# *S-Plus*™ Game Software Quick Reference Cards

## SP1048 and SP1160

These cards summarize the software menus available in *S-Plus* software programs, SP1048 and SP1160.

**Related Manuals: *Game Software: S-Plus Products*** p/n 821-206-01

***S-Plus Diagnostic Cards, SP872*** p/n 821-154-06

**Note:** Some of the options on these cards may or may not be displayed, depending on the version of software or game type you have installed. Also, most options cannot be changed if any tilts or credits exist on the game.

For further software information, contact your IGT representative to request an appropriate Program Summary Report (PSR) for a detailed description of the game software version you are currently using. PSRs for specific game programs can also be downloaded from the IGT products area of IGT's web site.

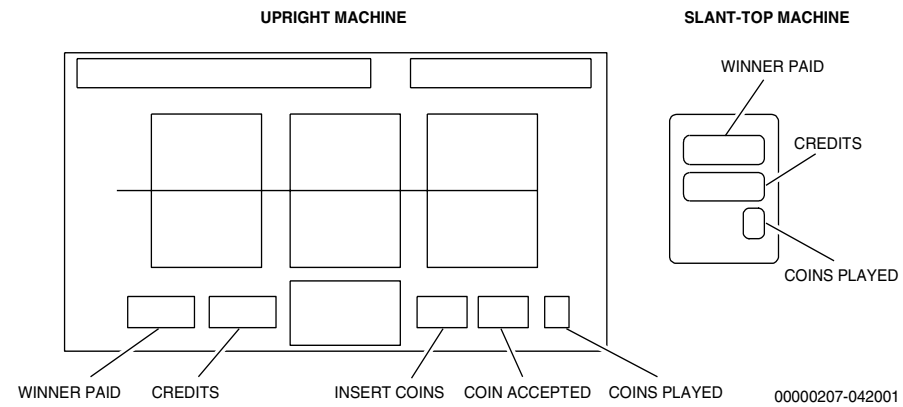***Web Site:*** www.IGT.com   ***E-mail:*** webmaster@igtproducts.com   ***Voice Mail:*** 775-448-1826

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**IGT**

## *S-Plus* LED Display

Options, diagnostic functions, and statistical data can be viewed on the *S-Plus* LED display assembly:

**UPRIGHT MACHINE**

**SLANT-TOP MACHINE**

WINNER PAID

CREDITS

COINS PLAYED

WINNER PAID     CREDITS          INSERT COINS    COIN ACCEPTED    COINS PLAYED      00000207-042001

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## Abbreviations & General Navigation Tips

WP: Winner Paid Display   Cdt: Credits Display   CP: Coins Played Display

This diagnostic card set is divided into nine groups of functions that operators use to set up machine options or view diagnostic or statistical data.  These groups are:

1. Communication Options
2. Page Zero Options
3. Input and Output Tests
4. Miscellaneous Tests and Configurations
5. *S-Plus* Error (Tilt) Codes

6. Statistical Data Mode
7. Display Meters Function
8. Last 10 Games Recall Function and Bill Acceptor Transactions
9. Miscellaneous

Information that only pertains to SP 1048 is in [brackets]; information that only pertains to SP 1160 is in white on black background.  Black text on white background pertains to either program.

The main door must be open to in order to access all options as well as the Self Test mode.  To access menus, press the Self Test switch, and use this same switch to advance to the next function.  Use the Reset Key to navigate within the chosen function, and use the Reset Key to advance to the next digit.  Most options are changed by pressing the Spin Reels button.  An underscore character ( _ ) denotes a blank space. "X" represents any number.

Use the Reset Key to select the appropriate inputs and outputs to be tested.  Press the Spin Reels button to activate outputs.  A pending game or payout may limit access to the Self Test mode as well as some options; in addition, some options may require a SET Chip for changes (refer to the PSR).

## Group 1:  Communication Options

| Group 1: Communication Options | | | | | | |
|---|---|---|---|---|---|---|
| **Self Test Switch** | **WP Dsp** | **Cdt Dsp** | **CP Dsp** | **Function** | **Description** | **Action** |
| Press 1 Time | | 0–2 | 0 | Acct. Sys. Communication Type | Options: 0: None 1: Miser 2: SAS | Increment digits by turning the Reset Key; increment next digit by pressing the Spin button. **[Note:** A SET Chip may be required.] |
| Press 2 Times* | 000–127 | | 0 | SAS Address **Note:** Applies only when SAS is selected as the communication type. | Must be set to a non-zero address (001-127) for SAS communications. | Increment digits by turning the Reset Key; increment next digit by pressing the Spin button. **Note:** A SET Chip may be required. |
| Press 3 Times * | 00–63 | | 0 | WAMM Address | Used Only for Mega-jackpot and WAMM. | Increment the digit by turning the Reset Key; increment the next digit by pressing the Spin Button. Save the setting by pressing the Change button. |

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## Group 2:  Page Zero Options

To access these options, press the Self Test switch three times; however, if the *Communication* options are set to either *None* or *Miser*, press the Self Test switch only twice.

