



MODULE 2

MK2-S5MOD-0001

SET UP AND OPERATION

For Customer Service and information:
+1-702-896-7772 Outside the U.S.
1-877-GO-BALLY (877) 46-22559 in the U.S. and Canada
896-7772 in Las Vegas
FAX: +1-702-896-7710
or visit our website at <http://www.ballygaming.com>

Module 2

Setup & Operations Table of Contents

Major Components Diagram - Upright	2-5
Major Components Diagram --Slant Top	2-6
Specifications	2-7
Electrical Specifications	2-7
Enviromental Specifications	2-7
Physical Specifications	2-7
Setup	2-9
MPU Jumper Selections	2-9
Battery Enable	2-9
Door Open Detect Circuit	2-9
DIP Switch Selections	2-10
SafeRAM™ Clear Procedure	2-11
Demo Mode	2-12
Real Time Clock (RTC)	2-12
Data Collection and Bonusing Systems	2-12
Machine Options	2-12
Machine Option Table	2-13
Tower Light Options	2-14
Option Descriptions	2-14
Machine Operation	2-17
Message Center	2-17
WIN PAID Decimal Points	2-17
Playing A Game	2-17
Credit Collect Messages	2-18
Accounting	2-18
Machine Meter Groups	2-19
Bookkeeping Meters	2-20
Win Records	2-20
Game Recall	2-21
Game Summary	2-22
Bill Transactions	2-22
Bill Transaction History	2-23
Progressive Jackpots	2-23
Current Progressive Values	2-24
SAS EFT History	2-24
Doors	2-24
Concept3®	2-24
Diagnostic Tests and Functions	2-25
#1 Model Information	2-25
#2 Output Test	2-26
#3 Input Test	2-28
Bill Acceptor Input Test	2-28
Coin Acceptor Test	2-28
Input Ports	2-28



Setup & Operations Table of Contents (cont.)

Diagnostic Tests and Functions (cont)

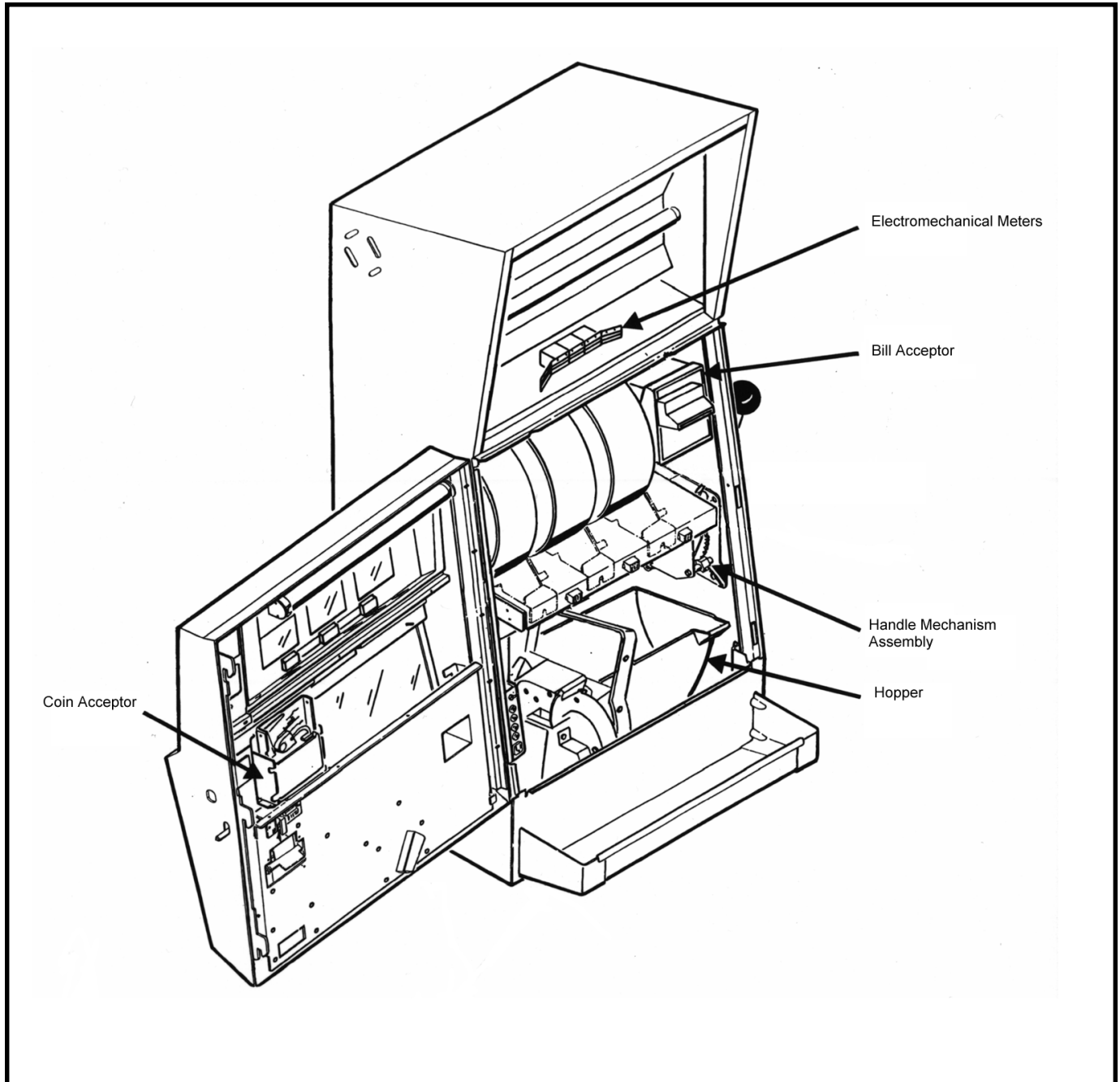
#4 Hopper Test	2-29
#5 Reel Function Test	2-29
#6 Reel Tape Test	2-29
#7 Reel Tilt and System Reset Records	2-29
#8 Slot Communications Test	2-30
#9 Display Test	2-30
#10 Payout Test	2-30

Troubleshooting 2-34

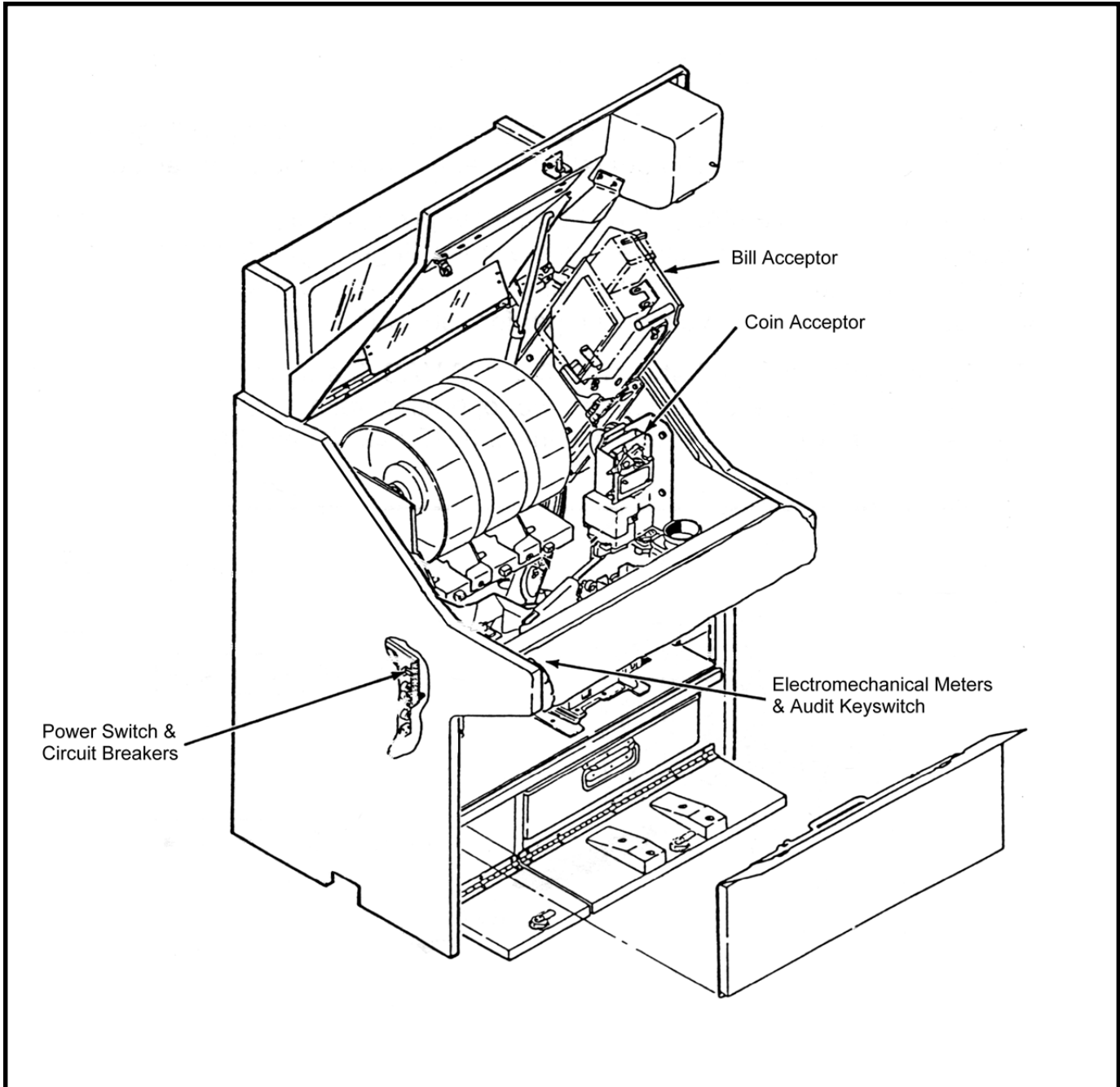
Power ON Malfunctions	2-31
Tilt Messages	2-31
Coin Acceptor Malfunctions, 2x Series Exception (tilt) Codes	2-31
Hopper Malfunctions, 3x Series Malfunction (tilt) Codes	2-31
Reel Malfunctions, 4x and 7x Series Malfunction (tilt) Codes	2-32
Memory Malfunctions, 8x Series Malfunction (tilt) Codes	2-32
Communication Errors, 9x Series Malfunction (tilt) Codes	2-32
Malfunction and Game Codes	2-33

Module 2 Setup & Operation

Major Components Diagram - Upright



Major Components Diagram --Slant Top



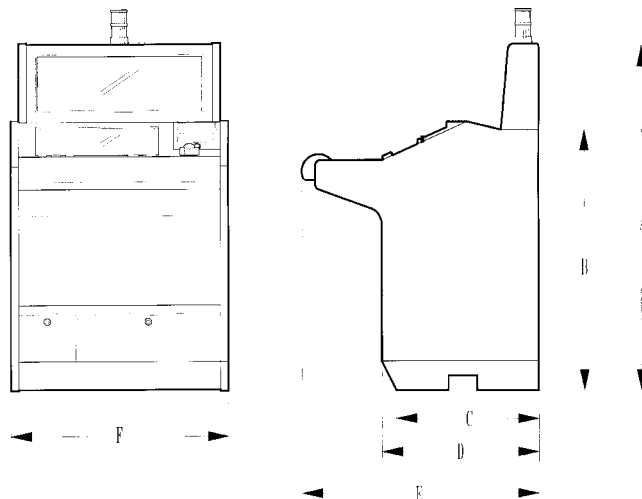
Specifications



WARNING: Use a maximum of six machines for each 120VAC 20A grounded circuit.

Electrical Specifications

Line Voltage	120 /240 VAC 50/60 Hz			
Power Supply Outputs	+5, +12, -12, +24 VDC			
Machine State	Idle	Play	Payout	Maximum Theoretical Draw
Current @ 120 VAC	1.1 Amp	1.2 Amp	1.7 Amp	2.35 Amp
Current @ 240 VAC	.55 Amp	.6 Amp	.85 Amp	1.18 Amp
Power	121W	132W	187W	259W



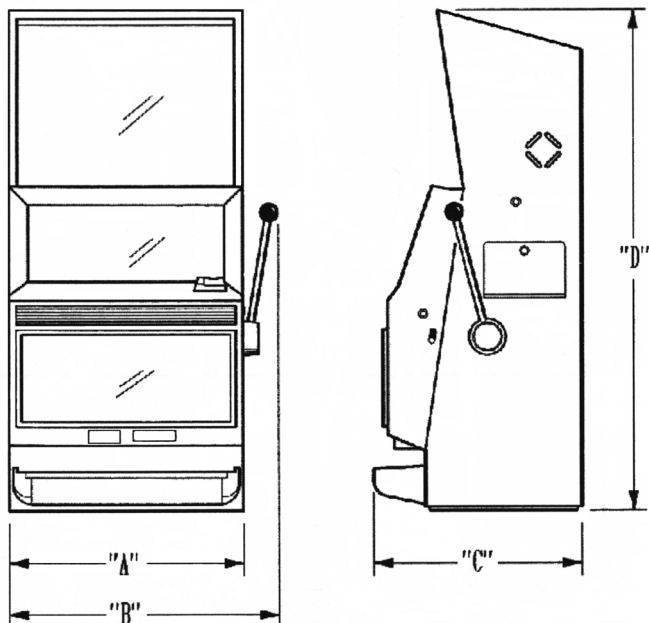
"S" Style Cabinet

Style	A	B	C	D	E	F	Weight
S	50 7/8" 129.24 cm	39 1/4" 99.7 cm	20 5/8" 52.39 cm	22 1/8" 56.2 cm	31 13/16" 80.8 cm	28 1/16" 75.57 cm	286lb 129.73 Kg
S (Extended)	53 3/8" 135.57 cm	39 1/4" 99.7 cm	20 5/8" 52.39 cm	22 1/8" 56.2 cm	31 13/16" 80.8 cm	28 1/16" 75.57 cm	289lb 131.09 Kg

Environmental Specifications

Ambient Temperature:
Max: 100°F (38°C) Min: 40°F (4°C)
Maximum Relative Humidity: 90%
Average Heat from Machine: 500 BTU/Hr.

