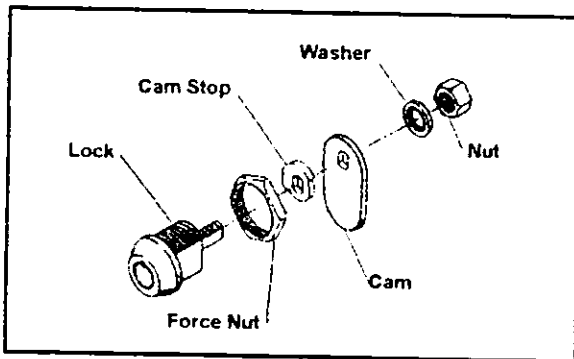


## Installing the machine (cont.)

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.

### BARTOP

Ensure the cutouts conform to the recommended dimensions. Secure the bezel into the cutout. Using a lifting device, place the machine into the opening. Fasten the machine to the bezel, and route the power cord to the power source. Inspect for loose connectors and verify all printed circuit boards are firmly seated.



Lock and Cam Assembly

### 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.

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



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

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

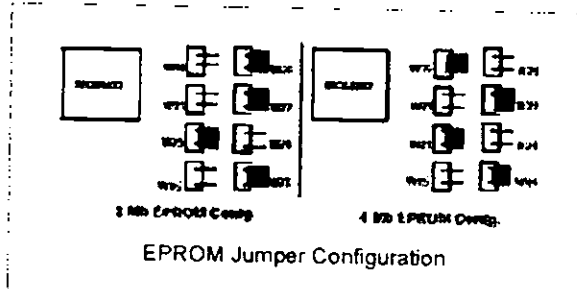
The Lithium battery may be disabled for shipping or storage by having a nearby three-pin header labeled W17 in the OFF position. It must be enabled by moving the two-pin Burg jumper to ON before the machine will operate.



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

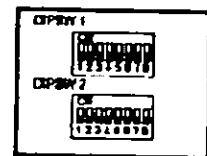
### EPROM Size Jumper Settings

The Game Maker® MPU board can accommodate EPROM sizes from 1M to 4M. Main versions prior to "Version 12" use 2M EPROMs. Main versions later than "Version 12" use 4M EPROMs. The illustration below shows jumper settings according to memory size.



### 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 P10

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

## Setup (Cont.)

### 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 along the battery side edge of the MPU board assembly and set DIPSW1-8 to ON. Some versions of Main programs require a EPROM labeled "V7S1000CLEAR-02" in socket P10. Upon 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 key switch.

Follow the displayed instructions by turning power OFF, setting DIPSW1-8 OFF, removing the CLEAR-02 EPROM from P10 if installed, and turning power ON. The screen then displays the settings for CURRENT JURISDICTION, PRIMARY HOST, SECONDARY HOST, SAS® VERSION, CHASSIS TYPE, COIN ACCEPTOR, BILL ACCEPTOR, HOPPER TYPE, DOUBLE DOWN, TOURNAMENT, SECONDARY DEVICE and RESIDUAL CREDIT MODE.

If the information is correct, the machine can be restarted by cycling power or pressing the RESET button located on the MPU assembly.

### Set EEPROM Options

If the settings require change, actuate the audit key switch. Scroll through the available choices with DEAL/DRAW/START. Confirm each choice with the key switch.

### 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	Swiss B No Bet Limit
5	Default	13	Swiss A Bet Limit
6	Uruguay	14	USAF 2000 Win Limit
7	South Africa	15	USAF No Win Limit

EEPROM Jurisdiction Selections

CURRENT JURISDICTION NOT SELECTED  
 PRIMARY HOST NOT SELECTED  
 SECONDARY HOST NOT SELECTED  
 SAS VERSION NOT SELECTED  
 CHASSIS TYPE NOT SELECTED  
 COIN ACCEPTOR NOT SELECTED  
 BILL ACCEPTOR NOT SELECTED  
 PRINTER TYPE NOT SELECTED  
 HOPPER TYPE NOT SELECTED  
 DOOR TYPE NOT SELECTED  
 DOUBLE DOWN NOT SELECTED  
 TOURNAMENT OFF  
 777 DISABLE  
 SECONDARY DEVICE NONE  
 RESIDUAL CREDIT MODE NOT SELECTED  
 WIN EVALUATION PREFERENCE NOT SELECTED  
 CURRENT JURISDICTION (COIN LIMITING) NOT SELECTED (Pending)  
 PRESS START BUTTON (M1) WHEN TO CHANGE SELECTION  
 TURN KEY SWITCH TO LOCK A SELECTION

EE PROM Selection

### Primary Host / Secondary Host

A Primary Host and Secondary Host cannot both use the same protocol. A dual Host system must use a combination of SAS® (2.xx - 5.xx) and SDS®. PRIMARY HOST must be set prior to setting SECONDARY HOST.

### SAS® Version

SAS® VERSION refers to the communication protocol that is compatible with the version of Slot Accounting System Host computer. The choices for SAS® VERSION are 2.83, 2.84, 3.11, 3.13, 4.00, 4.02 and 5.01.

### 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 (COD) board (Bally part # AS-03356-0303). Some versions of Main programs offer choices for Coin Mechanisms, Inc., CC-62 or CC-16 coin acceptors. The CC-62 does not require a COD board. The CC-16 does.

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.

## **Setup (cont.)**

### **Set EEPROM Options (cont.)**

#### **Bill Acceptor**

The choices for BILL ACCEPTOR are NO BILL ACCEPTOR, JCM WBA, JCM DBV, GPT, ARDAC, AND MARS 1100 SERIES.

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 bill acceptor manufactured by ARDAC, Inc.

MARS 1100 SERIES refers to the model manufactured by Mars Electronics International. It is also the correct setting for the Cashflow™ SC6600.