To navigate within *Page Zero* options, use the Reset Key.  "X" designates an enabled option.

| Group 2:  Page Zero Options | | | | | |
|---|---|---|---|---|---|
| WP Dsp | Cdt Dsp | CP Dsp | Function | Options | Action |
| 2__x |  | 0 | Reel Spin Sound | 2__0: reel spin and stop tones.<br>2__1: reel spin tones only. | Press the Spin button to change this setting. |
| 5__x |  | 0 | Credit Mode | 5__0: Standard Credit.<br>5__1: Player Initiated (credit).<br>5__2: Player Initiated (non credit). | Press the Spin button to change this setting. |
| 6__x |  | 0 | Mechanical Bell | 6__0: Bell rings on hand pays only.<br>6__1: Bell rings on all pays. | Press the Spin button to change this setting. |
| 7__x |  | 0 | Drop Door Switch Monitoring | 7__0: Disabled.<br>7__1: Enabled.<br>**Note:**  This option is automatically enabled with SAS. | Press the Spin button to change setting. |

## Group 2:  Page Zero Options (Continued)

| WP Dsp | Cdt Dsp | CP Dsp | Function | Options | Action |
|---|---|---|---|---|---|
| 8__x |  | 0 | Bill Acceptor Pay Mode | 8__0: Follow Player Initiated Credit.<br>8__1: Convert bills to credit.<br>8__2: Pay coins from hopper. | Press the Spin button to change this setting.<br>**Note:** DIP switch #4 must be set to "Off" in order to change this setting.<br>**Note:** A SET Chip may be required. |
| 9__x |  | 0 | Bill Acceptor Enable/ Disable | 9__0: Bill Acceptor Disabled.<br>9__1: Bill Acceptor Enabled. | A SET Chip is required to change this setting. |
| [10_x] |  | [0] | [Extra Coin Contribution] | [10_0: Extra coin paid from hopper.<br>10_1: Extra coin applied to next game.] | [Press the Spin button to change this setting.] |
| 11_x |  | 0 | Coupon or EFT Enable/ Disable | 11_0:  Coupon/EFT capability Disabled.<br>11_1: Coupon/EFT capability Enabled. | A SET Chip is required to change this setting. |
| 13_x |  | 0 | Hand Pay Display | 13_0: Hand-Pay Display Disabled.<br>13_1: Hand-Pay Display Enabled. | Press the Spin button to change this setting. |

| Group 2: Page Zero Options (Continued) | | | | | |
|---|---|---|---|---|---|
| **WP Dsp** | **Cdt Dsp** | **CP Dsp** | **Function** | **Options** | **Action** |
| 16_x | | 0 | Bill Acceptor Tilt Mode | 16_0: Ignored<br>16_1: Soft Tilts<br>16_2: Hard Tilts | Press the Spin button to change this setting. |
| 30__ | | 0 | Bill Acceptor Country Code | 30____07: Canada.<br>30____37: United States. | A SET Chip is required to change this setting. |
| 31_x | | 0 | Progressive Option Selection | 31_1: Both progressive levels link.<br>31_2: Primary link and secondary stand alone.<br>31_3: Both progressive levels stand alone.<br>31_4: Primary stand alone and secondary link. | Press the Spin button to change these settings.<br>**Note:** If SP1048 is installed, this option is only displayed if DIP switch #5 is set for progressive (on).<br>**Note:** If SP1160 is installed, a SET Chip is required to change this setting. |
| 34_x | | 0 | Partial Pay on Top Award | 34_0: Disabled.<br>34_1: Enabled. | Press the Spin button to change this setting. |
| 35_x | | 0 | Progressive Level Display | 35_1: Single level progressive.<br>35_2: Double level progressive. | A SET Chip is required to change this setting. |
| 39_x | | 0 | Max Bet Auto-Spin | 39_0: Disabled.<br>30_1: Enabled. | Press the Spin button to change this setting. |

| Group 2:  Page Zero Options (Continued) | | | | | |
|---|---|---|---|---|---|
| WP Dsp | Cdt Dsp | CP Dsp | Function | Options | Action |
| 43_x | | 0 | Jackpot to Credit Enable / Disable | 43_0: Disabled.<br>43_1: Enabled. | A SET Chip is required to change this setting.<br>**Note:**  This option is available only if a W2G Reset switch is installed on the machine. |
| 60_x | | 0 | Progressive Type Display | 60_0: High / low progressive.<br>60_1: Alternating progressive. | A SET Chip is required to change this setting. |
| 78_x | | 0 | Special Partial Pay | 78_0: Disabled.<br>78_1: Enabled. | Press the Spin button to change this setting.<br>**Note:**  This option is not available when using the SAS communication type. |
| [xxxx]<br>[xxxx] | | [0] | [DIP Switch]<br>[Configuration] | [0: Off.]<br>[1: On.] | [Read only.] |

## Group 3: Input and Output Tests

**Input Tests:** To access Input Tests, press the Self Test switch five times unless Communication options are set to either None or Miser, in which case press the switch only four times. Use the Reset Key to select Input Tests.

1 = High Input State (ON)   0 = Low Input State (OFF)   x = 1 or 0

| | | | |
|---|---|---|---|
| **Group 3: Input Tests** | | | |
| **CP Display** | **WP Display** | **Input Test** | **Action** |
| 1 | 10_1 | Coin-In Optic A. | This optic's readout displays a high (1) condition until a coin sense pulse is sent from the coin comparitor. |
| 1 | 11_1 | Coin-In Optic B | During testing, this optic's readout changes from a high (1) to a low (0) state. **Note:** To test this input, the coin path must be blocked. |
| 1 | 12_1 | Coin-In Optic C | During testing, this optic's readout changes from a high (1) to a low (0) state. **Note:** To test this input, the coin path must be blocked. |
| 1 | 13_0 | Main Door Optic | This optic's readout toggles between a low (0) and a high (1) state when the main door is closed. |
| 1 | 14_1 | Coin-Out Optic | This optic's readout displays a high (1) state until the coin-out optic is blocked. |
| 1 | 15_x | Hopper Full Probe | The hopper-full probe's readout changes to a high (1) state when the hopper-full probe is shorted to a ground. |

