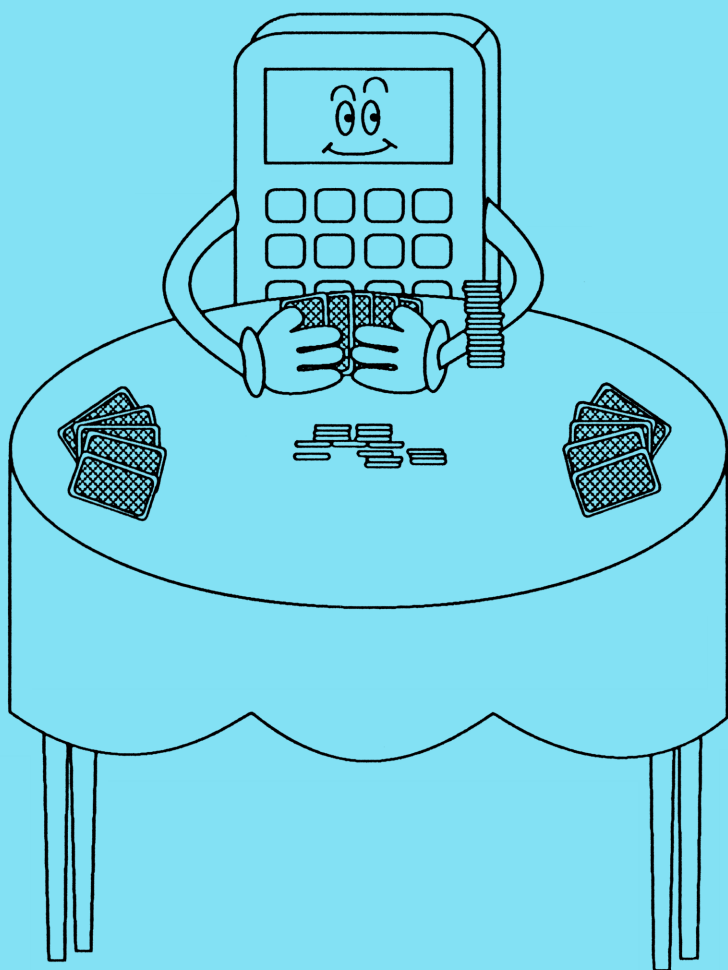


CASINO GAMES PLUS **for the** **HP 48**



CASINO GAMES PLUS
version 3.0
for the HP 48SX

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Written by
Brian Maguire

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INTRODUCTION

"Casino Games Plus" is an action filled software package for the HP 48SX. Even before you place your first bet you'll know this is more than just another casino game program. You are greeted to the casino by a line up of can-can girls dancing across the screen. They'll lead you to the main menu where you can select from six animated games: **BLACKJACK**, **POKER**, **SHOWDOWN**, **SLOTS**, **ROULETTE** and **KENO**.

Three of these are card games. You'll learn how to be an expert at **BLACKJACK** using the **0000** key. It gives you all the statistics on your chances of busting if you take a hit and your odds of winning and losing if you stay. Other options include insurance, splitting pairs and doubling down.

POKER matches your wit against the 48. After being dealt five cards each, both you and the 48 get the chance to bet, raise, pass, call, or fold. Next, both of you draw as many as three cards and bet again. Be careful though, the 48 will try to bluff whenever you give him the chance.

After you've made your wager in **SHOWDOWN**, one card is dealt to each player. Whoever has the highest card wins. In the case of a tie the bet is doubled and a second card is dealt. This continues until someone wins. Because the cards are dealt from a pinochle deck (two of each card from nine through ace only), the high stakes of a double, triple, or quadruple showdown are commonplace.

All three card games give you a choice between two different card sizes. The full sized cards give you the feeling that you're at the tables in Monte Carlo while the smaller cards allow you to see both your hand and the dealer's.

The remaining three games are fully animated. **SLOTS** has spinning wheels and a movable arm. You can move around the table placing your bets in **ROULETTE** and then watch the spinning ball and wheel. In **KENO** you can select up to 8 numbers. Then, the HP 48SX picks 14 random numbers. The more numbers you guess right, the more you win.

You can also create your own card games using seven new commands. They allow you to create shuffles and display any card.

TITLE SCREEN



SELECTION MENU



BLACKJACK



POKER



SHOWDOWN



SLOTS



ROULETTE TABLE



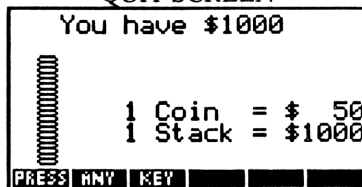
ROULETTE WHEEL



KENO



QUIT SCREEN



* Several screens taken from demo

The only thing you need to stake your fortune at the HP casino is an interface cable and an IBM or Macintosh computer (and of course a 48SX). And best of all, you can download the whole 32K casino package with all six games, or download just the games you want with the accompanying casino games selection library. This lets you save memory by loading selected games. For example, if you want to play slots you would load the Casino Games Plus (selection) library along with the SLOTS library.

"Casino Games Plus" contains a detailed owner's manual, your registration card, and a disk with the following eleven files. This disk contains three main libraries and eight individual game libraries.

