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Program Summary Report for S2000 Slot Version SG000328

COMPLETE SET OF GAME PROGRAMS

Game PROM	The main game logic is stored on a set of two programmable read-only memory chips (PROMs), which are 27C801 or 27C080 devices. The labels indicate STEPPER GAME, GME1 or GME2, and the game version (SG000328).
Base PROM	The companion base PROM, which is a 27C240, 27C4002, or 27C4096 device, contains some of the game sounds and the payable information. The base PROM should match the reel strips and top glass installed on the machine. The label indicates STEPPER BASE and the SB number, which identifies the payable (SBxxxxxx).
Key Chip	The key chip is required to change some game options, such as the denomination. The key chip is a 27C4002 or a 27C240 device and is labeled with the key chip number KEY00031.
Clear Chip	<p>This IGT utility program enables the operator to clear the game memory. Use IVC00223 (or replacement) to clear RAM or use IVC00224 (or replacement) to clear RAM and EEPROM.</p> <p><i>WARNING:</i> The use of Clear Chips should be restricted. Please check the requirements for your jurisdiction regarding their use.</p>
Version PROM	The version PROM is a 27C1001 or a 27C010 device that specifies the machine release number, the jurisdiction ID, and the casino ID. The version PROM controls what is available to meet special jurisdictional requirements. The label indicates STEPPER VERSION and the version number (VSnnnxxx). SG000328 may use VS009GX0. VS010NX0 (or replacements) is for use in New Jersey.
VFD	The VFD program controls the vacuum fluorescent display. The label indicates VACUUM FLOR DISPLAY and the VFD number. VFD00007 is required for controller boards with part number 75117700. VFDF3001 is required for controller boards with part number 75120400. Some game themes require an additional display. The number (VFD1xxxx) is dependent on the game theme.
MMLB Card	A DSV card must be installed on multimedia lite board II for game themes using enhanced sound. To play sounds, set all DIP switches on the DSV card to off. The number (DSVxxxxx) is dependent on the game theme.
Optional Spectrum Display	<p>SDF100 is required for controller boards with part number 75512602.</p> <p>SD0111 or SD0112 is required for controller boards with part number 75512600.</p> <p>SD0092 is required for controller boards with part number 75508400.</p>

GAME TYPE

This version supports S2000 games with single denomination. The available slot stepper game types and games are:

Type 61 (Triple Double Diamond Deluxe with Cheese)

Type 65 (Money Mad Martians)

Type 67 (Quack Shot)

Type 68 (King Cash)

Type 82 (Top Dollar 3-reel, 1-line)

Type 83 (Top Dollar 3-reel, 5-line)

Type 93 (Double Top Dollar)

Type 97 (Pinball 2-coin)

Type 98 (Pinball 3-coin)

FEATURES AND CAPABILITIES

Advanced Fund Transfer	<p>To use Advanced Fund Transfer (AFT) capabilities, a terminal asset number must be entered and saved. AFT transactions can include downloading and uploading cashable, non-restricted promotional, and restricted promotional amounts; bonus awards; and debit transfers, depending on the host system configuration.</p> <p>NOTE: <i>If SAS disables the game, AFT transactions will not be allowed except for AFT cash outs.</i></p>
Bill Validator	<p>Uses ID-024. The settings in the pay mode submenu determine how accepted bills are paid. If tokenization is enabled, the machine automatically defaults to the “bills pay to credit always” pay mode.</p>
Candle Operation	<p>On a two-stage candle, the top level lit signifies a change request or machine-disabled mode. A slow flash on the top level signifies a tilt or hand-pay condition. A fast flash on the top level signifies the Operator or Attendant Menu is being accessed. A medium flash on the bottom level signifies the main door is open. A fast flash on the bottom level signifies the drop door is open. On a three-stage candle, the top level signifies a hand-pay condition, the middle level signifies a door-open condition, and the bottom level signifies a change/tilt condition. On a four-stage candle, the top level signifies a hand-pay condition, the second (from top) level signifies a request for change/service, the third (from top) level signifies a tilt condition, and the bottom level signifies a door-open condition.</p> <p>The candle can be set to progressively increase the flash rates listed above for hand pays, non-door tilts, and system errors. The number of minutes that the candle flashes at each rate can be set in the Reactive Candle Timer submenu.</p> <p>NOTE: <i>The international version PROM is required for the three- or four-stage candle.</i></p>
Coins In	<p>Inserted coins are directed to the coins/credits played meter up to the maximum bet, and coins exceeding the maximum bet are returned to the player or applied to the credit meter only. If using a multi-coin, multi-line payable, coins are always directed to the coins/credits played meter.</p>

International: Coin handling is set in the Options Menu.

Credit Roll Up	After a winning game, the player can press the SPIN or BET buttons to speed up or immediately complete the credit roll up.
Delayed Hand-Pay Reset	The purpose of this feature is to prevent an inadvertent entry into the Attendant Menu when clearing a hand-pay condition. When the reset key is turned to clear the hand-pay lockup, the Attendant Menu cannot be accessed for five seconds.
Denomination	Acceptable denominations are 0.01, 0.02, 0.03, 0.05, 0.10, 0.20, 0.25, 0.50, 1, 2, 2.50, 5, 10, 20, 25, 50, 100, 200, 250, 500, 1,000, 2,000, 2,500, and 5,000.
EZ Pay (Voucher In/ Voucher Out)	The EZ Pay feature validates voucher redemption and voucher pay outs through SAS communication with a host machine. To redeem vouchers, the following are required: the bill acceptor/validator has voucher acceptance firmware; the validation type is set to enhanced in the Key Chip Menu; the validation security option is enabled in the Options Menu; voucher redemption set to either SAS or Distributed in the Key Chip Menu; SAS communications supporting EZ Pay is installed; a unique SAS address is set; and the machine is enrolled by the EZ Pay system. If the machine is to print vouchers, a thermal printer and appropriate printer software must be installed and enabled. EZ Pay features vary, depending on the printer, enhanced validation, validation security, and voucher redemption option settings. For more detailed information, refer to the CONFIGURATION TABLE.
Information System	Bally Miser (SDS), (IGT) SAS, and Wide Area Marketing Monitoring system (WAMM).
Jackpot to Credit	<p>The purpose of this feature is to minimize the number of jackpot hand pays that must be made with high denomination machines. To use this feature, a second reset key must be installed on the machine.</p> <p>Jackpots can be reset to the credit meter only if the following conditions are met: The win must be greater than the jackpot limit and the win must be less than both the credit limit and the W-2G limit. If, in the W-2G controller menu, the reset option is configured to "SAS Controller", the jackpot cannot be reset until authorization is sent to the machine by the SAS system, and the operator must turn the second reset key to place the win on the credit meter. If the reset option is set to "USER Controller", system authorization is not required, and the operator has the option of turning the first reset key to hand pay the win, or turning the second reset key to reset it to the credit meter. Whenever the jackpot does not meet the eligibility requirements, the operator must hand pay it.</p>
Mechanical Meters	<p>Counts credits in, credits out, and drop. Jackpots x 10 is recorded on the fourth meter, games played is recorded on the fifth meter, and canceled credits is recorded on the sixth meter if these meters are installed on the machine.</p> <p>NOTE: <i>If using an international version PROM, the fifth meter displays the credit value of the of the bills inserted</i></p>