Physical Specifications



"T" Style Cabinet

Cabinet Style	Width		Depth	Height	Approx. Weight
	A	B	C	D	
UT	19" 48.26 cm	22 1/4" 56.52 cm	20" 50.80 cm	30 1/2" 77.47 cm	200 lb 90.72 Kg
LT	21 1/4" 53.98 cm	24 1/2" 62.23 cm	20" 50.80 cm	30 1/2" 77.47 cm	202 lb 91.62 Kg
VT	19" 48.26 cm	22 1/4" 56.52 cm	20" 50.80 cm	40" 101.60 cm	206 lb 93.44 Kg
CT	21 1/4" 53.98 cm	24 1/2" 62.23 cm	20" 50.80 cm	40" 101.60 cm	212 lb 96.16 Kg
XT	19" 48.26 cm	22 1/4" 56.52 cm	20" 50.80 cm	46 1/4" 117.48 cm	214 lb 97.07 Kg
WT	21 1/4" 53.98 cm	24 1/2" 62.23 cm	20" 50.80 cm	46 1/4" 117.48 cm	217 lb 98.43 Kg
7T	19" 48.26 cm	22 1/4" 56.52 cm	20" 50.80 cm	52 1/4" 132.72 cm	222 lb 100.70 Kg
HT	21 1/4" 53.98 cm	24 1/2" 62.23 cm	20" 50.80 cm	52 1/4" 132.72 cm	227 lb 102.97 Kg

Installing the Machine

Installation Checklist

- ☐ Review environmental and power requirements
- ☐ Unpack and inspect machine
- ☐ Secure the machine to the stand (upright)
- ☐ Install locks
- ☐ Setup
- ☐ SafeRAM™ Clear
- ☐ Set game options

Review Power and Environmental Requirements

Line power must provide an earth ground for safe operation. Do not overload the circuit. Refer to Electrical Specifications on page 2-6 for more information.

Unpack and Inspect Machine

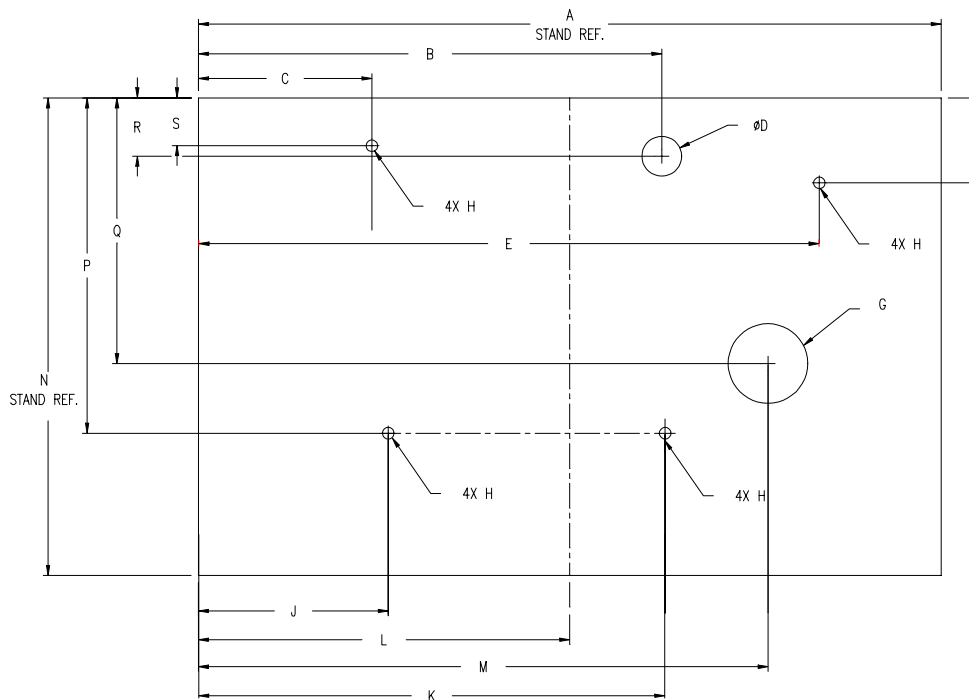
Unpack and inspect the machine. If the machine is damaged, contact your Bally Gaming and Systems Distributor or Customer Service Representative for Return Merchandise Authorization (RMA) information.

Carefully unpack and remove all loose parts. Verify that the power cord is properly routed out of the cabinet. Remove all packing materials from the hopper. Locate the cloth bag of lock cams and mounting hardware.

Verify Specific Model Information (SMI) information before continuing to install the machine.

Secure the Machine

Remove the hopper. Mark the center of the stand. Drill the required mounting, drop chute, and power cord holes. Using a lifting device, place the machine on the stand and route the power cord through the stand hole. Bolt the machine to the stand. Inspect for loose connectors and verify all printed circuit boards are firmly seated.



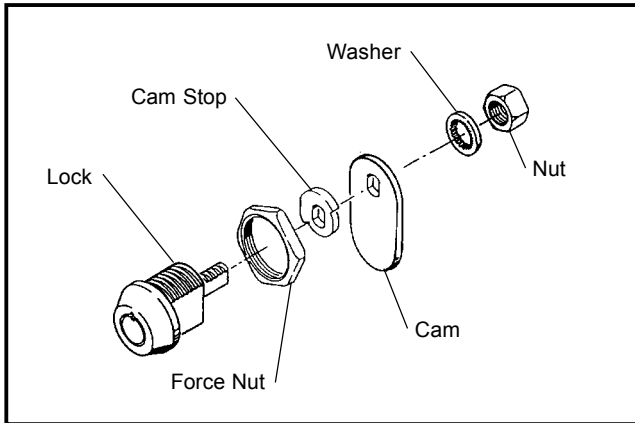
Footprint - ProSlot® 5500

A	B	C	D	E	F	G	H	J
28" 71.12 cm	17 ¹⁵ / ₃₂ " 44.37 cm	6 ¹⁷ / ₃₂ " 16.61 cm	R 1 1/2" R 3.81 cm	23 ¹³ / ₃₂ " 59.45 cm	3 ⁷ / ₃₂ " 8.15 cm	R 3" R 7.62 cm	R ⁷ / ₁₆ " R 1.12 cm	7 ⁵ / ₃₂ " 18.16 cm
K	L	M	N	P	Q	R	S	
17 ⁹ / ₁₆ " 44.61 cm	14" 35.56 cm	21 ¹⁵ / ₃₂ " 54.53 cm	18" 45.72 cm	12 ⁵ / ₈ " 32.11 cm	10" 25.43 cm	2 ¹³ / ₆₄ " 5.59 cm	1 ¹³ / ₁₆ " 4.60 cm	

Install Locks

Door, Stand, and other high-security locks should be ordered by the Operator from a reliable lock supplier. See Module 3 Assemblies, Parts, & Hardware for lock specifications.

Remove the large and small nuts from the lock and insert the lock into the lock opening. Check the lock for proper orientation before securing. Secure the lock with the large nut. Place the cam stop on the lock cylinder. Attach the lock cam to the shaft and verify that it moves in the correct direction. Secure the lock cam with the washer and small nut.



Typical Lock & Cam Assembly



WARNING: Attempting to charge Lithium batteries can cause them to explode. Replace failed batteries with Bally Gaming part E-00628-0023 or its equivalent.

Setup

Plug the line cord into a grounded power source, but do not turn the machine on.



Note: The Convenience Outlet has power although the machine power switch is OFF.

MPU Jumper Selections

Battery Enable

The Lithium battery may be disabled for shipping or storage. To enable the battery, locate jumper JW12 near the battery and place the jumper across the two pins.

Door Open Detect Circuit

Some jurisdictions require a signal for a door opening while the machine power is OFF. To enable the Door Open Latch, place the jumper at JW11 in Position 1. Default is OUT (OFF).

The following table lists 2-pin and 3-pin jumper selections.



MPU Jumper Selections				
Jumper	Shipping Position	Purpose	Position 1	Position 2
JW1	OUT	External Antenna	IN	OUT
JW2	IN	Wait State	IN	OUT
JW4	512K	EPROM Size	256K	512K
JW5	512K	EPROM Size	256K	512K
JW6	512K	EPROM Size	256K	512K
JW8	IN	PCB Antenna	IN	OUT
JW9	RS-232	Serial Standard	RS-232	RS-422
JW10	IN	SafeRAM™ Clear (unused)	IN	OUT
JW11	OUT	VBB Door Open Latch	IN	OUT
JW12	OUT	Battery	IN	OUT
JW13	IN	SafeRAM™ Key	IN	OUT
JW14	IN	VBATT to RAM	IN	OUT



Note: If Door Open detection circuits are enabled, an Audit Keyswitch activation is required to remove the 82 code after power is switched ON.

DIP Switch Selections

Two eight-switch DIP packages labeled on the MPU board as JW3 and JW7 set the following machine functions:

JW3 - Denomination, Bill Acceptor, Reel Spin, Diverter Optic, EFT present (MC=01)

JW3 sw1- sw4 Denomination					
sw1	sw2	sw3	sw4	Value	Denomination
ON	ON	ON	ON	0000	500
OFF	ON	ON	ON	0001	250
ON	OFF	ON	ON	0002	100
OFF	OFF	ON	ON	0003	50
ON	ON	OFF	ON	0004	25
OFF	ON	OFF	ON	0005	20
ON	OFF	OFF	ON	0006	10
OFF	OFF	OFF	ON	0007	5
ON	ON	ON	OFF	0008	2
OFF	ON	ON	OFF	0009	1
ON	OFF	ON	OFF	0010	0.50
OFF	OFF	ON	OFF	0011	0.25
ON	ON	OFF	OFF	0012	0.20
OFF	ON	OFF	OFF	0013	0.10
ON	OFF	OFF	OFF	0014	0.05
OFF	OFF	OFF	OFF	0015	0.01
ON	ON	ON	ON	0016	\$4 (Market 07)
ON	ON	ON	ON	0017	2.5 (International)

JW3 sw5 - sw6 Bill Acceptor			
sw5	sw6	Value	Bill Acceptor
ON	ON	00	No Acceptor
OFF	ON	01	GPT / JCM DBV,IBA,SRA
ON	OFF	02	JCM CBA
OFF	OFF	03	Reserved

JW3 sw7- sw8 Special Features	
sw7	Game Feature
ON	Normal Reel Spin
OFF	Crazy Reel Spin
sw8	Diverter Optic Support
ON	Not Present
OFF	Present
sw8 and MC=01	EFT Support
ON	Not Present
OFF	Present

JW3 Switches 7-8 Special Features

The ProSlot® 5500 supports crazy reel spin where the reels spin randomly forward or reverse. Also, some markets require an optic switch to verify Coin Diverter position. Market Code 01 requires an additional protocol selection for Electronic Funds Transfer.

JW7 - Market Code, Reel Map-Win Table

JW7 Switches 1-4 Market Code

Market Code designates specific operation according to the requirements of a gaming control agency.

JW7 sw1- sw4 Market Code					
sw1	sw2	sw3	sw4	VALUE	MARKET
ON	ON	ON	ON	00	Nevada,VLC
OFF	ON	ON	ON	01	New Jersey
ON	OFF	ON	ON	02	Deadwood, SD; Quebec, Canada
OFF	OFF	ON	ON	03	France-nominal %
ON	ON	OFF	ON	04	France-basic %
OFF	ON	OFF	ON	05	Puerto Rico
ON	OFF	OFF	ON	06	South Africa
OFF	OFF	OFF	ON	07	Special Denomination (AZ, International)
ON	ON	ON	OFF	08	Indiana
OFF	ON	ON	OFF	09	Missouri
ON	OFF	ON	OFF	10	Colorado
OFF	OFF	ON	OFF	11	US Air Force
ON	ON	OFF	OFF	12	Ontario Lottery Commission
OFF	ON	OFF	OFF	13	Mississippi
ON	OFF	OFF	OFF	14	Germany
OFF	OFF	OFF	OFF	15	New Mexico

JW7 Switches 5-8 Reel Map-Win Table

The default MAP 00—WIN 00 is the only configuration supported. JW7 sw5-sw8 should be left in the default ON position.



Note: Jumper and DIP Switches are enabled only once after each Complete SafeRAM™ Clear.

SafeRAM™ Clear

A SafeRAM™ Clear erases information stored within battery-backed random access memory (RAM). A Complete SafeRAM™ Clear is essential before the first use, when EPROMs are changed, or if game memory becomes corrupted.

There are three levels of SafeRAM™ Clear:

Complete - Erases and reformats SafeRAM™. Game options are restored to factory default. All counters (soft meters) reset to zero.

Full - Resets all counters to zero except the SafeRAM™ Clear counters. Game options are restored to factory default.

Partial - Zeros all counters except SafeRAM™ Clear. All game configurations defined by DIP switches, jumper selections, and game options are preserved.

SafeRam™ Clear EPROMs with the corresponding Mains. Replace MPU Assembly and switch machine power ON. The machine will enter a Reel Calibration procedure whereby the home position is recorded in SafeRAM™. For tilt-free operation it is important that the procedure completes without interruption.



Note: If Market Code = 12, the MPU TEST button is inactive. A second keyswitch provides TEST functions.



Note: SafeRAM™ Clear EPROMs are required. Contact your Bally Gaming and Systems Distributor for part #ME9X0001-9 (set of two).