#### **Printer Type**

The Game Maker® will support thermal printers manufactured by Seiko Instruments, Inc., and Transact Technologies, Inc. The choices are SEIKO PRINTER, ITHAKA 800 PRINTER, OR NONE. Select one choice to match the hardware installed in the machine.

#### **Hopper Type**

The choices for HOPPER TYPE are COIN, OR NONE. Select COIN if the machine has a coin-dispensing hopper.

#### **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.

#### **Double Down**

DOUBLE DOWN is ON or OFF. If ON, the opportunity to enable and configure this feature will be available under CONFIGURATION

#### **Tournament**

TOURNAMENT is ON or OFF. If ON, the opportunity to enable and configure this feature will be available under CONFIGURATION.

#### **EFT (Electronic Funds Transfer)**

The choices for EFT are ENABLE OR DISABLE. If enabled, credits can be 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 manufacturers of the peripheral device.

#### **Residual Credit Mode**

If a machine is configured so that one coin registers multiple credits (tokenization), it is possible to have credits remaining after a cashout. The selections for RESIDUAL CREDIT MODE refer to the disposition of the extra credits. The choices are NO GAMBLE AND NO ATTEN. PAY, ATTEN. PAY ONLY, GAMBLE ONLY, and GAMBLE OR ATTEN. PAY.

■ The NO GAMBLE AND NO ATTENDANT PAY setting forces a Player to continue playing until either the remaining credits equal zero; or they equal the exact value of a coin from the hopper.

■ ATTENDANT PAY ONLY requires an Attendant to remove the remaining credits from the machine by turning the Audit key switch and paying the Player.

■ GAMBLE ONLY enables a post game where all residual credits are wagered on a win-lose outcome. A win results in a coin from the hopper. A loss zeros the remaining credits. A Player's chance of winning a coin is proportional to the residual credits wagered:

If a credit is 1/10th of a hopper coin, gambling one credit offers a Player a one-in-ten or 10% chance of receiving a coin.

However, if nine residual credits are left, the Player has a 90% chance of receiving a coin for the residual credits.

■ GAMBLE OR ATTENDANT PAY provides the Player with all options for resolving residual credits.

## Setup (cont.)

### Set EEPROM Options (cont.)

#### Win Evaluation Preference

The choices for WIN EVALUATION PREFERENCE are OHWP/PLS or LEGACY. If multiple progressive jackpots are available for the Player, the machine can be configured to award the largest of multiple eligible amounts. For example, a straight flush progressive win will be awarded for a royal flush if the straight flush progressive amount is larger than the progressive amount for the royal flush.

To enable the feature, set EVALUATION PREFERENCE to OHWP/PLS. To establish progressive levels that remain fixed at the associated win level, set the feature to LEGACY.

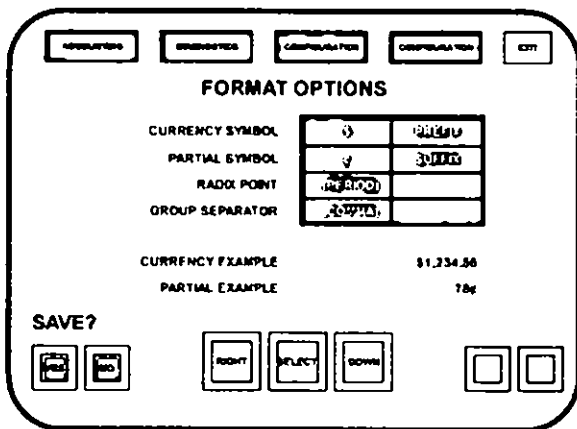
#### One-time configuration after a SafeRAM™ Clear

Following a SafeRAM™ Clear, on-screen instruction state that the DIP switches must be reset and special EPROMs, if installed, removed.

#### Touch Screen Calibration After SafeRAM™ Clear

After a successful SafeRAM™ Clear, the Game Maker® program automatically enters the CAL TOUCH SCREEN sub menu of the DIAGNOSTICS menu. Follow the on-screen instructions for hardware and software calibration.

#### Currency Format Selection



Currency Format Selection

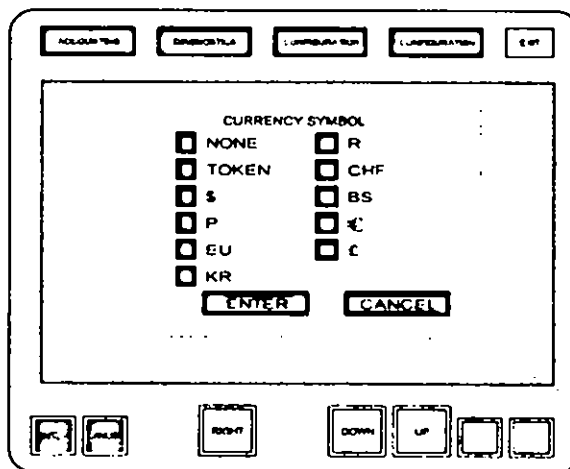
Following the calibration of the touch screen, the Game Maker® initialization process requires a setting for how the bookkeeping records show monetary information.

The items can be selected only once. A SafeRAM™ Clear Procedure is required to change the selection once it is set and saved.

Selecting TOKEN or NONE will have bookkeeping records reflect credits (integers) instead of monetary (decimal) values. For example, .25 NONE selection will show "4" in a bookkeeping meter to reflect \$1 worth of credits. .25 and \$ will show "1.00" for the same value.

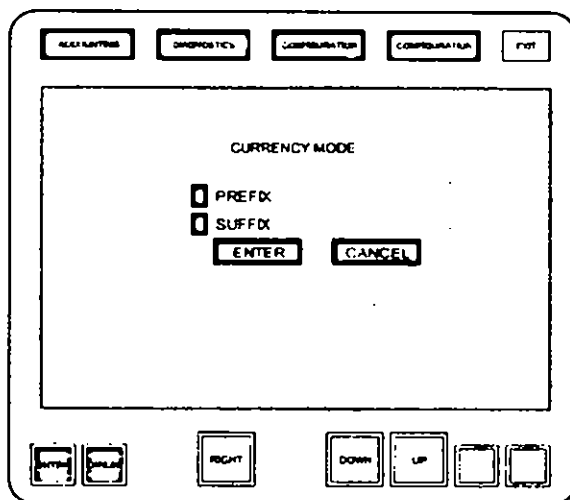
Touch the currency symbol icon in the menu to display the available symbols.