TITLE	FILE	ID#	SIZE
Casino Games Plus (Demo)* <i>Animated Demonstration program</i>	CSINODEM	#1791d	13527 bytes
Casino Games Plus (Package)* <i>All six games in one compact file</i>	CSINOPKG	#1790d	30326 bytes
Casino Games Plus (Selection)* <i>The general library that drives the individual game files listed below</i>	CSINOSLT	#1789d	3929 bytes
Card Games (Large Cards)	CARDLG	#1788d	15908 bytes
Card Games (Small Cards)	CARDSM	#1788d	10946 bytes
Blackjack	BJACK	#1787d	5703 bytes
Poker	POKER	#1786d	6906 bytes
Showdown	SHOWDOWN	#1785d	2771 bytes
Slot Machine	SLOTS	#1784d	2769 bytes
Roulette	RLET	#1783d	4898 bytes
Keno	KENO	#1782d	2824 bytes
Card Creator *	CC	#1781d	1722 bytes

* Main Library

NOTE: Through an oversight, the library numbers for the CASINO GAMES PLUS package assigned by Hewlett Packard are in the public domain. This means the number of a public library may conflict with a CASINO GAMES PLUS library. If so, only one of the conflicting libraries can be installed at a time.

INSTALLATION

LINKING YOUR 48 TO A COMPUTER

Run Kermit or a comparable communications program on your computer. Set the baud rate, parity, and checksum to your desired preference on your 48SX. Then match these settings on your computer. Be sure your calculator is set to both wire and binary transmission. An example of a possible I/O setup menu for the 48 is shown below.

```
I/O setup menu
IR/wire:      wire
ASCII/binary: binary
baud:         9600
parity:       none 0
checksum type: 3
translate code:1
RAW ASCII BAUD PARITY CHECK TRAN
```

Next, decide which files you want to send. There are three main libraries you can transfer, Casino Games Plus (Demo), Casino Games Plus (Full Package), and Casino Games Plus (Selection). The demo library, #1791d, is a good file to transfer first because it shows you all the features offered in CASINO GAMES PLUS. After running the demo you can decide which of the two remaining libraries you want to install. The full package is 30K and contains all the games. It is perfect for storing on a freed 32K RAM card. If you don't have added memory you will be forced to download the selection library instead. Then you can save memory by downloading just the games you want to play.

STORING A LIBRARY

After downloading a library you must store it in a port. Ports 1 and 2 are used by RAM cards while port 0 is used by the 48's internal RAM. To store a

library in a port recall it to the stack, enter any name tagged with the port number, and press store. If you are short on memory you may have to purge the original variable where the library is stored after returning it to the stack.

For example, to store the demo library to port 0 you should recall the library by pressing **CSIN0** in the variable menu, type **:0: CSIN0**, and press store. After storing a library in a port you must turn your calculator off and on again so it can initialize itself.

STORING THE CASINO GAMES PLUS (FULL PACKAGE) LIBRARY ON RAM CARD

Library #1790d contains all the games in one neat package. You may want to store it on a freed 32K or 128K RAM card. Unfortunately, the CASINO GAMES PLUS (FULL PACKAGE) library is about 30K so you may have a difficult time storing it on the card unless you have an additional merged card installed. This is because an empty 48SX has less than 30K available making it impossible to download the library.

Not to worry, we can still store the library with a little memory juggling. First, merge the RAM card by entering the port number and the command **MERGE**. Next, make sure you have at least 32K (32768 bytes) available. Now download the CASINO GAMES PLUS (FULL PACKAGE) library as described on the next page. Now comes the tricky part. Recall the library to the stack, purge the variable it is stored in and store it in port 0 by typing **'CSINOPKG' RCL 'CSINOPKG' PURGE :0:1790 ST0**. With the library in port 0 all that's left for us to do is free the RAM card taking the library, and any other objects that you need to transfer from port 0, with it by entering **{ :0:1790 }**, the port number that the card is in, and **FREE**. This procedure is also covered in the owner's manuals.

PURGING A LIBRARY

From time to time you'll want to purge a library from a port. Before doing so, you must first detach it from the directory it is attached to. All the CASINO GAMES PLUS libraries attach themselves to the HOME directory. This means you must go to the home directory, enter the library number on level one, and type **DETACH**. Now you can purge the library by entering the library number tagged with the port number and typing **PURGE**. Don't worry if you see the display jump, this is completely normal when purging a library.

As an example, if you wanted to purge the demo library from port 0 you would enter...

```
HOME 1791 DETACH :0:1791 PURGE
```

MAIN LIBRARIES

CASINO GAMES PLUS (Demo) - Library 1791

The demo library is a good file to download to your 48 first. Using interactive menus, it gives you an overview of all the different games.

After the main title screen you'll find yourself in the selection menu where you can pick from six different games. Pressing any menu key displays a series of text to explain that game. Pressing any key in a game menu flashes text or animated screens to explain that specific menu key. In brief, its a fully animated, menu driven demo.

To load "Casino Games (Demo)" first run Kermit or a comparable communications program as described on page 6. Next, download the file CSINODEM from your computer to your 48. After sending this file you must turn your calculator off and then on again. This initializes the library and attaches it to the HOME directory. You should then see the menu label **CSINO** in the library menu and CSINO PLUS (Demo) in the review screen. Pressing **CSINO** and then **DEMO** will display the starting screen. Using the interactive menus, the program leads you through the casino. You can also run the demo at any time by typing in DEMO.

CASINO GAME PLUS (Full Package) - Library 1790

The full package contains all six casino games, as well as the animated title screen. It is simpler to load because everything is contained in one file. You may want to store it on a freed 32K RAM card and use it just like a ROM card. Because the card is freed, it can be removed. Then, anytime you want to gamble your life savings away, all you need to do is plug the card in. Unlike a ROM card though, you can always purge the contents and reuse it.