SafeRAM™ Clear Procedure

For a Complete, Full, or Partial SafeRAM™ Clear, turn the machine power OFF. Unlock and remove the MPU Assembly. Remove the Main EPROMs from U12 and U15 and replace them with the corresponding Clear Chips. Upon ensuring that the MPU Assembly is firmly seated into the Backplane Board, turn the machine power ON while depressing the appropriate buttons.

Complete - Press and hold the PSEUDO COIN and TEST buttons, then switch power ON. When the message **CH C** displays in WIN PAID, release the PSEUDO COIN and TEST buttons. The **CH C** message is followed by **CL C**.

Full - Press and hold the PSEUDO COIN button, then switch power ON. When the message **CH F** appears in WIN PAID, release the PSEUDO COIN button. The **CH F** message is followed by **CL F**.

Partial - Switch power ON. The message **CH P** displays in WIN PAID. The **CH P** message is followed by **CL P**.

If an error was detected during SafeRAM™ Clear as designated by **E C**, **E F**, **E P** in WIN PAID, repeat the operation.

Upon a successful SafeRAM™ Clear, the button and tower lamps flash. Switch power OFF and replace the

Switch Functions

The buttons on the Players Panel and on the MPU Assembly have multiple uses.

ProSlot® 5500 Switch Functions		
Switch	Location	Function
CHANGE	Main Door	- Activate Change Lamp - Restart or Activate some tests - Exit time and date setting after SafeRam™ Clear
CASH / CREDIT	Main Door	- Cashout Credits - Select Credit Mode on / off
BET ONE	Main Door	- Wagers 1 credit - Select Previous Option
SPIN	Main Door	- Spin Reels - Pause test display - Pause meter display - Change Options
BET MAX	Main Door	- Wagers maximum credits - Select next option, meter, or game
AUDIT KEYSWITCH (Upright Model)	Right Side of Machine	- Displays Bookkeeping Meters - Releases jackpot lockup - Triggers some Output Tests
AUDIT KEYSWITCH (Slant Top Model)	Front Panel, Above Door	- Same as above
2 ND KEYSWITCH	Near Audit Keyswtdh	-Selects between Revenue or Tournament game -Same as TEST (Market 12) -Adds or removes credits (International)
TEST	MPU Assembly	- Selects Tests or Function - Activates next Test or Function - Selects level of SafeRam™ clear
COIN MECH	MPU Assembly	- Enable or Disable coin acceptor and bill acceptor
PSEUDO COIN	MPU Assembly	- Simulates Coin In while main door is open - Select Next Option - Selects a level of SafeRam™ Clear
RESET	MPU Assembly	- Releases a machine tilt - Exits Test and Diagnostics
VOLUME	MPU Assembly	- Adjusts the level of sound

Demo Mode

With Main versions developed to operate with a host terminal, the ProSlot® 5500 enters a non-revenue state after a complete SafeRAM™ Clear. *FrEE* appears in WIN PAID to indicate Demo Mode. Entering a value in Option 79, Host Terminal ID, will enable the machine for revenue operation.

Real Time Clock (RTC)

If MC=08, an opportunity to change the time and date setting occurs after a complete SafeRAM™ Clear. Set the date using the SPIN button to increment the number in the flashing field (mm/dd/yy/day of the week) and the BET MAX button to move to the next field. Set the time (hh/mm/ss) using the same method as the date. Press CHANGE to confirm changes and exit.

Data Collection and Bonusing Systems

Communication with data collection or bonusing systems is established by the Main program version. It consists of four EPROMs at MPU board locations U12, U15, U3, and U4. The part numbers for the EPROMs at U12 and U15 begin with the letters "ME," while the numbers for U3 and U4 begin with letters "SE." The prefix of the Main determines the protocol according to the following table:

ProSlot® 5500 Multi-Main Firmware	
Prefix Series	Protocol
ME/SE95	Slot Data System (SDS)
ME/SE96	Slot Accounting System (SAS)
ME/SE97	Concept3
ME/SE98	SDS and Peripheral Device (PRD) V1.3
ME/SE99	SAS and PRD V1.3
ME/SE9A	Concept3 and PRD V1.3
ME/SE9E	GRIPS
ME/SE9F	SDS and Bally Secondary Game (BSG)
ME/SE9G	SAS and BSG
ME/SE9H	Concept3 and BSG
ME/SE9I	SDS and PRD V1.5
ME/SE9J	SAS and PRD V1.5
ME/SE9K	Concept3 and PRD V1.5
ME/SE9P	SAS 4.0 and PRD V1.3



Note: SAS Operation also requires Option 78H = 0001 or 9999.

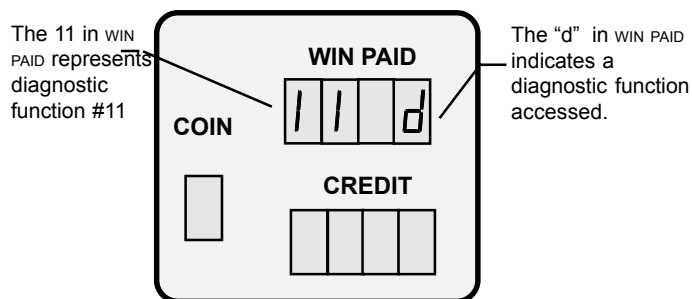
Some accounting systems also require a key at J3 HHU on the MPU. The following table lists the systems and the Bally Gaming and Systems part number for the key:

ProSlot® 5500 Systems Key	
System	Key Part #
SAS EFT	E-00664-0506
SAS ECT	E-00664-0529
Concept3	E-00664-0520

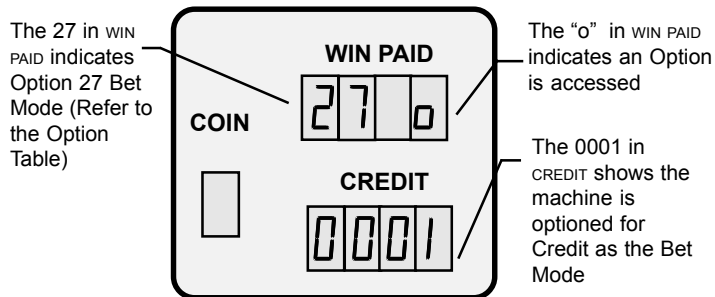
Machine Options

Machine options are set through diagnostic function #11. Options cannot be changed during a game or when there are credits available. Attempting to change options while there are credits will display *Err* in the WIN PAID.

With the door open, press the TEST button until the Message Center displays *11 d* indicating diagnostic function #11 selected. The Message Center responds as follows:



The machine then cycles to the first option, Option 27, and displays the current setting as follows:



Use the SPIN button to increment or the CHANGE button to decrement the numerical settings. Press and hold the buttons to rapidly advance to the setting.

To advance to the next option, use the PSEUDO COIN or BET MAX button. To review the previous option, use the BET ONE button.

Exit and save the options at any time by pressing the RESET button, TEST button, or by closing the door.

Machine Options

No.	Option	Setting	Description
27	Bet Mode	0000 (0001) 0002 0003	Cash Only Credit game Player selectable EuroCredit
26	Rebet-Autospin	0000 (0001) 0002 0003 0004 0005	No rebet, no autospin No rebet, autospin at max. credits No rebet, autospin at max. coin /credits Rebet, no autospin Rebet, autospin at max. credits Rebet, autospin at max. coins or credits
09	Jackpot Bell	0000 0001 0002 0003 0004 0005 (0006)	No Bell Bell rings on all wins Rings on wins of 20 or more Rings on wins of 50 or more Rings on wins of 100 or more Rings on wins of 200 or more Rings on wins causing lockup
10	Coin Denomination	0000 0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011 0012 0013 0014 0015 0016 0017	500 250 100 50 25 20 10 5 2 1 0.50 0.25 0.20 0.10 0.05 0.01 4 2.5
Configured by DIP Switch JW3, Market Code, & Mains			
11	Change Coin/Credit	0000 (0001)	Coins from Hopper Credits to Credit Meter
02	Progressive Type	(0000) 0001 0002 0003 0004 0005 0006 0007 0008	OFF. Lockup JPs for awarding prizes SPL Serial Progressive Link PPI Parallel Progressive Link MAPS S/MPI (Serial Multiplex Prog. Interface) MPI (Multiplex Progressive Interface) SAS Progressive v3.xx OTT (Over The Top) Progressive SAS Progressive v4.xx
07	Number of External Jackpots	(0000) 0001 0002 0003 0004	None One Two Three Four
18	Jackpot 4 Signal	(0000) 0001 0002 0003 0004	Combination of 2 & 3 Combination of 1 & 2 Combination of 1 & 3 Combination of 1, 2, & 3 Discrete serial (MIKOHN)
80	Test 2 & 10 Enable	(0000) 0001	OFF Test 2 output to electro-mechanical meters OR test 10 external jackpot signal (see Option 07)
01	Tournament Minutes	(0000) 0001-- 0099	OFF Minutes for tournament
47	Attract Feature	0000 (0001)	OFF ON
38	Reel Stop Sound	(0000) 0001	Sound from speaker Handle solenoid click

No.	Option	Setting	Description
48	Tower Config.	(0000) 0001 0002 0003 0004 0005 0006 0007	This option has specialized settings. Please see Tower Light Option Table for details
50	Game ID	(0000) 0000-9999	4-digit identification number
54	Coin Hopper Pay Amount	(0000) 0000-9999	Amount paid from hopper upon a lockup under the conditions of options 56 & 51
56	Credit Collect Lockup	(0800) 0000-9999	Number of credits for a lockup upon any collect.
62	Tournament Kitty	(0000) 0000-9999	Starting amount of credits for tournament operation
63	Reset Prog. Amount	(0000) 0000-9999	Credits added to counter upon progressive jackpot reset (MC=3 or MC=4)
78H	SAS® ID	(0000) 0001 9998 9999	None SAS® 3.xx & 4.xx Coin Free (MC=6) Non-Cash. Credits (MC=6) / GRIPS®
78L	Machine Number	(0000) 0000-0032	S/MPI ID (Must match progressive controller)
04	Even Hand Pay	(0000) 0001 0002 0003	OFF Even hand pay by 10s Even hand pay by 100s Even hand pay by 1000s
51	Credit Top Limit	(0800) 0000-9999	Maximum number of credits allowed on credit meter. Follows option 56 default.
03	Tournament Seconds	(0000) 0001-0059	OFF Seconds for tournament (see Option 01)
22	Tokenization	(0000) 0001	OFF ON
70, 71, 72	MAPS Progressive Cabinet ID	00000000000	The ID can be represented as XXXXXYYZZZ where option 70=XXXX, option 71=YYYY, and option 72=ZZZ
58	Win Lockup	(0800) 0000-9999	Amount of Win for a lockup. Follows option 56 by default.
06	Progressive Group ID	(0000) 0000-0255	SAS® Progressive v4.xx Group ID.
79	Terminal ID	(0000) 0000-FFFF	Host Terminal ID in hexadecimal
57	SAS® Lockup	(0800) 0000-9999	Amount of Win for a SAS® lockup. Must be less than Option 58 Win Lockup and greater than Option 51 Credit Top Limit

Option Descriptions

27 Bet Mode

The ProSlot® 5500 provides four methods of accepting wagers: Cash, Credit, Player Selectable, and EuroCredit.

Cash (0000) registers coins in COIN IN. Coins are accepted to the maximum allowed for the game. Bill acceptor currency and wins are paid from the hopper. BET ONE and BET MAX buttons are inactive.

Credit (0001) registers coins in COIN IN. Currency and wins register in CREDIT.

Player Selectable (0002) offers the choice between Cash or Credit selected by the CASH/CREDIT button. EFT credits will force a switch from Cash to Credit. The bill acceptor will force Cash mode to Credit. The bill's value will then show in CREDIT.

EuroCredit (0003) registers all coins, currency, and wins in CREDIT according to the parameter set by Option 51 Credit Top Limit, and Option 58 Win Lockup.

26 Rebet-Autospin

Rebet allows the Player to repeat the previous wager by pressing SPIN (providing the Bet mode is not Cash).

Autospin completes the game without waiting for the SPIN button to be pressed.

09 Jackpot Bell

This option configures the operation of any available bell hardware.

10 Coin Denomination

Denomination is set once after a SafeRAM™ Clear according to the positions of JW3 on the MPU board. The current selection can be viewed through Diagnostic function #1, or by function #11 Option 10.

11 Change Coin/Credit

Bill acceptor operation can be configured independently from the settings of Option 27. The setting 0000 will dispense coins from the hopper for all accepted bills.

02 Progressive Type

Progressive operation is controlled by the interaction of Option 02 Progressive Type, 07 Number of Jackpots, 78L Machine Number and 18 Jackpot 4 Operation. Option 02 defines the protocol.

OFF (0000) No progressive jackpot.

Serial Progressive Link (0001) supports a bi-directional RS-232 serial link.

Parallel Progressive Interface Link (0002) supports discrete jackpot and Total In signals through opto-isolators.

Multi-Area Progressive System (0003) supports a bi-directional RS-232 serial link for Bally Thrillions™.

Serial / Multiplexed Progressive Interface (0004) supports multiplexed jackpot and Total In signals. The machine receives jackpot values through the RS-485 connection J14.

Multiplexed Progressive Interface (0005) is the same as 0004 without the connection at J14 for RS-485 return.

SAS® 3.x Host Progressive (0006) supports IGT's SAS® 3.x Host Progressive system without serial return.

Over the Top (0007) supports OTT bonusing feature.

SAS® 4.x Host Progressive (0008) supports IGT's SAS® 4.x Host Progressive system.

07 Number of External Jackpots

The available jackpots are determined by the SMI (Specific Model Information). Option 07 specifies the number of jackpots assigned to a progressive.

18 Jackpot 4 Signal

The ProSlot® 5500 has only three discrete jackpot signals. If four jackpots are supported by the SMI, the settings of Option 18 determine how the fourth jackpot is represented.