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| Group 3:  Input Tests (Continued) | | | |
|---|---|---|---|
| **CP Display** | **WP Display** | **Input Test** | **Action** |
| 1 | 16_0 | Spin/Handle Switch | To test this optic, either press the Spin button or pull the handle. |
| 1 | 17_0 | Reset Switch (Key) | To test this switch, turn the Reset Key.<br>**Note:**  Turning the Reset Key twice allows the user to advance to next input. |
| 1 | 20_0 | Bet One Credit Switch | To test this switch, press the Bet One Credit button. |
| 1 | 21_0 | Play Max Credits Switch | To test this switch, press the Play Max Credits button. |
| 1 | 22_1 | Cashout Switch | To test this switch, press the Cashout button. |
| 1 | 23_0 | Change Switch | To test this switch, press the Change button. |
| 1 | 24_1 | Reel Mechanism Detect | The reel mechanism detect's readout remains in a high (1) state until either a reel assembly has been disconnected or the reel harness is unplugged from mother board's connector J7. |
| 1 | 25_0 | Self Test Switch | To test this switch, press the Self Test switch.<br>**Note:**  Pressing the Self Test switch twice allows the user to advance to the Output Test. |
| 1 | 26_0 | Card Cage Access Switch | To test this switch, either open or close the card cage lock. |
| 1 | 27_0 | Bill Acceptor | When a bill is accepted, the bill acceptor's display changes states. |
| 1 | 30_0 | Unused | N/A |

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| Group 3:  Input Tests (Continued) | | | |
|---|---|---|---|
| **CP Display** | **WP Display** | **Input Test** | **Action** |
| 1 | 31_1 | Drop Door Access Switch | To test this switch, either open or close the drop door. |
| 1 | 32_0 | Jackpot to Credit Switch | To test this switch, turn the Secondary Reset Key. |
| 1 | 33-37 | Unused | N/A |
| 1 | 40_x | Reel # 1 Optic | When Reel # 1 is moved either up or down, its display changes states. |
| 1 | 41_x | Reel # 2 Optic | When Reel # 2 is moved either up or down, its display changes states. |
| 1 | 42_x | Reel # 3 Optic | When Reel # 3 is moved either up or down, its display changes states. |
| 1 | 43_x | Reel # 4 Optic | When Reel # 4 is moved either up or down, its display changes states. |
| 1 | 44_x | Reel # 5 Optic | When Reel # 5 is moved either up or down, its display changes states. |

**Output Tests:**   To access Output Tests, press the Self Test switch six times unless the Communication options are set to either None or Miser, in which case press the Self Test switch only five times.  Use the Reset Key to select the appropriate test.  Activate the selected output by pressing the Spin button.

| CP Display | WP Display | Output |
|---|---|---|
| | **Group 3:  Output Tests** | |
| 2 | 10 | Coin Drop Meter |
| 2 | 11 | Coin-Out Meter |
| 2 | 12 | Coin-In Meter |
| 2 | 13 | B Switch for SDS |
| 2 | 14 | Hopper Drive 2 |
| 2 | 15 | Stepper Motor Direction |
| 2 | 16 | Mechanical Bell |
| 2 | 17 | Cancelled Credits Meter |
| 2 | 20 | Payline Lamp #3 |
| 2 | 21 | Payline Lamp #4 |
| 2 | 22 | Payline Lamp #5 |
| 2 | 23 | Payline Lamp #6 |
| 2 | 24 | Door Optic Transmitter |

| | | Group 3:  Output Tests (Continued) |
|---|---|---|
| **CP Display** | **WP Display** | **Output** |
| 2 | 25 | Games Played Meter |
| 2 | 26 | Bill Acceptor Enable |
| 2 | 27 | Jackpot Meter |
| 2 | 31 | Change Lamp |
| [2] | [32] | [Unused] |
| 2 | 33 | Diverter |
| 2 | 34 | Coin Lockout / Comparitor |
| 2 | 35 | Hopper Drive 1 |
| 2 | 36 | Payline Lamp #1 |
| 2 | 37 | Payline Lamp #2 |
| 2 | 40 | Stepper Motor Power |
| 2 | 41 | Insert Coin Lamp |
| 2 | 42 | Coin Accepted Lamp |
| 2 | 43 | Low Hopper Indicator |
| 2 | 44 | Play Max Credits Lamp |
| 2 | 45 | Bet One Credit Lamp |
| 2 | 46 | Cashout Lamp |

## Group 4: Miscellaneous Tests and Configurations

| Group 4: Miscellaneous Tests and Configurations | | | | |
|---|---|---|---|---|
| **CP Display** | **WP Display** | **Credit Display** | **Test/ Function** | **Action** |
| Blank | 5x__ | Blank | Sound Test | Select the sound by turning the Reset Key; activate the test by pressing the Spin button. |
| [Blank] | [6x__] | [Blank] | [Song Test] | [Select the song by turning the Reset Key; activate the test by pressing the Spin button.<br>**Note:** This option is only displayed if the game is either a type 4 or a type 5.] |
| 8 | 8888 | 8888 | Display Test | During this test, all digits on the display (including the imbedded pro-gressive meters) display "8." |
| x | xxxx | xxxx | Display Test (page2) | During this test, all digits on the display sequentially display 0,1,2,4,and 8. |

