MODULE 2

MK2-ESMOD-0001

SETUP AND OPERATIONS

Bally Gaming and Systems

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Module 2

Setup and Operations Table of Contents

Setup and Operations Table of Contents (cont.)

Module 2 Setup and Operations

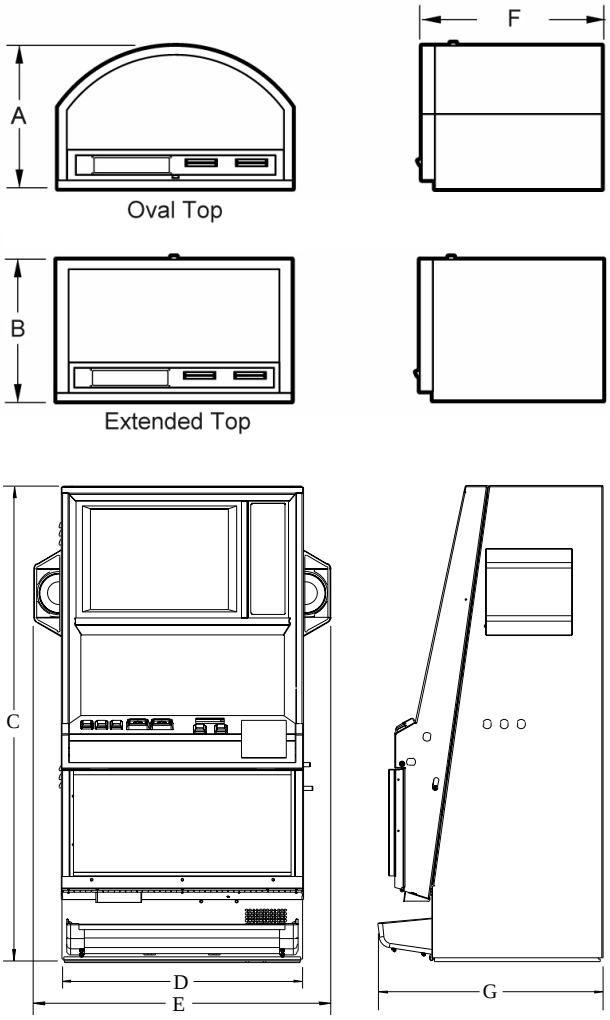
This module describes specifications, installation, configuration, and operation of EVO® Hybrid machines.

Specifications

Electrical Specifications

Line Voltage	100/240 VAC 50/60 Hz			
Power Supply Output	+5, +12, -12, 115 VAC Isolation Transformer			
Machine State	**Idle**	**Play**	**Payout**	**Maximum Theoretical Draw**
Current @ 110VAC	1.21 Amp	1.32 Amp	1.87 Amp	2.585 Amp
Current @ 220VAC	.605 Amp	.66 Amp	.935 Amp	1.298 Amp
Power	133.1W	145.2W	205.77W	284.9W

EVO® HYBRID



Note: The EVO® Hybrid requires at least five minutes after power on or System Reset before the machine is operational.

Environmental Specifications

Ambient Temperature:	Max: 100°F (38°C)
	Min: 40°F (4°C)
Maximum Relative Humidity:	90%
Average Heat from Machine:	600 BTU/Hr.

Physical Specifications

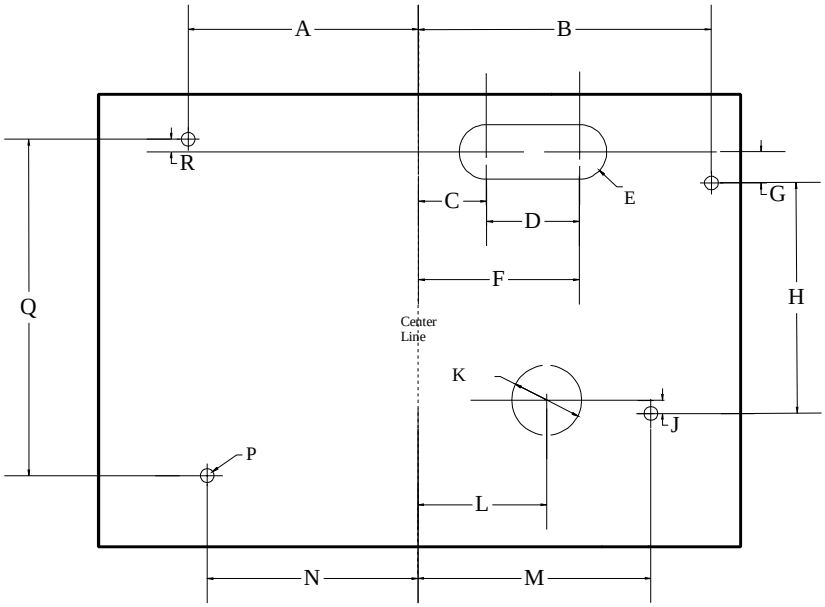
Ref.	Measurement	
	Imperial	**Metric**
A	13 1/2"	34.29 cm
B	13"	33.02 cm
C	41 1/2"	105.41 cm
D	20 3/8"	51.75 cm
E	26 1/4"	66.68 cm
F	13 1/2"	34.29 cm
G	19 13/16"	50.32 cm
Weight	263 lbs	119.30 kg

Note: The weight for the Upright Cabinet varies with the Top Box.

Specifications (cont.)

Physical Specifications (cont.)

Footprint - EVO® Hybrid



Ref.	Measurement	
	Inches	Centimeters
A	7 7/16	18.89
B	9 7/16	23.97
C	2 3/16	5.56
D	3	7.62
E	2 x R 7/8	2 x R 2.22
F	5 3/16	13.18
G	1	2.54
H	7 7/16	18.89
J	7/16	1.11
K	2 1/4	5.72
L	4 1/8	10.48
M	7 1/2	19.05
N	6 13/16	17.30
P	4 x 7/16	4 x 1.11
Q	10 13/16	27.46
R	7/16	1.11

Installing the Machine

Installation Check List

- ❑ Review environmental and power requirements
- ❑ Unpack and inspect machine
- ❑ Secure the machine to the stand or bar counter
- ❑ Install locks
- ❑ Setup
- ❑ SafeRAM™ Clear
- ❑ Set EEPROM options
- ❑ Set game options

Review Power and Environmental Requirements

Line power must provide an earth ground for safe operation. Do not overload the circuit. Consider no more than six machines at 110VAC for each 20 Amp circuit.

The EVO® Hybrid radiates radio frequency energy. Although it complies with Subpart J and Part 15 of FCC regulations, use of the machine may interfere with radio communication.

Ensure ventilation is adequate for the number of machines in an area.

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 the power cord is properly routed out of the cabinet. Remove all packing materials and parts from the hopper or printer. Locate the included cloth bag of lock cams and mounting hardware.

Verify Specific Model Information (SMI) documentation before continuing installation.

Secure the Machine to the Stand

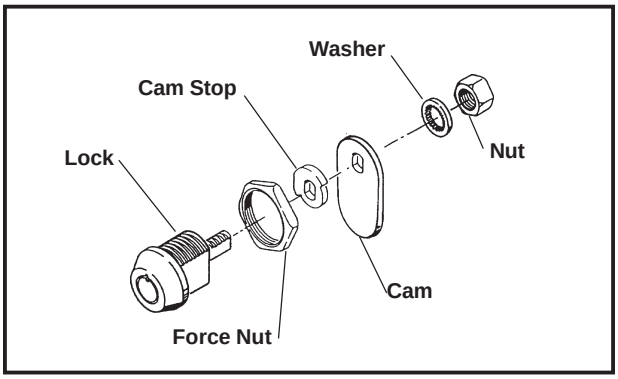
Remove the hopper. Mark the center of the stand. Drill the required mounting, drop chute, and power cord holes.

Use a lifting device to place the machine on the stand. Route the power cord where it will not be pinched, abraded, or otherwise damaged. Bolt the machine to the stand using all four provided mounting bolts. Inspect for loose connectors and verify all circuit boards are firmly seated.

Installing the Machine (cont.)

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, and Hardware for lock specifications.



Lock and Cam Assembly

Remove the large and small nuts from the keyed lock and insert the lock into the cabinet door opening. The notch on the lock face points upward. Secure the lock with the large nut. Place the cam stop on the lock cylinder. Attach the included lock cam to the back of the lock and verify it moves in the correct direction. Secure the lock cam with the washer and nut.

Setup

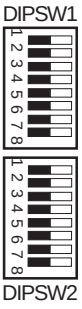
Plug the line cord into a grounded power source, but do not turn the machine on.

Battery Enable Procedure

The Lithium battery may be disabled for shipping or storage by having a nearby three-pin header labeled JW2 in the OFF position. It must be enabled by moving the two-pin Burg jumper to ON before the machine will operate.

WARNING: Attempting to recharge Lithium batteries can cause them to explode. Replace failed batteries with Bally Gaming part E-00628-0024 or its equivalent.

Dip Switch Operation



Dual In-line Package (DIP) switches DIPSW1 and DIPSW2 operate according to the following table.

Some of the selections require specialized firmware installed in EPROM socket U78.

	DIPSW1		DIPSW2	
Switch	Level	Description	Level	Description
1	ON	Autoplay	N/A	Reserved
2	ON	Ignore Checksum	ON	Deluxe Sound
3	ON	Show State Status	N/A	Reserved
4	ON	Host Override	ON	Enable 12 Button Deck
5	ON	Printer/Hopper Override	ON	Bill to Tray Option
6	ON	Watchdog Override	ON	Touchscreen Not Installed
7	ON	EEPROM Clear	ON	Enable Progressive Change
8	ON	SafeRAM™ Clear	ON	Show Error Log

A single personality EPROM must be installed in U77 to be recognized.