0000 causes JP2 and JP3 to activate upon the fourth level jackpot. By the combination of JP2 and JP3 signals active at the same time, JP4 can be inferred.

0001 is the same as above using JP1 and JP2.

0002 uses JP1 and JP3.

0003 uses JP1, JP2, and JP3.

0004 communicates the jackpot serially.

80 Test 2 and Test 10 Enable

Electro-mechanical meters are disabled during diagnostics to preserve accounting information. Also, external jackpot signals are disabled to prevent corruption of external progressive jackpots and false lockups. Option 80 overrides the feature to allow diagnostic testing of meter and jackpot outputs.



Note: Option 80 is not available in Market Code 10

Option Descriptions (cont.)

01 Tournament Minutes

With additional hardware and specific software, the ProSlot® 5500 supports a variety of tournament operations. See Module 12 Tournament Operation for more information.

47 Attract Feature

After a period of inactivity with no credits, feature lights will sequence. Option 47 turns the feature ON or OFF.

38 Reel Stop Sound

Each SMI includes digital audio accompaniment to many game functions. Option 38 allows selection of a *mechanical* sound for reel stops. 0001 activates the handle release solenoid for each reel stop instead of a digital speaker sound.

See DOC-00674-0532 Instructions For ProSound™ Developer for additional sound options.

48 Tower Configuration

The ProSlot® 5500 can support two-, three-, and four-tier towers. Except in Market Codes 3 and 4 where the setting at Option 48 is forced to 0001, the Operator can configure tower operation according to the Tower Light Option table.

TOWER LIGHT OPTION TABLE		
Tower Lights and Setting	Function	Tower Display
2-Light (0000)	Service Jackpot Tilts Door (s) Hopper Pay	Top Flashing Top Steady Bottom Flashing Bottom Steady Not Applicable
3-Light 0001	Service Jackpot Tilts Doors Hopper Pay	Top Flashing Middle Flashing Bottom Flashing Top, Middle, and Bottom Flashing Not Applicable
4-Light 0002	Service Jackpot Tilts Doors Hopper Pay	4th Light Steady (light above top light) Top Flashing Middle Flashing Bottom Flashing Not Applicable
2-Light 0003	Service Jackpot Tilts Doors Hopper Pay	Top Flashing Top Steady Top Steady Bottom Flashing Bottom Steady
3-Light 0004	Jackpots Tilts Service Doors Hopper Pay	Top Flashing Middle Flashing Bottom Flashing Bottom Steady Not Applicable
3-Light 0005	Jackpot Doors Tilts Service Hopper Pay	Top Flashing Middle Flashing Middle Steady Bottom Flashing Not Applicable
2-Light 0006	Jackpot Doors Tilts Service Hopper Pay	Top Flashing Bottom Flashing Top Flashing Top Steady Not Applicable
2-Light 0007	Jackpot Doors Tilt Service Hopper Pay	Top and Bottom Slow Flash Bottom Medium Flash or Fast Flash if Drop Top Slow Flash Top Steady Not Applicable

50 Game ID

Four-digit Operator-accessible identification field.

54 Coin Hopper Pay Amount

Maximum coins paid from the hopper upon a collect lockup. Remaining credits must be paid by an Attendant.

56 Credit Lockup

Value of credits if exceeded upon cashout that will cause a jackpot lockup. An Attendant must pay the difference of the remaining credits and Coin Hopper Pay Amount Option 54.

62 Tournament Kitty



Note: Options 51 and 58 automatically follow the settings of Option 56.

Starting credits for tournament. See Module 12 Tournament Operation.

63 Reset Progressive Amount

Value in credits to add to a counter each time an external top jackpot award is won. The option is available only in Market Codes 3 and 4.

78H SAS® ID

SAS® 3.x or 4.x requires a setting—usually 0001. GRIPS® implementation of SAS® requires a setting of 9999.

If MC=6, SAS® includes an AutoPlay feature where a game will play without intervention. The coin and bill acceptors are disabled. Any activity at the machine or a command from the Host will terminate Auto-Play.

If MC=6 and 78H=9999 the machine will accept coins and bills. If a Players Card is inserted, credits become non-cashable. A cashout transfers the credits to the Players Card.

If MC=6 and 78H=9998 the coin and bill acceptors are disabled until a Players Card is inserted. Credits are then transferred from the Host. A cashout transfers the credits to the Players Card.

78L Machine Number

S/MPI Identification Number. The setting must match the physical connection at the controller.

04 Even Hand Pay

If supported, Even Hand Pay allows a partial payment upon a Credit Collect Lockup so that the Attendant Pay amount is in even thousands, hundreds, or tens.

For example, a cashout of 10,924 credits with Option 56 Credit Collect Lockup set to 10,000 and Option 54 Coin Hopper Pay Amount set to 500 will cause the hopper to pay:

500 if Option 04 = 0000
504 if Option 04 = 0001
524 if Option 04 = 0002
924 if Option 04 = 0003

51 Credit Top Limit

The Credit Top Limit is the most credits the machine will allow. A win less than the Win Lockup Limit Option 58 that causes the limit to be exceeded will instead be paid from the hopper.

03 Tournament Seconds

The number of seconds for a tournament. Added to minutes set by Option 01. See Module 12 Tournament Operation.

22 Tokenization

With some versions of Mains, setting Options 27 to 0003 and 22 to 0001 will set the coin value at 1.00. The denomination of the machine as set by JW3 represents the value of each credit. For example, if JW3 is 0011 (.25), then each coin adds four credits. If JW3 is 0014 (.05), then each coin would add 20 credits.

Upon cashout, the credits will decrease the number of credits appropriately for each coin paid. If there are fewer credits than the value of the coin, it is possible to have uncollectible credits remaining after a cashout.

70, 71, 72 MAPS Progressive Cabinet ID

Bally Gaming and Systems' Multi Area Progressive System requires a unique ID. 70, 71, and 72 is a 12-digit number set four digits at a time.

58 Win Lockup

The value of a single winning combination when exceeded to cause a jackpot lockup. Option 54, Coin Hopper Pay Amount, will not apply.

06 Progressive Group ID

Machine ID to support the SAS v4.xx host progressive system.

79 VLC Terminal ID

VLC operation requires a Host-provided Terminal ID. Once the hexadecimal ID is set in Option 79, the machine is enabled for revenue operation. Option 79 is set only once after each Complete SafeRAM™ Clear.

Option 57 SAS® Lockup

If MC=6 and Option 78H SAS® ID is 9999 or 9998, Option 57 is available. Any win greater than or equal to Option 57 and Less than Option 58 Win Lockup will cause a lockup. The WIN PAID portion of the Message center will alternate "SP (amount)" and "PD 0." Upon release of the lockup by the Attendant and a successful transfer of credits to the Players Card, the Message Center will show "PD (amount)" in WIN PAID.



Note: Features and options may vary by Market Code and Main firmware versions.

Machine Operation

Message Center

The LED Display Center consists of nine seven-segment LEDs plus decimal points. It shows information about the game to a Player. It also displays counters, option settings, status, and test information to the Operator.

During a game the COIN IN shows the number of credits wagered. The WIN PAID shows the awards for winning combinations or the number of coins paid from the hopper. The CREDIT shows the number of credits available for wagering.

WIN PAID Decimal Points

Decimal points in WIN PAID are used to display information during normal operation with the door closed. They indicate an important event has occurred. The decimal point is in addition to the number displayed. Reading from left to right, the decimal points shown in WIN PAID represent the following:

- Position 1 - System Reset (no malfunction)
- Position 2 - Door Opened / Closed
- Position 3 - Malfunction during reel spin
- Position 4 - Bill Transaction

Position 1 - System Reset (no malfunction)

The ProSlot® 5500 has safeguards against tampering or loss of information that usually result in the microprocessor initiating a System Reset. A decimal point appears indicating a System Reset (not due to a malfunction) has occurred. This decimal point will remain until the reels spin for the second game played.



Position 2 - Opened Door

The machine shows an opened door by displaying a decimal point in this position. Upon the opening and closure of a door switch, the machine initiates a System Reset, therefore there is a decimal point in both the first and second positions. This decimal point remains until the reels spin for the second game.



Position 3 - Malfunction During Reel Spin/Replay

If a malfunction occurs while the reels are spinning, the game is suspended. When the malfunction is corrected the reels return to the positions they were in before the game started. A decimal



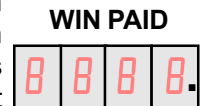
point appears in the third position of WIN PAID. The SPIN button illuminates and the handle mechanism unlocks, allowing the game to be replayed. Once the game is restarted, the decimal point disappears.



Note: If a door was opened to correct a spin malfunction, decimal points will be in positions one and two as well as position three.

Position 4 - Bill Transaction

When a bill is accepted, its credit value appears in WIN PAID. A decimal point in the fourth position indicates the amount shown in WIN PAID is from a bill transaction. This decimal point will remain until the start of the next game event.



Playing a Game

The Player must wager at least one credit to play a game. If Option 27 Bet Mode is not 0000 (cash only), credits are awarded from wins; purchased by inserting coins or bills, or by electronic fund transfers. With special Main EPROMs, credits may be added with additional hardware.

Credits are wagered by selecting BET ONE or BET MAX. BET MAX wagers all available credits or the maximum wager for the game, whichever requires the fewer credits.

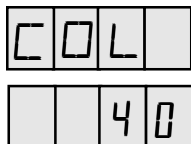
Once credits are wagered, the game proceeds according to Option 26 (Automatically at max bet if at default 0001.). Upon completion of the game, winning combinations increment CREDIT and WIN PAID according to Option 27 Bet Mode, Option 58 Win Lockup, Option 51 Credit Meter Limit, and the game's payable.

To collect, the Player presses the CASH/CREDIT button. Credits are transferred to a Players Card, paid from the hopper, or paid by an Attendant as dictated by the settings of Option 56 Credit Lockup, and Option 54 Coin Hopper Pay Amount.

Credit Collect Messages

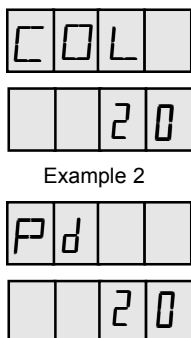
When credits are collected, the WIN PAID display shows a **COL** message followed by the total of credits collected. If credits are collected immediately after a winning combination, a **Pd** message followed by the number of credits awarded for the winning combination also displays.

Example 1: A player accumulates 40 credits and decides to cash-out. The WIN PAID shows **COL**, then **40**.



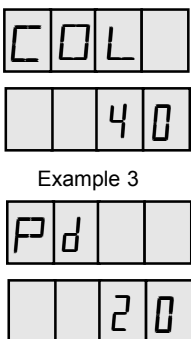
Example 1

Example 2: There are 0 credits on the CREDIT display. The Player wins 20 credits. The CREDIT display increments to 20. The Player then decides to cash-out. The WIN PAID display shows **COL**, then **20**, then **Pd**, then **20**.



Example 2

Example 3: A Player accumulates 20 credits. The Player gets a winning combination that pays 20 credits. The CREDIT display increments to 40. The Player then decides to cash out. The WIN PAID display shows **COL**, then **40**, then **Pd**, then **20**.



Example 3

Accounting

The ProSlot® 5500 stores accounting information in electro-mechanical counters (hard meters) and in memory (soft meters).

Electro-Mechanical Meters

The hard meters are visible through a window in the Feature Glass on an upright, or under the arm rest on a slant top. They are numbered one through five. The information recorded is determined by Market Code. These meters cannot be set to zero by the Operator. The following lists common configurations:

ELECTRO-MECHANICAL METERS					
Market	Meter #1	Meter #2	Meter #3	Meter #4	Meter #5
00	Total In	Total Out	Combined Drop	Attendant Paid	Bill Change (coin/credit)
02	Total In	Total Out	Combined Drop	Attendant Paid	Games Played
03, 04	Total In	Coin Drop	Total Out	Attendant Paid	Games Played
05	Total In	Total Out	Combined Drop	Attendant Paid	Lockups
08	Total In	Total Out	Combined Drop	Attendant Paid	Bill Change (coin only)

Total In - Increments once for each credit wagered.

Total Out - Increments once for each credit won by a Player without a jackpot lockup.

Coin Drop - Increments once for every coin accepted by the machine when the hopper is full.

Combined Drop - Increments for each Coin Drop and for each credit from a bill transaction.

Attendant Paid - Increments for each credit paid by an attendant upon a jackpot lockup.

Bill Change - Increments the number of credits added to the CREDIT display or coins dispensed from the hopper for accepted bills.

Lockups - Increments once each time the machine is released from a jackpot lockup by an Attendant.

Games Played - Increments once for each completed game.

Machine Meter Groups

The availability and order of Machine Meter Groups depend upon game configurations such as Market Code, SAS® accounting protocol, bill acceptor, and progressives. Some of the meter groups further divide into subgroups.

MACHINE METER GROUPS	
Meter Group	Description
Model Information	Display of Personality EPROM ID, Reel Map and Win Table, and Hold Percentage (Available only in Market Codes 3 and 4)
Bookkeeping	Record of totals for all wagers, all payments, and other game activity
Win Records	Listing of the total number of wins for each possible winning combination
Game Recall	Record of the reel positions, number of coins played, win amount, and credits for the last 10 games
Games Summary	Tally of games and wagers
Bill Transactions	Listing of the number of bill transactions by denomination. This group also includes counters for the total number of bills in the stacker, and the total number of credits awarded from bill transactions.
Bill History	A record of credits incremented or coins dispensed for each of the last five bill transactions.
Progressive Jackpots	A record or amounts of jackpots paid for up to four jackpots groups.
Current Progressive Values	Active display of the current jackpot values as transmitted from the progressive controller. Requires configuration for S/MPI progressive operation (Option 02=0004).
SAS® EFT History	A record of SAS® protocol Electronic Fund Transfers, including EFT credits and debits. Requires configuration for SAS® protocol
Doors	Time and date of the last access through: Main Door, Drop Door, and BA Cashbox Door (Available only in Market Code 8).