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## Group 4:  Miscellaneous Tests and Configurations (Continued)

| CP Display | WP Display | Credit Display | Test/ Function | Action |
|---|---|---|---|---|
| | | | | To activate this test, turn the Reset Key.  Ten coins are dispensed from the hopper, and the Winner Paid display increments. |
| 3 | __xx | Blank | Hopper Test | To activate this test, turn the Reset Key.  Ten coins are dispensed from the hopper, and the Winner Paid display increments. **Note:** If a secure count hopper and SP1160 are installed, the Credits display shows the hopper's status (left digit) and the hopper level (right digit).<br><br>Hopper Status    Description<br>0                          Status OK<br>1                          Optics Flooded with Light<br>2                          Coin Out Reverse Direction Directed<br>3                          Coin Optic Exit Time Too Short<br>4                          Coin Optic Exit Time Too Long<br><br>Hopper Level     Description<br>0                          Hopper Low<br>1                          One-Third Full<br>2                          Two-Thirds Full<br>3                          Hopper Full |

| Group 4:  Miscellaneous Tests and Configurations (Continued) | | | | |
|---|---|---|---|---|
| CP Display | WP Display | Credit Display | Test/ Function | Action |
| 4 | xxxx | xxxx | Paytable Test | To begin this test, turn the Reset Key.  The game type, SP, and SS version are shown in the Credit and Winner Paid displays.  Input a physical reel position (1-22) for each reel.  The Winner Paid display indicates the selected position; the Credit display indicates the selected reel.  Increment the physical position by pressing the Spin button.  Advance through the next two Reels' information by turning the Reset Key.  When finished, turn the Reset Key a fourth time to spin the reels to their physical stops.  The Credit display indicates the pay amount. The left most digit of the Winner Paid display indicates the wager amount (this amount can be changed by pressing the Spin button). **Note:**  When the primary or secondary progressive combinations are tested, only the paytable amount is displayed.  Refer to the program's PAR sheet to obtain physical position numbers. |
| 5 | xxxx | xxxx | Reel-Strip Test | To begin this test, turn the Reset Key. Input the physical reel positions for each reel (refer to the Paytable Test procedures). When finished, turn the Reset Key to spin the reels. The Winner Paid and Credit displays show the reel number and the virtual range of numbers for each physical symbol.  Press the Spin button to view the virtual position for each reel. Use the PAR sheet's expanded reel strip listing to verify the displayed information. |
| 6 | Blank | xxxx | Denomination Display | The Credit display shows current machine denomination setting. **Note:**  A SET Chip is required to change this option. |

## Group 4:  Miscellaneous Tests and Configurations (Continued)

| CP Display | WP Display | Credit Display | Test/ Function | Action |
|---|---|---|---|---|
| 7 | xxxx | ___1 | Hopper Limit | This option allows the user to set the maximum amount, in credits, that the machine pays from the hopper.  Press the Spin button to increment the selected digit; use the Reset Key to advance to the next digit. |
| 7 | xxxx | ___2 | Jackpot Limit | This option allows the user to set the machine's jackpot limit.  A single win in excess of this amount initiates a handpay lockup. Press the Spin button to increment the selected digit; use the Reset Key to advance to the next digit. |
| 7 | xxxx | ___3 | Credit Limit | This option allows the user to set the maximum amount of credits that can be accumulated on the machine.  Press the Spin button to increment the selected digit; use the Reset Key to advance to next digit. |
| 7 | xxxx | ___4 | Upper Jackpot Limit | This option allows the user to set the Upper Jackpot Limit. **Note:**  This option is displayed only if the *Jackpot to Credit* option is enabled. Refer to the PSR for detailed information. |
| 7 | Blank | xxxx | Bill Credit Limit | This option allows the user to set the maximum amount of credits that can be accumulated on the machine before the bill acceptor is disabled. Press the Spin button to increment the selected digit; use the Reset Key to advance to next digit. |

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| Group 4:  Miscellaneous Tests and Configurations (Continued) | | | | |
|---|---|---|---|---|
| **CP Display** | **WP Display** | **Credit Display** | **Test/ Function** | **Action** |
| 8 | xxxxx | Blank | Partial Pay Amount | This option allows the user to set the Partial Pay Amount.  Select the digit by turning the Reset Key.  The selected digit blinks.  Increment the value of the digit by pressing the Spin button; when finished, press the Self-Test switch to save the new value.<br>**Note:**  This amount cannot exceed 9000.  If this amount exceeds either the Hopper Limit or the Jackpot limit, this option is disabled. |
| 9* | ___1 | Blank | Stand Alone Progressive Display | This option allows the user to set the Primary Level Stand Alone Progressive Reset Amount.<br>**Note:**  This option is displayed only if the Primary Level is set to *Stand Alone*.  Refer to the PSR for detailed information. |
| 9* | ___2 | Blank | Stand Alone Progressive Display | This option allows the user to set the Primary Level Stand Alone Progressive Maximum Amount.<br>**Note:**  This option is displayed only if the Primary Level is set to *Stand Alone*.  Refer to the PSR for detailed information. |
| 9* | ___3 | Blank | Stand Alone Progressive Display | This option allows the user to set the Primary Level Stand Alone Progressive Increment Rate.<br>**Note:**  This option is displayed only if the Primary Level is set to *Stand Alone*.  Refer to the PSR for detailed information. |

| CP Display | WP Display | Credit Display | Test/ Function | Action |
|---|---|---|---|---|
| 9* | ___4 | Blank | Stand Alone Progressive Display | This option allows the user to set the Primary Level Stand Alone Current Amount.<br>**Note:** This option is displayed only if Primary Level is set to *Stand Alone*. Refer to the PSR for detailed information. |
| 9* | ___5 | Blank | Stand Alone Progressive Display | This option allows the user to set the Secondary Level Stand Alone Progressive Reset Amount.<br>**Note:** This option is displayed only if the Secondary Level is set to *Stand Alone*. Refer to the PSR for detailed information. |
| 9* | ___6 | Blank | Stand Alone Progressive Display | This option allows the user to set the Secondary Level Stand Alone Progressive Maximum Amount.<br>**Note:** This option is displayed only if the Secondary Level is set to *Stand Alone*. Refer to the PSR for detailed information. |
| 9* | ___7 | Blank | Stand Alone Progressive Display | This option allows the user to set the Secondary Level Stand Alone Progressive Increment Rate.<br>**Note:** This option is displayed only if the Secondary Level is set to *Stand Alone*. Refer to the PSR for detailed information. |
| 9* | ___8 | Blank | Stand Alone Progressive Display | This option allows the user to set the Secondary Level Stand Alone Current Amount.<br>**Note:** This option is displayed only if the Secondary Level is set to *Stand Alone*. Refer to the PSR for detailed information. |

