0 to 127. The flashing digit indicates the first value to set.

- To change the flashing digit value, press SPIN REELS one or more times.
- To advance to the next digit, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left. Suppose that the flashing digit is the leftmost one: Return to the rightmost digit by turning the JACKPOT RESET KEY one more time.
- To delete a protocol and replace it with another one, turn the JACKPOT RESET KEY. Turn the key again, as necessary, until you locate the

desired new protocol. Set values at the new protocol, as above. The new protocol now replaces the previously set protocol.

- *To save settings and enter Sequence 3, press the DIAGNOSTIC button.*

Manual Sound System

Some game software includes a manual user interface for sound volume settings. Other game software incorporates an automated user interface. Your game software employs either interface, but not both. The interface type affects Series 0, sequences 3, 4 and 5. Your machine has either the manual or the automated version of these three sequences. This manual describes both versions. Here's how the manual sound user interface behaves...

Sequence 3. Normal Sound Volume (*Manual*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 1	3-Digit No.	0

Normal Sound Volume controls regular game sounds during normal game operation. (For example, credit bet and coin-in sounds, and most smaller awards tunes.) The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to 255. The flashing digit indicates the first value to set. During Sequence 3, you can toggle the sound on or off with the lit MAX BET button. Pressing MAX BET, you hear the credit/bet sound at the new volume level. Use this sound to determine the effect of your adjustment.

- *To change the flashing digit value, press SPIN REELS one or more times.*
- *To advance to the next digit, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left. Suppose that the flashing digit is the leftmost one: Return to the rightmost digit by turning the JACKPOT RESET KEY one more time.*
- *To save settings and enter Sequence 4, press the DIAGNOSTIC button.*

Sequence 4. Large Hit Sound Volume (*Manual*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 2	3-Digit No.	0

Large Hit Sound Volume controls volume during a large award payout. (How large is "large"? "Large" is game specific, but a rule of thumb applies: *Usually a large hit exceeds 50 credits.*) Typically, *Large Hit Sound Volume* is much louder than normal volume. Use *Large Hit Sound Volume* to draw attention to the machine during large wins. The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to

255. The flashing digit indicates the first value to set. You can toggle the sound on or off with the lit MAX BET button. Pressing MAX BET, you hear the large award tune at the new volume level. Use this sound to determine the effect of your adjustment.

- *To change the flashing digit value*, press SPIN REELS one or more times.
- *To advance to the next digit*, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left. Suppose that the flashing digit is the leftmost one: Return to the rightmost digit by turning the JACKPOT RESET KEY one more time.
- *To save settings and enter Sequence 5*, press the DIAGNOSTIC button.

Sequence 5. Top Award Sound Volume (*Manual*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 3	3-Digit No.	0

Top Award Sound Volume controls volume when a player hits the top award. (Typically, this award is a jackpot.) Usually operators set this volume nearly wide open to draw attention to the machine. The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to 255. The flashing digit indicates the first value to set. You can toggle the sound on or off with the lit MAX BET button. Pressing MAX BET, you hear the jackpot tune at the new volume level. Use this sound to determine the effect of your adjustment.

- *To change the flashing digit value*, press SPIN REELS one or more times.
- *To advance to the next digit*, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left. Suppose that the flashing digit is the leftmost one: Return to the rightmost digit by turning the JACKPOT RESET KEY one more time.
- *To save settings and enter Sequence 6*, press the DIAGNOSTIC button.

Automated Sound System

Some game software includes an automated user interface for sound volume settings. This automated interface operates differently than the manual interface already described. Automated versions of Sequences 3, 4 and 5 replace manual versions that we've described above. Here's how the automated sound user interface behaves...

Dotmation Display. On Dotmation games (such as *Winning Streak*), settings and instructions appear in the Dotmation screen. (See the illustrations Automatic Sound Screen 1 and Automatic Sound Screen 2.) Instructions also appear on LED displays.

Automatic Sound Screen 1

VOLUME SETTINGS
 NORMAL VOL: 03
 SPIN REELS LOWERS VOLUME
 MAX BET RAISES VOLUME
 BET 1 MUTES SOUND

Automatic Sound Screen 2

VOLUME SETTINGS
 NORMAL VOL: 09
 > FEATURE VOL: AUTO
 JACKPOT VOL: AUTO
 BET 1 MUTES SOUND

NOTICE

The Automated Sound Value Range is 0 to 63, instead of 0 to 255. Sound level 63 in the automated sound system equals level 255 in the manual system. The automated system's volume 25 (Snd 1) equals the manual system's starting volume 30.

Sequence 3. Normal Sound Volume (*Automated*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 1	3-Digit No.	0

Normal Sound Volume controls regular game sounds during normal game operation. (For example, credit bet and coin-in sounds, reel spin and most smaller awards tunes.) The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to 63.

Auto Settings. The automated sound system includes “auto” settings for Snd 2 and Snd 3. These settings default to “on” for most games. (The default is “off” for Delaware games, due to the different volume settings in Delaware.) In “Auto,” the volume for any sound sequence is double that of the previous sequence. You must only change Snd 1 to make the game quieter or louder. This feature simplifies game setup.

Ordinarily, you can't set the value of Snd 3 lower than Snd 2. Similarly, you usually can't set Snd 2 to a lower value than Snd 1. What if you raise Snd 1 above the Snd 2 or Snd 3 value? Then Snd 2 and Snd 3 automatically set to the value of Snd 1.