SafeRAM™ Clear

SafeRAM™ Clear refers to erasing information stored within battery-backed random access memory (RAM). A SafeRAM™ Clear is essential before the first use, when Main program EPROMs are replaced, or if game memory becomes corrupted.

For a SafeRAM™ Clear, locate DIPSW1 of the MPU board assembly and set switch 8 to ON. Some versions of Main programs require a EPROM labeled "V7S1000CLEAR-02" in socket U78. After ensuring the MPU Assembly is firmly seated into the backplane board, turn the machine power ON. The message "SAFERAM CLEAR ENABLED" appears. Actuate the Audit Keyswitch to see the message "SAFERAM HAS BEEN ERASED. PLEASE KEYSWITCH TO CONTINUE."

The screen then displays the settings for CURRENT JURISDICTION, CHASSIS TYPE, COIN ACCEPTOR, BILL ACCEPTOR, DOOR TYPE, SAS® VERSION, EFT and SECONDARY DEVICE.

If the information is correct, follow the displayed instructions by turning power OFF, setting DIPSW1, switch 8 OFF, removing the CLEAR-02 EPROM from U78 if installed, and turning power ON.

WARNING: Features, operation, and presented accounting information depend upon Main EPROM version, Jurisdiction setting, and additional installed peripherals.

Setup (cont.)

Set EEPROM Options

If the settings require change, actuate the Audit Keyswitch. Scroll through the available choices with DEAL/DRAW/START (OR BET 5 CREDITS). Confirm each choice with the keyswitch.

CURRENT JURISDICTION

CURRENT JURISDICTION, or Market Code, designates specific operation according to the requirements of a gaming control agency. Some jurisdictions are preset at the factory. The following table lists current Market Codes and Jurisdictions.

Jurisdiction Setting	Market	Jurisdiction Setting	Market
Locked	VLC	8	Puerto Rico
1	International 60 Hz	9	Delaware
2 (Locked)	New Jersey	10	New Mexico
3 (Locked)	GLI	11	OLGC
4	International 50 Hz	12	Switzerland B w/out Bet Limit
5	Default	13	Switzerland A w/Bet Limit
6	Uruguay	14	USAF w/2000 Win Limit
7	South Africa	15	USAF w/out Win Limit

EEPROM Jurisdiction Selections

Note: Menu Items vary by Market code and Main firmware versions.

CHASSIS TYPE

The choices for CHASSIS TYPE are UPRIGHT, BARTOP, or SLANT. The selection determines the graphical display of status information when the door is open.

COIN ACCEPTOR

The choices for COIN ACCEPTOR are COIN ACCEPTOR ONLY, COIN ACCEPTOR AND COD BOARD, or NRI. COIN ACCEPTOR ONLY and COIN ACCEPTOR AND COD BOARD refer to the presence or absence of a Coin Optic Decoder Board (Bally part # AS-03356-0303).

NRI refers to the National Rejectors, Inc., brand of programmable coin acceptors and the processing of coin information for this acceptor.

Other brands of coin acceptors may be compatible if they conform to the size and electrical operation of these acceptors.

BILL ACCEPTOR

The choices for BILL ACCEPTOR are NO BILL ACCEPTOR, JCM WBA, JCM DBV, GPT, ARDAC and MARS.

JCM WBA refers to Japan Cash Machine's World Bill Acceptor.

JCM DBV selects a communication protocol compatible with Japan Cash Machine models DBV145, DBV146, CBA135, SRA135, or IBA135.

GPT selects a protocol for models developed by Global Payment Technologies.

ARDAC refers to the acceptor manufactured by ARDAC, Inc.

MARS SERIES 1100/1200 refers to the acceptor manufactured by Mars Electronics International.

HOPPER TYPE

The choices for HOPPER TYPE are COIN, SEIKO PRINTER, and COIN AND SEIKO PRINTER. Select coin if the machine has a coin-dispensing hopper. If the machine includes a coinless feature, select either SEIKO PRINTER or COIN AND SEIKO PRINTER.

DOOR TYPE

The choices for DOOR TYPE are MECHANICAL or PULSED OPTIC. The selections refer to the sensing device used to detect the opening of the Main Door.

SAS® VERSION

SAS® VERSION refers to the communication protocol that will be compatible with the revision of Slot Accounting System Host computer.

EFT (Electronic Funds Transfer)

The choices for EFT are ENABLE or DISABLE. If enabled, credits can added to the machine from a remote location by the accounting system host computer.

SECONDARY DEVICE

The choices for SECONDARY DEVICE are BALLY or ANCHOR. The choices refer to the manufacturer of the peripheral device.

WARNING: Choose EEPROM jurisdiction settings carefully. Some settings are available only once and can not be corrected except by returning the MPU board to the factory.

Setup (cont.)

Touch Screen Calibration After SafeRAM™ Clear

After a successful SafeRAM™ Clear, the EVO® Hybrid program automatically enters the CAL TOUCH SCREEN sub menu of the DIAGNOSTICS menu. Follow the on-screen instructions for Hardware and Software Calibration.

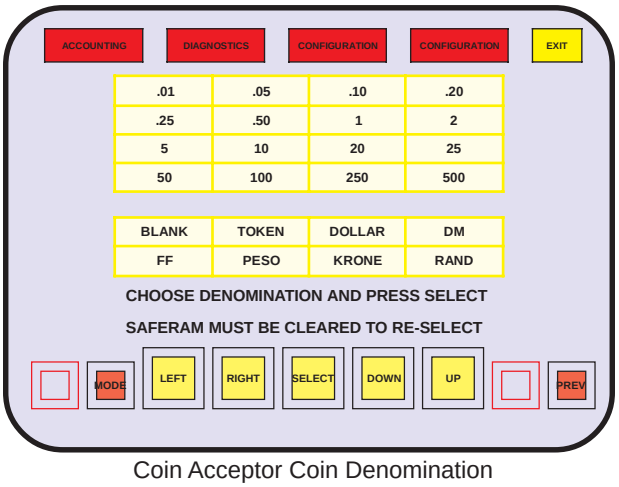
Denomination Setting After SafeRAM™ Clear

Following the calibration of the touch screen, the Evo® initialization procedure requires a value for coin denomination and a setting for how the bookkeeping records reflect monetary information.

The denomination can only be selected once. A SafeRAM™ Clear is required to change the selection. The selections offered are .01 through 500. The selection represents the value of a coin.

The mode of the denomination is also selected. The choices are BLANK (no on-screen display of denomination), FF (French Franc), PESO, DOLLAR, DM (German Mark), KRONE (Norway), RAND (South Africa), and TOKEN.

The selection affects the formatting of the bookkeeping values. Selecting TOKEN or BLANK will have bookkeeping records reflect credits (integers) instead of monetary (decimal) values. For example, **.25 BLANK** selection will show “4” in a bookkeeping meter to reflect $1 worth of credits. .**25 DOLLAR** will show “$ 1.00” for the same value.

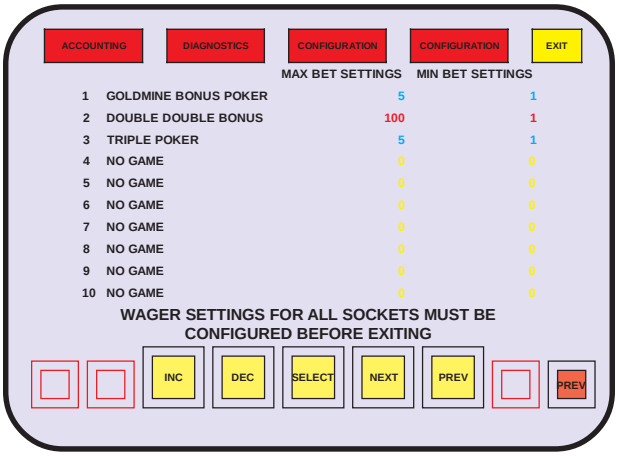


Coin Acceptor Coin Denomination

Denomination Format			
Setting	**Currency**	**Display .25**	**Bookkeeping**
Blank	Any	None	Values in integers.
Token	Any	Token	Values in integers.
Dollar	US $	25¢	Values in decimals with hundreths separated with a decimal point.
DM	German Mark	25pf	Values in decimal with hundreths spearated with a comma.
FF	French Franc	25c	Values in decimal with hundreths separated with a comma.
Peso	Chile, Colombia, Uruguay	25c	Values in decimal with hundreths separated with a comma.
Krone	Norwegian Krone	,25ore	Values in decimal with hundreths separated with a comma.
Rand	South African Rand	25¢	Values in decimal with hundreths separated with a comma.

Adjustable Maximum and Minimum Bet

Some games include the ability to adjust wager settings. Changeable settings will appear in red in the menu. SELECT enters the value. The selection must be confirmed with a SAVE to advance to the next item to configure.

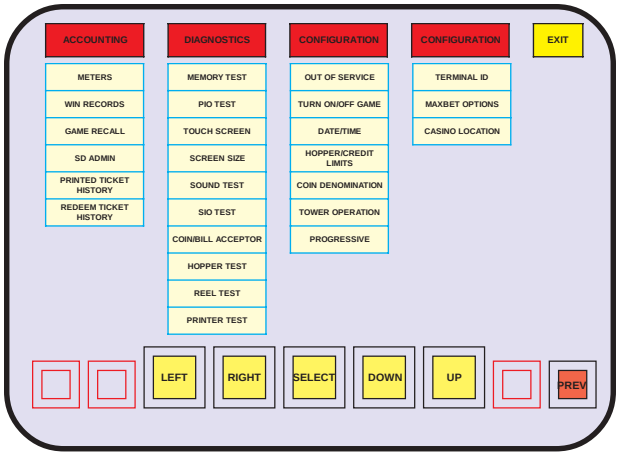


Adjustable Wager Setup

Set Game Options

The machine can be placed into service with all option settings at default. Further configuration is possible through the Audit Key Menu.

