



## **Program Summary Report: S+ Stepper Slot Version SP731**

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### **COMPLETE SET OF SLOT GAME CHIPS**

- Game EPROM** Erasable Programmable Read-Only Memory. The game program is stored on this EPROM. The EPROM is a 27C512 device, and the label indicates S-PLUS GAME, the EPROM version (SP731), and the game type.
- Data EPROM** The companion data EPROM is a 27C64 device that identifies the reel strip symbols and determines the game type, the pay table values, the number of reels, the maximum bet, and whether the game is a multi-line game, multi-coin game, scattered pay, or buy-a-pay game. The label indicates S-PLUS REEL and the SS number that identifies the pay table.
- Set-chip** IGT utility program SET005, SET015, or SET017 is required to modify the denomination and enable/disable the bill acceptor. SET017 is required to select the SAS Electronic Funds Transfer (EFT) option. Before the EFT option can be selected with the set-chip, perform the following steps: install the game chip, enter the self test mode, specify IGT SAS as the accounting system communication type, select a non-zero mini system address, and exit the self test mode.

### **GAME TYPE**

Type 0 (no special features), Type 1 (Slam Dunk, Balloon Bars, etc.), Type 4 (Spin 'Til You Win), Type 5 (4th of July) and Type 12 (Fever).

### **FEATURES AND CAPABILITIES**

- Bill Acceptor** Acceptor model is jurisdiction-dependent, and uses bill validator software protocol version 2.5. Acceptable bill denominations are \$1, \$2, \$5, \$10, \$20, \$50, and \$100. The following exceptions are reported to SAS and XMISER: stacker jammed, cashbox removed, bill rejected, cashbox full, and hardware error. A reverse bill detected message is reported to SAS only. If the credit only option for paying bill credits is selected, the bill is paid as credits regardless of the current player initiated credit/noncredit selection. Use the set-chip to enable or disable the bill acceptor.
- Bill Rejection Feature** Bills will be rejected if any of the following conditions occur: a \$5 bill is inserted and the game denomination is \$2; a \$50 bill is inserted and the game denomination is \$20; the game denomination is higher than the bill denomination; or the credit value of the accepted bill plus any credits on the game exceeds the bill limit that is set in the self test mode.

Credit Limit	Automatically matches the maximum hopper setting that can be set by DIP switch or in the self test mode. If the SAS EFT option is enabled, the maximum limit cannot exceed 9,999.
Denomination Modifications	Requires the denomination set-chip, unless both the bill acceptor and SAS EFT option are disabled, in which case the denomination may also be set in the self test mode. When the denomination is set to zero (none), the bill acceptor is disabled (if present). The game will not display progressive amounts and all progressive wins will cause the game to go to a hand-pay lockup condition. The denomination can be set at \$.05, \$.10, \$.25, \$.50, \$1, \$2, \$5, \$10, \$20, \$25, \$50, \$100 or zero (none). If the SAS EFT option is selected (using the set-chip), the denomination can also be set at \$500 or \$1,000.
Electronic Funds Transfer	To use this feature, the game must be equipped with the IGT SAS EFT system; the normal IGT SAS protocol will function but none of the EFT features will be enabled. Downloads are not accepted if more than 9,998 credits are accumulated on the game. Downloaded promotional credits are intended for game play only and cannot be uploaded or cashed. Promotional credits are wagered before any other accumulated credits. If any non-cashable credits are downloaded, all credits on the machine are considered non-cashable and can only be uploaded or played.
Hand-Pay Lockup Display	The hand-pay display option is designed for use during a jackpot lockup condition. The amount to be hand-paid by an attendant is displayed in the Credits and Winner Paid windows while the Coins Played window is blank. This information alternates with the amounts normally displayed in these windows. The hand-pay amount contains leading zeros instead of blanks so that it can be easily identified. This information is also displayed in the last 5 games recall. The tilt error codes 3100 (for an extra coin out) and 3200 (for a coin out tilt) will also appear in the alternating display if these conditions occur while the machine is in the hand-pay lockup condition.
Information Systems Compatibility	SIS/SDS (SMART), Bally's serial SDS (XMISER), Wide Area Marketing Monitoring system (WAMM/CCOM), and IGT SAS with Electronic Fund Transfer capability.
Machine-Generated Attendant Request	A bill rejection limit can be set in the self test mode and is designed to notify an attendant when a player is having difficulty inserting a bill into the bill acceptor. When the limit is reached, the change lamp is automatically turned on. Pressing the Change switch or inserting an