- *To play or mute the sound, press BET ONE.* (BET ONE toggles the sound on and off.) Pressing BET ONE, you hear the credit/bet sound at the new volume level. Use this sound to determine the effect of your adjustment.
- *To reduce sound volume, press SPIN REELS.*
- *To raise sound volume, press MAX BET SPIN.*
- *To turn “AUTO” settings on or off, press CASH and either SPIN or MAX BET.* (Setting toggles between “auto on” and “auto off” functions.)
- *To reduce Snd 2 or Snd 3 below Snd 1, turn JACKPOT RESET KEY.* Simultaneously press MAX BET SPIN.
- *To move the arrow in Sound Screen 2, press DIAGNOSTIC.* (See the illustration Automatic Sound Screen 2.)
- *To save settings and enter Sequence 4, press the DIAGNOSTIC button.*

Sequence 4. Feature Sound Volume (*Automated*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 2	3-Digit No.	0

Feature Sound Volume controls volume during a large award payout. (How large is “large”? “Large” is game specific, but a rule of thumb applies: Usually feature sound exceeds 50 credits.) Typically, Feature Sound Volume is much louder than normal volume. Use Feature Sound Volume to draw attention to the machine during large wins. (For example, “feature” game

sounds, such as the *Winning Streak Bonus Round*.) The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to 63.

Auto Settings. The automated sound system includes “auto” settings for Snd 2 and Snd 3. These settings default to “on” for most games. (The default is “off” for Delaware games, due to the different volume settings in Delaware.) In “Auto,” the volume for any sound sequence is double that of the previous sequence. You must only change Snd 1 to make the game quieter or louder. This feature simplifies game setup.

Ordinarily, you can't set the value of Snd 3 lower than Snd 2. Similarly, you usually can't set Snd 2 to a lower value than Snd 1. What if you raise Snd 1 above the Snd 2 or Snd 3 value? Then Snd 2 and Snd 3 automatically set to the value of Snd 1.

- *To play or mute the sound*, press BET ONE. (BET ONE toggles the sound on and off.) Pressing BET ONE, you hear the large award tune at the new volume level. Use this sound to determine the effect of your adjustment.
- *To reduce sound volume*, press SPIN REELS.
- *To raise sound volume*, press MAX BET SPIN.
- *To turn “AUTO” settings on or off*, press CASH and either SPIN or MAX BET. (Setting toggles between “auto on” and “auto off” functions.)
- *To reduce Snd 2 or Snd 3 below Snd 1*, turn JACKPOT RESET KEY. Simultaneously press MAX BET SPIN.
- *To move the arrow in Sound Screen 2*, press DIAGNOSTIC. (See the illustration Automatic Sound Screen 2.)
- *To save settings and enter Sequence 4*, press the DIAGNOSTIC button.
- *To change the flashing digit value*, press SPIN REELS one or more times.
- *To advance to the next digit*, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left. Suppose that the flashing digit is the leftmost one: Return to the rightmost digit by turning the JACKPOT RESET KEY one more time.
- *To save settings and enter Sequence 5*, press the DIAGNOSTIC button.

Sequence 5. Top Award Sound Volume (*Automated*)

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Snd 3	3-Digit No.	0

Top Award Sound Volume controls volume when a player hits the top award. (Typically, this award is a jackpot.) Usually operators set this volume nearly

wide open to draw attention to the machine. The Win Meter Display indicates the slot machine's sound volume setting. You can vary this level from 0 to 63.

Auto Settings. The automated sound system includes “auto” settings for Snd 2 and Snd 3. These settings default to “on” for most games. (The default is “off” for Delaware games, due to the different volume settings in Delaware.) In “Auto,” the volume for any sound sequence is double that of the previous sequence. You must only change Snd 1 to make the game quieter or louder. This feature simplifies game setup.

Ordinarily, you can't set the value of Snd 3 lower than Snd 2. Similarly, you usually can't set Snd 2 to a lower value than Snd 1. What if you raise Snd 1 above the Snd 2 or Snd 3 value? Then Snd 2 and Snd 3 automatically set to the value of Snd 1.

- *To play or mute the sound*, press BET ONE. (BET ONE toggles the sound on and off.) Pressing BET ONE, you hear the jackpot tune at the new volume level. Use this sound to determine the effect of your adjustment.
- *To reduce sound volume*, press SPIN REELS.
- *To raise sound volume*, press MAX BET SPIN.
- *To turn “AUTO” settings on or off*, press CASH and either SPIN or MAX BET. (Setting toggles between “auto on” and “auto off” functions.)
- *To reduce Snd 2 or Snd 3 below Snd 1*, turn JACKPOT RESET KEY. Simultaneously press MAX BET SPIN.
- *To move the arrow in Sound Screen 2*, press DIAGNOSTIC. (See the illustration Automatic Sound Screen 2.)
- *To save settings and enter Sequence 6*, press the DIAGNOSTIC button.

Sequence 6. Jackpot Loop

<i>Initial Display Values:</i>	Credit	Win Meter	Bet
	Loop	inFin	0

NOTICE

Some jurisdictions require that the jackpot tune must play until the attendant resets the machine. Soldered jumpers on the I/O Board configure the machine for these jurisdictions. On boards configured that way, Sequence 6 only permits you to *view* the loop status. Also, you can't select this option. A dark Spin Reels Lamp indicates this condition.

Choose the number of times that the jackpot tune plays after a jackpot win. Select any number of plays, from 1 to 254. Select 255 to put the machine into Infinite Loop Mode, the default setting. In Infinite Loop Mode, the jackpot tune repeats until the attendant resets the jackpot.

- *To change the flashing digit value*, press SPIN REELS one or more times.
- *To advance to the next digit*, turn the JACKPOT RESET KEY. With each turn of the key, the flashing digit sequentially advances from right to left.