Audit Key Menu



Audit Key Menu

The Audit Key Menu displays all electronic accounting, diagnostic, and game configuration selections. It consists of three sub menus; ACCOUNTING, DIAGNOSTICS, and CONFIGURATION.

Only ACCOUNTING is accessible with the Main Door closed. To view the complete Audit Key Menu, open the Main Door and actuate the Audit Keyswitch.

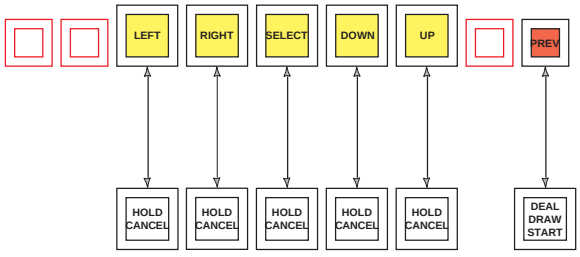
The Evo® responds to selections by touching the icon or menu representing the selection. The choice activates when the finger lifts from the touch screen.

Another way to select is to use the icons at the bottom of the screen. Activating these icons directs a highlighted box cursor to a location or activates the choice.

The icons are:

- LEFT Moves highlight one column left.
- RIGHT Moves highlight one column right.
- SELECT Activates the selection at the cursor.
- DOWN Moves highlight down within column.
- UP Moves highlight up within column.

A third way to select is to use the deck buttons. For each icon there is an associated illuminated deck button.



10-Button Deck Buttons and Icons

Accounting

The Evo® Hybrid records and stores accounting information in electromechanical counters (hard meters) and electronic counters (soft meters).

Electromechanical Meters

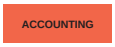
Electromechanical meters are located inside the top feature area of the machine. The meters are numbered one through six. The information recorded is determined by Jurisdiction.

Usually, information recorded by electro-mechanical meters is TOTAL IN, TOTAL OUT, and DROP. Other information may be ATTENDANT PAID, and BILL CREDITS. Additional information that may be recorded with electromechanical meters may be SUPER (highest award) JACKPOTS, number of times the main door has been opened, and the number of games.

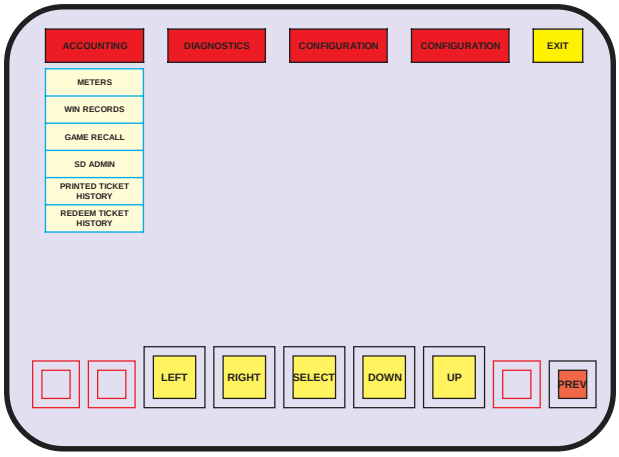
The following table lists the most common meter assignments with EEPROM Jurisdiction=5:

1	Total In	Counts each credit wagered
2	Total Out	Counts each credit won
3	Drop	Counts each coin sent to the drop bucket and each credit from the bill acceptor.
4	Attendant Paid	Counts credits paid to a Player by an attendant upon a jackpot lockup.
5	Bill Credits	Counts credits for bill transactions.

Accounting Sub Menu



The ACCOUNTING sub menu provides access to METERS, WIN RECORDS, GAME RECALL, SD ADMIN, PRINTED TICKET HISTORY and REDEEM TICKET HISTORY.



Accounting Sub Menu

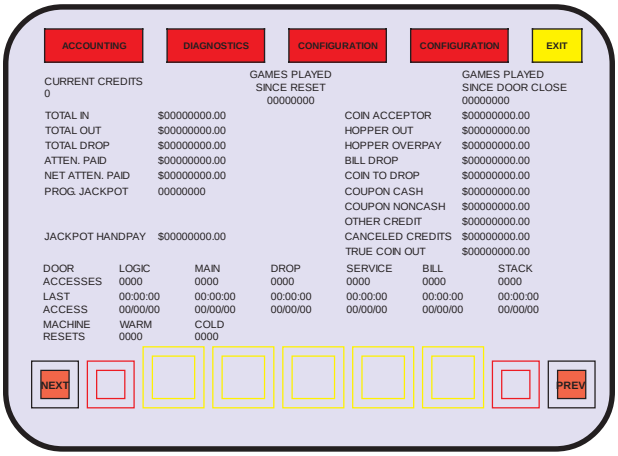
Accounting (cont.)

Accounting Sub Menu (cont.)

ACCOUNTING

METERS

METERS



Bookkeeping and Event Counters

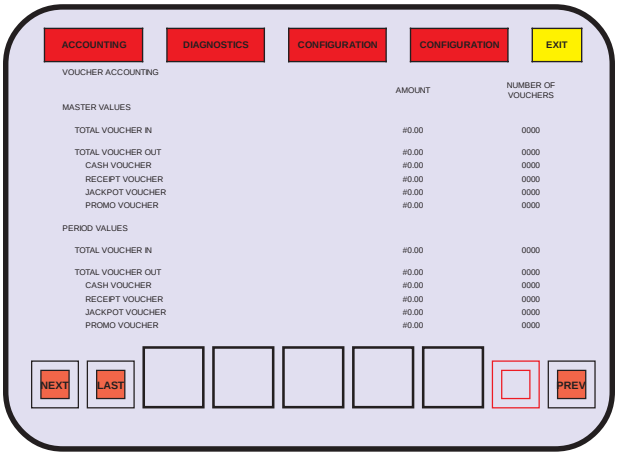
METER	DESCRIPTION
CURRENT CREDITS	Value of credits available to the Player when the machine returnes to normal operation.
GAMES PLAYED SINCE RESET	Total of games completed since the last System Reset.
GAMES PLAYED SINCE DOOR CLOSED	Total of games completed since the closing of the Main Door.
TOTAL IN	Amount wagered on all games in machine.
TOTAL OUT	Amount of winnings paid by machine.
TOTAL DROP	Combined COIN TO DROP and BILL DROP.
TOTAL BILL ACC. IN	Amount of currency accepted.
ATTEN. PAID	Amount of credits paid by an attendant.
NET ATTEN. PAID	Amount of ATTEN. PAID for credits won by the Player.
PROG. JACKPOT	Quantity of jackpots hit for games configured for a progressive jackpot or merchandise award.
SD WINS	Amount won from secondary device.
JACKPOT/HANDPAY	Portion of ATTEN. PAID resulting from a Win Lockup.
COIN ACCEPTOR	Amount accepted by coin acceptor.
HOPPER OUT	Amount dispensed by the hopper.
PRINTER OUT	Amount dispensed by the printer.
HOPPER OVERPAY	Amount of extra coins dispensed by the hopper.
BILL DROP	Amount of currency accepted.
COIN TO DROP	COIN ACCEPTOR that occurs while the hopper is full.
CASH VOUCHER	Non-government currency accepted by bill acceptor as cash.
PROMO VOUCHER	Non-government currency accepted that must be wagered.
OTHER CREDIT	Electronic Transfers (EFT or ECT)
CANCELLED CREDITS	Credits not from winning wagers paid by an attendant.
TRUE COIN OUT	Amount dispensed by the hopper.
DOOR ACCESS LOGIC, MAIN, DROP, SERVICE, BILL, STACK	Number of times each door has been opened.
LAST ACCESS LOGIC, MAIN, DROP, SERVICE, BILL, STACK	Time and date stamp for the most recent access for each door.
MACHINE RESETS WARM	Number of System Resets from causes other than power OFF.
MACHINE RESETS COLD	Number of System Resets from Power OFF.

There are multiple screens of bookkeeping information available under the METERS sub menu. The information presented depends upon the Main program version.

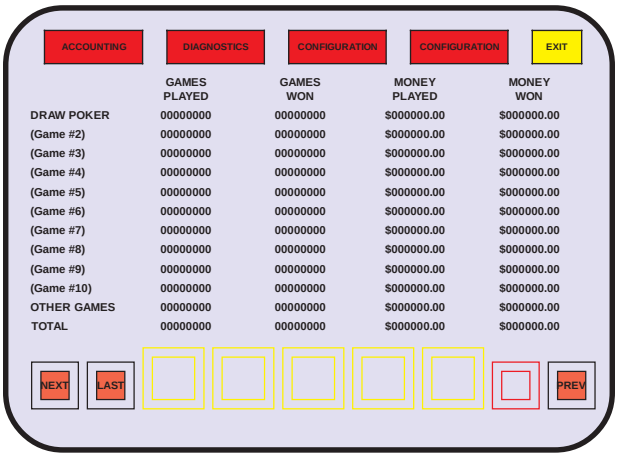
The first screen is a listing of bookkeeping and diagnostic counters. The second screen is a voucher accounting summary. Following is a summary of activity on each game. Following is a calculated statistical summary where the activity of each game is compared to the overall activity of the machine. If SAS® EFT and bonusing is supported, the activity is recorded. Following is a summery of bill acceptor activity. Following screens summarize jackpot activity within the Internal Controllers. Subsequent screens display Electronic Fund Transfers (EFT) or Electronic Credit Transfers (ECT) information pertaining to SAS® protocol.

The monetary records are presented in decimal or integer format selected during the denomination configuration process.

Select METERS under the Accounting sub menu to display the first (master meter) screen. NEXT and LAST icons navigate through the screens of information. Select PREV to return to the Audit Key Menu, or EXIT to return to the Game Menu.



Voucher Accounting



Game Activity

Accounting (cont.)