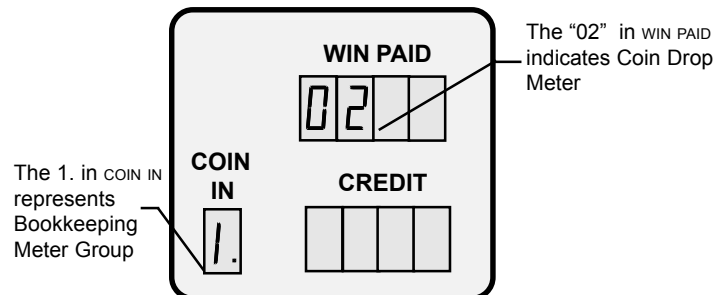
Note: Features may vary by Market Code and Main firmware versions.

Accessing The Machine Meter Groups

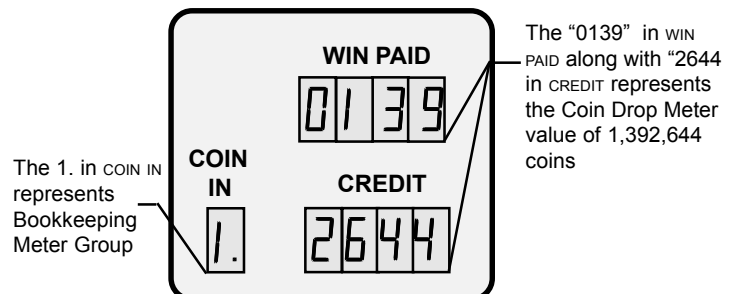
Machine Meter Groups are accessed by the following procedure.

1. Insert the Audit Key in the Audit Keyswitch and turn. The meter group number appears in COIN IN followed by a decimal point. The machine cycles through the meter group. Information is displayed in the Message Center.
2. Press and hold the SPIN button to pause the cycle. Release SPIN to resume cycling.
3. Press the CHANGE button to access the next group. Press BET MAX to access the next meter within the group. Press CHANGE at any time to advance to the next group. After the last meter in a group appears, the machine returns to the condition before the meters were accessed.
4. Exit Machine Meter Groups by repeatedly pressing CHANGE to advance through the groups, or by a System Reset (Press RESET, or open and close the door.).

The following demonstrates the Message Center operation when viewing the Coin Drop subgroup (#02) under the Bookkeeping Meters (Group #1 in this configuration example).



Meters with eight digits use two cycles of the Message Center. The first cycle displays the bookkeeping meter number in WIN PAID. The second cycle displays the first four digits of the meter in WIN PAID and the last four digits in CREDIT.



Machine Meter Group Bookkeeping Meters

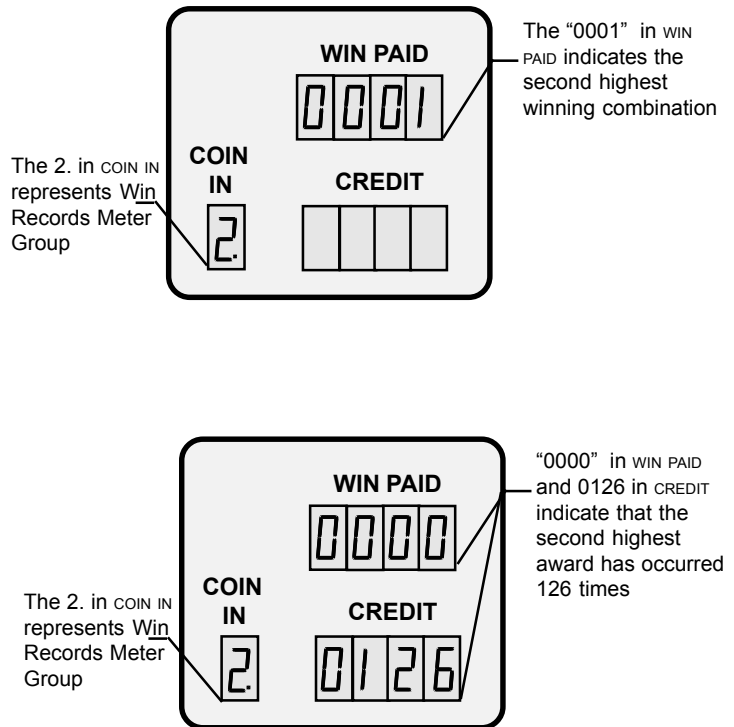
BOOKKEEPING METERS		
Sub-Group #	Meter	Description
00	Total In	Credits wagered
01	Total Out	Credits won without a jackpot lockup
02	Coin Drop	Coins sent to a separate container because the hopper was full
03	Combined Drop	Coin Drop plus CHNG bill (Bill Drop) See Bill Transaction Meter Group
04	Coin In	Coins accepted by the machine
05	Coin Out	Coins dispensed by the hopper
06	Total Games	Games played. It is incremented at the start of each spin
07	Current Credits	Credits available to the Player when the machine returns to revenue operation
08	Lockups	Times an attendant has released a jackpot lockup. It is incremented when the attendant activates the Audit Keyswitch
09	Attendant Paid Credits	Credits paid by an attendant upon a lockup
THE SEQUENCE AND INCLUSION OF THE REMAINING METERS DEPENDS UPON MAIN SOFTWARE VERSION		
	Credit Collect Lockup Credits	Attendant Paid Credits for a lockup from the setting of Option 56, Credit Collect Lockup
*	Win Lockup Credits	Attendant Paid credits for a lockup from the setting of Option 58 Win Lockup
*	Super Jackpots	Number of times the top awards have been won when Option 07 Number of External Jackpots is greater than 0
*	Door Opens	Number of times the main door of the machine was opened with power ON
*	Games Since Door Open	Games played since the last time the door was opened
*	Games Since Reset	Games played since a System Reset
*	Drop Door Opens	Number of times the drop door has been opened. (If Drop Door Switch is connected)
*	Partial SafeRAM™ Clears	Number of times the Partial SafeRAM™ Clear procedure has been executed
*	Full SafeRAM™ Clears	Number of times the Full SafeRAM™ Clear procedure has been executed
*	Extra Coins Sent to Drop	Coins that should have been rejected by the coin acceptor but were diverted into the drop bucket because the hopper was full
*	Soft Attendant Paid	Purchased credits paid by an Attendant. Purchased credits are from a bill transaction, Key On, EFT, ECT, or from coins when Option 27=03 (Eurocredit)
*	Soft Credit Collects	Coins paid by the hopper from purchased credits
*	Bill Stacker Removed	Number of times the stacker has been removed with power ON
*	Current Non-Cashable Credits	Current Credits (Meter #07) that must be wagered
*	Cashable Coupon Credits	Credits from non-government bills that can be paid by the hopper on cashout
*	Non-Cashable Coupon Credits	Credits from non-government bills that must be wagered
*	Tokens Out	For a machine with two hoppers, the number of tokens dispensed by the second hopper
*	Knock-off Credits	Credits added by optional Knock-off keyswitch
*	MPU Access	Number of times the MPU Board Assembly has been removed
*	Door Opens With Power OFF	Number of times the main door was opened with power OFF
*	Games Since Power Fail	Games played since power on

Machine Meter Group Win Records

The Win Record Group uses two Message Center cycles to display the number of wins for each winning reel combination. In the first cycle, WIN PAID shows the winning combination number. 0000 represents the highest win, 0001 would represent the next highest, etc. COIN IN shows the Meter Group Number and Indicator.

In the second cycle, WIN PAID and CREDIT show the number of times the winning combination occurred. The process continues until every possible winning combination has been displayed.

The following represents the Message Center when viewing the win record for the second highest possible win.



Machine Meter Group Game Recall

Game Recall uses six Message Center cycles to display information about completed games.

For the first cycle, WIN PAID shows the game sequence as **L** for last, **P** for previous, **3** for third game back—through **A** for tenth game back. If the game includes multiple spins they are shown according to the following table.

10 GAME RECALL INCLUDING UP TO 9 RESPINS									
LAST GAME AND RESPINS	PREVIOUS GAME AND RESPINS	THIRD PREVIOUS GAME AND RESPINS	FOURTH PREVIOUS GAME AND RESPINS	FIFTH PREVIOUS GAME AND RESPINS	SIXTH PREVIOUS GAME AND RESPINS	SEVENTH PREVIOUS GAME AND RESPINS	EIGHTH PREVIOUS GAME AND RESPINS	NINTH PREVIOUS GAME AND RESPINS	TENTH PREVIOUS GAME AND RESPINS
L-L	P-L	3-L	4-L	5-L	6-L	7-L	8-L	9-L	A-L
L-9	P-9	3-9	4-9	5-9	6-9	7-9	8-9	9-9	A-9
L-8	P-8	3-8	4-8	5-8	6-8	7-8	8-8	9-8	A-8
L-7	P-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	A-7
L-6	P-6	3-6	4-6	5-6	6-6	7-6	8-6	9-6	A-6
L-5	P-5	3-5	4-5	5-5	6-5	7-5	8-5	9-5	A-5
L-4	P-4	3-4	4-4	5-4	6-4	7-4	8-4	9-4	A-4
L-3	P-3	3-3	4-3	5-3	6-3	7-3	8-3	9-3	A-3
L-2	P-2	3-2	4-2	5-2	6-2	7-2	8-2	9-2	A-2
L-1	P-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	A-1

The second cycle shows the wager amount in COIN IN, the amount paid in WIN PAID, and the remaining credits in CREDIT.

The third cycle shows **COLL** in WIN PAID, the wager amount in COIN IN, and a blank CREDIT display.

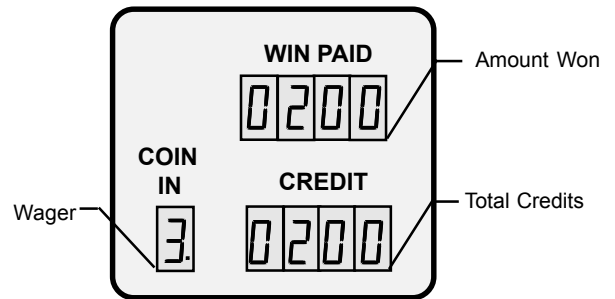
The fourth cycle shows the amount cashed out in WIN PAID, the total credits in CREDIT, and meter group number **3** followed by a decimal point in COIN IN.

The fifth display cycle shows the Final Amount Paid (**F Pd**) in WIN PAID, meter group **3** followed by a decimal point in COIN IN, and a blank CREDIT display.

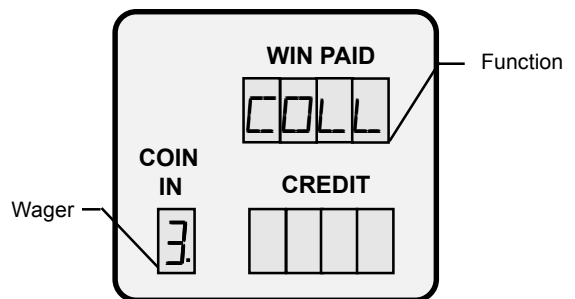
The sixth display cycle shows the wager amount in COIN IN, the total amount paid (total of all spins included as part of the game) in WIN PAID, and the remaining credits in CREDIT. The complete cycle repeats.

The reels reposition and the cycle repeats for each of the remaining games and Re-spins or 2nd Chance Spins if applicable.

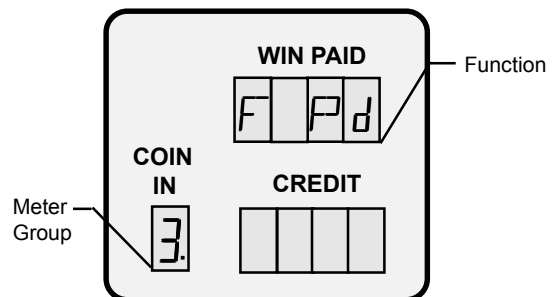
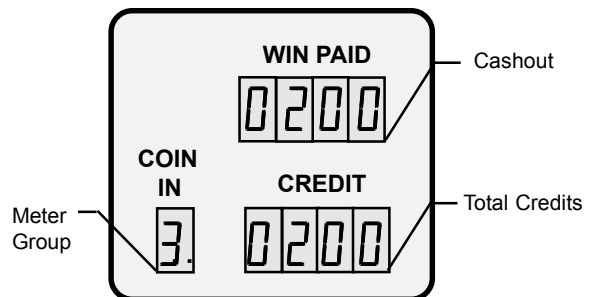
L- L in WIN PAID indicates last game and last spin. Previous game is P- L, and games 3-A are indicated by their number. Reels position to display game.



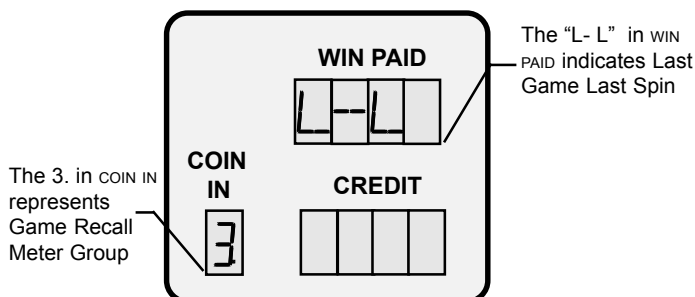
Display of Respins or 2nd Chance Spins stops here twice before going to the next Spin for the current game.



Last Spin shows COLLECT.



The entire cycle repeats.