#### Currency Symbol



Currency Symbol

Select the currency symbol by touching the icon beside it. Then press enter to return to the format options menu.



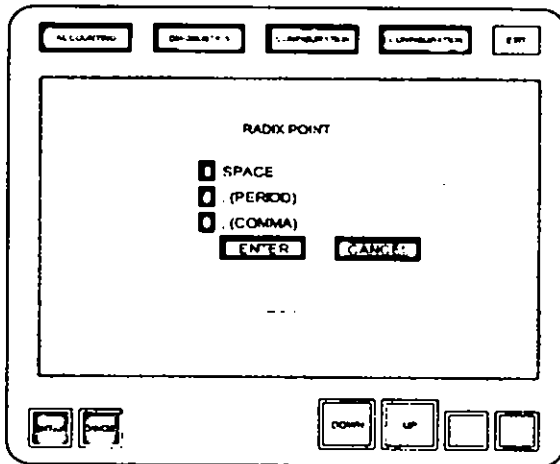
Currency Mode (Suffix/Prefix Selection)

## Setup (cont.)

### One-time configuration after a SafeRAM™ Clear (cont.)

The selected symbol can appear as a prefix or suffix. Touch the suffix text icon to enter the currency mode menu. Touch the suffix or prefix icon, then touch ENTER to return to the format options menu.

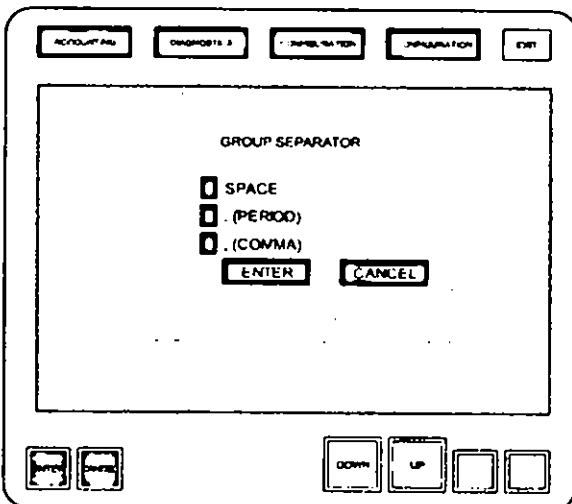
#### Radix Point



Radix Point

The radix point for values can be configured. Touch the radix point icon to enter the radix point selection menu. Touch the icon beside the text, then touch ENTER to return to the format options menu.

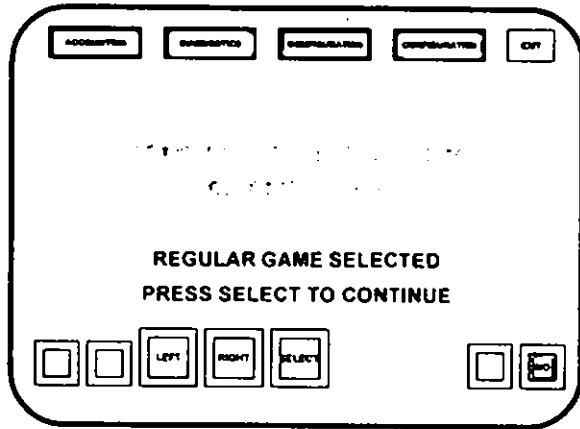
#### Group Separator



Group Separator

The punctuation separating groups of digits can be configured. Touch the group separator icon showing the current selection to enter the group separator selection menu. Touch the icon beside the text of the separator, then touch ENTER to return to the format options menu.

#### Denom Type (Credits per Coin Setup)

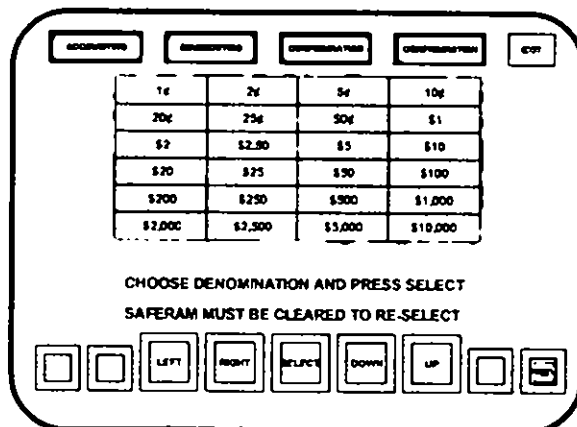


Regular Game or Token Game

The machine can be configured to apply multiple credits for each coin in through the coin acceptor and out through the coin hopper. REGULAR GAME associates one credit per coin. TOKEN GAME allows one coin to equal multiple credits for accepted coins through the coin acceptor and dispensed coins by the hopper. Touch LEFT or RIGHT to toggle choice, then touch SELECT. Touch YES to confirm and save selection.

#### Denomination

The selection for Coin Denomination is the value of a coin accepted by the coin acceptor and dispensed by the hopper. Touch the value of the coin where it appears in the menu, then touch SELECT. Confirm by touching YES when asked to save changes.



Coin Acceptor Coin Denomination

## Setup (cont.)

### One-time configuration after a SafeRAM™ Clear (cont.)

#### Multiple Credit Configuration

**TOKEN CREDIT SETUP**

COIN DENOMINATION  
SELECT A CREDIT DENOMINATION  
TO USE FOR ALL GAMES

SAVE? [YES] [NO]

[LEFT] [RIGHT] [SELECT] [DOWN] [UP]

Token Credit Setup

If TOKEN GAME was selected to accumulate multiple credits for each coin through the coin acceptor, an opportunity is presented to select the value of each credit.