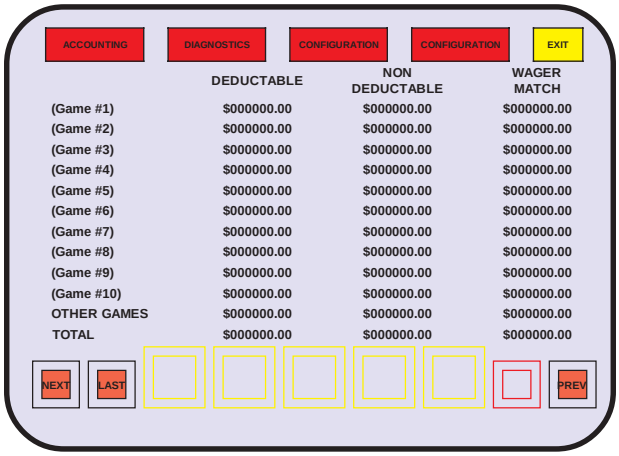
Accounting Sub Menu (cont.)

ACCOUNTING

METERS (cont.)

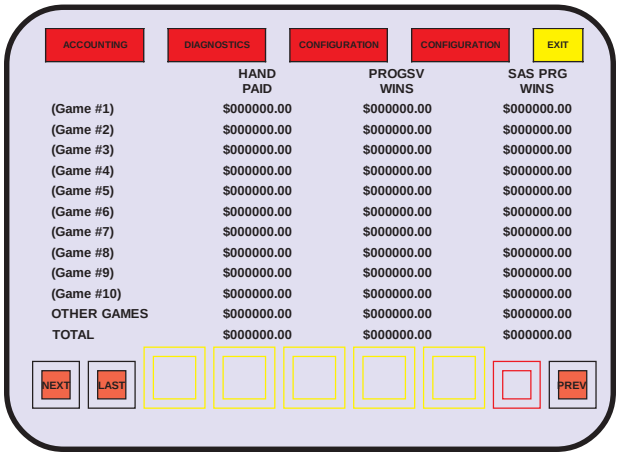
METERS

For internal casino accounting purposes, SAS® Bonusing categorizes bonuses as DEDUCTIBLE (wins), NON DEDUCTIBLE (promotional) and WAGER MATCH.



SAS® Bonus Meters

Some versions of SAS® support Host progressives. HAND PAID (Win Lockups), PROGSV (other internal and external), and SAS® progressives can be compared for verification.

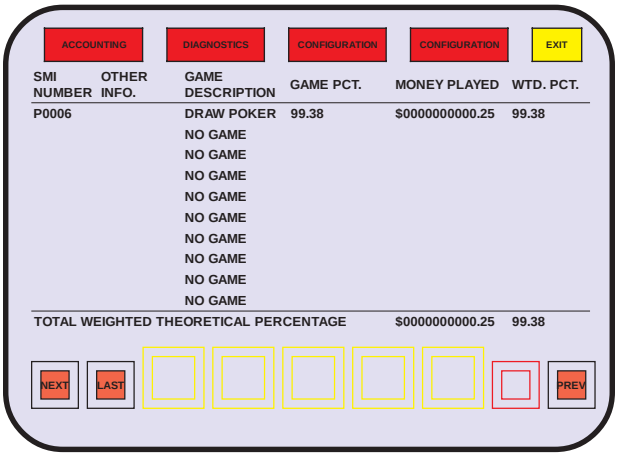


SAS® Progressive Meters

Each of the Personalities usually have different hold percentages. Also, some games may have more appeal in certain locations. The Total Weighted Theoretical Percentage accounts for these differences and calculates a payback percentage for all of the games according to the combined play.

The information included is described in the following table:

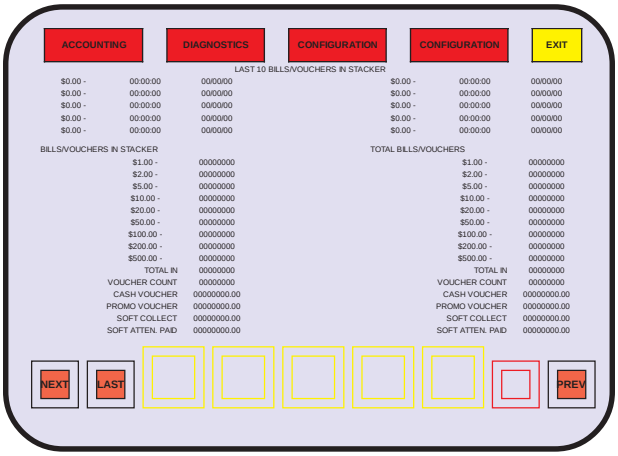
SMI NUMBER	Specific Model Information (SMI) Number identifies the game for reference in the Product Reference Guide and other references. This number should match SMI documentation included with the machine.
OTHER INFO.	Information labels stored in the EPROM about the game. For example, "T" for a tournament game.
GAME PCT.	Nominal and Basic percentage information is stored in the Personality EPROM. Which of thie two percentages displayed depends upon Market Code. Nominal percentage includes bonuses for maximum-wager top awards. Basic percentage is the percentage of a single credit wager.
MONEY PLAYED	Value of wagers for the game.
WTD. PCT	The game's contribution to the total percentage for the machine. It is calculated by GAME PCT. times MONEY PLAYED.
TOTAL WEIGHTED THEORETICAL PERCENTAGE	The sum of WTD. PCT.



Total Weighted Theoretical Percentage

The Bill Acceptor Transaction screen displays three categories of bill acceptor records: Last 10 Bills/Vouchers, Bills/Vouchers in Stacker, and Total Bills/Vouchers.

The last 10 bill acceptor transactions by denomination, time and date are available for review. The current contents of the stacker sorted by denomination, is available; as well as a total item count—TOTAL IN. These records are zeroed when the stacker is removed.



Bill Acceptor Transactions

Accounting (cont.)

Accounting Sub Menu (cont.)

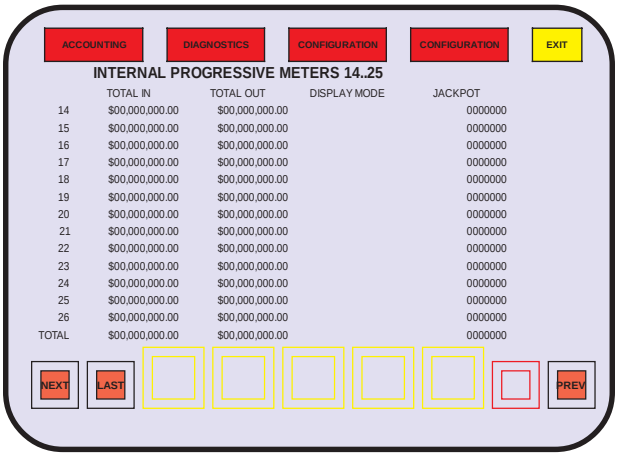
ACCOUNTING

METERS (cont.)

METERS

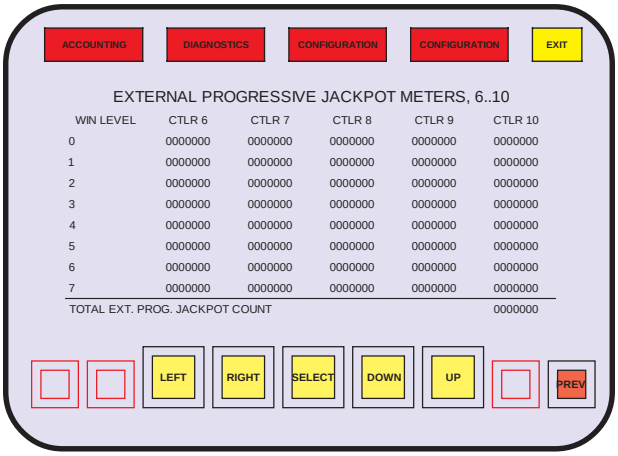
A life-to-date record of all bill acceptor activity is available. These records will roll over, but can not be altered. A SafeRAM™ Clear sets these values to zero.

If any of the 25 internal jackpot controllers are active, the transactions recorded are TOTAL IN, TOTAL OUT, and JACKPOT. The award is noted as DISPLAY MODE.



Internal Progressive Meters - Second Screen

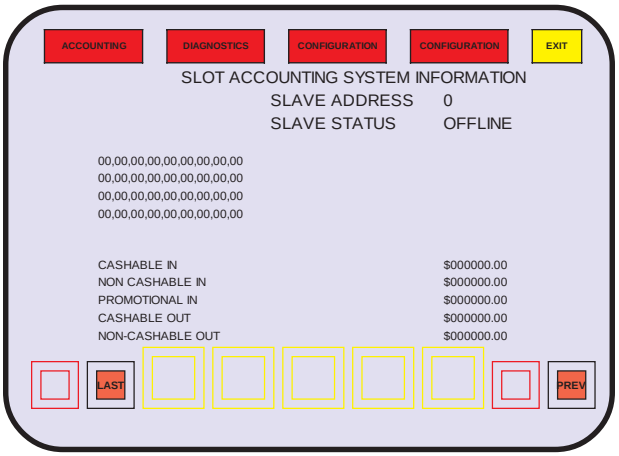
TOTAL IN and TOTAL OUT record the value of wagers and wins with each controller. DISPLAY MODE indicates an award that is a progressing monetary value, or a merchandise award. See Module 7, Progressives for more information. JACKPOT records each occurrence of a jackpot on each controller. A summation of the controllers is recorded in TOTAL.



External Progressive Controllers - Second Screen

If any of the ten external controller interfaces are active, the number of occurrences are recorded for each win. See Module 7, Progressives for more information.

SAS® Information consists of multiple screens. Information presented is SAS® Status, Chronological EFT/ECT History (last five transactions) and Meters.