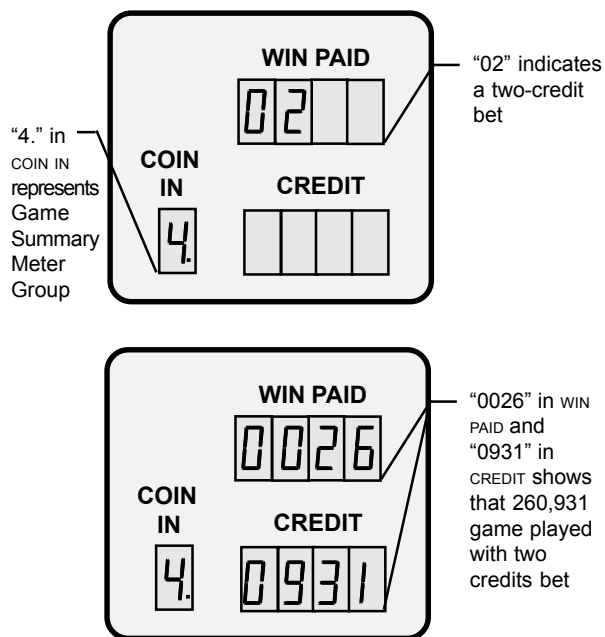
Machine Meter Group Game Summary

The Game Summary uses two Message Center cycles to show the number of games played for each amount of wager (one through the maximum number of credits allowed).

In the first cycle, WIN PAID shows the wager. COIN IN displays the Meter Group Number.

In the second cycle, WIN PAID and CREDIT show the total number of games played with that wager.

The following example shows the Message Center when viewing the Game Summary for two-credit bets.



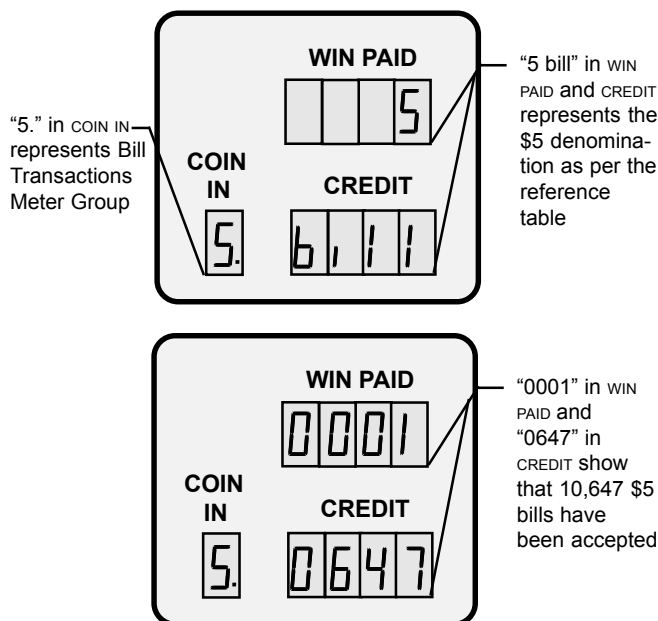
Machine Meter Group Bill Transactions

The Bill Transaction Group uses two Message Center cycles to display the number of bills by denomination and coupons, the value in credits of all bills and coupons, the number of bills and coupons currently in the stacker; and, optionally, the value in dollars of all bills and coupons accepted.

The first cycle shows the identification message in WIN PAID. See the reference table.

In the second cycle, WIN PAID and CREDIT show the accumulated value.

For example, the following figures present the Message Center when viewing the Bill Transaction Meter Group for the number of \$5 bills accepted.



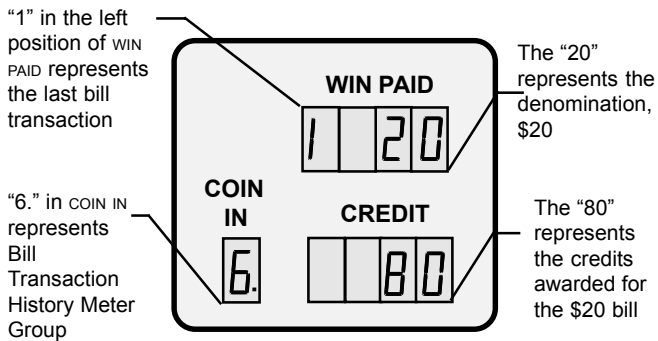
Bill Transactions Table

BILL TRANSACTIONS	
ID Message	Description
1 bill	Number of \$1 bills accepted
2 bill	Number of \$2 bills accepted
5 bill	Number of \$5 bills accepted
10 bill	Number of \$10 bills accepted
20 bill	Number of \$20 bills accepted
50 bill	Number of \$50 bills accepted
100 bill	Number of \$100 bills accepted
200 bill	Number of 200R bills accepted (Market Code 6)
500 bill	Number of 500 bills accepted (International Main)
ALL coup	Number of coupons accepted
CHNG bill	Total credits for all bills accepted
CHNG coup	Total credits for all coupons accepted
CASH bill	Total number of bills currently in the cashbox/stacker (Resets to 0 during soft drop)
CASH coup	Total number of coupons currently in the cashbox/stacker (Resets to 0 during soft drop)
AccP doll	Total value in dollars for all bills and coupons accepted (Market Code 8)

Machine Meter Group Bill Transaction History

The Bill Transaction History Group displays the last five bills or coupons accepted and the coins or credits awarded for each transaction. The sequence of transactions is shown in the left position of WIN PAID, with 1 being the most recent transaction. The remaining positions of WIN PAID show the denomination of the bill or coup for a coupon.

CREDIT shows the number of credits given for the transaction. For example, the figure below shows the last transaction was a \$20.00 bill for which 80 credits were given.



Machine Meter Group Progressive Jackpots

If the game is configured for progressive jackpots with serial return (see Game Options on page 2-13), the Progressive Jackpots Meter Group displays the most recent amount paid for up to eight progressive jackpots. It is shown in monetary units (d) and in credits (c) rounded up.

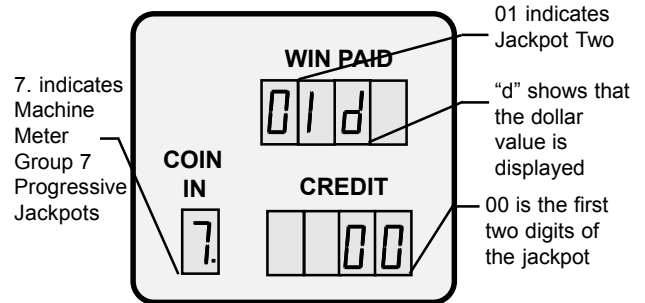
The following table lists the progressive jackpot Information:

PROGRESSIVE JACKPOTS	
Sub-Group #	Description
00	Jackpot One (JP0)
01	Jackpot Two (JP1)
02	Jackpot Three (JP2)
03	Jackpot Four (JP3)
04	Jackpot Five
05	Jackpot Six
06	Jackpot Seven
07	Jackpot Eight

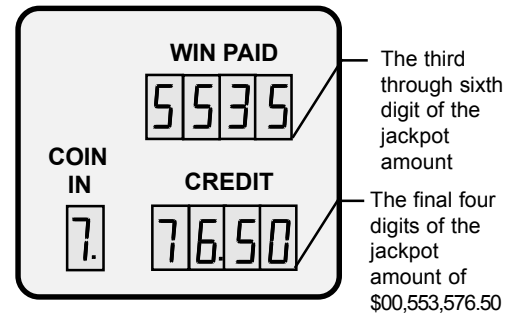
Each ten-digit number requires two cycles of the Message Center. The first two cycles show the monetary value. The second two cycles show the total in credits.

The following show the four cycles for Progressive Jackpot subgroup 01, Jackpot Two for a quarter machine.

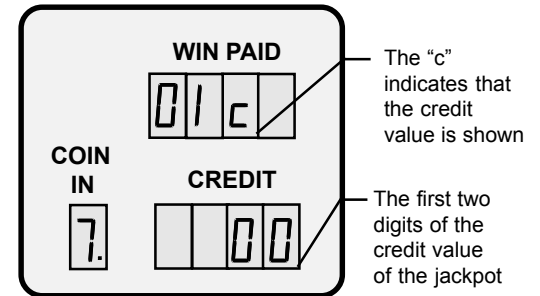
Cycle One



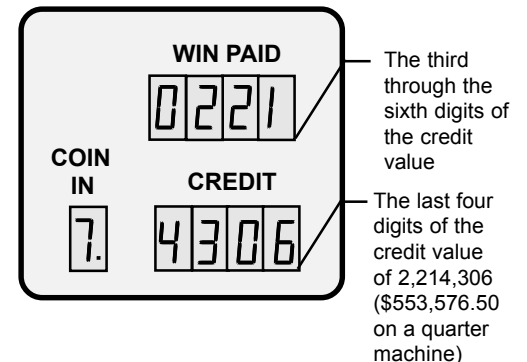
Cycle Two



Cycle Three



Cycle Four



Machine Meter Group Current Progressive Values

If configured for S/MPI operation (Option 02 = 0004) or OTT (Option 02=0007see Game Options Table on page 2-13), the Current Progressive Values Meter Group displays active jackpot values as transmitted from the progressive controller.

The jackpot values display in dollars-and-cents. The values are ten-digit numbers requiring two cycles of the Message Center for each jackpot level.

The first cycle shows the jackpot number (e.g., JP1, JP2) in WIN PAID, and the upper two digits of its value in CREDIT. The second cycle displays the last eight digits of the jackpot value.

The display will auto sequence through all the jackpot levels. Pressing BET MAX immediately advances to the next jackpot value. Pressing CHANGE/SERVICE terminates the display.

If an error occurs while viewing the jackpot values, the message **Err** appears in WIN PAID, accompanied by an error code in CREDIT. The following table lists error codes and explanations.

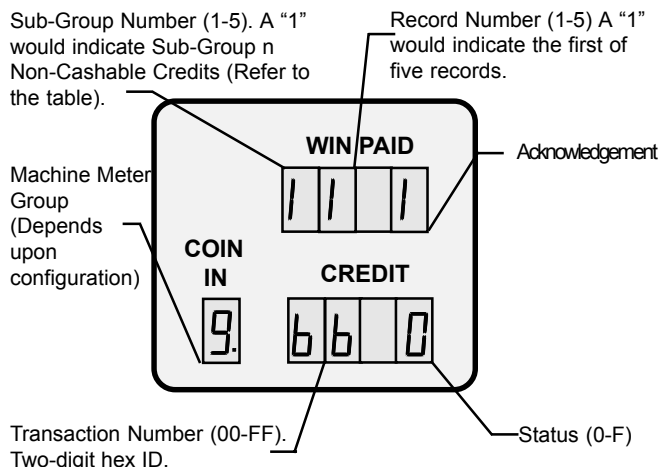
PROGRESSIVE JACKPOT ERROR CODES	
Code	Explanation
Err 0	No serial traffic found within the last 500 milliseconds. The game is not receiving serial data from the progressive controller. This is most likely caused by an open connection between the machine and the progressive controller or incorrect configuration of the progressive controller.
Err 1	Serial checksum error. The data received by the game is not the same data sent by the progressive controller. This can be caused by an intermittent connection or too much noise on the data lines.
Err 2	Option error. This error results when Option 02 Progressive Type is set to 0004 and Option 78L Machine Number is set to 0000.
Err 3	Coining error. Current Progressive Values are unavailable during a game. Exit the meter group and finish the game. The values will display upon re-entering this meter group.

Machine Meter Group SAS® EFT History

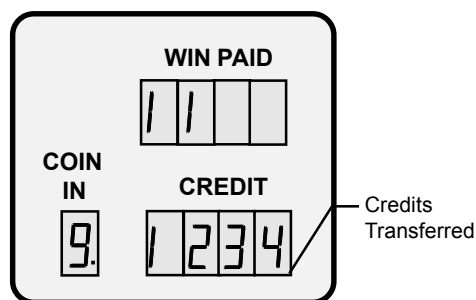
If SAS® protocol Main EPROMs are installed, accounting records dedicated to SAS® operation are available. Five most recent records of each of the five sub-groups are presented. Each requires two cycles.

SAS EFT/ECT HISTORY		
Sub-Group #	Name	Description
01	Non-Cashable	Credits transferred that must be wagered.
02	Cashable	Credits transferred that could be wagered or cashed out.
03	Promotional	Credits not purchased by a Player (Casino Promotion).
04	Forced Cashout To the System	Credits returned to the system from a cashout when the Player pressed CASH/CREDIT.
05	Forced Cashout From the Hopper	Credits paid in coins by the hopper as instructed by the System from a cashout when the Player pressed CASH/CREDIT.

Cycle one



Cycle two



Machine Meter Group Doors

If MC=8, the time and date of the last door access is available according to the following table:

Door Access	
Sub-Group #	Description
00	Main Door Access
01	Drop Door Access
02	BA Cashbox Access

Machine Meter Group Concept3

CONCEPT3		
Sub-Group #	Name	Description
00	Bonus Credits	Credits awarded in addition to wins.
01	Multiplier Credits	Credits awarded by factoring wins.

Diagnostic Tests and Functions

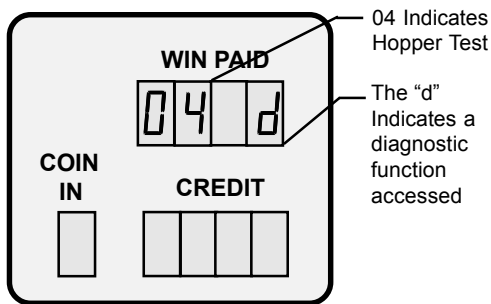
The ProSlot® 5500 has diagnostic tests and functions used to evaluate or change machine operation. Each is accessed by opening the main door and pressing the **TEST** button located on the front of the MPU assembly.

Every press of the button advances to the next test or function. Pressing **CHANGE** restarts most tests. Closing the door or pressing **RESET** exits Diagnostics.

WIN PAID shows the number of the test followed by a “d”. **COIN IN** and **CREDIT** show information relating to each function.

The following illustration shows a Hopper Test (04).