Touch the value of a credit where it is presented in the menu, then touch SAVE.

#### Multiple Denomination Setup

**MULTIPLE DENOMINATION CREDIT SETUP**

COIN DENOMINATION  
SELECT FROM 1 TO 6 CREDIT DENOMINATIONS  
TO USE FOR ALL GAMES

0.01 0.02 0.05 0.10  
0.20 0.25 0.50 1.00  
2.00 5.00 10.00 20.00  
50.00 100.00

SAVE? [YES] [NO]

[LEFT] [RIGHT] [SELECT] [DOWN] [UP]

Multiple Denomination Setup

The Game Maker® Main program provides an opportunity to set a value for each unit of wager that may be different from the denomination of the coin acceptor. Up to five different values can be selected for all games.

**MULTIPLE DENOMINATION GAME SETUP**

(Game Maker® Personality Graphic)  
Personality:

COIN DENOMINATION  
SELECT FROM 1 TO 6 CREDIT  
DENOMINATIONS TO USE FOR  
THIS PERSONALITY

0.01 0.02 0.05 0.10 0.20  
0.50 1.00 2.00 5.00 10.00

SAVE? [YES] [NO]

[LEFT] [RIGHT] [SELECT] [DOWN] [UP]

Multiple Denomination Game Setup

Each installed Personality will be presented for one-time configuration. Changes require a SafeRAM™ Clear.

**PLEASE SELECT THE BILL ACCEPTOR COUNTRY**

Channel	Country
CHANNEL 1	\$1
CHANNEL 2	NONE
CHANNEL 3	\$5
CHANNEL 4	\$10
CHANNEL 5	\$20
CHANNEL 6	\$50
CHANNEL 7	\$100
CHANNEL 8	NONE
CHANNEL 9	NONE

UNIVERSAL 1  
UNIVERSAL 2  
UNIVERSAL 3  
UNIVERSAL 4  
UNIVERSAL 5  
UNIVERSAL 6  
UNIVERSAL 7

SAVE? [YES] [NO]

[LEFT] [RIGHT] [SELECT] [DOWN] [UP]

Bill Acceptor Country

#### Bill Acceptor Configuration

Bill denominations accepted must match assignments established in the machine's bill acceptor. There is only one correct setting. Individual bill acceptance or rejection can be selected by switches in the bill acceptor.

Touch the text icon of a table to view a list of bill denominations and channels.

Touch SELECT. Confirm the selection by touching yes to save. Advance to the next menu by touching PREV.

The following table lists the available channel assignments:

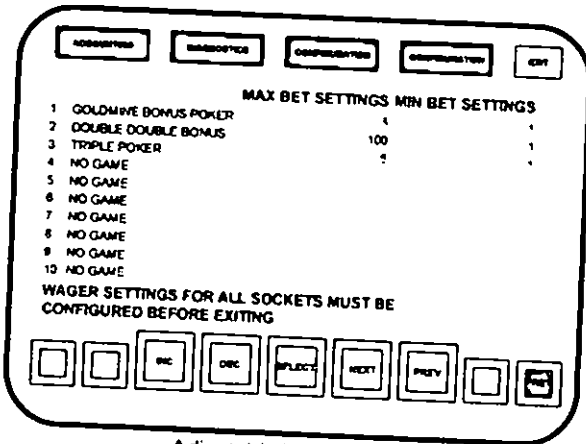
Group	Bill Acceptor Channel Assignments Table							
	1	2	3	4	5	6	7	8
Universal 1	1	2	5	10	20	50	100	200
Universal 2		100						
Universal 3	100	200	500	1000	2000	5000	10000	20000
Universal 4	10	20	50	100	200	500	1000	2000
Universal 5	1000	2000	5000	10000	20000	50000	100000	
Universal 6	1	5	10	20				
Universal 7	10	25	50	100	250	500	1000	2000

Enabled [YES] [NO]  
Disabled [YES] [NO]

### Setup (cont.)

## One-time configuration after a SafeRAM™ Clear (cont.)

### Adjustable Maximum and Minimum Bet

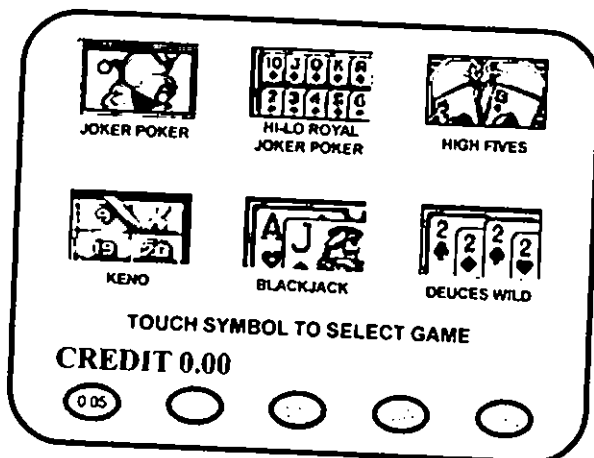


### Adjustable Wager Setup

Some games include the ability to adjust wager settings. Changeable settings appear in red in the menu. **SELECT** enters the value. The selection must be confirmed with by touching **SAVE**.

Upon exiting, the machine will present the Audit Key administration menu.

## Machine Operation



## Game Menu

## Selecting a Game to Play

The Game Maker® allows the Player to choose from a selection of games. The selection is determined by the Personality EPROMs installed in MPU board

sockets P1 through P10. If multiple denominations are enabled, the current denomination is highlighted. The Player can choose a different denomination. Selecting the game's icon presents the play screen for the game.

HELP (instruction) screens and pay tables are available for some games. EXIT will leave HELP or PAY TABLE and return to the game. Selecting MENU returns to the game menu.