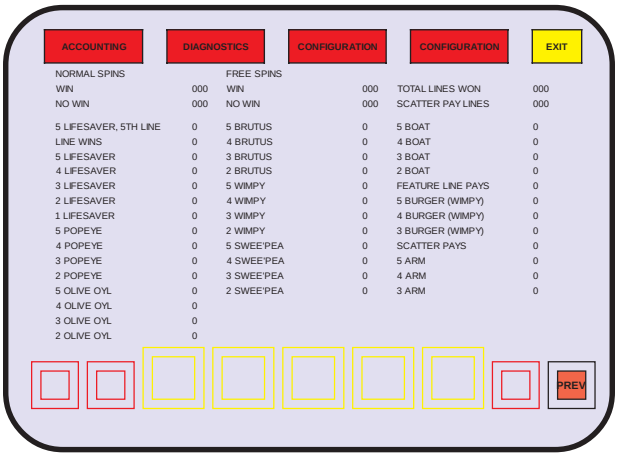


Slot Accounting System (SAS®) - First Screen

WIN RECORDS

WIN RECORDS

Selecting WIN RECORDS presents a sub menu headed by the category WIN RECORDS, and a listing of the games. When a game's text is selected, a listing of possible results, along with the number of occurrences, is presented.



Win Records

GAME RECALL

WIN RECORDS

Selecting GAME RECALL presents a sub menu headed by the category ALL GAMES, and a listing of the games.

All Games

Fifty events in occurrence order are available for review. The display includes the date and time the event occurred. An "event" is a completed game, or COLLECT. NEXT and PREV scroll through the 50 events.

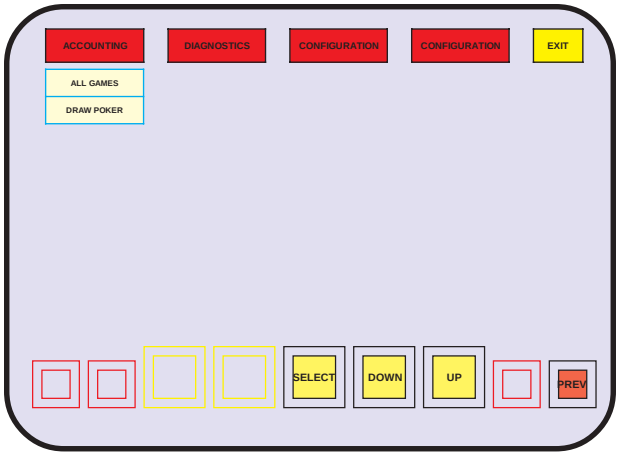
Accounting (cont.)

Accounting Sub Menu (cont.)

ACCOUNTING

Game Recall (cont.)

GAME RECALL



Game Recall Sub Menu

Secondary Device Administration

SD ADMIN

Selecting SD ADMIN presents a listing of possible results, along with the number of occurrences relating to the secondary device installed on the machine.

Printed Ticket History

PRINTED TICKET HISTORY

PRINTED TICKET HISTORY will provide a list of the last 35 voucher payouts if the machine hopper is configured for Seiko Printer or Coin and Seiko Printer. NEXT and PREV scroll through the 35 occurrences.

Redeem Ticket History

REDEEM TICKET HISTORY

REDEEM TICKET HISTORY will provide a list of the last 35 voucher redemptions if the machine hopper is configured for Seiko Printer or Coin and Seiko Printer. NEXT and PREV scroll through the 35 occurrences.

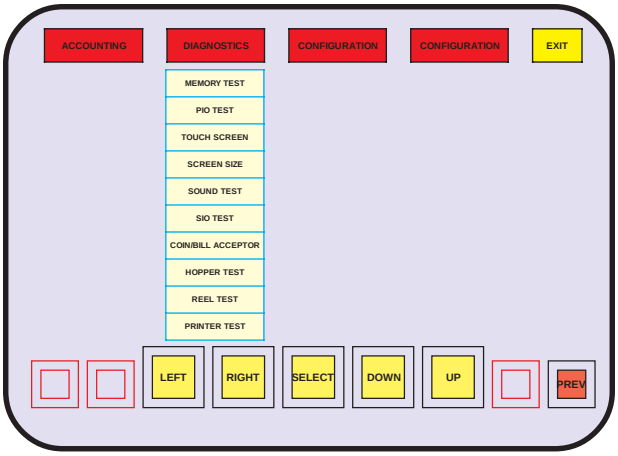
Diagnostics

The Evo® Hybrid provides user-controlled diagnostic functions for calibration and troubleshooting.

Diagnostics Sub Menu

DIAGNOSTICS

The DIAGNOSTICS sub menu provides access to MEMORY TEST, PIO TEST, TOUCH SCREEN, SCREEN SIZE, SOUND TEST, SIO TEST, COIN/BILL ACCEPTOR, HOPPER TEST, REEL TEST and PRINTER TEST.



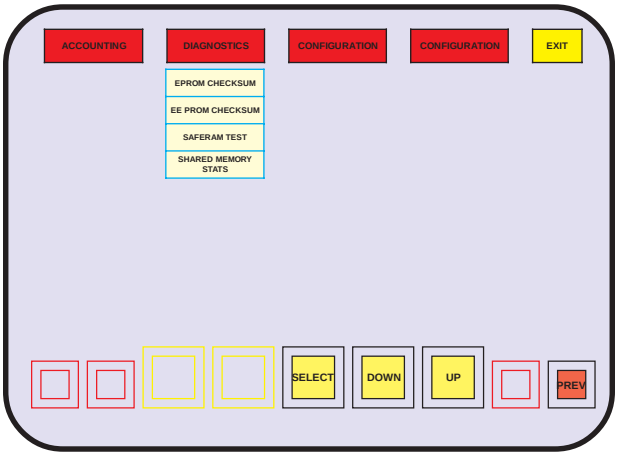
Diagnostics Sub Menu

Memory Test

MEMORY TEST

MEMORY TEST examines EPROM, EE PROM, and RAM. It also displays information agout the contents of EPROMs and the EEPROM. The status of the EPROMs and EEPROM is evaluated by calculating a checksum and comparing it with a stored value.

RAM and SafeRAM™ are evaluated by write-read tests. SafeRAM™ is also checked by comparing a calculed checksum with the known value.



Memory Test

Diagnostics (cont.)

Diagnostics Sub Menu (cont.)

DIAGNOSTICS

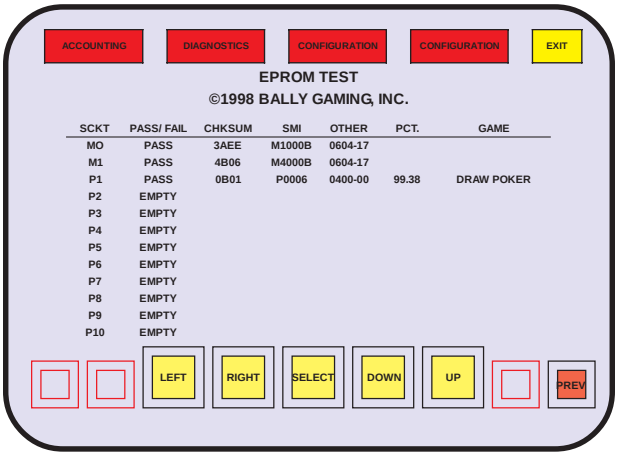
MEMORY TEST (cont.)

MEMORY TEST

EPROM Checksum

EPROM CHECKSUM

When MEMORY TEST is selected, a sub menu of the individual memory components is presented. Select EPROM CHECKSUM to display a listing of Main EPROMs in sockets M0 and M1. The information includes socket number, pass or fail test, checksum, SMI, other, percentage, and the name of the game.



EPROM Checksum

SMI

SMI is the Specific Model Information number for the game. Bally Gaming and Systems Model Development refers to SMI numbers for game reference purposes.

Other

The numbers listed under OTHER are the revision levels of the development. For example, Main EPROM at M0 may have the EPROM label V7M1000B0604-17. The numbers would be included under other are 0604-17.

Pct.

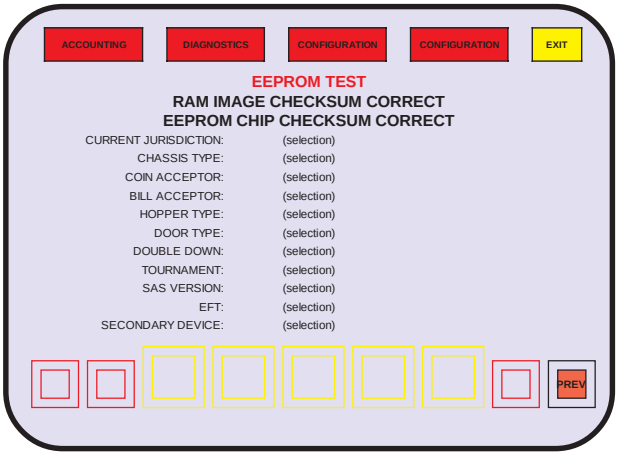
The documented payback percentage of the game is listed under PCT. Refer to the SMI Documentation Package included with the machine for more information.

Game

A listing for the game as it appears in the Product Reference Guide and in the SMI Documentation Package appears under GAME. The Main EPROMs at M0 and M1 are not named, and show as blank.

EE PROM Checksum

Selecting EE PROM CHECKSUM initiates a self-test and displays the results. It also shows the information currently stored.



EE PROM Checksum

SafeRAM Test

SAFERAM TEST

Selecting SAFERAM TEST begins, then displays the results of a self-test of memory where critical machine information is stored in triplicate. A measurement of the SafeRAM™ battery is shown.

System RAM Test

SYSTEM RAM TEST

Selecting SYSTEM RAM TEST displays the result of a self-test of "scratchpad" memory.

Shared Memory Stats

SHARED MEMORY STATS

SHARED MEMORY STATS allows the user to monitor the total number of allocated memory blocks. This diagnostic is useful for determining if a memory leak exists.