**Group 4:  Miscellaneous Tests and Configurations (Continued)**

| **Group 4: Miscellaneous Tests and Configurations (Continued)** |
| CP Display | WP Display | Credit Display | Test/ Function | Action |
|---|---|---|---|---|
| 9* | Blank | ___x | Link Progressive Display | This display indicates the number of link progressive levels enabled. Press the Spin button to view the current progressive amount for each link level. **Note:** This option is displayed only if at least one level is set to *Link Progressive*. Refer to the PSR for more information. |
| 11** | xx | Blank | Bill Reject Limit | This option allows the user to determine the number of times a bill can be rejected before the change lamp is lit. Press the Spin button to increment the selected digit; use the Reset Key to advance to next digit (00-99). The Coins Paid display alternately shows each digit of each of the two-digit number. |
| 90** | 0__0 | Blank | Out of Service Mode | This option allows the user to place the machine into an Out of Service mode. Press the Spin button and close the main door to activate the mode. A "1__1" on the machine's Coins Paid display indicates that the Out of Service mode has been enabled. **Note:** Each digit of the two-digit number, 1__1, is alternately displayed. |

## Group 5: *S-Plus* Error (Tilt) Codes

**Note:**  With many tilt conditions, after all repairs and testing are complete, it is necessary to close the main door in order to clear the tilt message.

| Group 5: *S-Plus* Error Codes | | |
|---|---|---|
| **Tilt Codes** | **Malfunction** | **Condition/Action Required** |
| 12 | Low Battery | Replace the battery on the processor board. |
| 21 | Coin-In Jam | Check for an obstruction in coin-in path and verify ABC Optics. |
| 23 | Excessive Coins In | Check coin-in optic board for proper operation |
| 3100 | Extra Coin Out | Check the hopper brake spring, verify the coin-out optic using both the input test and the hopper test. |
| 3200 | Coin-Out Jam | Check for an obstruction in the coin-out path and verify coin-out optics using the input test. |
| 3300 | Hopper Empty | If the hopper is not empty, check for a jammed hopper by performing the hopper test. |
| 34_0 | Coin-Out Optics Flooded with Light | The Secure Count Hopper sensor has detected an attempt to cheat the hopper.  Clear this tilt by closing the main door. **Note:**  This tilt information applies only if a secure count hopper is installed. |

| Group 5: *S-Plus* Error Codes (Continued) | | |
|---|---|---|
| **Tilt Codes** | **Malfunction** | **Condition/Action Required** |
| 35_0 | Coin-Out Reverse Direction | The Secure Count Hopper sensor has detected that an object has been inserted into the coin-out path.  Clear this tilt by closing the main door.<br>**Note:**  This tilt information applies only if a secure count hopper is installed. |
| 36_0 | Coin Optic Exit Time Too Short | This sensor detects when the coin-out optic is blocked for a time period that is less then standard duration.  Clear this tilt by closing the main door.<br>**Note:**  This tilt information applies only if a secure count hopper is installed. |
| 36_1 | Coin-Out Exit Time Too Long | This sensor detects when the coin-out optic is blocked for a time period that extends past the standard duration.  Clear this tilt by closing the main door.<br>**Note:**  This tilt information applies only if a secure count hopper is installed. |
| 41 | Reel #1 Tilt | Check for an obstruction on indicated reel assembly.  Exchange the reel mechanism with known working assembly, and perform either a reel strip or a paytable test.  Also, verify the reel optic with an input test. |
| 42 | Reel #2 Tilt | Refer to Tilt Code 41. |
| 43 | Reel #3 Tilt | Refer to Tilt Code 41. |
| 44 | Reel #4 Tilt | Refer to Tilt Code 41. |

| Group 5: *S-Plus* Error Codes (Continued) | | |
|---|---|---|
| **Tilt Codes** | **Malfunction** | **Condition/Action Required** |
| 45 | Reel #5 Tilt | Refer to Tilt Code 41. |
| 49 | Reel Mechanism Disconnected | Check all of the reel mechanism connectors. |
| 61 | Bad CMOS RAM | Press and hold the Self Test button for approximately two seconds. The machine sounds a tone and displays "61_1." |
| 61_1 | Game Data Reset | Close the main door and turn the Reset Key. |
| 61_2 | Recoverable CMOS Error | Press and hold the Self Test button for approximately two seconds. The machine sounds a tone and displays "61_1." |
| 61_3 | Hardware Malfunction | Press and hold Self Test button for approximately two seconds. The machine sounds a tone and displays "61_1." |
| 62_0 | Bad Game PROM | Ensure that the game prom (SP PROM) is properly inserted; replace if necessary. |
| 62_1 | Bad Data (Reel) PROM | Ensure that the data prom (Reel or SS) is properly inserted; replace if necessary. |
| 64_1 | Communication Link Down | This code indicates that a progressive link is down. Verify connections with the progressive equipment (e.g., Mikhon®, CCOM, etc.). |
| 65_0 | Bad EEPROM Device | Replace the EEPROM. |
| 65_1 | Bad EEPROM Data | Press and hold the Self Test button for approximately two seconds. |
| 65_2 | Game Type Mismatch | Press and hold the Self Test button for approximately two seconds. |