Diagnostic tests consist of:



- 01 Model Information
- 02 Output Test
- 03 Input Test
- 04 Hopper Test
- 05 Reel Function Test
- 06 Reel Tape Test
- 07 Reel Tilt Records
- 08 Slot Communications
- 09 Display Test
- 10 Payout Test
- 11 Game Optioning

#1 Model Information

This function enables the Operator to view information stored in the Personality EPROM and SafeRAM™ without removing the MPU board. The SMI documentation verifies the following information:

MODEL INFORMATION			
Code	Description	Code	Description
010d	Personality EPROM ID	015d	Crazy Reels
011d	Nominal and/or Basic Percentage(s)	016d	Bill Acceptor
012d	Reel Map and Win Table	017d	Denomination
013d	Market Code	018d	Real Time Clock
014d	Diverter Optic		

To access Test 1, press and release the **TEST** button until **01 d** appears in **WIN PAID**. Each item of information automatically appears in the Message Center. The Operator can manually advance by successively pressing **BET MAX**, or pause the display by pressing and holding **SPIN**.

010d Personality EPROM ID

ProSlo® 5500 Personality EPROMs are in MPU Board locations U18 and U20. They are identified with with an 11-digit alpha-numeric label. When 010d appears in **WIN PAID**, the number appearing in **CREDIT** should match the second through fifth digit of the EPROM label and SMI documentation.

011d Nominal and Basic Percentages

The Nominal Percentage is the payback percentage of wagers to the Player if the maximum for each game is wagered. The Basic Percentage is the payback percentage if less than maximum is wagered. The difference between the percentages is the Bonus for betting the maximum.

012d Reel Map and Win Table

Item 012d shows the reel map and win table configuration stored in SafeRAM™. Currently all SMIs are 0-0.

013d Market Code

The value displayed will be value representing the Market Code, MC, as determined by the switch settings at JW7-sw1-sw4.

#1 Model Information (cont.)

014d Diverter Optic

Item 014d indicates Diverter Optic configuration in SafeRAM™. **0** indicates a Diverter Optic has not been included with the machine.

015d Crazy Reels

Item 015d indicates the reel operation in SafeRAM™. **0** indicates normal reel spin. A **1** would indicate Crazy Reel operation.

016d Bill Acceptor

Item 016d shows the bill acceptor setting stored in SafeRAM™ according to DIP Switch JW3-sw5-sw6.

017d Denomination

Item 017d shows the two-digit code representing the machine's denomination stored in SafeRAM™ according to DIP Switch JW3-sw1-sw4.

018d Real Time Clock

If MC=08, item 018d shows the date (mm dd: dw yy) and time (hh mm: ss). The information takes four cycles to complete and continues until exit. It can be paused by holding SPIN.

Test #2 - Output Test

The Output Test begins a routine which selects and turns ON or OFF every output under microprocessor control. There are 64 address locations hexadecimally numbered from 00 to 3F. The first digit of the number represents the port and the second digit represents the bit. For example, the number 28 represents port 2 bit 8.

The test is either *auto-step* or *manual*. Auto-step advances through all ports while manual operation allows the Operator to select the port and bit. Refer to the Output table.



Note: If game Option 80 is set to default 0000 (OFF), the electromechanical meters will not be tested.

To start the Output Test press and release the TEST button until the message **02 d** appears in WIN PAID, indicating the Output Test is selected.

The test starts in auto-step operation as indicated by **020d** in WIN PAID. The CREDIT display shows the two-digit output number and port status (logic level). The status toggles between **1** (logic high) and **0** (logic low). The process repeats for all outputs. Pressing the CHANGE button while auto-cycling will restart the test.

To manually select an output, press the PSEUDO COIN



Note: Some of the possible output tests may be disabled by Jurisdiction or Market Code.

button on the front of the MPU assembly. WIN PAID changes from **020d** to **021d**. Press the CHANGE button to select an output. Once selected, press the TEST button. WIN PAID shows **022d**. The port status in CREDIT toggles between **1** (logic high) and **0** (logic low) reflecting the state of the output. Press the TEST button again to constantly activate the output in either state. The Message Center shows **021d** in WIN PAID. Exit by pressing the PSEUDO COIN switch until **020d** displays in WIN PAID, indicating return to auto-step operation.

Exit the test by pressing TEST to advance to the next diagnostic test; or by pressing RESET or closing the door to cause a System Reset.

OUTPUTS			
Port #	Bit #	Output Description	Output Voltage
0	0	Top Tower Lamp	6.5 VAC
0	1	Bottom Tower Lamp	6.5 VAC
0	2	Bill Acceptor Ready	6.5 VAC
0	3	Bill Acceptor Not Ready	6.5 VAC
0	4	INSERT COIN Lamp	6.5 VAC
0	5	COIN ACCEPTED Lamp	6.5 VAC
0	6	HOLD 5 Lamp	6.5 VAC
0	7	COIN 8 / HOLD ATTRACT Lamp	6.5 VAC
0	8	HOLD 4 Lamp	6.5 VAC
0	9	HOLD 3 Lamp	6.5 VAC
0	A	COIN 7 / HOLD 2 Lamp	6.5 VAC
0	B	COIN 6 / HOLD 1 Lamp	6.5 VAC
0	C	CASH/CREDIT Lamp	6.5 VAC
0	D	BET ONE & BET MAX Lamps	6.5 VAC
0	E	SPIN Lamp	6.5 VAC
0	F	CHANGE Lamp	6.5 VAC
1	0	COIN 1 Lamp	6.5 VAC
1	1	COIN 2 Lamp	6.5 VAC
1	2	COIN 3 Lamp	6.5 VAC
1	3	COIN 4 Lamp	6.5 VAC
1	4	COIN 5 Lamp	6.5 VAC
1	5	Middle Tower Lamp/COIN 9	6.5 VAC
1	6	4 th Tower Lamp/COIN 10	6.5 VAC
1	7	Jackpot Bell	6.5 VAC

OUTPUTS (cont.)			
Port #	Bit #	Output Description	Output Voltage
2	0	COIN DEFLECTOR SOLENOID	+24 VDC
2	1	TOTAL IN Meter	+24 VDC
2	2	TOTAL OUT Meter	+24 VDC
2	3	COMBINED DROP Meter	+24 VDC
2	4	ATTENDANT PAID Meter	+24 VDC
2	5	GAMES PLAYED Meter	+24 VDC
2	6	Bill Transport Motor	+24 VDC
2	7	COIN MECHANISM Enable	+24 VDC
2	8	Jackpot 1 Relay	+24 VDC
2	9	Jackpot 2 Relay	+24 VDC
2	A	Jackpot 3 Relay	+24 VDC
2	B	Tilt Relay	+24 VDC
2	C	Change/Service Relay	+24 VDC
2	D	Total In Relay	+24 VDC
2	E	Game Door Open Relay	+24 VDC
2	F	Handle Release solenoid	+24 VDC
3	8	Total In Signal	+5 VDC
3	9	Jackpot 1 Signal	+5 VDC
3	A	End Of Game Signal	+5 VDC
3	B	Door Switch Signal	+5 VDC
3	C	Key Switch Signal	+5 VDC
3	D	Jackpot 2 / Auxillary Hopper Signal	+5 VDC
3	E	Jackpot 3 Signal	+5 VDC



Note: Upon entering Output Test, the first output tested is Port 2 Bit 0 Coin Deflector Solenoid. Thereafter, the ports cycle sequentially.

Test #3 - Input Test

The Input Test verifies machine inputs including button and door switches. Each input is referenced by a two digit hexadecimal number. The first digit represents the input port and the second digit represents the bit. For example, 08 represents port 0 bit 8 (See Input Ports Table on 2-30).

Press and release the **TEST** button until **03 d** appears in **WIN PAID**, indicating the Input Test is selected. Select any button or switch to test that does not exit the function (**RESET** button or **TEST** button). Verify the appropriate code appears. The **CREDIT** display shows the input's Port # and the port status (1=logic high, 0=logic low). Deactivation of the input reverses the logic level.

Bill Acceptor Input Test

Bill acceptor functions can be tested during Input Test #3. They include

- Acceptance or rejection of bills
- Value in coins or credits vended for each bill denomination
- Enabling and disabling of the bill acceptor in response to Cash Door, Cash Box, or **COIN MECH** switch
- Recognition of coupons (WBA only)

Acceptance and Value of Bills

Insert a bill into the bill acceptor. The bill will be returned. An invalid bill is rejected and returned with nothing displayed.

An accepted valid bill will have the bill denomination displayed as a **d** in **COIN IN** and the denomination in **CREDIT**. The number of coins or credits to be vended for the bill displays as a **c** in **COIN IN** and the value in **CREDIT**.

A rejected valid bill will generate one of the following codes:

BILL REJECTION CODES	
Code	Description
8A	Rejected by the machine
8b	Rejected by bill acceptor
8c	Failure; Abnormal
8d	Stacker Full

Common reasons for 8A codes

8A means that the bill was rejected by the game. The bill denomination could be incompatible with the machine's coin denomination. For example, a \$1 bill cannot be accepted by a \$5 machine.

Credits vended for the bill would cause the game to exceed Credit Limit (Option 51). For example, a \$5 game with 990 credits and a credit limit of 1000 cannot add 20 credits from a \$100 bill transaction.

Bill Acceptor Doors

Open the Cashbox Door or toggle the **COIN MECH** switch on the MPU Assembly. The bill acceptor should refuse all bills.

WBA Coupon Acceptance

With the JCM® WBA bill acceptor, a coupon is identified by a display of **d** in **COIN IN** and **coup** in **CREDIT**.

Coin Acceptor Test

The coin acceptor is active, indicated by the steady amber LED on the COD board or the green LED on Coin Mechanisms CC-16 acceptor.

An accepted coin will cause **09**, Coin Credit, to appear in the first two digits of the **CREDIT** display. A count of accepted coins display in the right two digits of **CREDIT**.

A malfunction or improper coin travel will display as **0A**, Coin Error, in **CREDIT**. (See Input Ports Table).

Input Ports

INPUTS					
Port #	Bit #	Input Description	Port #	Bit #	Input Description
0	0	HOLD 1 Switch	0	C	SPIN Switch
0	1	HOLD 2 Switch	0	D	BET ONE Switch
0	2	HOLD 3 Switch	0	E	BET MAX Switch
0	3	HOLD 4 Switch	0	F	CASH/CREDIT Switch
0	4	HOLD 5 Switch	1	0	Bill Door Switch
0	5	Hopper Probe	1	1	Tournament Key Switch
0	6	Coin Out Switch	1	2	Audit Key Switch
0	7	Meter Detection	1	3	Bill Acceptor Optic
0	8	Coin Sense	1	4	Bill Acceptor Busy Signal
0	9	Coin Credit Signal	1	5	Spare
0	A	Coin Error Signal	1	6	Stacker Switch
0	B	CHANGE Switch	1	7	Bill Acceptor Logic

Test #4 - Hopper Test

For the Hopper Test press and release the **TEST** button until **04 d** appears in **WIN PAID**, indicating the Hopper Test is selected. The hopper attempts to pay out ten coins.

As each coin is dispensed from the hopper, **CREDIT** increments from 0 to 10. Pressing the **CHANGE** button will repeat the test. If an error occurs, the error code appears in the first two positions of the **CREDIT** display. See exception code table for error description.

If the machine has a second hopper, press the **SPIN** button at the start to select the second hopper.

Test #5 - Reel Function Test

The Reel Function Test verifies the reels are operating correctly. When started, the reels spin and stop at consecutive reel positions in reverse order (21-0). The spin-stop sequence continues until the test is exited.

To start the test, press and release the **TEST** button until **05 d** appears in **WIN PAID**, indicating the Reel Function Test is selected.

The reels index to the "0" position, then spin and stop at the highest number reel position. The **CREDIT** display shows the number of times the spin-stop sequence occurred. After a brief pause the reels spin and stop at the next lower position.

If a reel malfunctions during the spin cycle, the reel number appears in the third position of **WIN PAID**. The total number of reel malfunctions appears in the **CREDIT** display. When the reels spin again, the **CREDIT** display returns to show the number of correct reel spins.



Note: Holding **CHANGE** when entering Test #5 will initiate a reel calibration and store the reel-stop center position in SafeRAM™.

Test #6 - Reel Tape Test

This diagnostic test provides a means for the Operator to confirm the reel symbols are in the correct positions and match the information listed in the SMI document.

To begin, press and release the **TEST** button until **06 d** appears in **WIN PAID**, indicating the Reel Tape Test is selected. The reels slow-spin to position 0 and stop. After a pause the reels simultaneously advance to position 21. The **CREDIT** display shows the reel position. The sequence continues until this test is exited.

Test #7 - Reel Tilt and System Reset Records



Note: Reel tilts generated with the main door open are not recorded.

This test displays the number of reel tilts and System resets that have been recorded.

To enter, press and release the **TEST** button until the **07 d** appears in **WIN PAID**, indicating Reel Tilt and System Reset Records selected. **WIN PAID** shows a **2** in the third position indicating information on reel tilts is being displayed. The **CREDIT** display shows the total number of reel tilts that occurred.

To view information on tilt types **4** through **7**, turn the Audit Keyswitch once. To view information on resets **8** through **b**, turn the Audit Keyswitch again. The Message Center automatically cycles through the reset types. The reset type number appears in the third position of **WIN PAID**, and the total number of tilts appears in the **CREDIT** display.

An MPU Board with CPU Error Resets should be removed from service and returned to the factory for analysis.

REEL TILT AND SYSTEM RESET			
Tilt #	Description	Reset #	Description
2	Reels moving improperly	8	Power Fail Resets
4	Accelerating improperly	9	Door Resets
5	Running improperly	A	Hardware Resets
6	Decelerating improperly	b	CPU Error Resets
7	Reels in wrong position		

Test #8 - Slot Communications

The Slot Communication Test confirms the serial ports are working properly. The test checks for shorts and opens.