PIO TEST

PIO TEST

Activating PIO TEST presents a listing of inputs and outputs. Pressing any switch, HOLD 1 for example, will highlight the text in the listing to indicate proper function.

Touching the text in the OUTPUTS portion of the table will operate the listed output. Activating DEAL in the listing, for example, will light the DEAL/DRAW/START button lamp.

All outputs can be momentarily activated by selecting AUTO-CYCLE OUTPUTS.

Electromechanical meters one through five are LOCKED to preserve accounting information, as indicated by red highlighting. Selecting OFF in the LOCK METERS area of the display will allow testing of the electromechanical counters.

Diagnostics (cont.)

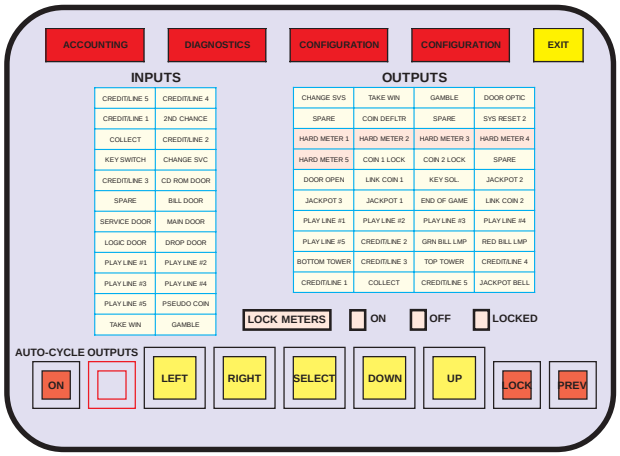
Diagnostics Sub Menu (cont.)

DIAGNOSTICS

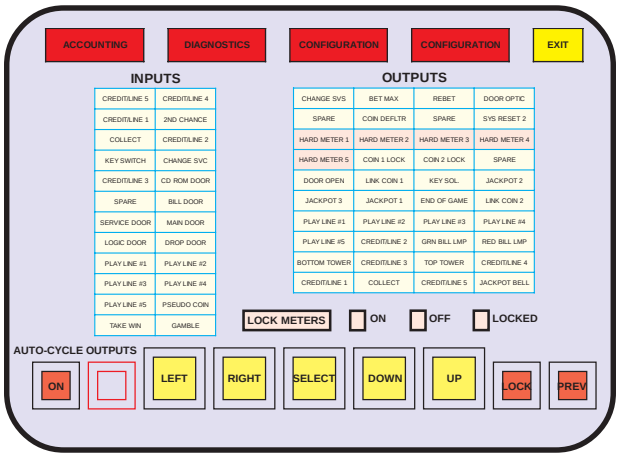
PIO Test (cont.)

PIO TEST

If DIPSW2—4 is set to ON, the INPUTS and OUTPUTS labels differ accordingly.



PIO Test (DIP SW2 - 4 = OFF)



PIO Test (DIP SW2 - 4 = ON)

Touch Screen

TOUCH SCREEN

The touch screen senses capacitive changes when an area contacts human skin. It reports the X, Y coordinates serially to the MPU. TOUCH SCREEN assures accurate positioning in relation to the icons on the screen. This procedure is forced after a SafeRAM™ Clear.

Cal Touch Screen

CAL TOUCH SCREEN

Calibration of the touch screen can be verified by activating CAL TOUCH SCREEN. Once activated, the machine will prompt the user to touch parts of the screen to calibrate the machine's hardware. Calibration of the software involves touching orange crosshairs as they appear on the screen.

Test Touch Screen

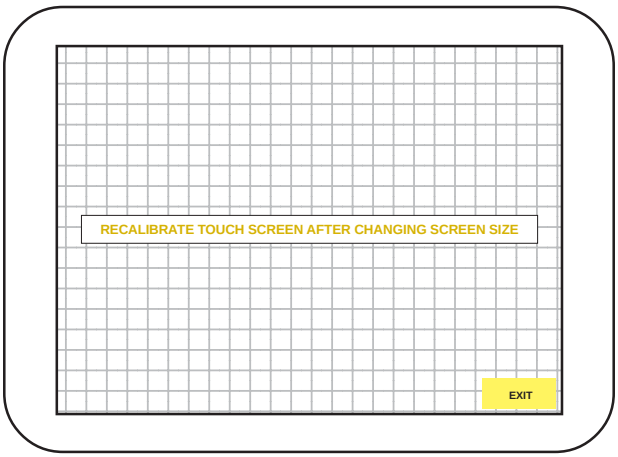
TEST TOUCH SCREEN

TEST TOUCH SCREEN is automatically actuated upon completion of the CAL TOUCH SCREEN test. The sub menu is also accessible from the Touch Screen menu. Once the test is activated, the machine will echo contact with the touch screen with an orange cross.

Screen Size

SCREEN SIZE

Activating the Screen Size presents a crosshatch test pattern where monitor size, position, and pin cushion control adjustments can be verified. The touch screen must be calibrated if any monitor position adjustments have been made.

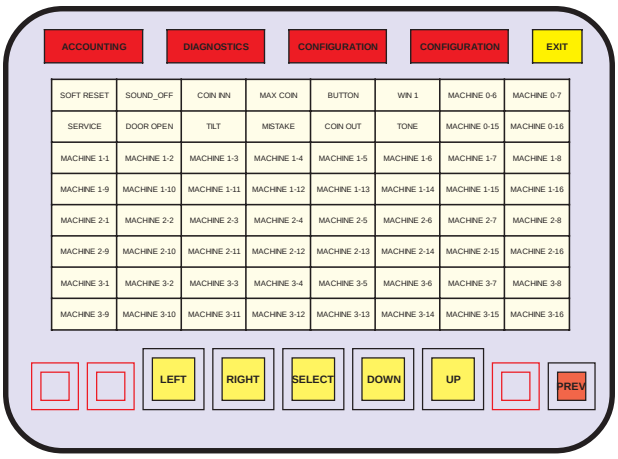


Screen Size

Sound Test

SOUND TEST

Upon selection of SOUND TEST, a matrix of events is presented. Select the event from the menu to hear the associated sound.



Sound Test

Diagnostics (cont.)

Diagnostics Sub Menu (cont.)

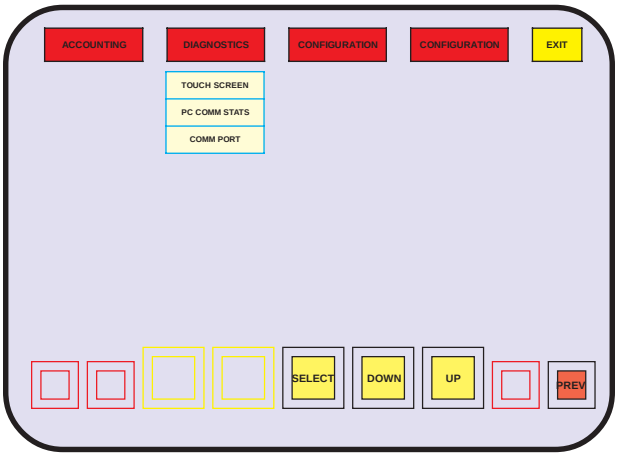
DIAGNOSTICS

SIO Test

SIO TEST

The SIO TEST checks the serial ports used for the touch screen, and the internal communication port between the I/OP MPU and the Pentium® Assembly. Upon activation, a sub menu of the available ports is presented, and a selection, PC COMM STATS, where diagnostic information is displayed.

For TOUCH SCREEN and COMM serial ports, three tests are available: INTERNAL LOOPBACK, EXTERNAL LOOPBACK, and ECHO REMOTE DATA.



SIO Test Sub Menu

Internal Loopback

The port sends a data string to itself and verifies that it received it correctly. Counters record the number of bytes sent, the bytes received, bytes not received, and bytes received that did not match the bytes sent.

External Loopback

This test requires hardware modifications to connect the transmission wire to the receive wire of the port. See Module 9, Overall Wiring Diagrams, for signal locations. The counters record the same information as in INTERNAL LOOPBACK.

Echo Remote Data

Counters are replaced with actual data. The data display is in HEX and ASCII.

Touch Screen Port

TOUCH SCREEN

Activation of the TOUCH SCREEN PORT Test disables touch screen functionality. Navigation through selection is through the appropriate deck buttons.

PC Comm Stats

PC COMM STATS

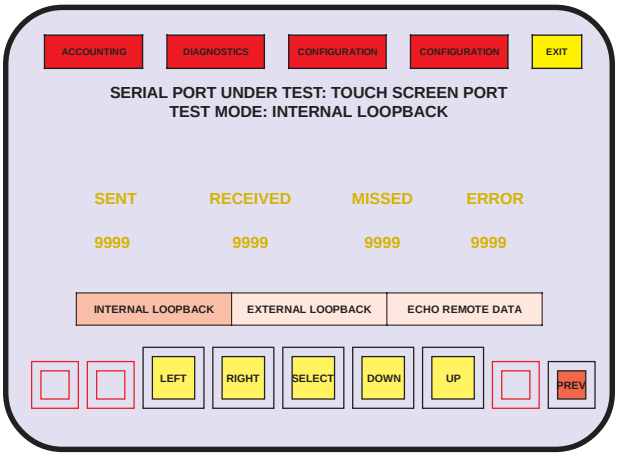
Accessing PC COMM STATS presents a table of communication error counters. If a communication error has occurred, sub menus are available to view the last 10 communication packets with time stamps. A selection will be available to zero the counters to help isolate and track errors.