To load "Casino Games (Full Package)" first run Kermit or a comparable communications program as described on page 6. Next, download the file CSINOPKG from your computer to your 48. After sending the file you must turn your calculator off and then on again. This initializes the library and

attaches it to the HOME directory. You should see the menu label **CSINO** in the library menu and CSINO PLUS(Package) in the review screen. Pressing **CSINO** and then **PLAY** will display the starting screen. You can also type the XLIB name PLAY.

CASINO GAMES PLUS (Selection)- Library 1789

If you don't have 32K to spare or only want to play a few of the five different games you should load "Casino Games Plus (Selection)" library. Then, choose just the games you want from the individual game libraries listed below.

<u>Title</u>	<u>File</u>	<u>ID Number</u>
Card Games (Large)	CARDLG	# 1788d
Card Games (Small)	CARDSM	# 1788d
Blackjack	BJACK	# 1787d
Poker	POKER	# 1786d
Showdown	SHOWDOWN	# 1785d
Slot Machine	SLOTS	# 1784d
Roulette	RLET	# 1783d
Keno	KENO	# 1782d

To load "Casino Plus (Selection)" first run Kermit or a comparable communications program as described on page 6. Next, download the file CSINOSLT from your computer to your 48. After sending the file you must turn your calculator off and then on again. This initializes the library and attaches it to the HOME directory. You should see the menu label **CSINO** in the library menu and CSINO (Selection) in the review screen. Pressing **CSINO** and then **PLAY** will display the starting menu. You can also type the XLIB name PLAY.

This library only runs the selection menu which drives the individual libraries. To play a game you must load that specific game library. If you don't, the message Option not available will be displayed.

THE CARD CREATOR - Library 1781d

The Card Creator Library adds eight new commands to your 48'S vocabulary. Three of these create a shuffled deck of cards and generate the graphic object for each card. Four of the commands work with graphic objects and the display screen. These commands are described in detail in the chapter on commands at the end of this manual.

LOADING INDIVIDUAL GAMES

By choosing one or more game file you can customize your casino. Although there are only six different games, there are eight different game files. These files are listed below. Several contain the same games. For instance, "Card Games (Small)" and "Card Games (Large)" both contain BLACKJACK, POKER, and SHOWDOWN. The only difference is the size cards they use.

Loading two files with the same game wastes a great deal of memory. This can be avoided by choosing your game files from the list shown below. Pick one or more files from one column and download them using Kermit.

A	B	C
Card Games (Large)	Card Games (Small)	Blackjack Poker Showdown
Slot Machine Roulette Keno	Slot Machine Roulette Keno	Slot Machine Roulette Keno

GETTING STARTED

After loading either CSINOPKG or CSINOSLT go to the library menu, press **CSNO**. Then, depending on the library menu, press the menu key labeled **PLAY** or **PLAY**. You can also run CASINO GAME PLUS by entering **PLAY** for the full package library or **PLAY** for the selection library.

If the total of your last game is stored in the variable 'CSNO' then you will be asked if you want to continue your last game (See QUITTING CASINO GAMES PLUS for more details). Pressing yes in the custom menu will load the bankroll from your last game. Any other key will start you out with \$1000. Next, a series of title screens will be displayed. Pressing any key will advance each display until you reach the game selection menu.

THE BANK

The top line of the screen is the bank area. It displays two things. First, your total is displayed on the right. You start out with \$1000. If you are unlucky enough to lose all your money, or worse yet go in debt, some games will loan you \$100 at a time.



The last item on the top line is your current bet. **BET \$0** is displayed in the selection screen since there is no reason to place a bet in this menu. The initial bet will change to its minimum value whenever you enter a game menu.

THE INFO SCREEN

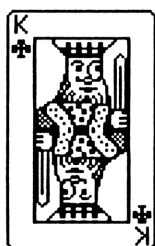
Pressing **NEXT** in the selection menu gives you the second set of menu keys. **INFO**, the first menu key, puts you in the info screen. This screen displays

the version number, the state of the beeper (on or off) and the active card size. The info menu also lets you toggle the beeper and card size.

CARD SIZES

There are two different size cards used by BLACKJACK, POKER, and SHOWDOWN. The large size gives you the feeling of being at the tables in Las Vegas while the smaller size lets you see both your hand and the dealer's at the same time. The size cards that you have available depends on the libraries you have installed. All libraries use the small cards, but only the "Casino Games(Full Package)" and "Card Games(large)" give you the option to use large cards. The active card size is displayed in the info screen. The second menu key toggles the card size.

Large



Small



TOGGLING THE SOUND ON AND OFF

Because each game plays a variety of sounds you may want to turn the beeper off. This can be done while in the info screen by pressing the first menu key. If the beeper is turned off your calculator will flash the display screen to signal when an incorrect key is pressed.

Note: The beeper is restored to its original state when quitting.

TURNING THE 48 OFF

You can turn the 48 off while in most game menus by pressing either shift key and ON. Then, next time you turn your 48 on, you will be right where you left off.

BLACKJACK

OBJECTIVE

Your goal is to get closer to 21 than the 48 without going over. Cards from 2 to 10 are worth the number on the card, face cards are worth 10, and aces can be worth 1 or 11.

The 48 is the dealer. He starts by dealing two cards to you and two to himself. Then you are given the option to be dealt additional cards or hold with the cards you have. If you don't go over 21, the dealer takes cards until he is over 16. The winner is the player closest to 21 without going over. Nobody wins in the case of a tie.

STARTING

Press **BLACK** in the selection menu to enter the BLACKJACK menu. Your bet will also change to \$50. A brief description of the BLACKJACK menu keys are given below.