## Group 5: *S-Plus* Error Codes (Continued)

| Tilt Codes | Malfunction | Condition/Action Required |
|---|---|---|
| 65_3 | Game Options and Meters Not in Most Current Format | Turn the Reset Key to update the EEPROM to the new format (see 65_1). **Note:** The format recovery process may require a SET Chip. |
| 66 | Game PROM Changed | Cycle the machine's power. |
| 67 | Data (Reel) PROM Changed | Cycle the machine's power. |
| 68 | Non-Compatible Data (Reel) PROM | The game type is not supported; install the correct EPROM. |
| 99_1 | Stacker Jam | Check the bill acceptor transport and the cash box for a bill jam. |
| 99_2 | Cash Box Removed | Check and/or reseat the bill acceptor cash box. |
| 99_4 | Cash Box Full | Empty and/or replace the bill acceptor cash box. |
| 99_5 | Hardware Error | Exchange the bill acceptor components with a known working assembly in order to isolate the failed component(s). |
| 99_6 | Reverse Bill Detected | Check for attempted cheating.  If necessary, exchange the bill acceptor transport assembly with a  known working assembly. |

## Group 6:  Statistical Data Mode

To access the Statistical Data mode, close the main door, ensure that the machine is in the Idle mode, and turn the Reset Key.  Advance to each function by turning the Reset Key, and, within each function, advance by pressing the Spin button.  The machine automatically exits this mode after either 60 seconds of inactivity or if its main door is closed.  This mode can not be accessed if the machine is in either the Self Test and the Diagnostic mode.

**Note:**    If this mode is accessed while the main door is open, some EFT functions will not be displayed.

| Group 6: Statistical Data Mode | | | | | |
|---|---|---|---|---|---|
| **Reset Key** | **Spin Button** | **WP Display** | **Cdt. Display** | **CP Display** | **Description** |
| 1 Time | | __00 | Blank | Blank | WAMM/CCOM Address |
| 2 Times | Press to View | 01__ | Blank | 1 | Display Meters; Group 1: Master Money Accounting |
| 3 Times | Press to View | 02__ | Blank | 1 | Display Meters; Group 2: Master Statistics Accounting |
| 4 Times | Press to View | 03__ | Blank | 1 | Display Meters; Group 3: Master Bill Accounting |
| 5 Times | Press to View | 04__ | Blank | 1 | Display Meters; Group 4: Master EFT Accounting |
| 6 Times | Press to View | 05__ | Blank | 1 | Display Meters; Group 5: Period Bill Accounting |
| 7 Times | Press to View | 06__ | Blank | 1 | Display Meters; Group 6: Security Accounting |
| 8 Times | Press to View | 07__ | Blank | 1 | Display Meters; Group 7: Error Accounting |
| 9 Times | Press to View | 08__ | Blank | 1 | Display Meters; Group 8: Progressive Accounting |

| Group 6: Statistical Data Mode (Continued) | | | | | |
|---|---|---|---|---|---|
| Reset Key | Spin Button | WP Display | Cdt. Display | CP Display | Description |
| 10 Times | Press to Activate | Blank | Blank | 2 | Last 10 Games Recall |
| 11 Times | Press to View | 9999 | 9999 | 9 | Displays Last Five Bill Acceptor Transactions<br>1 = Most Recent  5 = Oldest |
| 12 Times | Press to View | __00 | | 3 | IGT Service Utility Information |
| 13 Times | Press to View | 50__ | Blank | 4 | Progressive Jackpot Recall (Last 50) |
| 14 Times | Press to View | x_xx | ___x | 5 | EFT Transactions /Downloaded Non-Cashable Credits |
| 15 Times | Press to View | x_xx | ___x | 6 | EFT Transactions/Downloaded Cashable Credits |
| 16 Times | Press to View | x_xx | ___x | 7 | EFT Transactions/Downloaded Promotional Credits |
| 17 Times | Press to View | | | 8 | EFT Transactions/Cashouts to System |
| 18 Times | Press to View | | | 9 | EFT Transactions/Cashouts to Hopper |
| 19 Times | Press to Activate | xxxx | xxxx | 10 | Clear Resettable Bill Meters |
| 20 Times | Press to View | Blank | Blank | 12 | Coupon Credit Meters |
| 21 Times | Press to View | Blank | Blank | 17 | Cumulative Coupon Capability Meters |
| 22 Times | Press to View | Blank | Blank | 18 | Last 5 Coupon Transactions |
| 23 Times | | | | | Exit |

## Group 7: Display Meters Function

The Display Meters function allows the viewing of machine accounting data.  This data is divided into eight groups.  Select the meter group by turning the Reset Key, and press the Spin button to view the data.  The Winner Paid and Credit displays will alternately show the meter value and the current group and meter number.

Example:  WP Display   Cdt. Display

             0056         4893      Coin Out Meter Value

             01__        __02      Group and Meter Numbers

| Group 7: Display Meters Function | | | |
|---|---|---|---|
| **Group 1: Master Money Accounting** | | | |
| 01 | Coin-In (Total Wagers) | 08 | Coin Dispensed from Hopper |
| 02 | Coin-Out | 09 | Credits Played |
| 03 | Drop (Bill/Coin) | 10 | Credits Won |
| 04 | Drop (Coin) | 11 | Credits Paid |
| 05 | Canceled Credits (Hand Paid CashOuts) | 12 | Hopper Throughput Sign (0: Positive, 1: Negative |
| 06 | Jackpots (In Coin) | 13 | Hopper Throughput (Total Coin In/Out of Hopper) |
| 07 | Physical Coin Inserted | | |