Comm Port

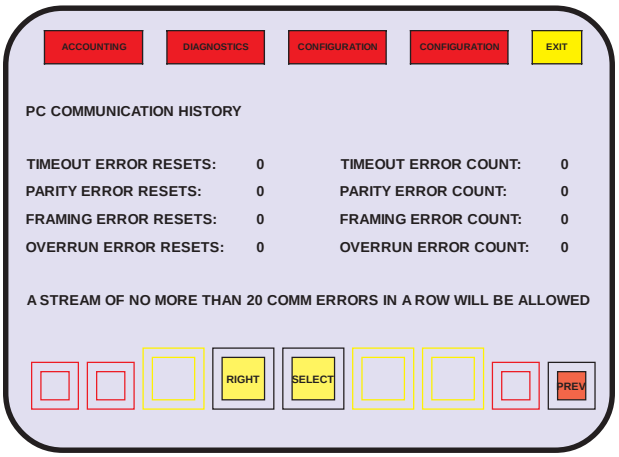
COMM PORT

The COMM PORT test is a diagnostic tool for determining the cause of inexplicable System Resets or “freeze.”

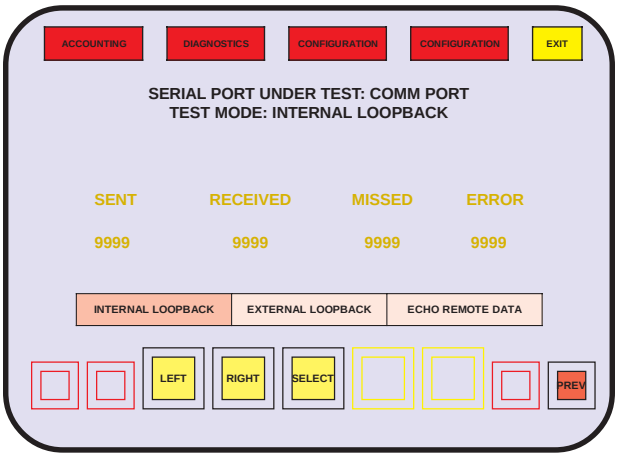
If the PC Assembly does not respond to the I/OP MPU within 20 attempts of a communication packet; for security, the I/OP MPU will generate a System Reset.



SIO Test - Touch Screen Port



SIO Test - PC Comm Stats



SIO Test - Comm Port

Diagnostics (cont.)

Diagnostics Sub Menu (cont.)

DIAGNOSTICS

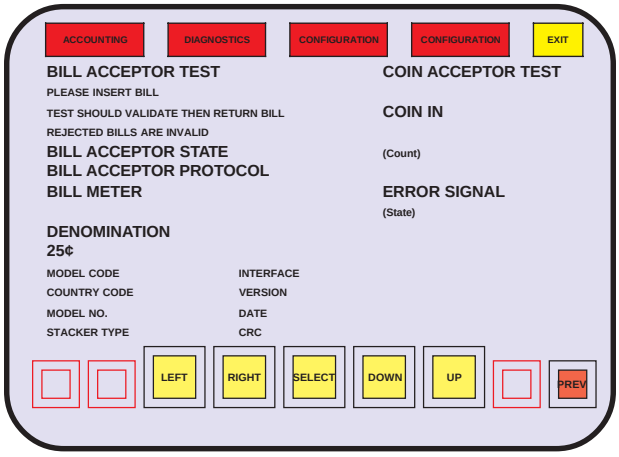
Coin/Bill Acceptor

COIN/BILL ACCEPTOR

The COIN/BILL ACCEPTOR sub menu enables the coin acceptor and bill acceptor for diagnostics. When a bill is presented to the bill acceptor, the value of the bill is reported and the credits that would be posted is shown; or the bill is rejected. The bill is returned. The progress is displayed during the process.

Some models of bill acceptors are capable of communicating internal identification and settings. If it is available, the information is shown during diagnostics.

When a coin is inserted into the coin accepter, the state of each signal of the coin acceptor is displayed. As a coin passes through the acceptor, the status of the signals are reported. The quantity of credited coins is displayed.



Coin Acceptor and Bill Acceptor Test

Hopper Test

HOPPER TEST

Hopper test confirms proper function of the hopper drive circuitry and the Coin Level Probe. Upon selection of HOPPER TEST, the status of the coin level is stated as "HOPPER BOWL SWITCH SHOWS: (status: full or not full)."

When the START icon is activated, the hopper attempts to dispense 10 coins. Each coin is counted by an on-screen counter as it passes through the coin switch. A status message appears upon completion as "HOPPER TEST COMPLETED SUCCESSFULLY" or "HOPPER FAILED". The test can be repeated by activating START.

Reel Test

REEL TEST

REEL TEST presents a sub menu offering selections for maintaining the reel mechanism: CALIBRATE REELS and REEL STRIP TEST.

Calibrate Reels

CALIBRATE REELS

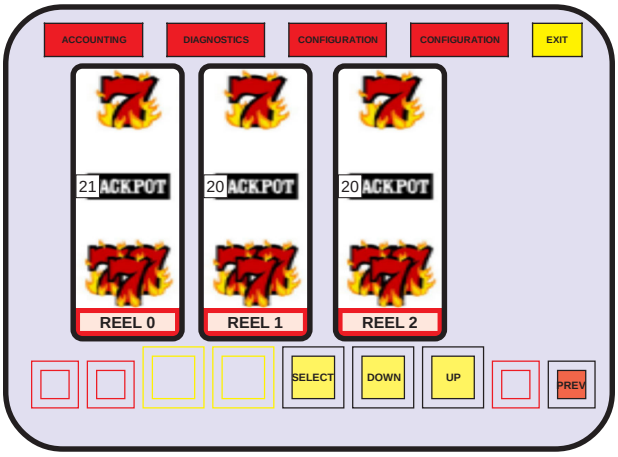
Upon selection of CALIBRATE REELS, the machine will enter a calibration procedure whereby the home position is recorded in RAM.

Reel Strip Test

REEL STRIP TEST

This diagnostic test provides a means for the Operator to confirm the reel symbols are in the correct position, and match the symbols on the monitor.

When the test is entered, the reels spin to the positions represented on the monitor. Selecting the icon label of the reel advances it to the next position, indicated numerically in the payline area.



Reel Strip Test

Printer Test

PRINTER TEST

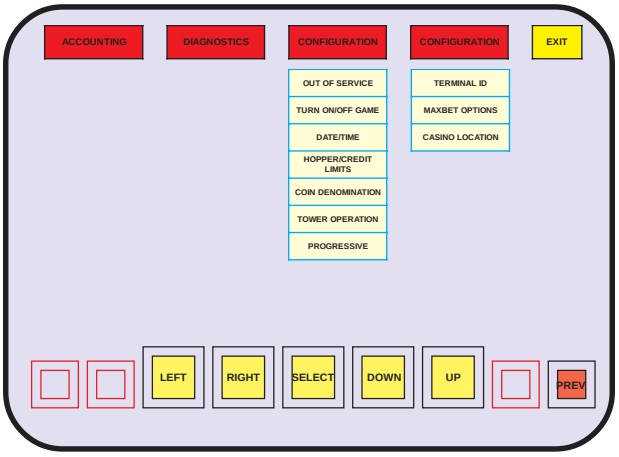
PRINTER TEST allows the user to receive the printer status and print a demo and void ticket.

Configuration

Configuration Sub Menu

CONFIGURATION

The CONFIGURATION sub menu provides access to OUT OF SERVICE, TURN ON/OFF GAME, DATE/TIME, HOPPER/CREDIT LIMITS, COIN DENOMINATION, TOWER OPERATION, ORIGRESSUVE, TERMINAL ID, MAXBET OPTIONS, and CASINO LOCATION.



Configuration Sub Menu

OUT OF SERVICE

OUT OF SERVICE

A machine can be removed from service without switching power OFF. When removed from service, the machine will display "GAME DISABLED—OUT OF SERVICE" until it is placed back into service.

TURN ON/OFF GAME

TURN ON/OFF GAME

A game can be removed from operation without affecting bookkeeping records or the other installed games. Select the desired game's icon. The icon becomes shaded, indicating the game is disabled and removed from the Game Menu. Select the icon again to enable the game.

DATE/TIME

DATE/TIME

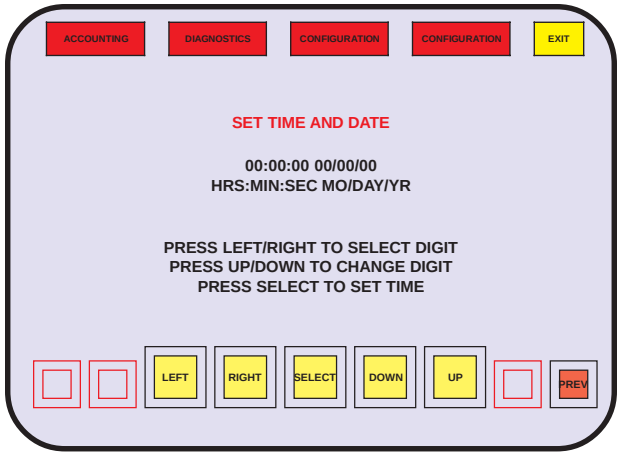
Game Recall and other records include a time and date stamp. The correct settings ensure accurate reconciliation when reviewing the records.

Enter the time in 24-hour format (HH:MM:SS). Enter the date as month, day, and last two digits of the year (MM:DD:YY). Example: January 31, 1999 at 4 P.M. is 16:00:00 01/31/99. After entering the time and date, use the SELECT icon to save the settings.