Out of Service Mode	The service menu is available from the Operator Menu only and renders the machine inoperable without turning the power off.
Player Cashout Menu	If this option is enabled, this menu item allows player-selectable cash out options. If a ticket printer is available, the player can divide the cash out between the hopper and ticket. Upon cash out, the game uses the limits selected by the operator (hopper, credit, and jackpot) to determine the eligible devices and prompts the player to select from the available options.
Progressive Features/Displays	Standalone, link, and SAS progressive capabilities can be enabled, provided that the payable used includes progressive awards.
Receipts and Vouchers	<p>To print vouchers and receipts, a thermal printer configured with the appropriate software must be installed, and the printer option must be enabled.</p> <p>Receipts for jackpots & hand pays. If this option is enabled, accounting receipts are printed for jackpot and hand-pay conditions. For games with a jackpot amount set at zero, such as a non-cash prize, a ticket with a value of zero will be printed for the jackpot award.</p> <p>Voucher rejection. If a validated voucher is inserted into a hopper-only machine whose hopper denomination is not compatible, the voucher is rejected. For example, if a player inserts a voucher for \$0.15 into a machine whose hopper denomination is set to \$0.25, the voucher is rejected. There is no limit to the number of times a voucher can be inserted into and rejected by the machine. Numerous voucher rejections do not cause the change lamp to light.</p>
Reel Stops	The machine uses 22 physical stops per reel.
System Bonusing Capabilities	To use the bonus features, the communication system must support SAS 4.0 or later, the SAS polling address must be set to 001, and the system bonusing option must be set to System Bonus Legacy with the key chip. When the Legacy bonusing option is selected, two bonus features are enabled at the same time: bonus pays and multiplied jackpot mode. These features cannot be enabled or disabled individually. Wins from game play and pending bonuses are awarded at the end of each game. The multiplied jackpot mode allows wins to be multiplied by a number (one to ten) that is supplied by the SAS host. The minimum and maximum win amounts that are eligible to be multiplied are also sent by the SAS host.
Tokenization	<p>By setting the token value greater than one, the game can support tokens. Once tokenization is enabled, the machine is automatically placed into the credit mode and coins are directed to the credit meter up to the credit limit. The machine disables the coin acceptor if accepting the next token causes the accumulated credits to exceed the credit limit.</p> <p>If the token option is enabled and the number of credits cashed out is not a multiple of the token value, the game pays as many tokens as possible and leaves the remaining credits on the machine. If the player presses Cash Out again, and if the Token Payout option is set to enable, the machine prompts</p>

the player to play the remaining credits or to press Cash Out again to receive a hand pay. If a win exceeds the credit limit but does not exceed the hopper limit, the win must be paid from the hopper. When the number of credits won is not a multiple of the token value, the machine first determines how many more credits are needed to pay the entire win from the hopper. It then deducts those credits from the credit meter. Next, it adds those credits to the win amount, and finally, it pays the tokens from the hopper.

Wins and Cash Outs

If a player wins a system bonus, the Winner Paid window indicates the total amount won, which is the sum of the base game win and the system bonus win. The amount of just the bonus win appears on the VFD. If a player is awarded credits and cashes out prior to beginning another game, the Winner Paid window alternately displays the amount won and the amount cashed out.

CONFIGURATION TABLE

Printer		Validation Mode			Validation Security		Features
Off	On	Std	Enh	Sys	Off	On	
EZ Pay Configuration with Printer							
	X		X			X	<ul style="list-style-type: none">• EZ Pay communication system enrollment required.• Cash vouchers may be validated and printed.• Hopper operation is optional.• Hand pay validation is optional, and optional accounting receipts may be printed.• If the voucher option is enabled, vouchers are accepted by the machine when authorized by the system.• If communication with the EZ Pay system is lost, cash vouchers will not be printed. The machine validates hand pays and prints optional accounting receipts until the validation buffer is full. When the buffer is full, the gaming machine is disabled.
	X		X		X		<ul style="list-style-type: none">• This is a temporary recovery mode to be used when the EZ Pay system is not available. Information on hand pays that occur while in this mode is lost. Information in the validation buffer is reported when the EZ Pay system becomes available.• EZ Pay communication system enrollment not required.• Hopper-only operation. No cash vouchers are printed.• Hand pays are not validated, and accounting receipts are not printed.• If the voucher option is enabled, vouchers are accepted by the machine when validated by system.