- DEAL** Starts the game
- BET** Enters the betting menu where you can change your bet
- SHOW** If you are using large cards you will only see your hand. Pressing SHOW displays the cards in the 48's hand.
- EXIT** Exits BLACKJACK and returns you to the selection menu.

CHANGING YOUR BET

Pressing the key labeled **BET** puts you in the betting menu, where you can change your bet to between a minimum of \$5 and a maximum of \$900.

Total \$1000 Bet \$50					
-1	+1	-10	+10	-100	+100

Pressing a menu key will change your bet by that amount. Pressing any other key exits the betting menu.

THE DEAL

Pressing **DEAL** starts a hand of BLACKJACK. Every so often, the 48 shuffles the cards before dealing. Whenever the cards are shuffled you are always offered to cut the deck.

The 48 starts by dealing four cards. You are dealt two cards face up while the 48 gets one up and one down. If you are playing with large cards you will only see your hand. Otherwise, all four cards are displayed. The value of your hand is always displayed just above your cards.

BLACKJACK

If either player is dealt two cards that equal 21 that player is said to have blackjack and automatically wins. If you are dealt blackjack you win 1.5 times your bet. If the 48 gets blackjack you lose your bet. If you both get blackjack, nobody wins and the deal ends.

INSURANCE

If the 48 is dealt an ace face up he may have a 10 point card face down. Before revealing whether he has blackjack you are asked if you'd like insurance. Taking insurance places a side bet that is half the amount of the bet on your hand. This bet isn't displayed on the screen, but the 48 still keeps track of it. After answering YES or NO the dealer will reveal if he has Blackjack. If the 48 has blackjack then you win the insurance bet, but lose the bet on your hand. If

the 48 doesn't have blackjack, you lose the insurance bet and the game continues. Insurance pays even money and is paid at the end of the hand.

THE PLAY

You get the first move. The menu gives you several options. They are listed below. If an option isn't available, it won't be in the menu.



- STAY** Tells the 48 you don't want any more cards.
- HIT** You will be dealt one more card. You can hit as many times as you like. If you go over 21 your turn is over. If you take three hits and don't go over, FIVE AND UNDER will flash on the display meaning you have five cards and aren't over 21. When this happens you automatically win.
- ODDS** The odds that you will bust if you take a hit, lose if you stay, and win if you stay are displayed. As a rule of thumb, if the odds of winning are greater than the odds of losing if you stay, then stay. Likewise, if the odds of losing by hitting are less than the odds of losing by staying, then your chances of winning are better if you hit.
- DBL** Your bet is doubled, you are dealt only one card and your turn is over. You can't double down if you've already taken a hit. Your total must be twice the amount of your bet to double down.
- SPLIT** If you are dealt two cards with the same number (i.e two fours, two kings, etc.) you can split them into two hands. You will be given two more cards, one for each hand. Each hand is played separately and follows the same rules.

If you "bust" (go over 21) at any time your turn for that hand is over and the 48 automatically wins. If you don't bust the 48 gets his turn. He must take a hit if his hand is 16 or under. When he is over 16 he stays and the player closer to 21 without busting wins. Nobody wins in a tie.

POKER

OBJECTIVE

Your goal is to make a better hand for yourself than the 48. Both you and the 48 are dealt five cards. Then both of you bet on your hands. After the first round of betting each player is allowed to discard up to three cards and draw new ones. Then, there is a second round of betting after which, the player with the best hand wins.

STARTING

Press **POKER** in the selection menu to enter the POKER menu. The following is a brief description of the menu keys.

DEAL Starts the game

SHOW If you are using large cards you will only see your hand. Pressing SHOW displays the 48's hand.

EXIT Exits POKER and returns you to the selection menu.

THE DEAL

The 48 starts by shuffling the deck. You are offered a cut, then ten dollars is subtracted from each player and put in the pot. Next, the 48 deals ten cards. You are dealt five cards face up while the 48 gets five down. If you are playing with large cards you will only see your hand. Otherwise, all ten cards are displayed.

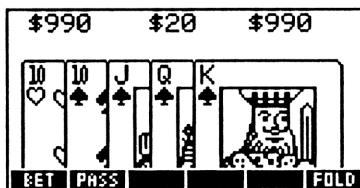
THE FIRST ROUND OF BETTING

The first round of betting starts after the cards are dealt. The player that starts the betting alternates each game. In the first hand of poker you start the

betting. The 48 will start the betting in the next game, you in the third, and so on.

YOUR OPENING BET

If it is your turn to start the betting you'll be given the option to place a bet, pass (not place a bet), or fold (drop out of the game). If you pass or bet \$0, the 48 gets to place the opening bet.



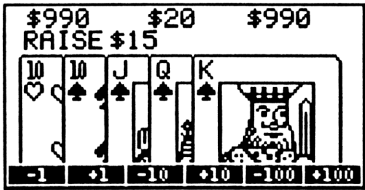
THE 48's BET

When the 48 bets, his bet is briefly displayed on the right. Next, the amount you must put in the pot to remain in the game is shown on the left. If you want to stay in the game you must press **SEE** or **CALL** in the custom menu. **SEE** subtracts the same amount the 48 bet from your total, adds it to the pot, and allows you raise the bet. **CALL** puts the amount the 48 bet into the pot and ends the betting round. If you don't want to see the 48's bet you can fold. Of course the 48 wins whenever you fold. A brief description of the poker betting menu is given below.