	acceptable bill clears the machine generated-attendant request. The Change switch should be pressed twice if the change lamp was turned on by the player prior to the machine-generated attendant request.
Mechanical Meters	Counts coins in, coins out, drop, jackpots x 10, canceled credits and games played.
Progressive Features/Displays	Link or stand-alone progressive, two-level Rapid Bonus Progressive (RBP), 8 x 8 progressive display, single level, single level alternating, or double level.
Reel Reset	To indicate that the reels are not spinning and stopping for a new game, the reels stop in reverse order (5, 4, 3, 2, 1) when resetting. The reels also stop in reverse order when the last game recall function is entered.
Reel Stops	Capable of handling 512 stops per reel.
Reel Tilt	If a tilt occurs while the reels are spinning, the reels spin very slowly until the tilt is cleared. When a tilt occurs any time other than during the random spinning period, the game will soft tilt and automatically reset itself three times. The fourth tilt is considered a hard tilt and requires an attendant to reset the machine. The soft tilt counters are independent for each reel and are cleared after each game or door closure.
Two Stage Candle	The top level signifies tilt/change conditions; the bottom level signifies jackpot/door open conditions. If the drop door is opened while the drop door option is enabled, the door open candle flashes at twice the normal door open rate. If the game is disabled, both levels are lit.

## **CLEARING CMOS TILTS**

A "61" error code appearing in the Winner Paid window indicates a CMOS error was encountered during a cold power up. A "61\_2" error code appearing in the Winner Paid window indicates a recoverable CMOS memory error occurred. Clear these tilts by opening the door and pressing the self test switch for 2 to 3 seconds. A "61\_1" error code will appear in the Winner Paid window. To clear this condition, close the door and turn the Jackpot Reset key. Upon clearing this tilt condition, external CMOS memory is cleared by the game only if the "61" error code was originally displayed in the Winner Paid window. CMOS memory is not cleared if the "61\_2" error code was originally displayed in the Winner Paid window.

## **DIP SWITCH OPTIONS**

The dual in-line package switch selection chart is located on the processor board tray. The options for this machine are: max hopper pay, reel spin sound, fast or normal game speed, progressive enable, high/low or alternating progressive, double or single progressive, and link or standalone progressive. The DIP switch configuration is displayed in the self test mode.

## SELF TEST MODE

Pressing the self test switch or the Bet One Credit player switch “pages” forward through the self test mode, and pressing the Play Max Credits player switch pages backward. Changes or selections in the options pages may be made by pressing the Change switch or turning the jackpot reset key. During a tilt condition, only the WAMM/CCOM machine address may be selected or altered. The numbers appearing below enclosed in < > represent the self test page number, [ ] represent the option number, and { } represent the setting. The self test pages appear in the following order:

### Accounting System

#### Communication Type

Determines the communication type on channel A (DCS port). Options are none {0}, Bally's serial SDS (XMISER) {1}, or IGT SAS (Standard and EFT) {2}.

### SAS Communication

#### Address <0>

This page is displayed only if the communication type is SAS. When using the SAS protocol, a machine address is required to distinguish one machine from another. The valid address range is {001} to {127}.

### WAMM/CCOM

#### Address <0>

WAMM/CCOM is always installed on channel B (printer port). This page allows the setting of the CCOM address. The valid address range is {00} to {63}. Once the valid range is selected, the new value must be saved by pressing the change switch. A bell will sound when the new address is accepted.