Printer		Validation Mode			Validation Security		Features
Off	On	Std	Enh	Sys	Off	On	
EZ Pay Configuration without Printer							
x			x			x	<ul style="list-style-type: none">EZ Pay communication system enrollment required.Standard hopper operation.Hand pay validation is optional.If the voucher option is enabled, vouchers are accepted by the machine when validated by system.If communication with the EZ Pay system is lost, the machine validates hand pays until the validation buffer is full. When the buffer is full, the gaming machine is disabled. Information in the validation buffer is reported when the EZ Pay system becomes available.
x			x		x		<ul style="list-style-type: none">This is a temporary recovery mode to be used when the EZ Pay system is not available. Information on hand pays that occur while in this mode is lost. Information in the validation buffer is reported when the EZ Pay system becomes available.EZ Pay communication system enrollment not required.Hopper only operation.Hand pays are not validated.If the voucher option is enabled, vouchers are accepted by the machine when authorized by the system.
Non-EZ Pay, Secure Validation Configurations							
	x			x	Not available		<ul style="list-style-type: none">Appropriate secure validation communication system required.Cash vouchers may be validated by the system and printed.Hopper operation is optional.Hand pays are not validated by the gaming machine, and accounting receipts are not available.
x				x	Not available		<ul style="list-style-type: none">Not a valid configuration.
Other Configurations							
	x	x				x	<ul style="list-style-type: none">Communication system required.Cash vouchers may be validated and printed.Hopper operation is optional.Optional accounting receipts may be validated and printed.Gaming machine becomes disabled when five or more validations are in buffer.
	x	x			x		<ul style="list-style-type: none">No communication system required.Cash vouchers may be validated and printed.Hopper operation is optional.Optional accounting receipts may be validated and printed.
x		x			No effect		<ul style="list-style-type: none">No communication system required.Standard hopper operation.

MENU ACCESS

Four buttons are used to navigate through the menus. Press Change to move up through the menus, and press Cash Out to move down through the menus. Press Spin Reels to enter a submenu when the desired

submenu is highlighted on the LCD or displayed on the VFD. Press Play Max Credits to exit menu screens. If present, the LCD displays the Up, Down, Enter, Exit, etc., icons, which serve as prompts to indicate the function of the corresponding player buttons. The icons cannot be used for navigation because the LCD does not contain touch-screen capabilities. Lit buttons that do not have a corresponding icon scroll through information on the VFD when pressed.

Attendant Menu To enter this menu, turn the jackpot reset key while the machine is in a tilt condition or while it is idle without any coins wagered. The submenus are:

- Accounting
- History Displays
- I/O Tests

The Attendant Menu can still be accessed during a communication failure between the LCD and the machine.

Operator Menu To enter this menu, open the door and press the self test switch. The submenus are:

- Accounting
- History Displays
- Options
- I/O Tests
- Game Tests
- Out of Service Mode
- Key Chip Config (display only)

Key Chip Menu Some options require a higher level of security. If credits are not accumulated, turn the machine power off and open the main door. Remove the base PROM from the processor board. Insert the key chip into the base PROM socket. Turn the power on. If the processor board has green LEDs, wait until the two green LEDs are lit; otherwise, wait until the first two amber LEDs are lit. Turn the power off. Remove the key chip. Re-insert the base PROM. Turn the power on.

CAUTION: After the base PROM is re-inserted, visually inspect it to ensure that it is properly seated and that all the pins are in contact with the socket.

The options displayed in the Key Chip Menu vary by jurisdiction. Typical options are:

- Denomination
- Game Selection
- Bonus Menu
- Cashless Controller
- Machine Type
- Tokenization
- Candle Stage Setup (International)
- Money Format (International)
- Options (International)
- Validation
- Printer
- Voucher

- Remote Handpay Reset
- Coinless Mode
- 7-Segment Display Type
- Progressive

1 ACCOUNTING

This submenu is available from the Operator and Attendant Menus. All meters are in credits unless indicated otherwise.

NOTE: The master and period bill accounting meter pages display different bill sets depending on the version PROM used (e.g., international versus domestic).

1.1 Terminal Accounting

1.1.1 Terminal Master Accounting

These meters provide information that is accumulated from all of the games played on the machine, regardless of the game payable.

1.1.1.1 Terminal Master Money Accounting: Contains the meters required to balance the machine and to verify that the payback and hold percentages match their theoretical values. Examples of the meters are coins in, coins out, drop, and payback percentages.

1.1.1.2 Master Statistics: Contains statistical data. Examples of the meters are games played, games won, and games lost.

1.1.1.3 Master Bill Accounting: Contains a record of accepted bills.

1.1.1.4 Master Cashless Accounting: The submenus within this page contain the amount downloaded and uploaded through the cashless systems.

- **1.1.1.4.1 Master Legacy Cashless Meters:** Contains the amount downloaded through the EFT system.
- **1.1.1.4.2 Master AFT Meters:** Contains the amount downloaded and uploaded through the AFT system.
- **1.1.1.4.3 Master Current Cashless Meters:** Contains the current cashable credits, cashable promotional credits, and non-cashable promotional credits.
- **1.1.1.4.4 Master Cashless Total Meters:** Contains the total amounts uploaded and downloaded through the cashless systems.

1.1.1.5 Master Voucher Accounting: The submenus within this page contain the amounts of vouchers printed and redeemed through the SAS or Bally host systems.

- **1.1.1.5.1 Master SAS Voucher Meters:** Contains the current amount of vouchers printed or redeemed through the SAS host system.
- **1.1.1.5.2 Master Bally Voucher Meters:** Contains the current amount of vouchers printed or redeemed through the Bally host system.
- **1.1.1.5.3 Master Voucher Total Meters:** Contains the total amount of vouchers printed or redeemed through the SAS and Bally host systems.

1.1.2 Period Accounting

The submenus within 1.1.2 provide the same information as the terminal master accounting meters described above. However, they only represent totals accumulated since the meters were last reset and exclude the Master Current Cashless Accounting meters. To reset the meters, enter the 1.1.2.6 Clear Period Meters page and press the Spin Reels button. Once the page is exited, the reset function cannot be canceled.

1.2 Game Accounting

This page displays meters that track game statistics, such as coins in, coins out, and games played.

1.4 Security Accounting

Examples of the security-related events displayed in this page are the number of games played since the main door was opened, the number of times the main door was opened, and the last time the Key Chip Menu was accessed.

1.5 Error Accounting

The error accounting menu pages keep track of the number of tilts that occur.

1.5.1 Error Accounting

Displays the meters that provide the number of times each of the tilt conditions occurred.

1.6 Version Accounting

1.6.1 Version Accounting

Displays the program version numbers of the various programs running the different devices in the machine.