- BET** This menu key puts you in the raising menu described on the next page.
- PASS** Press this key if you don't want to place a bet.
- SEE** The 48's bet is subtracted from your total and added to the pot. Next, you are allowed to raise the bet using the raising menu. There can only be a maximum of three raises for each round of betting.
- CALL** The amount that the 48 bet is subtracted from your total and added to the pot. The betting round ends.
- FOLD** The game ends and the 48 automatically wins the pot.

RAISING

If you are the first player to place a bet or if you pressed **SEE** in the poker betting menu and there hasn't been three or more raises yet, you will enter the raise menu. The minimum amount you can raise the bet is \$0 while the maximum is \$40.



Using the menu keys, the raising menu allows you to change your bet between the minimum and maximum limits. Pressing a menu key will change your bet by that amount. Pressing any other key exits the betting menu. The bet can be raised a maximum of three times each round of betting.

An example of a typical round of betting is:

<u>Player</u>	<u>Second Line on the Display</u>	<u>Menu Key</u>
48		BET \$10
YOU	SEE? \$10	SEE
YOU	RAISE \$0	+10
48		CALL \$10

DRAWING CARDS

After the first round of betting is finished each player is allowed to draw three cards. The player that started the betting round is the first player to draw.

The 48 displays the number of cards he draws. If you have the sound turned on you will also hear each card being dealt to him.



When it is your turn to draw, the first five menu keys will show the value of each card in your hand. Pressing a menu key selects that card. When a card is selected it is displayed inverse on the screen. Pressing the menu key of a selected card deselects it. You can select up to three cards.

After you're done, press **DRAW** to draw the cards you've selected. First, the selected cards will be flipped over. Next, new cards are drawn, your cards are reordered, and your hand is displayed.

THE SECOND ROUND OF BETTING

A second round of betting starts after you finish drawing your cards. This round is exactly like the first. Depending on whose turn it is to go first, either you or the 48 will place the first bet.

THE WINNER

After the second round of betting all the cards are shown face up. The winner is the player with the best hand. Of course any player who folds during the game will automatically lose.

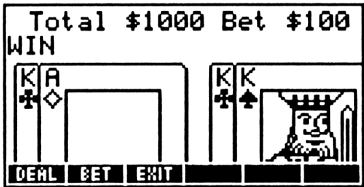
The hands on the next page are listed from best to worst. An example is given for each hand.

<u>RATING</u>	<u>EXAMPLE HAND</u>
ROYAL FLUSH	A straight flush with an ace as the high card. Ten ♥, Jack ♥, Queen ♥, King ♥, Ace ♥ (royal flush in hearts)
STRAIGHT FLUSH	Five cards of the same suit in order Four ♦, Five ♦, Six ♦, Seven ♦, Eight ♦ (straight flush in diamonds, eight high)
FOUR OF A KIND	Four cards with the same face value Nine ♥, Nine ♦, Nine ♣, Nine ♠, Queen ♠ (four nines)
STRAIGHT	All cards are in order Six ♣, Seven ♣, Eight ♥, Nine ♦, Ten ♠ (straight, ten high)
FLUSH	All five cards of the same suit Two ♠, Four ♠, Five ♠, Nine ♠, King ♠ (Flush in spades)
FULL HOUSE	Three of a kind and a pair Four ♠, Four ♥, Four ♦, Ten ♣, Ten ♣ (full house, fours above tens)
THREE OF A KIND	Three cards with the same face value Five ♣, Nine ♣, Nine ♥, Nine ♦, Queen ♣ (three nines)
TWO PAIR	Two sets of cards with the same face value Five ♣, Five ♥, Nine ♦, Nine ♣, King ♠ (a pair of nines and a pair of fives, king kicker)
ONE PAIR	Two cards with the same face value Two ♠, Four ♦, Six ♣, Jack ♠, Jack ♣ (a pair of jacks)
HIGH CARD	No pairs, highest card in hand. Two ♣, Four ♥, Nine ♦, Ten ♠, Ace ♣ (ace high)

SHOWDOWN

OBJECTIVE

SHOWDOWN is a poker style remake of the classic game "War". Each player is dealt one card from a pinochle deck. The player with the highest card wins. In the event of a tie, the bet is doubled and one more card is dealt to each player. This continues until someone wins.



The SHOWDOWN menu uses three keys.

- DEAL** Starts the game by dealing two cards
- BET** Allows you to change your bet between \$5 and \$900
- EXIT** Exits SHOWDOWN and returns you to the selection menu

CHANGING YOUR BET

Pressing the key labeled **BET** puts you in the betting menu, where you can change your bet to between a minimum of \$5 and a maximum of \$900.

Total \$1000 Bet \$50					
-1	+1	-10	+10	-100	+100

Using the menu keys, the betting menu allows you to change your bet between \$5 and \$900. Pressing a key will change your bet by that amount. Pressing any other key exits the betting menu.

THE DEAL

After you've placed your bet, press **DEAL** to start the game. Two cards will be dealt face up, one to you and one to the 48. The player with the highest card wins the hand. In the case of a tie, your bet is doubled and two more cards are dealt. This continues until one player is dealt a higher card than his opponent. Because the cards are dealt from a pinochle deck (two of each card from nine to ace only), the high stakes of a double, triple, or even quadruple showdown are commonplace.

SLOTS

OBJECTIVE

SLOTS is an all time favorite that everyone enjoys. Simply pull on the arm and watch the wheels spin. Each of the three wheels will stop on one of 9 possible objects. At least two must match in order to be a winner. The amount you win depends on which objects match and whether two or all three of the wheels match.

The SLOTS menu has only three keys. The first pulls the arm and starts the wheels spinning, the second places your bet, and the third exits the game.