### Player Selectable

#### Credit <0> [5]

This page is not displayed if credits are accumulated on the credit meter. Options are standard credit or noncredit {0}, player initiated credit {1} and player initiated noncredit {2}. The player initiated credit option will default to the noncredit mode when the credit meter remains at zero for more than 30 seconds, or when any accumulated credits are cashed out. The player initiated noncredit option defaults to the credit mode if the game is idle for 30 seconds, and remains in the credit mode when credits are cashed out.

#### Mechanical Bell <0> [6]

Options are ring on hand-pays only {0} or ring on all pays {1}.

### Drop-Door Switch

#### Enable/Disable <0> [7]

This page is always displayed, but can only be programmed under the following conditions: if there is no communication, if the communication type is XMISER or WAMM, or if the communication type is SAS with a zero mini system address. (The drop-door option is automatically enabled with a non-zero SAS mini system address.) Options are enabled {1} or disabled {0}. If enabled, opening the drop (cash) door causes the door open candle to flash at twice the door open rate, and the number

of times the drop door is opened will be displayed in the statistical data mode.

**Bill Acceptor  
Pay Mode <0> [8]**

This option can be set so that bills are always converted to credits on the machine {1}, or to follow the player selected credit {0}. If set to follow the player selected credit, bills will be converted to credits if the player has selected the credit mode, or paid from the hopper if the player has selected the noncredit mode.

**Bill Acceptor Enabled/  
Disabled Display <0> [9]**

Indicates if the bill acceptor is enabled {1} or disabled {0}.

**Extra Coins In  
Option <0> [10]**

This option can be modified only if the SAS EFT option is enabled. Determines how to handle the extra coins that are received after the maximum bet is reached. Options are pay from the hopper {0} or automatically apply toward the next game {1}.

**SAS EFT Enable/  
Disable Display <0> [11]**

Indicates that the SAS EFT option is enabled {1}, or disabled {0}.

**Hand-Pay Lockup Display  
Option <0> [13]**

Options are enabled {1} or disabled {0}. If enabled, the hand-pay amount is displayed when the game goes into a hand-pay (jackpot) lockup condition.

**Bill Acceptor Tilt  
Mode Selection <0> [16]**

This page is displayed only if the bill acceptor is enabled. Determines how bill acceptor tilts are handled. If set to no tilt {0}, game play continues. If set to soft tilt {1}, game play continues and the tilt lamp flashes until the tilt is cleared. Soft tilts can be cleared by a valid bill transaction, by closing the door, by entering the self test mode, by entering the display meters function in the statistical data mode, or by playing door open games. If set to hard tilt {2}, the bill acceptor is disabled, game play halts, and the tilt lamp flashes until the tilt is cleared. Hard tilts are cleared by closing the main door.

**Country Code <0> [30]**

Determines the country code associated with the bill acceptor. Options are United States {37} or Canada {7}.

**DIP Switch Configuration  
Display <0>**

Displays whether the processor board DIP switches are on {1} or off {0}. The status of DIP switches 1 through 4 appear in the Winner Paid window, and the status of DIP switches 5 through 8 appear in the Credits window.

game play halts, and the tilt lamp flashes until the tilt is cleared. Hard tilts are cleared by closing the main door.

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DIP Switch Configuration

Display <0>

Displays whether the processor board DIP switches are on {1} or off {0}. The status of DIP switches 1 through 4 appear in the Winner Paid window, and the status of DIP switches 5 through 8 appear in the Credits window.

Input Tests <1>

Tests whether inputs (coin in optics, Bet One Credit player switch, etc.) are active or inactive.

Output Tests <2>

Tests whether outputs (Insert Coin lamp, Coin Accepted lamp, etc.) are active or inactive.

Sound Test

Tests sounds (coin insertion, maximum coins in, etc.).

Song Test

This page is displayed only if the game is Type 4, Type 5, or Type 12. Activates songs and allows selection of the song to be played during the idle mode.