| Group 7: Display Meters Function (Continued) |||||
|---|---|---|---|---|
| **Group 2: Master Statistics Accounting** |||||
| 01 | Games Played | | 08 | Games Played with 5 Coins |
| 02 | Games Won | | 09 | Games Played with 6 Coins |
| 03 | Games Lost | | 10 | Games Played with 7 Coins |
| 04 | Games Played with 1 Coin | | 11 | Games Played with 8 Coins |
| 05 | Games Played with 2 Coins | | 12 | Games Played with 9 Coins |
| 06 | Games Played with 3 Coins | | 13 | Games Played with 10 Coins |
| 07 | Games Played with 4 Coins | | | |
| **Group 3: Master Bill Accounting** |||||
| 01 | $1 Bills Accepted | | 07 | $100 Bills Accepted |
| 02 | $2 Bills Accepted | | 08 | Bills Accepted |
| 03 | $5 Bills Accepted | | 09 | Coins or Credits Dispensed for Bills |
| 04 | $10 Bills Accepted | | 10 | Dollar Value of Bills Accepted |
| 05 | $20 Bills Accepted | | 11 | Bill Acceptor Cash Box Removed |
| 06 | $50 Bills Accepted | | 12 | Bill Acceptor Cash Box Full |
| **Group 4: Master EFT Accounting** |||||
| 01 | Cashable Credits Downloaded | | 03 | Promotional Credits Downloaded |
| 02 | Non-Cashable Credits Downloaded | | 04 | Credits Cashed Out to System |

| Group 7: Display Meters Function (Continued) | | | |
|---|---|---|---|
| **Group 5: Period Bill Accounting** | | | |
| 01 | $1 Bills Accepted Since Last Reset | 06 | $50 Bills Accepted Since Last Reset |
| 02 | $2 Bills Accepted Since Last Reset | 07 | $100 Bills Accepted Since Last Reset |
| 03 | $5 Bills Accepted Since Last Reset | 08 | Bills Accepted Since Last Reset |
| 04 | $10 Bills Accepted Since Last Reset | 09 | Coins or Credits Dispensed for Bills Since Last Reset |
| 05 | $20 Bills Accepted Since Last Reset | 10 | Dollar Value of Bills Accepted Since Last Reset |
| **Group 6: Security Accounting** | | | |
| 01 | Games Played Since Last Main Door Closed | 03 | Door Opens |
| 02 | Games Played Since Last Power Up | 04 | Coin Drop Door Opens |
| **Group 7: Error Accounting** | | | |
| 01 | Coin-In Tilts | 08 | Reel # 3 Tilts |
| 02 | Hopper Empty Tilts | 09 | Reel # 4 Tilts |
| 03 | Coin-Out Tilts | 10 | Reel # 5 Tilts |
| 04 | Power Resets | 11 | Reel Mechanism Tilts |
| 05 | Processor Board Battery Tilts | 12 | Bill Acceptor Stacker Jams |
| 06 | Reel # 1 Tilts | 13 | Bill Acceptor Hardware Tilts |
| 07 | Reel # 2 Tilts | 14 | Bill Acceptor Reverse Bills |

| Group 7: Display Meters Function (Continued) | | | |
|---|---|---|---|
| Group 8: Progressive Accounting | | | |
| 01 | Total Progressive Hits | 03 | Primary Progressive Hits |
| 02 | Reserved | 04 | Secondary Progressive Hits |

## Group 8:  Last 10 Games Recall Function & Bill Acceptor Transactions

To access this mode, turn the Reset Key 10 times.  The Coins Played display shows a "2," and the Spin button illuminates.  Pressing the Spin button repetitively (e.g., SB 1st = pressing the spin button the first time) allows the user to maneuver through the following data.

| **Group 8: Last 10 Games Recall Function** | | | | |
|---|---|---|---|---|
| **SB 1st** | **SB 2nd, 3rd*** | **SB 4th*** | **SB 5th*** | **SB 6th*** |
| The reels spin to the position of the most recent game. The Winner Paid display indicates the first reel number (1) and the stop position (before the nudge feature).  The Credit display indicates the number of the game currently being displayed (1 through 10).** | The Winner Paid display indicates the next reel number (2, 3, etc.)* and the stop position (before the nudge feature).  The Credit display indicates the number of the game currently being displayed (1 through 10).** | The amount won, the credits remaining, and the number of coins wagered for the game are shown in the appropriate displays. | The last cashout amount and total cashout since the end of the game (includes EFT download and using machine as a bill changer events). | The entire display process is repeated for the second, third, forth, etc. game. |

*The number of times that the Spin button is pushed to cycle through all of the reels and their stops depends on the number of reels installed on the machine.
**If the installed game is a Type 1, the Credit display indicates the reel number and virtual position after nudging; if the game is either a Type 4 or a type 5, the Credits display indicates either a "0" (standard game) or a "1" (free spin game).
**Note:**  Use the associated PAR sheet to verify all virtual and symbol stops.

| Group 8: Last 10 Games Recall Function Examples | | | | |
|---|---|---|---|---|
| **Example #1** | **Spin Button** | **WP Display** | **Cdt. Display** | **CP Display** |
| | Pressed 1st Time | 0_04 | 1___ | 2 |
| | | Reel # 1 at Virtual Position 04 | 1st Game Back | |
| | Pressed 2nd Time | 2_12 | 1___ | 2 |
| | | Reel # 2 at Virtual Position 12 | 1st Game Back | |
| | Pressed 3rd Time | 3_38 | 1___ | 2 |
| | | Reel # 3 at Virtual Position 38 | 1st Game Back | |
| | Pressed 4th Time | 10___ | 10___ | 3 |
| | | Winner Paid 10 | 10 Credits Remaining | 3 Credits Bet |

| Group 8: Last 10 Games Recall Function Examples (Continued) | | | | |
|---|---|---|---|---|
| **Example #2** | **Spin Button** | **WP Display** | **Cdt. Display** | **CP Display** |
| | Pressed 1st Time | 1_36 | 4___ | 2 |
| | | Reel # 1 at Virtual Position 36 | 4th Game Back | |
| | Pressed 2nd Time | 2_14 | 4___ | 2 |
| | | Reel # 2 at Virtual Position 14 | 4th Game Back | |
| | Pressed 3rd Time | 3_64 | 4___ | 2 |
| | | Reel # 3 at virtual position 64 | 4th game back | |
| | Pressed 4th Time | 2/40 (Alternating) | ___ | 1 |
| | | 2 Credits Won 40 Cashed Out | | 1 Credit Wagered |
| | | 40__ | 40__ | |
| | | 40 Coins Cashed Out | | |