## Playing a Game

The Player must wager at least one credit to play a game. Credits are awarded from wins, or purchased by the Player. Credits or their value display next to the text CREDIT.

Credits are wagered by selecting BET ONE or BET MAX. Wagers may be adjusted by selecting the arrows on either side of BET, located in the upper right of the screen.

**MAX BET** will wager all available credits or the maximum wager for the game, whichever requires fewer credits.

Once credits are wagered, the game begins by selecting DEAL/DRAW/START. Upon completion of the game, winning combinations increment CREDITS and WIN according to the game's pay table.

Once the game is over and any winnings are accounted for, the Player may play the same game again, select a different game, or collect all remaining credits. If a different game is selected, credits are carried over to the new game.

To collect, or "cash-out," the Player selects the COLLECT icon. Depending upon machine configuration, coins are paid from the hopper; a credit voucher is created and dispensed; or the value of the credits are transferred to the Player's account.

## Releasing a Jackpot Lockup

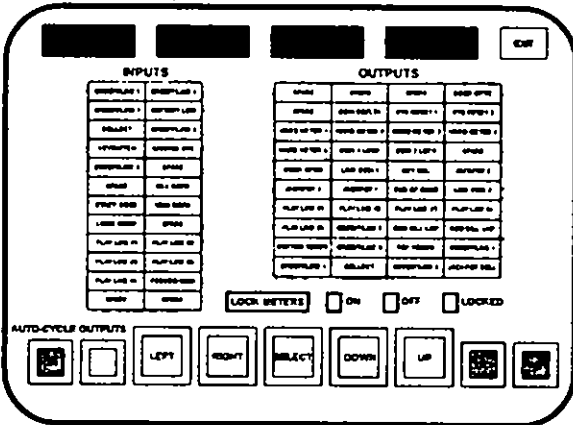
When a win exceeds a configured value, the machine indicates a jackpot lockup condition by illuminating a tower light, playing a jackpot melody, displaying a message across the screen, and suspending further play. The jackpot condition must be released by an Attendant or by a system Host.

## Diagnostics

### PIO TEST (cont.)

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 allows testing of the electromechanical counters.



PIO Test (DIP SW2 - 4 = ON)

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

### Hopper Test

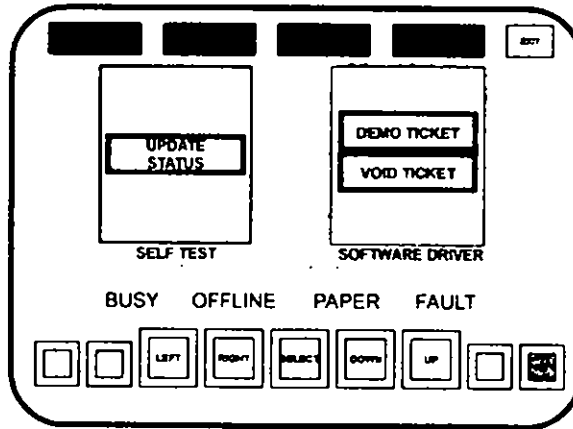
HOPPER TEST confirms proper function of the hopper drive circuitry and the coin level probe. Upon selection of HOPPER TEST, the status of the coin level is stated as "HOPPER BOWL SWITCH SHOWS: (status: full or not full)."

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.

### PRINTER TEST

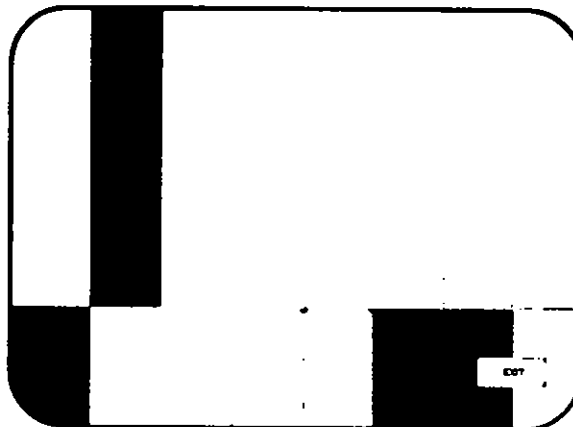
The printer test provides printer control line status and the ability to print test tickets. A functioning printer displays status text NORMAL CONDITION, and each control line indicator displays green.

The SELF TEST icon activates the printer's self-test routine. The PRINT TICKET icon sends a test ticket through the printer.



Printer Test Sub Menu

### CRT COLOR



CRT COLOR Sub Menu

Activating CRT color presents a color test pattern where monitor contrast, brightness, and color adjustments can be verified.

### TOUCH SCREEN

There are two sub menu selections under TOUCH SCREEN: CAL TOUCH SCREEN and TEST TOUCH SCREEN.

#### Cal Touch Screen

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

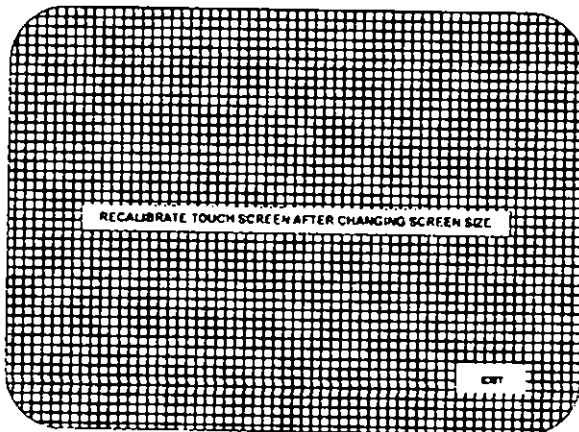
#### Test Touch Screen

Calibration of the touch screen can be verified by activating TEST TOUCH SCREEN. Once the test is activated, the machine will echo contact with the touch screen with an orange cross.