1.7 Master Progressive Accounting

Displays the number of times each progressive level was hit.

1.8 WAMM Accounting

Displays the WAMM machine address and the meter information, such as total coins in, total credits won, and total games won, that is sent to the CCOM.

2 HISTORY DISPLAYS

This submenu is available from the Operator and Attendant Menus.

2.1 Game

2.1.1 Game History

This page displays the last 10 base games played, beginning with the most recently completed game. The reels spin to the stops for the game, and the LCD, if present, displays the bonus activity. The VFD displays game information, beginning with the game type, and the date and time the game was played. Pressing the Spin Reels button displays further game information, such as the virtual reel stops, player cashout information, and up to the last 50 bonus steps. The seven-segment displays show the state of the winner paid, the credits, and the coins bet at the completion of the game. Press the Change

button to move back through the game history, and press Cash Out to move forward through the game history.

2.1.2 Game State History

This page contains IGT service utility information.

2.2 Main Event History

This page displays a record of all machine activity and the date and time of each event for the last 100 events. Examples of these events are entry into and exit from a menu, errors, and option changes.

2.3 Security History

2.3.1 Generic Security History

Displays security-related events and the date and time they occurred. Examples of these events are power up, door access, and Key Chip Menu access.

2.4 Tilt History

This page displays tilt events, and the date and time they occurred.

2.5 Money-In History

2.5.1 Bill-In History This page displays a description of each bill accepted, and the date and time it was accepted for the last 25 accepted bills.

2.5.2 Voucher-In History This page displays a description of each voucher (coupon) accepted, and the date and time it was accepted for the last 50 accepted vouchers.

2.5.3 Cashless-In History This page displays when money was downloaded from and uploaded to the cashless controller for the last 25 transactions. This page displays the amount of the transaction, the type of credits, and the controller.

2.6 Money Out History

2.6.1 Ticket History This page displays a record of the last 50 tickets printed by the game.

2.6.2 Others This page displays a record of payments from cash outs or wins from hand pays, hopper and printer.

2.7 Progressive History

2.7.1 Terminal Displays the date and time the progressive was hit, the progressive level, and the amount won for the last 25 progressives.

2.8 System Bonus History

This page displays the last 25 bonuses awarded by the SAS host; each entry lists the total amount awarded, the tax status (deductible, non-deductible, or wager matching) and the bonus type (system or link).

2.9 AFT History

This page displays the last 100 AFT transactions; each entry lists the time, account number, transaction ID, transfer type, transfer status, receipt status, total amount, cashable amount, restricted amount, and non-restricted amount.

3 OPTIONS

This submenu can be entered only while the machine is idle. Options that do not require the key chip can be accessed from the Operator Menu. The options appear under submenus, which appear in bold text below.

3.1 Machine Options

- 3.1.1 Credit Option** This option cannot be accessed if credits are accumulated on the machine. If the printer is enabled or, a multi-line, multi-coin payable is used, the only choice available is credit. If the printer is disabled, the choices are: credit, noncredit, player-initiated credit, and player-initiated noncredit. The player-initiated credit option defaults 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. If tokenization is enabled, the machine automatically defaults to the credit mode.
- 3.1.2 Candles** This option is used to set candle operation.
- 3.1.2.1 Reactive Candle Timer:** If this option is enabled, the candle flash rate progressively increases for the following conditions: hand pays, any non-door tilts and for system errors. The candle will increase its flash rate to the next flash rate after the period set expires.
- 3.1.2.2 Door Closure Candle On/Off:** If this option is enabled, the candle flashes indicating main or bill door closure for the period of one complete uninterrupted game.
- 3.1.2.3 Drop Door Candle:** If this option is enabled, the bottom level of the candle flashes at twice the normal door-open rate when the coin drop door is opened. If disabled, the candle is not affected when the coin drop door is opened.
- 3.1.3 Set Time** The time and date can be set on the machine's real-time clock (RTC).
- 3.1.4 Limits** This page allows the setting of the following machine limits: hopper limit, credit limit, jackpot limit, and bill/voucher credit limit. If tokenization is enabled, the hopper limit is rounded down to equal a multiple of the token value, and the jackpot limit cannot be less than one token.
- 3.1.5 Partial Pay** This page is displayed only when the printer is disabled.
- 3.1.5.1 Partial Pay Amount:** When a single win exceeds the hopper limit, the partial pay amount is paid from the hopper before the machine locks up for a hand pay. This amount cannot be set to a value greater than the hopper limit. If tokenization is enabled, this amount is rounded down to a multiple of the token value.
- 3.1.5.2 Odd Pay:** When enabled, this special partial pay feature determines whether the fractional currency amount of the jackpot is paid from the hopper. When in a hand-pay condition, the hopper pays amounts less than a dollar, making the hand pay a whole dollar amount.

3.1.6 Handpay Display

If this option is enabled, the hand-pay message and the amount to be hand paid is displayed. If disabled, only the hand-pay message, not the amount, is displayed.

3.1.7 Cashout

3.1.7.1 Player Cashout Menu: For an overview of this feature, refer to PLAYER CASHOUT MENU in the FEATURES AND CAPABILITIES section. If this feature is enabled, the Cashout, Change, Spin Reels, and Max Bet buttons activate the cashout options.

- **3.1.7.1.1 Enable/Disable:** This page enables or disables player access to the Cashout Menu.
- **3.1.7.1.2 Player Coin Limit:** To use this option, the player Cashout Menu must be enabled, a thermal printer with the appropriate software must be installed, and the printer option must be enabled. This page determines the maximum hopper pay value (not to exceed the hopper limit) when pays are to be split between the hopper and printer.

3.1.8 W-2G Setup

For an overview of this feature, refer to JACKPOT TO CREDIT in the FEATURES AND CAPABILITIES section.

3.1.8.1 W-2G Controller: If set to “SAS Controller”, SAS authorization is required to reset eligible jackpots to the credit meter. If set to “USER Controller”, no authorization is required to reset eligible jackpots to the credit meter.