HOPPER/CREDIT LIMITS

HOPPER/CREDIT LIMITS

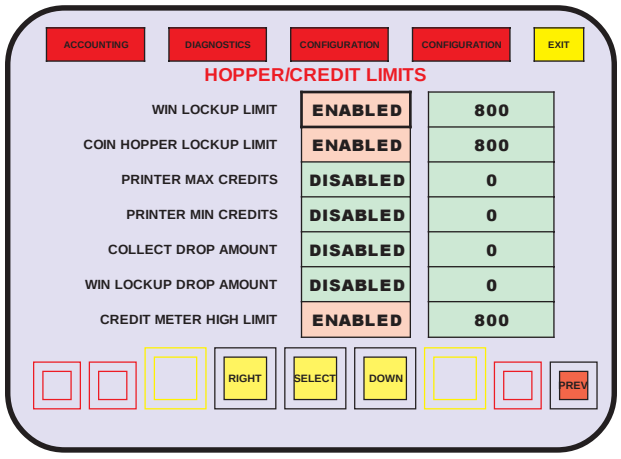
The HOPPER/CREDIT LIMITS sub menu allows configuration of the automated payout operation of the machine. Values can be entered for the partial pay of a jackpot lockup, the win amount that causes a jackpot lockup,



Date and Time

the value of the credit meter that will cause a jackpot lockup upon a cashout, and the highest number of credits the machine will register.

- WIN LOCKUP LIMIT - Number of credits of single a winning combination that, when exceeded will cause a jackpot lockup.
- COIN HOPPER LOCKUP LIMIT - The number of credits, if exceeded, upon cashout that will cause a jackpot lockup (collect lockup).
- PRINTER MAX. CREDITS - The maximum credits that can be recorded upon a redeemable ticket.
- PRINTER MIN. CREDITS - The minimum credits that can be recorded upon a redeemable ticket.
- COLLECT DROP AMOUNT - The number of credits as coins paid from a coin hopper upon a Collect Lockup.
- WIN LOCKUP DROP AMOUNT - The number of credits as coins paid from a coin hopper upon a Win Lockup.
- CREDIT METER HIGH LIMIT - The accumulate in current credits.



Hopper Payout and Credit Meter Limits

Configuration (cont.)

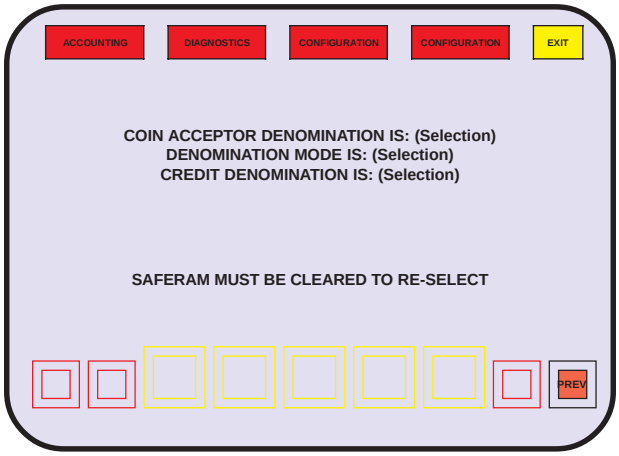
Configuration Sub Menu (cont.)

CONFIGURATION

Coin Denomination

COIN DENOMINATION

Machine denomination is set once after a SafeRAM™ Clear. The current selection can be viewed by selecting COIN DENOMINATION.

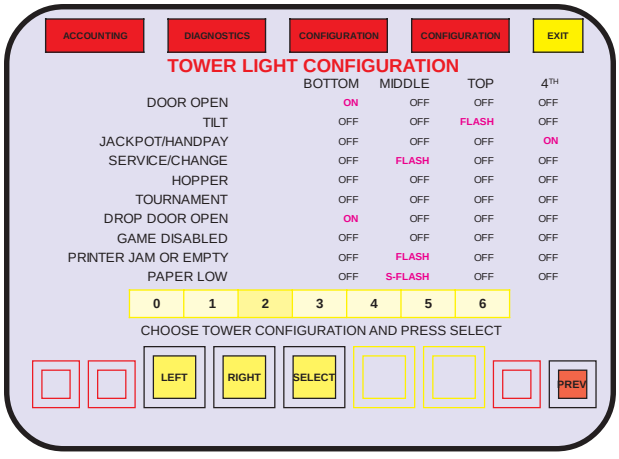


Coin Denomination (Information Only)

Tower Operation

TOWER OPERATION

The Evo® Hybrid can supports two-, three-, and four-tier towers. Use the numbered icons to display the available tower light operation. Use SELECT to choose the operation. "SAVE?" appears at the lower left of the screen. Touch YES to save the selected tower configuration.



Tower Light Configuration

TOWER LIGHT OPERATION			
Tower Lights	**Setting**	**Function**	**Tower Display**
2-Light	0	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Steady Bottom Flashing Top Steady Top Flashing Not Applicable Not Applicable Bottom Steady Not Applicable Top Flashing Top Slow Flash
3-Light	1	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom, Middle and Top Flashing Bottom Flashing Top Flashing Middle Flashing Not Applicable Not Applicable Bottom, Middle and Top Flashing Not Applicable Middle Flashing Middle Slow Flash
4-Light	2	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Steady Top Flashing 4th Light (light above top light) Steady Middle Flashing Not Applicable Not Applicable Bottom Steady Not Applicable Middle Flashing Middle Slow Flash
2-Light	3	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Steady Bottom Flashing Top Steady Top Flashing Top Steady Not Applicable Bottom Steady Not Applicable Top Flashing Top Slow Flash
3-Light	4	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Steady Middle Flashing Top Flashing Bottom Flashing Not Applicable Not Applicable Bottom Steady Not Applicable Bottom Flashing Bottom Slow Flash
3-Light	5	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Middle Flashing Middle Steady Top Flashing Bottom Flashing Not Applicable Not Applicable Middle Flashing Not Applicable Bottom Flashing Bottom Slow Flash
2-Light	6	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Flashing Top Flashing Top Flashing Top Steady Not Applicable Not Applicable Bottom Fast-Flash Top and Bottom Steady Top Flashing Bottom Slow Flash
2-Light	7	Door (s) Tilt Jackpot Service Hopper Pay Tournament Drop Door Game Disabled Printer Jam or Empty Paper Low	Bottom Fast-Flash Top Fast-Flash Top Fast-Flash Top Steady Not Applicable Not Applicable Top Fast-Flash Top Steady Not Applicable Not Applicable

Configuration (cont.)

Configuration Sub Menu (cont.)

CONFIGURATION

PROGRESSIVE

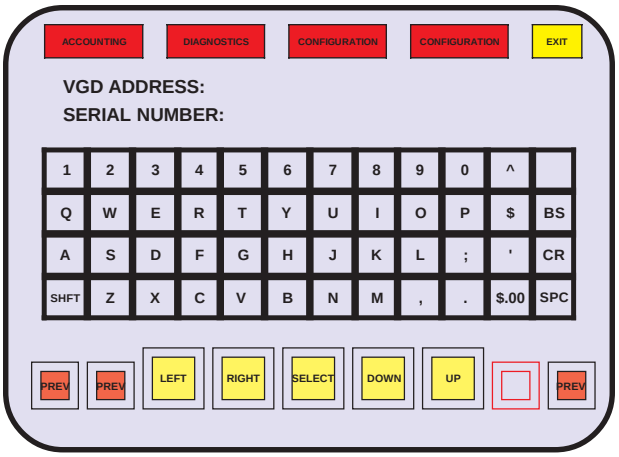
PROGRESSIVE

The Evo® Hybrid can interface with external progressive controllers. It also has 25 independent internal single-level controllers that can be distributed among the games. Each controller can be independently configured for a progressive jackpot or merchandise award; with standard or “Mystery” operation. For more information about progressive operation, see Module 7 Progressive Operation.

(SAS®) TERMINAL ID

TERMINAL ID

Some versions of Main programs support SAS® protocol. The terminal information must be configured before communications begin. Until the terminal is configured, the machine remains in “Demo Mode.”



Terminal ID

VGD ADDRESS will accept any number from 1 to 127. Consult SAS® documentation for the appropriate setting. Some systems require the address to be 1. CR (carriage return) will enter the selection and advance to the next item.

The SERIAL NUMBER can be any six digit number. It can be used to identify SAS® terminals.

CR (carriage return will enter the selection and advances to SAS® HOST OPTIONS.

Upon entering VGD ADDRESS and SERIAL NUMBER, an opportunity to select SAS® HOST OPTIONS is presented. The SAS® HOST OPTIONS are:

HOST OPTION		
TITLE	**SELECTION**	**DEFINITION**
HOST TYPE	STANDARD	Implementation of SAS® protocol for most manufacturers of Host systems.
	ACRES	Interpretations of SAS® protocol unique to Hosts manufactured by Acres Gaming.
HOST BONUSES	ENABLE or DISABLE	If enable, the Host can award additional credits to a Player independent of the paytable of a game.
PROGRESSIVE	ENABLE or DISABLE	If enabled, a progressive Jackpot can be controlled by the Host rather than an additional progressive controller.
VALIDATION TYPE	NONE	There are no restrictions upon a redeemable ticket (Not recommended).
	SYSTEM	The System provides a 16-digit validation number at the time of a cashout that the machine adds to a redeemable ticket. The numbers must verify before the ticket will be paid.
	ENHANCED	The machine provides a 16-digit validation number to a redeemable ticket using a Host-provided seed received by the machine at configuration.
	STANDARD	The machine provides an eight-digit validation number to a redeemable ticket. A Host system is not required.
REMOTE HANDPAY RESET	ENABLE or DISABLE	If enabled, a Jackpot Lockup can be released by the Host and not require a keyswitch release by an Attendant.
PRINT HANDPAY RECEIPT	ENABLE or DISABLE	If enabled, the machine can dispense informational receipts as well as redeemable tickets.

MAXBET OPTIONS

MAXBET OPTIONS

Current settings for the maximum credits that can be wagered for individual games can be verified from this sub menu. Not all games have a selectable MAXBET OPTION. The configuration menu only appears after a SafeRAM™ Clear.

CASINO LOCATION

CASINO LOCATION

If the machine HOPPER TYPE is configured for cashless operation, and the Host does not provide casino location information for the ticket, then NAME, ADDRESS and TICKET EXPIRATION (in days) can be recorded in this sub menu.