## Diagnostics (cont.)

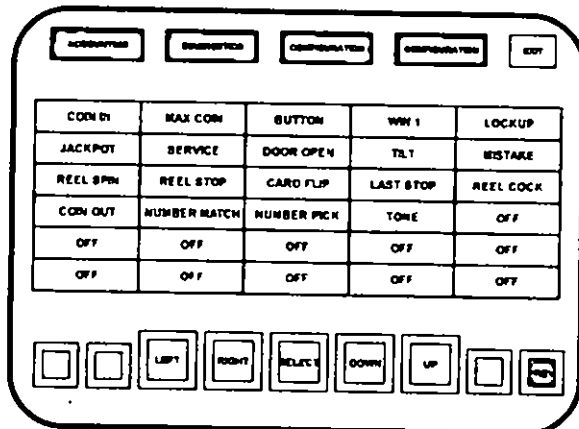
### SCREEN SIZE



Screen Size

Activating 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.

### SOUND TEST

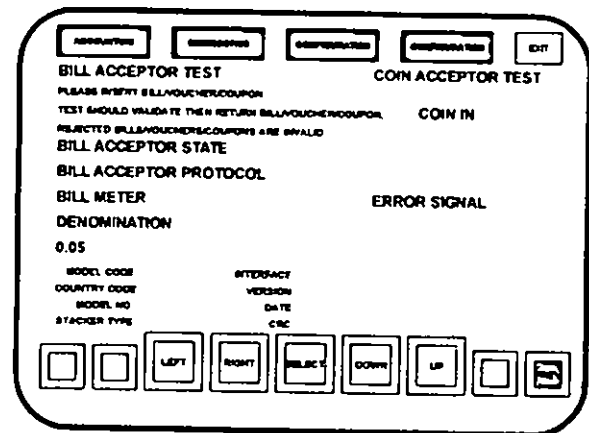


Sound Test

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

### 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



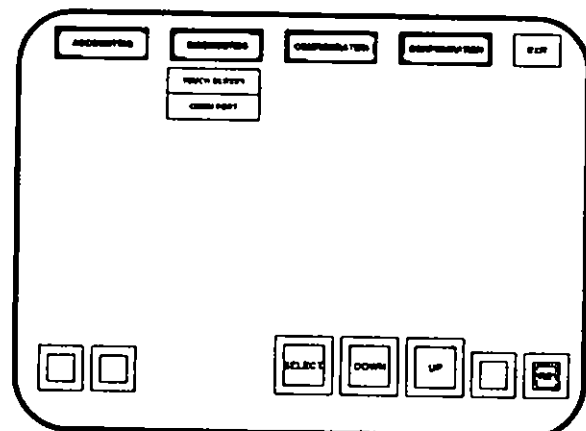
Coin Acceptor and Bill Acceptor Test

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 through the coin acceptor, 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.

### SIO TEST



Audit Key Menu

The SIO TEST checks the serial ports. Upon activation, a sub menu of the available serial ports is presented. For each serial port, three tests are available: INTERNAL LOOPBACK, EXTERNAL LOOPBACK, ECHO REMOTE DATA.

## Diagnostics (cont.)

**Case-Positive Ratio**

## SIO Test (Cont.)

**DO THIS**

## Internal Loopback

SERIAL PORT UNDER TEST: TOUCH SCREEN PORT

TEST MODE: INTERNAL LOOPBACK

SENT	RECEIVED	MODIFIED	ERROR
0000	0000	0000	0000

INTERNAL LOOPBACK EXTERNAL LOOPBACK ECHO REWRITE DATA

LEFT RIGHT SELECT DOWN UP

### SIO Test - Touch Screen Port

Not all UARTs support local loopback. UARTs not supporting this feature fail even though they work perfectly in actual use.

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 byte sent.

ADDRESSING ADDRESSING TEST COMPRESS/UNCOMPRESS EXIT

SERIAL PORT UNDER TEST: COMM PORT  
TEST MODE: INTERNAL LOOPBACK

SENT	PLACE VLD	MISSED	ERROR
99:0	0000	9999	99:0

INTERNAL LOOPBACK EXTERNAL LOOPBACK ECHO REMOTE DATA

LEFT RIGHT SELECT QUIT

### SIO Test - Comm Port

## 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.

## Memory Test

### DISCUSSION TEST

ADDRESS TEST

DATA MEMORY TEST

PROGRAM MEMORY TEST

CONTROL MEMORY TEST

EOT

START CHECK DATA

IN PROGRAM CHECK DATA

DATA MEMORY TEST

PROGRAM MEMORY TEST

CHECK PROGRAM DATA

SELECT

DOWN

UP

PROGRAM CHECK DATA

### Memory Test

**MEMORY TEST** examines EPROM, EEPROM, and RAM. It also displays information about 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 calculated checksum with the known value.

### EPROM Checksum

ADDRESS	CARD NO.	IDENTIFY	COMPLIMENT	EXIT		
SECT	PAGE	CHKSUM	SER	OTHER	PCT.	GAME
M0	PAGE	SACE	M18008	0804-17		
M1	PAGE	4BDE	M40000	0804-17		
P1	PAGE	0801	P0008	0400-00	88.38	DRAW POKER
P2	EMPTY					
P3	EMPTY					
P4	EMPTY					
P5	EMPTY					
P6	EMPTY					
P7	EMPTY					
P8	EMPTY					
P9	EMPTY					
P10	EMPTY					

LEFT

RIGHT

SELECT

DOWN

UP

POWER

**EPROM Checksum**

The EPROM CHECKSUM will display a listing of Main EPROMs in sockets M0 and M1, and all Personalities installed in sockets P1 through P10. The information includes socket number, pass or fail status, checksum, creation date, SMI, other labels, percentage, and the name of the game.