***NOTE:** If SAS authorization is required, SAS must communicate on the primary channel.*

3.1.8.2 W-2G Limit: Determines the W-2G credit limit (a.k.a. upper jackpot limit). Wins that exceed the jackpot limit, but are less than the W-2G credit limit, can be directed back to the credit meter by turning the second reset key. Wins above this limit must be hand paid.

3.1.9 Machine Serial Number

This option allows setting of a nine-digit machine serial number.

3.1.10 Printer

This page is displayed only if the printer is enabled.

3.1.10.1 Data Entry: Stores the site name and address.

3.1.10.3 Remainder: Determines the minimum amount that remains on the credit meter when the machine automatically cashes out due to an exceeded credit limit.

***NOTE:** This option only appears if the hopper limit is set to zero.*

3.1.10.4 Printer Tilts: If set to Soft Tilt, the top level of the candle flashes, and the reason for the tilt is displayed on the VFD when the main door is opened. If set to Hard Tilt, game play halts until the tilt is cleared.

3.1.11 Split Pay

To use this option, a thermal printer with the appropriate software must be installed, the printer option must be enabled, and the hopper limit must be greater than zero.

3.1.11.1 Enable/Disable: If the split pay option is enabled, a pay out equal to or less than the coin pay limit is made from the hopper and the amount above the coin pay limit, if any, is paid by voucher. If the split pay option is disabled,

the entire pay out amount is paid from the hopper if the amount is equal to or less than the coin pay limit. If the pay out amount is above the coin pay limit, the entire pay out amount is paid by voucher. A jackpot condition locks up the machine, and the screen displays CALL ATTENDANT - JACKPOT.

3.1.11.2 Limits: When the split pay option is disabled, a cashout occurs when any amount below the split pay limit is paid through the hopper, and any amount over the split pay limit is paid through the printer.

When the split pay option is enabled, a cashout occurs when any amount below the split pay limit is paid through the hopper and any amount over the split pay limit is paid through the hopper and printer. The hopper pays up to the split pay limit, and the remainder is printed on a ticket.

When the printer is not available (soft tilt), the game no longer uses the split pay limit. It uses the hopper limit to determine how to perform the cash out.

NOTE: *If the pay out is not divisible by the hopper denomination, the coin pay limit is ignored, and the entire amount is paid by voucher.*

3.2 Sound Options

3.2.1 Volume

Control

3.2.1.1 Game Volume: Determines the volume for game-play music and sound effects.

3.2.1.2 Money Volume: Determines the volume for monetary transactions, such as bill in and voucher in/out.

3.2.2 Reel Spin Sound If this option is enabled, a random note melody plays while the reels are spinning. If disabled, no sound is made while the reels spin.

3.2.3 Reel Stop Sound Determines the sound made when the reels come to a stop. Options are none, solenoid (handle-solenoid clicks), or speaker (produced by the sound processor).

NOTE: *If the Legacy style reel spin sound option is enabled, the speaker reel stop sound cannot be enabled.*

3.2.4 Mechanical Bell Determines when the bell rings. Options are Off, rings for all wins, or rings for hand pays only.

3.2.5 Rollup Sounds Determines the sound made while credits are awarded to the player. Options are rollup tone (constant sound during credit rollup) or rollup melody (for credit rollup sounds that produce a melody).

3.2.6 Multimedia If a Multimedia Lite board is installed, the following menus are displayed:

3.2.6.1 Audio Mode: Set the playback sound operation to mono or stereo according to the wiring harness and hardware options built into the machine.

3.2.6.2 Attract Time: When a machine enters the idle mode without credits accumulated, a random attract sound is played one time. This option determines the amount of time in minutes that elapses before the random attract sound is played.

3.2.6.3 Attract Volume: Determines the volume at which the attract sound is played.

3.2.6.4 Reel Spin Option: This submenu determines the sound made while the reels spin. Some paytables may restrict the options to Enhanced Only, Generic and Enhanced, or S-Plus Legacy only.

- Generic (universal stereo melody)
- Enhanced (one or more enhanced stereo melodies)
- S-Plus Legacy (S-Plus random notes)

***NOTE:** To play the S-Plus Legacy reel spin sounds and to view the Legacy sound options, the appropriate DSVxxxxx must be installed on the multimedia lite board.*

3.2.6.5 Handpay Option: The Handpay Option allows the operator to select between game theme hand-pay sounds or S-Plus Legacy hand-pay sounds.

3.2.6.6 Rollup Option: The Rollup Option allows the operator to select between game theme rollup sounds or Legacy rollup sounds. Settings for this option reflect coin-in, bill in, and cashout sounds.

3.3 Bill Acceptor

- | | |
|----------------------------|--|
| 3.3.1 Enable/Disable | Determines whether the bill/voucher acceptor is enabled or disabled. |
| 3.3.2 Bill Pay Mode | This option is available in a hopper-only configuration. Determines how accepted bills are paid. The “bills pay to credit always” option directs bills to the credit meter, even if the player has selected the noncredit mode. The “bills pay according to credit mode” option follows the credit type set in the credit option page of the machine options submenu. The “bills pay to hopper always” option exchanges bills for coins paid from the hopper, even if the player has selected the credit mode. |
| 3.3.3 Bill Tilts | Determines the action taken when any bill acceptor tilt occurs. Options are ignored, soft, or hard. If ignored is selected, bill acceptor tilts have no effect on the machine. If Soft is selected, the top level of the candle flashes, and the reason for the tilt is displayed on the VFD when the main door or bill door is opened. If Hard is selected, game play halts until the tilt is cleared. |
| 3.3.4 Bill Rejection Limit | This option notifies an attendant when a player is having difficulty inserting a bill into the bill validator. When the bill rejection limit is reached, the change lamp on the candle is automatically turned on. If this option is set to zero, rejected bills do not affect the change lamp. |

3.4 Communication Options

- | | |
|-----------------|--|
| 3.4.1 SAS Setup | Both 3.4.1.1 SAS Primary controller and 3.4.1.2 SAS Secondary controller provides the following submenus: <ul style="list-style-type: none"> • 3.4.1.x.1 SAS (Primary/Secondary) Address: Sets the SAS polling address. Valid values are from 0 to 127. If set to zero, SAS communications are disabled. Typically, the address is set to 1 if there is a player tracking (PT) device inside the machine. Addresses 2 through 127 are used when the machine is connected directly to a site controller. • 3.4.1.x.2 SAS (Primary/Secondary) Channel: Determines which channel is used by the SAS communication protocol. The default for the primary |
|-----------------|--|

controller is channel 2 (DCS port on the machine's motherboard). The default for the secondary controller is Off.

