Zephyr Games Pak I

Games Module for the Hewlett Packard 48SX Handheld Calculator

by Wayne Rust

Distributed by
Surveyors' Module Inc.

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Introduction

Welcome to the Zephyr Games Pak I! The Zephyr Games Pak I is a collection of several interesting games that can be played using a Hewlett Packard 48SX calculator. We hope that these games will be enjoyed by all who use them. They are intended to make the calculator useful even after the work is done.

To install the Zephyr Games Pak I on your calculator, turn off the calculator and remove the plastic port covering on the back near the top. Insert the game card in either slot 1 or slot 2 being careful to insert it correctly. When the calculator is turned on the games module will automatically initialize itself. An installation screen with copyright information will appear temporarily indicating that the Zephyr Games Pak I has been installed.

To play one of the games, select the LIBRARY menu [left-shift][LIBRARY] and then select ZEPHY from the menu. This will bring up the list of games on the menu line. Press the appropriate menu key to play the game.

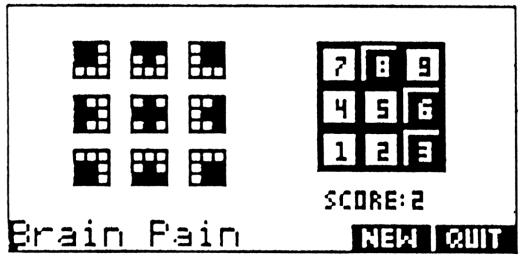
All games have an associated QUIT menu option. Press this menu button at any time to exit the game. Since some programs require a small amount of cleanup, up to 15 seconds may be required to perform this operation. Whenever the game is computing a result or updating the display the hourglass symbol at the top of the display will appear. Any keystrokes pressed while the hourglass symbol is showing will not be processed until it disappears.

Turning the calculator off [right-shift][OFF] will allow you to continue your game at a later time.

Many of the games have sound associated with them. The games detect if the BEEP flag is set to determine whether sound should be used. If you wish to use sound during a game then set the BEEP flag by using **-56 SF** or pressing **BEEP** on the modes menu. Refer to the calculator reference manual for more information about turning the sound on and off.

The following chapters describe each of the games and their associated rules.

Brain Pain



Run this game by pressing **BRAIN** from the **ZEPHY** directory in the [LIBRARY] menu.

This simple game may be more challenging than it seems. A pad of nine buttons on the right of the screen has been scrambled so that some of the buttons are off (dark) and some are on (light). The challenge is to press the correct sequence of buttons so that all the buttons are on (light) except for the center button.

Pressing the corresponding number on the calculator will toggle the state of a button. Due to the small size of the pad, however, a button toggles the state of it's neighbors as well. The diagram on the left hand side of the screen shows how each button press will affect other buttons when it is pressed.

For example, pressing **7** with the above scrambled sequence will result in toggling several buttons. Button **7** would be turned off, **8** on, **4** off, and **5** off. If **6** was pressed instead, again using the pattern above, then **6** and it's neighbors would be toggled. Button **6** would be turned on, **9** off, **5** off, and **3** on.

By continuing to toggle the buttons you can unscramble the pad. The final pattern should have all of the buttons on (light) except for button **5** which should be off (dark). With a little bit of practice you should be able to achieve the result in 10 moves or less. Don't be discouraged, there are only 512 different combinations possible for the calculator to choose from!

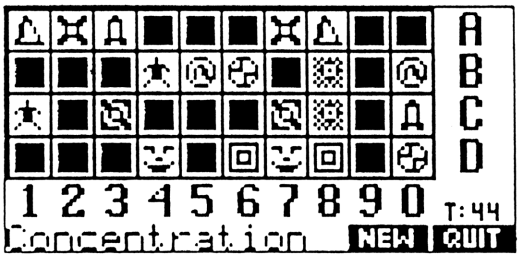
Commands:

NEW - Rescramble the pad and reset the score to try again.
QUIT - End the game.
1 - 9 - Toggle the corresponding button and it's neighbors.