## Diagnostics (cont.)

### CHALLENGES TO

### Memory Test (Cont.)

**STUDY TEST**

SCKT

The socket locations on the MPU board where EPROMs are installed are labels as described in the following table:

MPU Board AS-03356-0246					
Label	Socket	EPROM	Label	Socket	EPROM
M0	U51	Main	P5	U52	Personality
M1	U58	Main	P6	U59	Personality
P1	U78	Personality	P7	U67	Personality
P2	U79	Personality	P8	U73	Personality
P3	U86	Personality	P9	U80	Personality
P4	U46	Personality	P10	U87	Personality

**Pass/Fail**

The checksum of the EPROM is calculated and compared to a know value stored in memory. Successful completion is noted in PASS/FAIL.

TYPE

The EPROM memory capacity is listed as TYPE.

## CHECKSUM

The checksum of the EPROM is displayed.

## DATE \_\_\_\_\_

The creation date of the program stored in the EPROM is displayed.

**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 revision levels of the development. For example, Main EPROM at M0 may have EPROM label V7M1000C2104-24. Numbers that would be included under OTHER are 2104-24.

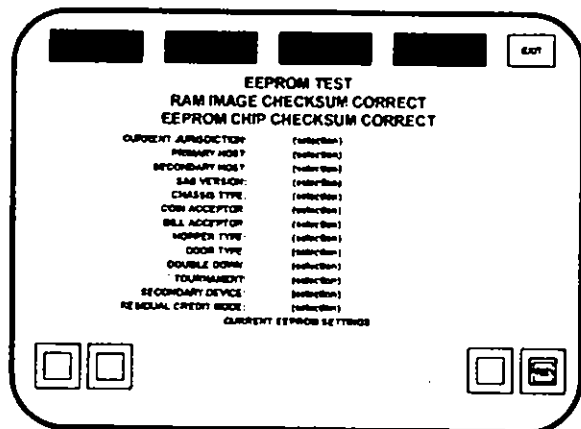
**Pct.**

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.

## EEPROM Checksum



EE PROM Checksum

Selecting **EEPROM CHECKSUM** initiates a self-test and displays the results. It also shows the configuration information currently stored.

RAM IMAGE refers to the contents of the EEPROM as it was copied to SafeRAM™, where a checksum was calculated and compared the stored value.

## SafeRAM Test

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

The battery status is also displayed.

## System RAM Test

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

Show Video Mem

**SHOW VIDEO MEM** displays the video image contents of Graphic EPROMs G1 and G2. Use **LEFT**, **RIGHT**, **UP** and **DOWN** icons to scroll the display.

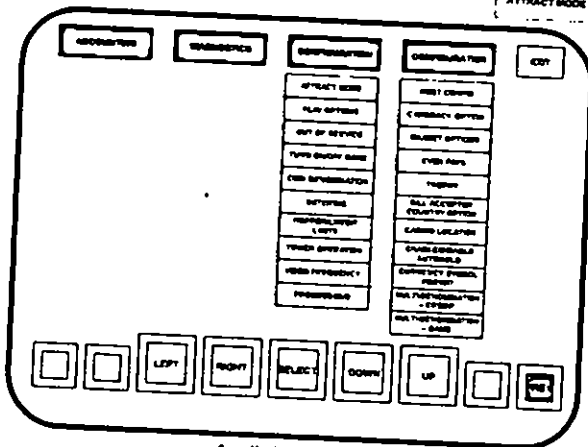
## Configuration

CONFIGURATION

The configuration sub menu provides access to ATTRACT MODE, PLAY OPTIONS, OUT OF SERVICE, TURN ON/OFF GAME, COIN DENOMINATION, DATE/TIME, HOPPER/CREDIT LIMITS, TOWER OPERATION, VIDEO FREQUENCY, PROGRESSIVE, HOST CONFIG, CARDBACK OPTION, MAXBET OPTIONS, EVEN PAYS, TROPHY, CASINO LOCATION, ENABLE/DISABLE AUTOHOLD, CURRENCY SYMBOL FORMAT, MULTI-DENOMINATION-CREDIT and MULTI-DENOMINATION-GAME.

### ATTRACT MODE

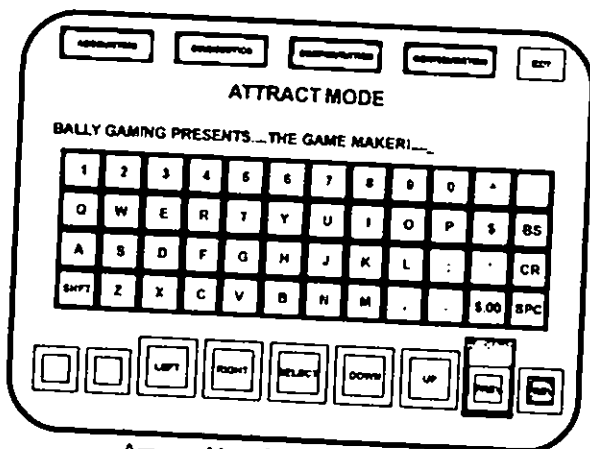
ATTRACT MODE



Audit Key Menu

The attract feature can be turned ON or OFF. If the feature is on, the Game Maker® displays an attract feature after two minutes of inactivity with no credits.

A message scrolls across the screen. The default attract message is "BALLY GAMING PRESENTS... THE GAME MAKER!..." After 15 seconds the game menu appears. Ten seconds later, each individual game screen displays for five seconds. After the last game screen displays, the sequence repeats.