- **3.4.1.x.3 SAS (Primary/Secondary) Link Down:** If this option is enabled, the machine remains operational during a communications failure. If disabled, the machine locks up during a communication failure. The lock-up condition is automatically cleared when communications are re-established.
- **3.4.1.x.4 SAS (Primary/Secondary) Hand Pay:** Determines if the game repeatedly sends out a hand-pay notification. If Hand Pay Multiple Report is enabled, the game sends out a notification every 15 seconds until the host requests the hand-pay information. If Hand Pay Single Report is enabled, the game sends the notification.
- **3.4.1.x.5 SAS (Primary/Secondary) Game Events:** If enabled this option reports to the SAS host non-critical game play events, such as “game has started” and “game has ended”

3.4.1.3 SAS Config: Allows the operator to set SAS options, such as EFT/AFT (cashless) and system bonus, on either the primary or secondary communication channel.

3.4.1.4 AFT: Allows the operator to set the SAS AFT options.

- **3.4.1.4.1 Asset Number:** This page allows the operator to assign an asset number to the terminal.
- **3.4.1.4.2 Register Gaming Machine:** This page allows the operator to register the machine for SAS AFT debit transfer capability. To register the machine SAS AFT must be enabled. Registration and point-of-sale (POSID) numbers must be supplied by the host system.
- **3.4.1.4.3 Partial Transfer to Game:** Determines whether partial transfers are allowed.
- **3.4.1.4.4 Ticket Transfer Limit:** Allows the operator to set the maximum amount that can be transferred from the host system to a ticket.

3.4.2 Bally Miser Setup

3.4.2.1 Miser Protocol: Determines which protocol is used. The machine defaults to the 906912 protocol, but older Bally PT devices may require the 906820 protocol. If the machine is configured to play only generic bonus games, a third protocol option, Bally Miser Protocol With Bonus Support, allows the controller to select the machine's bonus game.

3.4.2.2 Miser Channel: Determines which channel is used by the Miser communication protocol. The default is channel 3 (RS232 port on the machine's communication board).

3.4.3 WAMM Setup

3.4.3.1 WAMM Address: Sets the WAMM polling address. Valid values are from 0 to 63. Address 0 is typically not used because machines default to that address after memory tilts.

3.4.3.2 WAMM Channel: WAMM communications can use channel 8 only, which is the fiber-optic channel on the machine's communication board.

3.5 Download

- 3.5.1 Netplex Devices The pass-through operation is reserved for special purposes only, such as reprogramming a display device or the bill validator.

3.7 Game Play

- 3.7.1 Spin Repeat **Domestic:** If enabled, this option allows repeat of the last game wager. For each game the player must press and release the Spin Reels button to repeat the last bet.
International: If enabled, and when using an international version PROM, this option allows repeat of the last game wager without releasing the player panel button after being pressed. The button remains active as long as it is pressed. The Bet Max player panel button starts the game with maximum number of coins wagered. The Spin Reels button starts the game, repeating the previous wager.

4 I/O TESTS

This submenu is available from the Operator and Attendant Menus. However, some of the following submenus and test pages are not available from the Attendant Menu.

4.1 Input Tests

This submenu provides access to the input diagnostic test pages and is available from the Attendant and Operator Menus. Each input circuit is listed by name and is followed by a one (active) or zero (inactive).

- 4.1.1 Door Input Test Allows tests on the player panel buttons located on the main door.

4.1.1.1 Standard: This page tests the Change, See Pays, Cashout, Spin Reels, Play Max Credit and, if present, the Select Credit Value and Bet One buttons.

4.1.1.2 10 Button: Although this menu appears, it has no affect.

4.1.1.3 Extension: Although this menu appears, it has no affect.

- 4.1.2 Cabinet
Input Test

Allows tests on circuits located on or in the cabinet, such as the slot handle and the hopper.

- 4.1.3 Processor
Input Test

Allows tests on circuits that provide input to the processor, such as machine doors and reel optics.

4.2 Output Tests

This submenu provides access to the output diagnostic test pages and is available only through the Operator Menu. The output circuit toggles between activated and deactivated when the Spin Reels (Enter) button is pressed.

- 4.2.1 Door
Output Test

Allows output tests on the player panel buttons located on the main door. The following buttons are used for navigation and may not appear to respond to the test: Change (Up), Cash Out (Down), Spin Reels (Enter), and Play Max Credits (Exit).

4.2.1.1 Standard: This page tests the Change, See Pays, Cashout, Spin Reels, Play Max Credit and, if present, the Select Credit Value and Bet One lamps.

4.2.1.2 10 Button: Although this menu appears, it has no affect.

4.2.1.3 Paylines: Although this menu appears, it has no affect.

4.2.1.4 Extension: Although this menu appears, it has no affect.

4.2.1.5 Denom Panel: This page tests the lamps on the denomination touch panel.

4.2.2 Cabinet

Output Test

Allows tests on output circuits located on or in the cabinet, such as the hopper brake, the candle, and the mechanical meters.

4.2.3 Processor

Output Test

Allows tests on the processor LEDs.

4.3 Auto-Configure Netplex Devices

This submenu is available through the Operator Menu only. Pressing the Spin Reels (Enter) button automatically configures the bill validator, VFDs, printers, bonus device, and spectrum display.

4.4 Sound Test

This submenu is available from the Attendant and Operator Menus.

4.4.1 Sound Test

Pressing the Spin Reels (Play) button plays the selected sound.

4.4.2 MMLB Sound

File Test

Pressing the Spin Reels (Enter) button plays the *.wav file theme sound associated with the selected MMLB sound event ID.

4.5 7-Seg Display Test

This submenu is available from the Attendant and Operator Menus. Pressing the Spin Reels (Enter) button tests all segments of the seven-segment displays installed on the machine including the payline indicator, if applicable.