**Bill Acceptor Transactions:**  To access the Bill Acceptor Transactions mode, turn the Reset Key 11 times. Ensure that all displays show a "9."  Press the Spin button to view the last five bill transactions, beginning with the most recent.  The Winner Paid display shows the number of coins dispensed or credits issued for bill, the Credit display shows the bill's denomination, and the Coins Played display indicates the number of the bill currently being displayed (1 through 5).

| Group 8: Bill Acceptor Transactions Example | | |
|---|---|---|
| **WP Display** | **Cdt. Display** | **CP Display** |
| ___80 | ___20 | 2 |
| 80 Credits Issued | $20 Bill Accepted | 2nd Bill Transaction |

## Group 9:  Miscellaneous

**IGT Service Utility Information**
**(IGT Engineering Personnel Only)**

To access this information, turn the Reset Key 12 times.  The Coins Played display shows a "3."  The Winner Paid display shows each of the last 16 game events as a two digit code, beginning with the oldest event.  Press the Spin button to view each event code.

**Progressive Jackpot Recall**

To view the last 50 progressive wins, turn the Reset Key 13 times.  Press the Spin button to advance through each progressive win.  The Winner Paid display shows the jackpot event number (50 through 1), beginning with most recent.  If installed, the progressive display indicates the amount won for each jackpot event.

**Electronic Funds Transfer (EFT) Transactions**

EFT transactions are divided into five groups.  The Coins Played display indicates the group number (5 through 9).  To access the first EFT Transaction Group (the Coins Played display shows a "5"), turn the Reset Key 14 times.  Press the Spin button to view the last five EFT transactions within each group.

*Alternating

Acknowledge Bit - 1= Acknowledge Received, Transaction Processed / 0 = No Acknowledge, Transaction Not Processed

| Group 9: Electronic Funds Transfer (EFT) Transactions Example | | |
|---|---|---|
| **WP Display** | **Credit Display** | **CP Display** |
| x_yy* | xxxx* | x* |
| x= acknowledge bit | Number of Credits Transferred | EFT Transaction Group Number |
| y= transaction status | | |
| _xxx* | ___x* | x* |
| Transaction Number | Recall Number (1-5) – 1 (Current) to 5 (Oldest) | EFT Transaction Group Number |
| **CP Display** | **EFT Transaction** | |
| 5 | Downloaded Non-Cashable Credits | |
| 6 | Downloaded Cashable Credits | |
| 7 | Downloaded Promotional Credits | |
| 8 | Cashouts to System | |
| 9 | Forced Cashouts to Hopper | |
| **Transaction Status:** | | |
| 00= Successfully Completed | | |
| 01= No Game Denomination Set | | |
| 03= Download Credit Not a Multiple of Game Denomination | | |
| 04= Download Credit Exceeds Credit Limit | | |

**Clearing Resettable Bill Meters (Statistical Data Function 10)**

To clear the resettable bill meters, turn the Reset Key 19 times. The Coins Played display alternately shows a "1" and a "0" indicating that the Statistical Data Function 10 has been initialized. Press the Spin button to clear meters. Both the Winner Paid display and the Credit display show a "0."

**Note:** If any of the Resettable Bill meters are not "zeroed out" by this process, both the Winner Paid display and the Credits display show an "8."

**Coupon Credits (or EFT) Meters (Statistical Data Function 12)**

To access this function, turn the Reset Key 20 times. The Coins Played display alternately displays a "1" and a "2," indicating that the Statistical Data Function 12 has been initiated.

**Note:** The Statistical Data mode can not be accessed if the machine's main door is open.

Press Spin button to view the Coupon/EFT meters. If the Coins Played display shows a "1," the Credit display will show the meter for promotional credits. If CP display = 2, the Credit display will show the number of buffered credits (bill transactions and cashable and non-cashable EFT downloads).

**Cumulative Coupon Capability Meters (Statistical Data Function 17)**

To access this function, turn the Reset Key 21 times. The Coins Played display will alternately display a "1" and a "7" indicating that the Statistical Data Function 17 has been initiated. Press the Spin button to view each category. The Coins Played display indicates the category number.

| Group 9: Coupon Capability Meters ||
| Coins Played Dis-play | Coupon Meter Category |
| --- | --- |
| 1 | Total Number of Coupons Accepted |
| 2 | Total Number of Cashable Coupon Credits |
| 3 | Total Number of Non-Cashable Coupon Credits |
| 4 | Dollar Value of Cashable Coupon Credits |
| 5 | Dollar Value of Non-Cashable Coupon Credits |
| 6 | Total Dollar Value of Coupon Credits |

**Last 5 Coupon Transactions**

To access this function, turn the Reset Key 22 times. Press the Spin button to view the last five coupon transactions. The Coins Played display indicates the transaction number, beginning with most recent. The Winner Paid display indicates the number of coupon credits. The Credit display indicates the transaction type (0 = no coupon transaction, 1 = cashable coupon credits, and 2 = promotional coupon credits).