Display Test <8>

Tests illumination on the player digital display and verifies that the digital display is receiving correct signals from the processor board.

Hopper Test <3>

Tests the hopper operation by paying out ten coins.

Pay Table Test <4>

The game type (0, 1, 4, 5, 12) and reel strip numbers are alternately displayed in the Winner Paid window. The EPROM version number is displayed in the Credits window. To test the pay table values, press the Spin Reels player switch. The award for a one coin bet alternates with the award for the max coin bet in the Credits and Winner Paid windows.

Reel Strip Test <5>

Verifies that the symbols appearing on the reels are correct and that the reels spin to the correct stops.

Denomination Selection/

Display <6>

The current denomination selection is displayed. The denomination can only be modified if both the bill acceptor and EFT are disabled; otherwise, the set-chip must be used.

Max Hopper Pay <7>

Programmable only if DIP switches 1 and 2 are set for self test selection (on position); otherwise, this page is for display purposes only. Determines the maximum number of coins that may be paid out of the hopper.

page determines the progressive reset value [1], maximum progressive amount [2], progressive percentage [3], and current progressive amount [4] for the single-level progressive.

**Progressive #2  
Selection <9>**

This page is displayed only if DIP switch 5 is set for progressive (on position), 7 is set for double level progressive (on position), and 8 is set for standalone progressive (off position). This page determines the progressive reset value [5], maximum progressive amount [6], progressive percentage [7], and current progressive amount [8] for the double-level progressive.

**Link Progressive  
Display <9>**

This page is displayed only if DIP switch 5 is set for progressive (on position) and DIP switch 8 is set for link progressive (on position). Winner Paid window indicates which levels are enabled {1} or {2}, Coins Played window = 9. Press the Spin Reels player switch to display progressive information. Winner Paid window = first 3 digits of the progressive dollar amount, Credits window = last 4 digits of the progressive dollar amount (does not include decimal amounts). Both external displays also show the progressive amount. Coins Played window = progressive level 1 or 2.

**Rejected Bill Limit [11]**

This page is displayed only if the bill acceptor is enabled. Determines the number of times bills can be rejected before the Change lamp is switched on. Range is 0 to 99. If set to 0, the Change lamp is never switched on because of rejected bills.

**Out of Service Page <90>**

If enabled {1}, this function renders the machine inoperative without turning the power off. The progressive displays and lamps are turned off, the change candle is lit, the door candle flashes at the door open rate, and the digits 1 through 9 scroll across in the Winner Paid, Credits and Coins Played windows.

## **STATISTICAL DATA MODE**

Turn the jackpot reset key clockwise to enter the statistical data mode. Press the Bet One Credit player switch, the Change switch, or turn the jackpot reset key to move forward from one function to the next, and press the Play Max Credits player switch to move backward.

### **Display Meters Function <01>:**

The Coins Played window shows the category numbers 01 through 58. The Credits window and the Winner Paid window show the category totals. Press the Spin Reels player switch or pull the handle to move forward through the categories. The categories appear in the following order:

- 01        Coins in (total wagers)
- 02        Coins out

03	Coins dropped
04	Canceled credits (hand-paid cash out amount in coins)
05	Games played
06	Amount of jackpots in coins
07	Door opens
08	Games won
09	Games lost
10	Coin-in tilts
11	Coin-out tilts
12	Power resets
13	Hopper empty tilts
14-15	(Reserved)
16	Games played since last door closed
14	Games played since last power up
18-27	Games played with from 1 to 10 coins in (number of coins in displayed depends on options)
28	\$1 bills accepted
29	\$5 bills accepted
30	\$10 bills accepted
31	\$20 bills accepted
32	Bills accepted
33	Coins or credits dispensed for bills
34	\$1 bills accepted since last meter reset
35	\$5 bills accepted since last meter reset
36	\$10 bills accepted since last meter reset
37	\$20 bills accepted since last meter reset
38	Bills accepted since last meter reset
39	Coins or credits dispensed for bills since last meter reset
40	Dollar value of all bills accepted since last meter reset
41	Dollar value of all bills accepted
42	Drop door opens
43	Credits played
44	Credits won
45	Credits paid
46	Physical coins inserted