Scoring on this game:

50+	Lost in space. (Try another game!)
25-49	Good try.
10-24	Smart guy.
< 10	Brain power.

Concentration



Run this game by pressing **CONC** from the **ZEPHY** directory in the [LIBRARY] menu.

This memory stimulator should keep the cerebellum in shape. The object is to match the pictures hidden beneath each square together. Each of the 40 squares on the board above has an associated letter and number. Pressing a letter from A to D and a number from 0 to 9 will open up the square to reveal the picture beneath. If the second square chosen matches the first then both squares are left open. However, if they do not match then the pictures are covered again.

The game continues until all matches are found. There are a total of 20 different picture pairs to match on the board. Each pair of pictures matched remain visible until the game is finished or a new game is chosen.

If a wrong letter is pressed before the number is selected it can be changed by pressing the right letter and then pressing the number. Note that to select a row letter just press one of the four keys at the top of the calculator corresponding to the row letter.

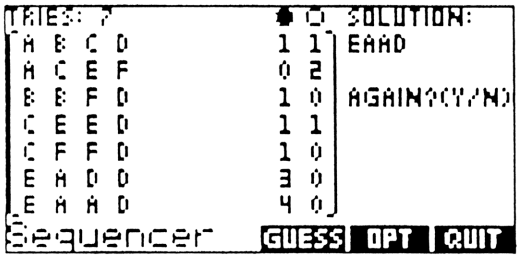
Concentration can also be played with a friend by alternating turns to open a pair of squares. Each player keeps track of the number of squares opened by that player.

Commands:

NEW - Rescramble the board and reset the score to try again.
QUIT - End the game.
A - D - Selects the row of the picture to be turned over.
0 - 9 - Selects the column of the picture to be turned over.

Scoring on this game:

100+	Lost in space. (Try another game!)
70-99	Good try.
40-69	Smart guy.
< 40	Photographic memory.



Run this game by pressing **SEQU** from the **ZEPHY** directory in the [LIBRARY] menu.

This game of deduction allows the user to solve a sequence of letters chosen by the calculator. The calculator has randomly chosen four letters from A to F and hidden them deep within the memory of the 48SX. Your challenge is to determine what those letters are and in what sequence they occur. After each guess the computer determines the number of correct letters in the correct place and also the number of other correct letters not in the correct place and indicates it on the screen.

A guess is given to the calculator by pressing **GUESS** and typing four letters on the keyboard. In the picture above a complete game has been played. The computer first thought of the sequence "EAAD", hiding it in memory. The user then made a guess of "ABCD". As can be seen in the picture the only correct letter that is also in the correct place is the 'D'. A '1' was placed under the black circle indicating this. The 'A' in the users guess matches one of the 'A's in the solution but is not in the correct place. A '1' was placed below the white circle indicating this. A second guess of "ACEF" by the user found two letters that were out of place (the 'A' and 'E'). By taking the results of the previous guess the user was eventually able to guess the solution in 7 tries.

After the correct sequence has been given (shown by '4' below the black circle) the calculator asks if you would like to try another sequence. Pressing any letter except 'Y' will end the game. Other options are available to make the game more challenging or easier. Press **OPT** to change the options. The options include the largest letter the calculator will randomly select the sequence from ('A' to 'Z'), the

number of letters in the sequence ('1' to '8'), and whether to have letters possibly repeated (use the backspace to delete "Yes" if you do not want this).

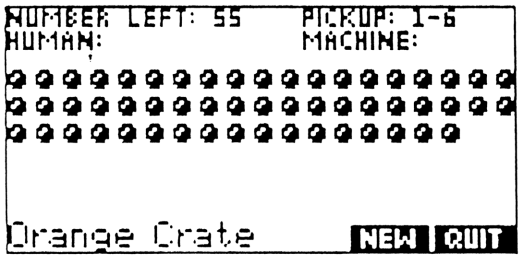
Commands:

GUESS - Guess the sequence the calculator has chosen.
OPT - Change the sequence options (number of letters and letter range).
QUIT - End the game.