4.6 Dot Matrix Display Test

This submenu is available from the Attendant and Operator Menus.

4.6.1 Primary Dot

Matrix Display Test

Pressing the SPIN REELS (Enter) button tests the VFD dot matrix on the player panel.

4.7 Hopper/Printer

This submenu is available only from the Operator Menu.

4.7.1 Hopper Test

This page tests the hopper operation by paying out ten coins.

4.7.2 Print Test

This page tests the printer operation by advancing the ticket, cutting the paper, or printing a test ticket.

4.8 Bill Acceptor

This submenu is available only from the Operator Menu.

- 4.8.1 Bill Test The bill validator can be set to accept and stack or to scan and reject a test bill. The value of the test bill is displayed on the LCD and/or VFD.
- 4.8.2 CRC Checks Technicians can verify a validator CRC (cyclic redundancy check) by entering the starting seed value (and address if desired).
- 4.8.2.1 4 Digit CRC:** Performs a four-digit CRC.
- 4.8.2.2 8 Digit CRC:** Performs two four-digit CRCs.

4.9 Bonus Device Test

This submenu is available only from the Operator Menu.

4.9.6 Top Box Device Tests

4.9.6.1 Bonus Lamps Test: This test page allows the operator to test the lamp operation on the top box.

4.9.6.2 Bonus 7 Seg LEDs Test: This page allows the operator to test the 7-Segment LEDs located on the top box.

4.10 Reel Lamps Test

This page is available from the Operator Menu only. It allows the operator to test the lamp operation on the back lit reels.

5 GAME TESTS

This submenu is available only from the Operator Menu.

5.1 Reel Strip Test

This page allows the operator to verify that the reels spin to the correct stops. To access this test, a reset key is required. Press the Cash Out (Next) button to advance to the next reel stop and press the Change (Previous) button to return to the previous stop. Press the Spin Reels (Enter) button to cycle through the virtual stops in numeric order automatically.

5.2 Base Paytable Test

This page allows the operator to enter a reel-stop number on each of the three reels and a bet amount to determine the award amount, if any, for the reel combination. To access this test, a reset key is required. To increment the selected digit, press the Cash Out button. To advance to the next digit or reel, press the Change button. Press the Spin Reels button to position the reels in the requested combination and to move the cursor to the bet amount field. Press the Cash Out or Change button to change the bet amount. Press the Spin Reels button again to display the win amount on the VFD for the revised wager and to move the cursor back to the reel numbers. For multi-line games, set the reel stops for the center payoffline so that the appropriate symbols line up on desired payoffline.

5.3 Bonus Paytable Test

If the bonus device uses lights, each light corresponds to a physical stop. If the bonus device uses a wheel, reel, or other mechanical indicator each segment of the device corresponds to a physical stop. To access this test, a reset key is required. Press the Cash Out (Next) button to advance to the next physical stop and press the Change (Previous) button to return to the previous stop. Press the Spin Reels (Enter) button to test the bonus device.

6 OUT OF SERVICE MODE

If the machine is in the in-service mode, press the Change (Up) button and press the Play Max Credits (Exit) button to place the machine in the out-of-service mode. To return the machine to the in-service mode, return to this menu, press the Cash Out (Down) button, press the Play Max Credits (Exit) button, and close the main door. The machine can be placed in the out-of-service mode when credits are accumulated.

7 KEY CHIP CONFIG

The options appearing on the Key Chip Menu vary by jurisdiction. The operator can set some options after turning the machine on for the first time; however, most of the following options typically require the key chip and cannot be changed from the Operator Menu.

There are two Key Chip Menu choices used with this version: Key Chip and Key Chip II.

7.1 Key Chip Config

- | | |
|----------------------|---|
| 7.1.1 Denomination | 7.1.1.2 Coin Denomination: Determines the game denomination. This option can be set from the Operator Menu after turning the machine on for the first time. |
| 7.1.2 Game Selection | Determines the game payable. The number of paytables available depends on the base PROM installed. If only one payable is available, this page cannot be accessed. |
| 7.1.3 Bonus Menu | <p>7.1.3.4 Global Setup: If a game-specific bonus game is installed, this page allows the operator to set the User Input Timeout option. This option determines how long the game waits for the player to push the Spin Reels button before automatically starting the non-linked bonus game. If a User Input Timeout is not desired, set this option to zero.</p> <p>7.1.3.5 System Bonus: Options are Disabled, System Bonus Legacy, and System Bonus AFT. Enabling System Bonus Legacy activates both the bonus pays and the multiple jackpot modes at the same time. To enable System Bonus AFT, the cashless controller must be set to AFT. If this option is disabled, the game ignores all SAS bonus messages.</p> |
| 7.1.4 Progressive | <p>The progressive submenu and the following pages are displayed if the payable supports progressive awards.</p> <p>7.1.4.1 Controller Select: Displays a list of levels to be configured. For each level, the operator must select from a list of progressive types (e.g., none, SAS, link, and standalone).</p> <p><i>NOTE: Before the operator can select SAS as the controller, the SAS group must be set.</i></p> <p>7.1.4.2 Progressive Display Setup: Options are none or video display. To display the progressive screen on the LCD, select “Video Display” in the display setup submenu and select “No bonus” in the bonus game selection page of the Key Chip Menu.</p> |