36	\$10 bills accepted since last meter reset
37	\$20 bills accepted since last meter reset
38	Bills accepted since last meter reset
39	Coins or credits dispensed for bills since last meter reset
40	Dollar value of all bills accepted since last meter reset
41	Dollar value of all bills accepted
42	Drop door opens
43	Credits played
44	Credits won
45	Credits paid
46	Physical coins inserted
47	Coins dispensed by the hopper
48	\$2 bills accepted
49	\$50 bills accepted
50	\$100 bills accepted
51	\$2 bills accepted since last meter reset
52	\$50 bills accepted since last meter reset
53	\$100 bills accepted since last meter reset
54	Reserved
55	Promotional credits downloaded
56	Non-cashable credits downloaded
57	Credits cashed out to the system
58	Cashable credits downloaded

### **Last 5 Games Played Function <2>:**

Winner Paid = the number and the virtual position of the reel before any “nudging” is done, beginning with the most recently completed game. Credits = game being displayed. If the game type is 1, the Credits window also indicates the number and virtual position of the reel after any “nudging” is done. If the game is type 4 or type 5, the Credits window also indicates either 0 (standard game) or 1 (free spin). After the last reel has been displayed, the Coins Played, Winner Paid and Credits windows contain their normal information for the last game. The hand-pay information is also displayed during the last games recall if the hand-pay display option is enabled and a hand-pay has occurred.

within each category. The category is displayed in the Coins Played window: 5 = downloaded non-cashable credits, 6 = downloaded cashable credits, 7 = downloaded promotional credits, 8 = cash outs to the system, 9 = forced cashouts to the hopper. The far left digit in the Winner Paid window = 1 (acknowledgment received, transaction processed) or 0 (no acknowledgment, transaction not processed). The far right digits in the Winner Paid window indicates the transaction status: 00 = successfully completed, 01 = no game denomination set, 03 = downloaded credit not a multiple of game denomination, 04 = downloaded credit exceeds maximum credit limit. The Winner Paid window also alternately displays the transaction number. The Credits window = number of credits transferred, alternating with the transaction reference number; 1 represents the most recent transaction and 5 represents the oldest.

### **Clearing Resettable Bill Meters <10>:**

The resettable bill meters keep a count of the bill acceptor transactions since the last time the meters were cleared. If any of the resettable bill meters are not equal to zero, {8888} is displayed in both the Credits and Winner Paid windows. Press the Spin Reels player switch to clear the resettable meters. {0000} is displayed in the Credits and Winner Paid windows when the meters are cleared.

### **SAS EFT Meters Breakdown <12>:**

If the main door is open, this function is not available for viewing. Pressing the Spin Reels player switch advances through the two SAS EFT meters. If the Coins Played window = 1, the Credits window = promotional credits. If the Coins Played window = 2, the Credits window = buffered credits (bill transactions, cashable downloads and non-cashable downloads).

### **REFERENCES**

Refer to the appropriate IGT publication for detailed information about S-Plus software and error resolutions: S-PLUS FIELD SERVICE MANUAL p/n 821-027-01, S-PLUS SLANT-TOP MANUAL p/n 821-067-01, S-PLUS IBA FIELD SERVICE MANUAL p/n 821-103-00, or S-PLUS DIAGNOSTICS CARD SET p/n 821-154-01. Refer to the Reel Strip Listing for exact pay table information and symbol alignment on each reel.

Contact IGT Customer Service, 702-688-0364, between 8 a.m. and 4 p.m. PST; FAX 702-688-0675. For 24 hour technical assistance, or for a glossary of gaming terms, call 1-800-688-7890.

For viewing and downloading technical information, call the 24-hour bulletin board: 1-800-448-1221.