Scoring on this game:

25+	Lost in space. (Try another game!)
15-24	Good try.
8-14	Smart guy.
< 8	Master.

Orange Crate



Run this game by pressing **CRATE** from the **ZEPHY** directory in the [LIBRARY] menu.

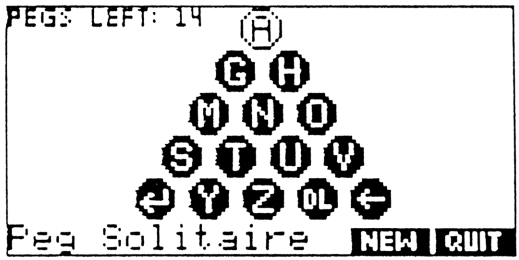
Orange Crate is a game to truly test whether you or your calculator really know the most. A certain number of oranges has been dumped out onto the screen of the calculator. All of the oranges must be picked up and a prize awaits the person (or device) that picks up the last orange. The current number of oranges is always displayed at the top of the screen.

You have the opportunity to be the first one to pick up oranges. You may defer this to let the calculator pick first by pressing '0' on the first move only. After you pick a number of oranges (pressing any number in the "PICKUP" range shown at the top) the calculator will pick a number of oranges. You can pick up oranges by pressing the appropriate number on the keypad. The number of oranges that were last picked up by you and by the calculator are also displayed at the top. This alternating will continue until either you or the calculator pick up the last orange.

Although this may seem easy it may be more difficult than you think. From experience it has been shown that those with high IQ ratings always fare poorly. Once you have mastered the technique however (if you ever do) you can brag for days on end to your friends.

Commands:

NEW - Start the game over.
QUIT - End the game.
1 - 9 - Pick up oranges (only in the PICKUP range).
0 - Let the calculator pick first.



Run this game by pressing **PEG** from the **ZEPHY** directory in the [LIBRARY] menu.

The object of peg solitaire is to remove all of the pegs except one from the board by jumping other pegs. There are fourteen pegs arranged in fifteen holes on the screen. Pegs are removed after they have been jumped. A peg can jump another adjacent peg only if the hole on the other side of the peg is empty. Jumping can occur horizontally or on a diagonally slant.

For example, in the picture above if the peg in hole 'O' jumped the 'H' and into the 'A' then the peg in 'H' would be removed. Pressing 'O' (**EVAL**) and then 'A' accomplishes this. That move could then be followed by the 'M' jumping the 'N', the 'Z' jumping the 'U', the 'T' jumping the 'N', or the 'Backspace' jumping the 'V'.

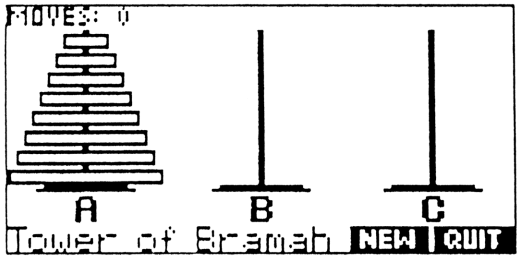
A perfect game results in only one peg being left in the 'Z' hole.

Commands:

NEW - Start the game over.
QUIT - End the game.
1 - 9 - Pick up oranges (only in the PICKUP range).
0 - Let the calculator pick first.

Scoring on this game:

5+ Lost in space. (Try another game!)
3-4 Good try.
2 Smart guy.
1 Perfect.



Run this game by pressing **BRAM** from the **ZEPHY** directory in the [LIBRARY] menu.

The object of this game is to move all of the disks from stick **A** to either stick **B** or stick C. The rules may be simple but nevertheless make things complex once the game gets going. Only one disk may be moved at a time and the disk being placed on another disk must be smaller than that disk. The game defaults to eight disks but this can be changed to fewer disks by placing the number of disks wanted on the calculators stack before running the program.