Press and release the **TEST** button until **08 d** appears in **WIN PAID**, indicating the Communications Test is selected. A dash (-) appears in the **CREDIT** display if a channel is not found.

Next, **081d** appears in **WIN PAID**. The test checks for shorts on ports 1A, 1b, 2A, 2b, 3A, and 3b. An **S** appears in the **CREDIT** display if a short exists. When the machine is finished testing for shorts, the message **082d** appears in the **WIN PAID**. A test pulse is transmitted. Each receiving port is tested for reception of a signal. Physical connection is required. The following table lists the ports and their locations on the game.

COMMUNICATION PORTS				
Port	Duart	Name	Location	Connector
1A	U25	Link Progressive	Backplane Board	J13
1B	U25	HHU	MPU Board	J3
2A	U34	Bill Acceptor	Backplane Board	J11
2B	U34	Mastercom	Backplane Board	J6



Note: Test #8 can not test signal reception without loopack jumpers installed.

Test #10 - Payout Test

This function confirms reel symbol combinations match the game's pay table as it appears on the feature glass. By positioning the reel symbols on the payline, entering a wager, and pressing **SPIN**, the win amount appears in **WIN PAID**. It should match the glass for the same winning combination.

Press and release the **TEST** button until the message **10 d** appears in **WIN PAID**, indicating the Payout Test is selected. Press and hold **CHANGE**. The message **rl 1** appears in **CREDIT**, indicating reel one is selected. While holding **CHANGE**, press the **SPIN** button. Reel one moves to the next stop position. Release and press **SPIN** (still holding down the **CHANGE** button) until the desired reel symbol lines up on the pay line, then release the **CHANGE** button. Repeat to select positions for the remaining reels.

After selecting the reel positions, press **BET ONE** to select the number of credits to wager. Press **SPIN**. The **CREDIT** display shows the win for the reel-symbol combination, the wager, and the credits to be paid from the hopper.

Repeat the procedures above to confirm payouts for any reel combination and wager.



Note: Jackpot signals through connector J13 are disabled to prevent false progressive jackpot lockups. See Option #80 on page 2-13

#11 - Game Optioning

Game optioning is set from diagnostic function #11. See the Game Optioning section earlier in this module for detailed instructions on accessing and setting options.

Test #9 - Display Test

This function tests the Message Center. Observe to make sure all LED segments in each of the ten display positions are properly functioning.

Press and release the **TEST** button until **09 d** appears in **WIN PAID**, indicating the Display Test is selected. A pattern cycles in the Message Center that illuminates each segment and decimal point.

Troubleshooting

Troubleshooting Overview

This section includes resolutions for common malfunctions. Charts defining the numerical codes for malfunctions and normal game operations are included.

Power ON Malfunctions

If the Reel and Feature Fluorescent lamps do not illuminate, check the following:

1. Turn power switch OFF and confirm the machine is plugged into a powered, grounded outlet.
2. Using the Overall Wiring Diagram as a reference, confirm the power supply is properly connected.
3. Check circuit breakers.
4. Confirm the power switch is connected and functioning.
5. Check for any loose or frayed wires.
6. Observe the System Reset LED on the MPU board. It should illuminate briefly on power on.

Tilt Messages

If a tilt occurs, the machine exhibits the following:

1. The numerical tilt code displays in WIN PAID.
2. The machine will not accept or dispense coins or bills.
3. All game play is suspended until the condition is resolved by authorized service personnel.

Coin Acceptor Malfunctions, 2x Series Exception Codes

The ProSlot® 5500 has a coin acceptor with built-in security features to prevent cheating. The most common problems are coins jamming in the acceptor because of a bent coin, or shingling from coins inserted at a high rate of speed. For a coin jam or a 2x code check the following:

1. If jammed, open the door and remove the acceptor module. Once removed, coins can be gently extracted with a small screwdriver or similar tool.
2. Confirm the Coin Optic Decoder board optic sensors and prism are clean. Dirt can block the light path and prevent proper operation.

The acceptor module can be quickly replaced. See Module 8, Peripherals, for further information.

Hopper Malfunctions, 3x Series Malfunction Codes

If a hopper malfunction occurs, a **3x** tilt code displays. The Hopper Control circuit board also includes status LEDs. Common hopper malfunctions include hopper jams, empty hoppers and jammed mixers. If these problems occur, check the following:

1. Hopper jams usually occur because of a bent coin stuck under the hopper knife, or foreign objects freezing the mixer or pinwheel.
2. An empty hopper condition exists when no coins exit the hopper for approximately fifteen seconds. This can be a hopper out of coins, or a hopper that has jammed.
3. Ensure the hopper plug is firmly seated in the connector. Confirm the hopper cable is connected and no wires are frayed or broken. On rare occasions, the hopper motor or control board may need replacement.

If a **30** code Hopper Overpay displays, the machine should be taken out of service until hopper operation has been checked through the machine's Diagnostics function Test #4. The machine should also be checked for possible tampering. A one-coin overpay may indicate a faulty Hopper Control Board. If the problem persists, contact a Bally Field Service Technician.

A **31** code Hopper Coin Out Jam may indicate tampering or defective hopper components. Always check the Hopper Control Board LEDs for activity indicated in the following chart:

HOPPER CONTROL BOARD LEDs	
Hopper LED	Error Description
Green (FWD) LED Flashing	A reverse entry condition occurred. The dual optic switches detected an incorrect direction of coin travel and notified the microcontroller. It may be caused by a failed optic.
Red (REV) LED Flashing	A coin reverse condition occurred. The dual coin-out optic switches detected an incorrect direction of coin travel while the hopper motor was reversing direction.
Red & Green LEDs Flashing	An external light source struck the optic switch. The optic switches are modulated and an out-of-phase light source was detected.

Reel Malfunctions, 4x and 7x Series Malfunction Codes

Reels unable to find the proper stop position result in 4x tilts. 7x tilts are from movement after stopping. Check the following:

1. The optic sensors are clean. Dirt may block the light path through the code ring of the reel.
2. Check alignment of the code ring to the opto-interrupter on the Reel Control Board.
3. Check for a loose connection of the reel cable.
4. Ensure proper calibration by entering Test #5 and holding the CHANGE button (See #5-Reel Function Test on page 2-19.).

Memory Malfunctions, 8x Series Malfunction Codes

The ProSlot® 5500 enters a self-test upon each System Reset (power or RESET button). A malfunction in system memory will generate an 8x code and flash the tower and button lamps at a coded rate. Refer to the following table for flash codes:

Malfunction Flash Codes	
Flash Rate (Per Second)	Error
1	Main EPROM checksum error (U12 & U15)
2	Supplement Main EPROM checksum error (U3 & U4)
3	Personality EPROM checksum error (U18 & U20)
4	Volatile RAM write/read failure (U67 & U68)
5	Non-volatile RAM (SafeRAM™) write/read failure (U67 & U68)
6	Battery Low (BAT1)
Continuous	SafeRAM™ Clear completed

Communication Errors, 9x Series Malfunction Codes

If the machine is configured S/MPI or VLC Host protocol (See Game Optioning on page 2-13 for Progressive Type or Terminal ID), faulty operation will generate one of the following tilt codes:

Communication Error Codes	
Code	Description
91-0	No serial traffic found within the last 500 milliseconds. The machine is not receiving data from the progressive controller. This is most likely caused by an open connection between the machine and the progressive controller or incorrect configuration of the progressive controller.
91-1	Serial checksum error. The data received by the machine is not the same data sent by the progressive controller. This can be caused by an intermittent connection or too much noise on the data lines.
91-2	Option error. This error results when Option 02 Progressive Type is set to 0004 and Option 78L Machine Number is set to 0000.
91-4	Mystery Machine Pay timing error. Jackpot award data from the progressive controller is present in the serial stream at an inappropriate time. Actuate the Audit Keyswitch and observe the jackpot level in the rightmost digit of the WIN PAID display (preceded by EHP), and the jackpot amount in the CREDIT display. A keyswitch activation is required for each jackpot award present. If the condition persists, a loss of communication between the machine and the progressive controller may have occurred.
91-5	Jackpot information missing. No jackpot data from MAPS Atomic Progressive Controller.
91-7	Game Error Lockout. Host Status Poll Timeout was detected by the Game.
91-8	Host Defined Lockout In Configuration. Game disabled by holiday/non holiday enable/disable configuration.
91-9	Game In Host Configuration. Host in the process of configuring the game.
91-A	Game Not Configured By Host. The Host has not configured the game.
91-B	Game In Host Disable. The game has been disabled by the Host.
91-C	Game Disable By Daily Timeout. The game has been disabled by the Daily Poll Timeout Shutdown.
91-D	Game Disable for Status. The Game has been disabled by the Host Disable flag in the Status Poll.
91-E	Event Log Full. The Event Log has more than 1200 events.
EP EP HP	Awards available but not acknowledged by progressive controller. The alternation of EP, EP, EP in the WIN PAID display indicates the pulse link is not operating correctly. It can be caused by a machine tilt between coining and payout, or a System Reset (including doors) between coining and payout. Activate the Audit Keyswitch and observe EP pd on the WIN PAID display. A 91-4 display may result if the progressive controller does not recognize acknowledgment of the award by the machine.

ProSlot® 5500 Exception Codes		
Code #	Code Description	Definition
20	Coin In Jam	The optics on the Coin Optic Decoder board have been blocked for too long.
21	Inappropriate Coin In	A coin has been accepted by the machine after maximum number of extra coins bet has been registered. Extra coins up to the maximum (currently 15) are paid from the hopper upon completion of the game.
22	Invalid Coin	A coin has passed the coin optics during a reel spin.
23	Coin not Sensed	Coin was not sensed by the drop optic (DS2-8 = OFF Diverter Optic installed)
24	Coin Reverse	A coin was sensed traveling from bottom to top of the optic block.
30	Hopper Overpay	More coins than expected have been sensed by the hopper's coin-out optic during a payout.
31	Hopper Coin-Out Jam	Hopper's coin-out optic has been blocked too long. See Troubleshooting on Page 2-30 for Hopper LED error codes.
32	Hopper Empty	The hopper circuitry has run the forward direction for longer than 15 seconds with no coins sensed by the coin-out optic.
33	Reset During Payout	A System Reset has occurred while the hopper is running
40	Reel Initialization Error	Reels were unable to complete initialization after a System Reset
41	Reel #1 improper spin	The reel did not spin to the expected position.
42	Reel #2 improper spin	Same as above.
43	Reel #3 improper spin	Same as above.
44	Reel #4 improper spin	Same as above.
45	Reel #5 improper spin	Same as above.
50	Slot Door Open	The main door switch senses the door is open.
52	Bill Acceptor Stacker Access	The Stacker Access switch senses the door is open.
53	Lower Door Open (Slant)	The Lower Door switch senses the door is open.
54	Drop Door Open	The Drop Door switch senses the door is open
55	Bill Acceptor Stacker Removed	Signal received from the bill acceptor that there is no stacker.
60	Reset During Bill Change	A system reset has occurred during a bill transaction.
65	Mechanical Meter disconnect	The electro-mechanical meters are disconnected from the machine (Market Codes 03, 04, 12).
70	Door Open During Reel Spin	Any of the door switches have sensed a door open during reel spin.
71	Reel #1 Movement	The reel moved at an inappropriate time.
72	Reel #2 Movement	Same as above.
73	Reel #3 Movement	Same as above.
74	Reel #4 Movement	Same as above.
75	Reel #5 Movement	Same as above.
80*	ROM Checksum Error	The checksum of the Main program (U12, U15, U3, U4) or the Personality (U20, U18) does not match the expected checksum.
81*	Battery Low	SafeRAM™ battery is below 2.5 VDC.
82	Door Open With Power OFF	The machine door was opened while the main power was off (Requires JW11 IN).
83*	SafeRAM™ Error	SafeRAM™ Failed to retain information during self-test.
83F	SafeRAM™ Format Error	SafeRAM™ formatting has been lost due to bad RAM IC, a dead battery, or if ROM has changed. (A complete SafeRAM™ Clear is required.)
84*	RAM Error	Volatile RAM failed to retain information during a self-test.
90	Display Error	The controller for LED Message Center or vacuum fluorescent display has failed.
91	Communication Error	The machine is expecting and not receiving serial communication from the progressive controller. See Troubleshooting on Page 2-34).
91-0	No Communication	No serial traffic found within the last 500 ms.
91-1	Serial Check-sum Error	Data received by the machine is not the same as sent by the controller.
91-2	Optioning Error	Conflicting Machine Options. For example, 02=04 and 78L=0.
91-4	Mystery Mach. Pay Timing Error	Award data is in the serial stream at an inappropriate time or is missing.
91-5	Jackpot Missing	MAPS jackpot information missing from APC communication.
91-7	Game Error Lockout	Host status poll timeout detected by game.
91-8	Host Defined Lockout	Game disabled by holiday/hon holiday enable/disable configuration.
91-9	Game in Host Configuration	Host in the process of configuring the game.
91-A	Game Not Configured	Host has not configured game.
91-B	Game in Host Disabled	Game disabled by Host.
91-C	Host Disabled for Timeout	Game disabled by Host Daily Poll Timeout shutdown.
91-D	Host Disabled for Status	Game disabled by Host Disable flag in Status Poll.
91-E	Event Log Full	More than 1200 events are in the event log.
EP EP HP	Awards Available But Not Acknowledged By Controller	Awards available but not acknowledged by progressive controller
HdS	Communication Loss	No communication with the SAS® Host for five seconds

*Malfunction codes 80, 81, 83, and 84 are part of the machine self-test that occurs during power ON or a System reset. If an error is sensed, all of the machine's lamps (both tower lamps, bill acceptor lamp, and all button lamps) flash. The lights flash one or more times per second, depending on the problem.