- PULL** Takes \$10 from your total and pulls the arm.
- BET** Allows you to change your bet between \$1 and \$500
- EXIT** Exits SLOTS and returns you to the selection menu.

CHANGING YOUR BET














































Pressing the key labeled **BET** puts you in the betting menu, where you can change your bet to between a minimum of \$1 and a maximum of \$500.



Using the menu keys, the betting menu allows you to change your bet between \$1 and \$500. Pressing a menu key will change your bet by that amount. Pressing any other key exits the betting menu.

WINNING COMBINATIONS

The following is a table of all possible pairs and triplets along with the amounts they award.

 	-	  	-
 	1 to 1	  	10 to 1
 	1 to 1	  	20 to 1
 	2 to 1	  	20 to 1
 	2 to 1	  	20 to 1
 	5 to 1	  	50 to 1
 	10 to 1	  	100 to 1
 	10 to 1	  	100 to 1
 	20 to 1	  	500 to 1

ROULETTE

OBJECTIVE

ROULETTE, offers a multiple betting table and a spinning ball and wheel. After a few spins of the wheel you'll find yourself addicted to this ever popular, high stakes game.

In roulette a ball and wheel are spun in opposite directions. The basics behind the game is to guess which number the ball will land on. You can also place bets that cover a range of numbers or colors.





A standard roulette wheel has 38 different numbers (1 through 36, 0 and 00) and three different colors. The numbers 1 through 36 are either red or black while 0 and 00 are green.

The active keys in ROULETTE are...

MENU KEYS

- SPIN** Once all the bets have been placed SPIN starts the ball and wheel spinning in opposite directions.
- BET** This menu key puts you in the betting menu, where you can place a bet on the number that the cursor is positioned on.
- SHOW** Shows you all the bets that are currently on the table. Pressing the up and down arrow keys will scroll through your bets.
- EXIT** Removes all bets from the table, exits ROULETTE, and returns you to the selection menu.

CURSOR KEYS

-  Moves cursor up
-  Moves cursor down
-  Moves cursor left
-  Moves cursor right

BETTING

As soon as you approach the roulette table you'll see your total bankroll and total bets on the table displayed on the top line. On the second line you'll see the number and color the cursor is on and the amount you have bet on that number.

Total \$1000 Bet \$0											
25 RED Bet \$0											
3	6	9	12	15	18	21	24	27	30	33	36
2	5	8	11	14	17	20	23	26	29	32	35
1	4	7	10	13	16	19	22	25	28	31	34
0	00	RED		BLACK		EVEN		ODD			
1ST 12				2ND 12				3RD 12			
SPIN			BET			SHOW			EXIT		

You can place a bet on any number from 1 to 36, 0 or 00. The payoff for a bet on a single number is 36 to 1. That means you receive \$36 for every \$1 bet.

You can also place a single bet covering all the black, red, odd or even numbers. They pay 2 to 1. Note that 0 and 00 are considered neither black, red, odd or even. When the ball lands on 0 or 00 only bets on that number win.

Finally, you can place a bet that covers one third of the board by betting on 1st 12, 2nd 12 or 3rd 12. 1st 12 covers numbers 1 through 12, 2nd 12 covers numbers 13 to 24 and 3rd 12 covers 25 through 36. Again, 0 and 00 are not covered by these bets. They pay 3 to 1.

ENTERING OR CHANGING YOUR BET

Pressing the key labeled **BET** puts you in the betting menu, where you can change your bet to between a minimum of \$0 and a maximum of \$500 on any space on the table.



Using the menu keys, the betting menu allows you to change your bet between \$0 and \$500. Pressing a menu key will change your bet by that amount. Pressing any other key exits the betting menu.

After placing a bet you should see the new amount on the second line. Your total bets for the entire table, displayed on the first line, will be incremented or decremented as well.

THE PLAY

When you're finished placing all your bets press **SPIN** to put the ball and wheel in motion. You'll hear the wheel spinning and, as it slows down, both the ball and wheel will be shown spinning in opposite directions. When they finally stop the number and color that the ball landed on is displayed along with your winnings and losses.



ODDS OF WINNING

SINGLE NUMBER	38	TO	1
ALL BLACK	18/38	TO	1
ALL RED	18/38	TO	1
ODD	18/38	TO	1
EVEN	18/38	TO	1
1ST 12	12/38	TO	1
2ND 12	12/38	TO	1
3RD 12	12/38	TO	1

KENO

OBJECTIVE

The object of KENO is to guess which number the 48SX will pick. You are allowed to select from 1 to 8 numbers. Then, the 48 randomly picks 14 numbers. The amount you win depends on how many numbers you selected and how many of those were also picked by the 48.

Total \$1000 Bet \$100										
1	01	02	03	04	05	06	07	08	09	10
4	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50
	51	52	53	54	55	56	57	58	59	60
PLAY PICK CLEAR BET EXIT										

The active keys in KENO are...

MENU KEYS

PLAY Once all the bets have been placed PLAY starts the game.

PICK Selects or deselects a number

CLEAR Clears all selected numbers

EXIT Exits KENO and returns you to the selection menu.

CURSOR KEYS



Moves cursor up



Moves cursor down



Moves cursor left



Moves cursor right

All other keys toggle the menu on and off.

PICKING NUMBERS

Use the arrow keys to move the cursor to the number you want to select and press **ENTER** from the menu. To deselect a number position the cursor on that number and press **ENTER** again. You can select a maximum of 15 numbers. The table below explains the different ways a number can appear on the screen.