ATTRACT MODE Text Entry Keyboard

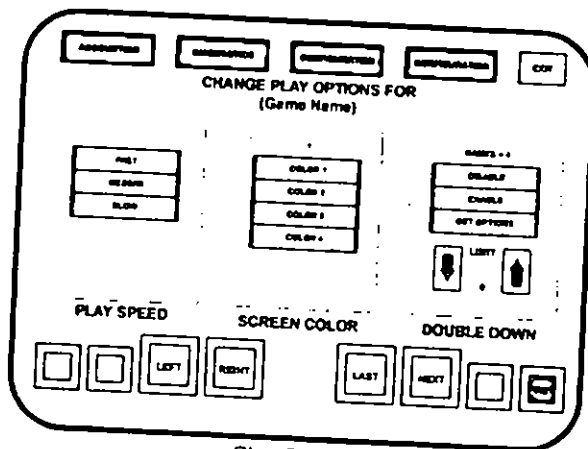
The message may contain up to 1,000 characters. To change the message, select CLEAR to erase the current text. Enter the new message by selecting the appropriate letters on the touch screen keyboard. Use the SPC key to add spaces between words. Extra spaces after the end of the message improves readability.

Select BS (backspace) to erase the last letter entered. SHIFT (shift) adds more characters to the keyboard. When finished entering letters, select SAVE to keep the new message.

If the attract feature is OFF, the screen reverts to the game installed in Personality socket P1.

### PLAY OPTIONS

PLAY OPTIONS



Play Options

### (SPEED, SCREEN COLOR and DOUBLE DOWN)

The game speed, color scheme, and double-down are configured for each game in the play options sub menu. Selecting LAST and NEXT scrolls the installed Personalities for configuration.

#### Play Speed

PLAY SPEED refers to how fast cards are dealt, numbers are chosen, or how long the reels spin. Select the FAST, MEDIUM or SLOW icon to set the play speed for the selected game.

#### Screen Color

Four color schemes are available for each game. The number representing the current setting is shown above the selections. Select one of the COLOR icons to choose a color scheme.

## Configuration (cont.)

### PLAY OPTIONS (cont.)

PLAY OPTIONS

#### Double Down

The DOUBLE DOWN feature allows the Player the opportunity to increase the total win of a game by playing a double down game after the original game has completed. Double down is enabled during EEPROM optioning. Not all Personalities support the double down feature. If the double down feature is not available, it displays as a shaded icon on the play options screen.

LIMIT is the maximum double down win. The UP and DOWN arrow icons adjust LIMIT. If a double down win exceeds LIMIT, double down is not offered to the Player. The selection for LIMIT is for all Personalities, not just the game under configuration.

Select ENABLE to offer double down to a Player for the game under configuration. To configure the double down options, select BET OPTIONS. The double down box displays three new icons: TOTAL WIN, HALF WIN, and PLAYER ADJ.

For TOTAL WIN, the Player wagers the entire win on the double down hand. A double down win doubles the original win and may offer an opportunity to double down again. Another win increases the win to four times the original win. A double down loss leaves the Player with no win and ends the double down session.

For example, a win of five is wagered on a double down game and won. The opportunity to wager the total win of 10 will be offered. A win increases the total win to 20 (four times the original win of five). A loss leaves the Player with no win and ends the double down session.

For HALF WIN, the Player wagers half of the win on the double down hand. A double down win increases the win by half and offers the opportunity to wager half of the total win. A double down loss leaves the Player half of his original win and ends the double down session.



**NOTE:** A newly-installed Personality will be OFF. It must be turned ON in the CONFIGURATION sub menu before it will be available to a Player.

For example, a win of 10 is wagered on a double down game and won. The total win becomes 15, and the opportunity to play another double down game is offered. If the offer is accepted, seven credits are wagered. A double down win increases the total win to 22. A double down loss leaves the total win at eight, and the double down session is over.

For PLAYER ADJ., the Player controls wager for the double down hand. The wager is changed by the UP and DOWN arrow icons.

Any combination of the three choices can be selected for each game.

### OUT OF SERVICE

OUT OF SERVICE

A machine can be removed from service without switching power OFF. When removed from service, the machine displays "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.

### COIN DENOMINATION

COIN DENOMINATION

EXIT

COIN ACCEPTOR DENOMINATION IS: (Selection)

DENOMINATION MODE IS: (Selection)

CREDIT DENOMINATION IS: (Selection)

SAFERAM MUST BE CLEARED TO RE-SELECT

Coin Denomination (Information Only)

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

## Configuration (cont.)

DATE/TIME

Date and 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.

- WIN LOCKUP LIMIT—number of credits of a single winning combination, when exceeded, to cause a win (jackpot) lockup.
- COIN HOPPER LOCKUP LIMIT—number of credits, if exceeded, upon cashout that will cause a collect lockup.
- COLLECT DROP AMOUNT—the number of credits as coins from a coin hopper (if installed) upon a collect lockup.
- WIN LOCKUP DROP AMOUNT—The number of credits as coins from a coin hopper (if installed) upon a win lockup.
- CREDIT METER HIGH LIMIT—the maximum number of credits that will accumulate for a Player.
- JP RESET TO CREDIT METER LIMIT—the maximum number of credits that can be transferred to available credits by an Attendant or system Host upon a win lockup.
- PRINTER MAX CREDITS—the maximum credits that can be recorded upon a redeemable voucher.
- PRINTER MIN CREDITS—the minimum credits that can be recorded upon a redeemable voucher.

## HOPPER/CREDIT LIMITS

HOPPER/CREDIT LIMITS		
WIN LOCKUP LIMIT	ENABLED	800
COIN HOPPER LOCKUP LIMIT	ENABLED	800
COLLECT DROP AMOUNT	DISABLED	0
WIN LOCKUP DROP AMOUNT	DISABLED	0
CREDIT METER HIGH LIMIT	ENABLED	800
JP RESET TO CREDIT METER LIMIT	DISABLED	0
PRINTER MAX CREDITS	ENABLED	800
PRINTER MIN CREDITS	ENABLED	0

Hopper Payout and Credit Meter Limits

The HOPPER/CREDIT LIMITS sub menu allows configuration of the automated payout operation of the machine. Values can be entered for the partial payment of win lockup, the win amount that causes a lockup, the value of the credit meter that will cause a lockup upon a cashout, and the highest number of credits the machine will register.