	<p>7.1.4.3 Stand Alone Setup: This page determines the limit amount, the current amount, the add percentage, and the base amount for each progressive level.</p> <p>7.1.4.5 SAS Progressive Group: This page sets the SAS progressive group. If set to zero, SAS progressive capabilities are disabled. The operator can set the SAS group from 1 to 255.</p>
7.1.5 Cashless Controller	<p>Enables or disables the Cashless option and determines the Cashless controller (SAS EFT, SAS AFT, or Bally Miser).</p> <ul style="list-style-type: none"> • SAS EFT operation for promotional credit downloads is selectable in all jurisdictions where allowed. • SAS EFT operation for non-cashable credit downloads is selectable only for jurisdictions using an international version PROM. • SAS EFT operation for cashable credit downloads is selectable only for New Jersey and jurisdictions using an international version PROM. <p>The EFT/AFT option is not allowed in some jurisdictions. Check your jurisdictions requirements to determine if this option is allowed.</p>
7.1.6 Machine Type	<p>Allows the operator to select one of the following machine types: unknown, upright, or slant top. If the selected type does not match the hardware, the machine is disabled. This option can be set from the Operator Menu after turning the machine on for the first time.</p>
7.1.7 Tokenization	<p>7.1.7.1 Token Setup: This page allows the operator to set the token value. The range is 1 to 100 and when the token value is set to 1, tokenization is disabled. The token value cannot be set greater than the hopper, the credit, or the jackpot limit. If this option is enabled, the machine automatically defaults to the credit mode.</p> <p>7.1.7.2 Token Payout: Allows the operator to disable player-initiated cash outs of partial token credits. Tokenization must be enabled.</p>
7.1.8 Candle Stage Setup	<p>Allows the operator to select a two-, three-, or four-stage candle.</p> <p>NOTE: <i>This option requires an international version PROM.</i></p>
7.1.9 Money Format	<p>Allows the operator to select the currency symbol and to set the thousand and the decimal separator for all Key Chip, Attendant, and Operator Menus, and player-viewable displays. This option defaults to the following currency format: \$1,000.00.</p> <p>NOTE: <i>This option requires an international version PROM.</i></p>
7.1.10 Options	<p>7.1.10.1 Hard Meters: Allows the operator to set whether the third mechanical meter displays a coins-only or a coins-plus-bills drop.</p> <p>NOTE: <i>This option requires an international version PROM.</i></p> <p>7.1.10.2 Coin-In Option: This submenu determines how inserted coins are handled.</p> <ul style="list-style-type: none"> • COIN IN TO GAME ONLY = Directs coins to the coins played meter, up to the maximum bet; returns additional coins to the player.

- COIN IN TO GAME AND CREDIT = Directs coins to the coins played meter, up to maximum bet; directs additional coins to the credit meter, up to the credit limit.
- COIN IN TO CREDIT ONLY = Directs coins to the credit meter only, up to the credit limit.

NOTE: This option is only available when (1) an international version PROM is installed, and (2) the game is in single denomination mode.

7.2 Key Chip Config II

7.2.1 Validation

This page controls and displays the validation information and options. The submenus are:

7.2.1.1 Validation Type: Options are system, enhanced, or standard validation mode. For more detailed information, refer to the CONFIGURATION TABLE.

NOTE: For the EZ Pay system to work properly, the validation type must be set to enhanced, and the validation security option must be enabled.

7.2.1.2 Validation Security: This option is not available when the validation type is set to system. Allows the machine to protect validation information if communications with the EZ Pay system are interrupted. When the validation buffer is full, the machine locks up and displays TERMINAL DISABLED BY SAS. The machine also locks up if the host has not sent the proper validation ID number. If disabled, the machine does not write additional information to the validation buffer or send it to the EZ Pay system, and therefore, additional hand-pay information is lost.

NOTE: For the EZ Pay system to work properly, the validation type must be set to enhanced, and the validation security option must be enabled.

7.2.1.3 Validation Controls: View and reset current validation control state. It contains the following submenus:

- **7.2.1.3.1 View Validation Controls:** Displays the current setting of the Validation Controls.
- **7.2.1.3.2 Reset Validation Controls:** The page allows the operator to clear the Validation Controls. This submenu can only be viewed in the Key Chip menu.

7.2.1.4 Handpay Validation: Options are Validate Handpay (No Receipt), Validate and Print Handpay Receipt, and Don't Validate Handpay/Receipt. This option determines whether the handpay will be validated and if the handpay receipt will be printed.

NOTE: For games with a progressive jackpot amount set to zero, such as a non-cash prize, a ticket with a value of zero will be printed for the jackpot award.

7.2.2 Printer

7.2.2.1 Enable/Disable: Determines whether the printer is enabled or disabled.

7.2.2.2 Restricted Tickets: Determines whether restricted tickets are printed.

7.2.3 Voucher

7.2.3.1 Voucher Redemption: Determines how the machine handles the voucher redemption. Options are Voucher Redemption Disabled, Voucher

Redemption SAS, Voucher Redemption Bally, and Voucher Redemption Distributed.

NOTE: *When vouchers are Distributed, the SAS Host redeems vouchers with numbers beginning with zero and the Bally host redeems vouchers that begin with a non-zero value.*

7.2.3.2 Voucher Limit: The voucher limit can be set to either follow the credit limit or follow the bill limit.

7.2.3.3 Change Voucher: Determines if the game accepts vouchers that are not divisible by the accounting denomination. If this option is enabled and the voucher is not divisible by the accounting denomination, the amount in accounting units (AUTs) is directed to the credit meter, and a voucher is printed for the fractional amount. If this option is disabled, the game rejects any voucher with an amount that is not in whole AUTs.

7.2.4 Remote Handpay Reset

If this option is enabled, the operator can remotely reset the machine from the SAS host after a hand-pay condition.

NOTE: *SAS must use the primary controller to enable this option.*

7.2.5 Coinless Mode

If this option is enabled, the coin acceptor is disabled and the hopper limit is set to zero, and all credits become non-cashable. When this option is disabled, the hopper limit must be reset to a non-zero value to re-enable the hopper.

7.2.7 7-Segment Display Type

This option allows the operator to set the 7-segment display type. Options are “5-5-2” or “6-6-3” which refers to the number of digits in the Winner Paid, Credits, and Credits Played windows, respectively. After a cold power up, the machine automatically detects the display hardware and defaults this option to the correct display type. A tilt will occur if the selected display type does not match the display hardware.

REFERENCES

Refer to the appropriate IGT publication for detailed information about Vision/S2000 software and error resolutions: **Game Software: Vision Series/S2000 Release 9** p/n 821-359-0x, **Troubleshooting: Game Machines** p/n 821-283-0x, and **Quick Reference Cards: Vision/S2000 Release 9** p/n 821-361-0x.

For additional information or to order manuals, contact IGT Customer Service; telephone 1-888-777-5101 or FAX 1-888-999-0668.

For viewing and downloading technical information, visit the IGT web site (www.igt.com).

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