	Deselected number	Selected number
Cursor positioned on number	18	18
Cursor not positioned on number	18	18

ENTERING OR CHANGING YOUR BET

Pressing the key labeled **BET** puts you in the betting menu, where you can change your bet to between a minimum of \$5 and a maximum of \$900. Using the menu keys, the betting menu allows you to change your bet by the amount shown on each label. Pressing any other key enters your bet.

THE PLAY

After placing your bet the 48SX will randomly pick 15 numbers. Each number that the 48 picks will be displayed in inverse. You'll also see a fraction number on the left side of the display. The bottom part is your total number of selections while the top part is the number of your selections that the 48 picked as well.

Number that you picked	18
Number you didn't pick	18
Number that both you and the 48 picked	18
Number that the 48 picked but you didn't	18

After the 48 is finished picking 14 numbers you are prompted to press any key. This will send you through several displays showing which of your numbers the 48 picked and didn't pick, and your total bet, winnings and losses.

PAYOFF

The amount that you'll win in KENO depends on the number of selections you made and the number of your selections the 48 picks. The table shown below shows all the possible combinations. For example, if you made 6 selections and the 48 picked 5 of your selections you would look in the sixth column and the fifth row to find that your payoff is 90 to 1.

NUMBER OF SELECTIONS YOU MADE									
		1	2	3	4	5	6	7	8
PICKS MADE BY 48	1	4	1	1	0	0	0	0	0
	2	-	9	2	1	1	0	0	0
	3	-	-	31	7	3	1	1	0
	4	-	-	-	122	23	8	3	2
	5	-	-	-	-	545	90	26	10
	6	-	-	-	-	-	2778	399	103
	7	-	-	-	-	-	-	16076	2026
	8	-	-	-	-	-	-	-	106502

QUITTING CASINO GAMES PLUS

Eventually, you'll have to drag yourself away from CASINO GAMES PLUS. If you plan on playing again soon you can always turn your calculator off by pressing either of the shift keys followed by the ON key. Otherwise, you can leave the casino by pressing QUIT in the second set of menu labels in the selection menu. When you finally quit you'll see your winnings in stacks of \$50 chips. Each stack represents \$1000.



When you quit, your bankroll is stored as library data in the variable 'CSN0'. Next time you run CASINO GAMES PLUS, it will look for your last bankroll stored in 'CSN0' along the current path and, if found, ask you if you would like to continue with that amount.

Library data is intended to be used by libraries only, therefore, if you recall or visit 'CSN0' you'll only see the words `Library Data`. Don't try editing it! If you do, the 48SX will compile it into variables named 'Library' and 'Data'.

By recalling the data in 'CSN0' and storing it under a different name, you can save a bankroll for later use. For example, if you left the casino with \$4000 you might want to save your total. by recalling 'CSN0' and storing the data under a new name, like 'TOT1' for instance. Then, if you ever want to start playing with a bankroll of \$4000, just recall the data from 'TOT1' and store it in 'CSN0' before running CASINO GAMES PLUS.

COMMANDS

CASINO GAMES PLUS adds nine new commands to your 48SX. One set is in the full package library (1790) while a second set of identical commands can be found in the selection library (1789) and the card creator library (1781). These commands are in the form of XLIB names. An XLIB name is to a library what a global name is to a directory. While two libraries may contain commands with the same name, the 48 views them as different XLIB names. This means if you write a program using the command PLAY from library 1790, that program will not be able to call PLAY from library 1789, even though that are the same name.

Whenever the 48 compiles a name it checks every library attached to the current path. If it finds that name in one of the libraries, it will be compiled as an XLIB name. Otherwise, it will be compiled as a global name. An XLIB name is identified by the library it resides in and its position in that library.

For example, if library 1790 is installed and you enter the program * PLAY *, the 48 will compile PLAY as an XLIB name. If you detached library 1790 from the HOME directory and then purged it, the 48 won't be able to recognize that XLIB name any more and the words XLIB 1790 0 will be displayed in place of PLAY. (XLIB numbering starts with 0).

By the same token, if you enter the program * PLAY * and library 1790 or 1789 aren't attached, the 48 will compile PLAY as a global name. Even if you install one of these libraries later, PLAY will still be viewed as a global name because that is the way it was compiled. The only way you can change it to an XLIB is to recompile (edit) the program while either library 1790 or 1789 are attached.

The name of each command, along with its XLIB name and a brief description is given on the next page. Some commands list more than one XLIB name because they can be found in more than one library.

NOTE: You cannot enter an XLIB name unless its respective library is attached to the current path and the XLIB is visible in the library menu. If you do enter an XLIB name and later remove the library, you will not be

able to edit that XLIB. You must reinstall the library first. The names listed under **COMMAND** are displayed when the accompanying library is install. Otherwise, the XLIB name in the second column is displayed by the 48SX.

TABLE OF COMMANDS

COMMAND	XLIB NAME	DESCRIPTION
ABOUT	XLIB 1781 0	Displays CARD CREATOR library copyright
CGROB	XLIB 1790 3 XLIB 1781 3	Gets graphic for card
CRDK	XLIB 1790 1 XLIB 1781 1	Creates and shuffles deck
GETC	XLIB 1790 2 XLIB 1781 2	Gets next card from deck
LNEG	XLIB 1790 4 XLIB 1781 4	Performs NOT operator on the display screen
LOR	XLIB 1790 5 XLIB 1781 5	Performs OR operation with the graphic object on level 1 and the LCD. The point on level 2 defines the top left corner of the graphic object with respect to the LCD.
LREPL	XLIB 1790 6 XLIB 1781 6	Replaces part of the display with the graphic object on level one. The point on level two defines the top left corner of the graphic object with respect to the LCD.
LXOR	XLIB 1790 7 XLIB 1781 7	Performs XOR operation with the graphic object on level one and the LCD. The point on level two defines the top left corner of the graphic object with respect to the LCD.
PLAY	XLIB 1790 0 XLIB 1789 0	Runs CASINO GAMES PLUS

ABOUT

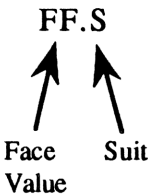
This command displays the CARD CREATOR library (1781) copyright notice.

PLAY

This command runs CASINO GAMES PLUS. It can be found in the full package library (1790) and the selection library (1789)

CRDK

This command creates and shuffles a deck of cards. The deck, returned on level 1 of the stack, is in the form of a 52 character string. Each character represents one card. The ASCII value of a character divide by 10 represents a card as follows.



Every card has two components, the face values (two through ace) and the suit. The fraction part of the number records the suit and can have a value from .1 to .4. The integer part conveys the face value and can range from 2 to 14. The face values and suits assigned to each number are given below.

FACE VALUE

2	3	4	5	6	7	8
two	three	four	five	six	seven	eight
9	10	11	12	13	14	
nine	ten	jack	queen	king	ace	

SUIT

.1	.2	.3	.4
hearts	diamonds	clubs	spades

For example, to find the corresponding card for the character "3" take the ASCII value divided by ten and refer to the chart listed on the previous page to get the five of hearts.

INPUT		OUTPUT	
NONE		LEVEL 1	STRING

GETC

This command removes the first card from the deck on level one leaving the deck minus the first card on level two and the card on level one. The deck must be in the form of a string. The card is returned as a real number (See description of CRDK on preceding page).

INPUT		OUTPUT	
LEVEL 1	STRING	LEVEL 2	STRING
		LEVEL 1	REAL NUMBER

CGROB

CGROB accepts a real number and returns a graphic. The real number input on level one represents a card as described under CRDK. If an invalid number is input, the graphic for the back side of a card is return.

If you are using the full package library (1790) you will have the option of using large or small cards. Clearing flag 33 selects small cards. Setting flag 33 selects the large cards.

INPUT		OUTPUT	
LEVEL 1	REAL NUMBER	LEVEL 1	GROB

LNEG

Performs NOT operator on the LCD (liquid crystal display).

LOR

This command performs an OR operation with the graphic object on level one and the LCD (Liquid Crystal Display). It is similar to the the built in command GOR. The point on level two specifies where the top left corner of the graphic is positioned on the display.

INPUT

LEVEL 2	PIXEL LIST OR COMPLEX NUMBER
LEVEL 1	GROB

OUTPUT

Performs OR operation with the graphic object on level 1 and the LCD. The point on level 2 defines the top left corner of the graphic object with respect to the LCD.

LREPL

This command places a graphic on the display similar to the way the built in command REPL places a graphic on PICT. This allows you to directly display graphics anywhere on the screen.

INPUT

LEVEL 2	PIXEL LIST OR COMPLEX NUMBER
LEVEL 1	GROB

OUTPUT

The graphic object from level 1 is placed on the display at the pixel location specified by the point on level 2.

LXOR

This command performs an XOR operation with the graphic object on level one and the LCD (Liquid Crystal Display). It is similar to the built in command GXOR. The point on level two specifies where the top left corner of the graphic is positioned on the display.

INPUT

LEVEL 2	PIXEL LIST OR COMPLEX NUMBER
LEVEL 1	GROB

OUTPUT

Performs XOR operation with the graphic object on level 1 and the LCD. The point on level 2 defines the top left corner of the graphic object with respect to the LCD.

"Casino Games Plus" is an action filled software package for the HP 48SX. Even before you place your first bet you'll know this is more than just another casino game program. A line up of can-can girls lead you to the main menu where you can select from six animated games: **BLACKJACK**, **POKER**, **SHOWDOWN**, **SLOTS**, **ROULETTE** and **KENO**.

BLACKJACK



You'll learn how to be an expert at **BLACKJACK** using the **ODDS** key. It gives your odds of winning or losing if you hit or stay. Other options include insurance, splitting pairs and doubling down.

POKER



POKER matches your wit against the 48. After being dealt five cards each, both you and the 48 get the chance to bet, raise, pass, call, or fold. Then both of you draw up to three cards and bet again. Be careful though, the 48 will bluff whenever he gets the chance.

SHOWDOWN



After you've made a wager in **SHOWDOWN**, one card is dealt to each player. Whoever has the highest card wins. In the case of a tie the bet is doubled and a second card is dealt.

SLOTS



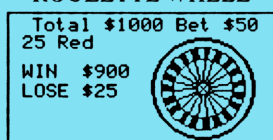
All three card games give you a choice between two different card sizes. The full sized cards give you the feeling that you're at the tables in Monte Carlo while the smaller cards allow you to see both your hand and the dealer's.

ROULETTE TABLE



The remaining three games are fully animated. **SLOTS** has spinning wheels and a movable arm. You'll move around the table placing your bets in **ROULETTE** and then watch the spinning ball and wheel. The more numbers you guess correctly in **KENO**, the more you'll win.

ROULETTE WHEEL



When you're ready to cash in your chips a graphic display shows your winning and your total is saved as library data. Then, next time you want to play a casino game, you're given the option to continue right where you left off.

KENO



In addition, you can create your own card games using seven new commands. They'll generate the graphics for each card and even place them on the screen for you.

The only thing you need to stake your fortune at the HP casino is an interface cable and an IBM or Macintosh computer (no extra memory is required).