For example, if you wanted to play with only two disks you would put 2 on the stack before pressing **BRAM** from the **ZEPHY** directory in the [LIBRARY] menu. The top disk would be moved to stick **B** by pressing 'A' followed by 'B'. The lower disk would then be moved to stick C (it is bigger than the disk on stick **B**) by pressing 'A' followed by 'C'. The smaller disk would then be placed on the larger one by pressing 'B' followed by 'C' to end the game in 3 moves.

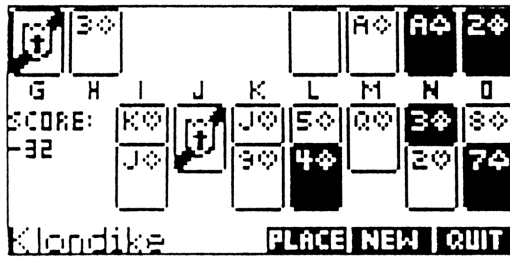
There is a minimum number of moves that are needed to complete the game and this can be calculated by calculating 2^n-1 where n is the number of disks. You may find it fun to prove that this is true.

Commands:

NEW - Start the game over.
QUIT - End the game.
A - B - Select the stick to take a disk from and then place on.

Scoring on this game (for 8 disks):

1500+	Lost in space. (Try another game!)
300-1499	Good try.
256-299	Smart guy.
255	Perfect.



Run this game by pressing KLON from the **ZEPHY** directory in the [LIBRARY] menu.

This version of Klondike Solitaire is similar to the one played in the Las Vegas casinos. A full deck of 52 playing cards (13 in each suit of hearts, diamonds, clubs, and spades) has been shuffled and dealt out into seven row stacks (I - O) and a deck (G). The number of cards in each row stack increases from one to seven from left to right. The top card of each row stack is face-up; the rest are face-down. The deck stack has 24 cards face down.

The object of the game is to eventually stack all of the cards in ascending order (starting with the ace) in the suit stacks at the top right on the screen. The row stacks can be built upon in descending order, alternating between black and white cards. You can move all face-up cards from a row stack onto another row stack if the bottom card is the opposite color and in descending order of the top card it is to be placed on. A card from the deck can be turned over and placed on the draw stack (H) from which it can be used to add to the suit stacks or row stacks.

If you uncover a face-down card in the row stacks you can turn it face-up by pressing the row stack's letter. If you find an ace or another card that can be placed on the suit stack press the letter of it's stack and then **PLACE** to put it on the appropriate suit stack. You can only move a king onto an empty row stack. You can only move an ace onto an empty suit stack.

For example, in the picture above the face-down card on stack 'J' could be turned over by pressing 'J'. The "3 of diamonds" on the draw stack could be moved to

the row stack 'L' because it is the opposite color and is the next descending number in a suit from "4". This is done by pressing 'H' followed by 'L'.

The "3 of clubs" on the row stack 'N' can't be placed on the suit stack on to of the "2 of clubs" because it has another card on top of it. If the "2 of hearts" was not there then the "3 of clubs" could be placed on the suit stack by pressing 'N' followed by pressing PLACE. Also, if the "8 of diamonds" on row stack 'O' was black instead of white then the stack of cards face-up on 'O' could be moved to stack 'K' by pressing 'O' followed by 'K'.

Because this version of Klondike is based on the casino version it is unlikely that you will win very often but the entertainment is well worth it. Scoring is based on losing one point for every card at the beginning of a deal (-52) and then gaining five points for each card placed on the suit stacks (for a total of 260 if all cards are placed).

Due to the shuffling of the cards at the beginning of the game and the memory clean up at the end and during the game the calculator may sometimes wait up to 10 seconds to respond to a key press. Pressing a key while the hour glass indicator is showing at the top of the screen will put the key in the key queue and will be processed when it is ready.

Commands:

PLACE - Place the top card of the selected stack on the suit stacks.
NEW - Re-deal the cards.
QUIT - End the game.
G-O - Select the stack for pickup, turn-over, or placement.

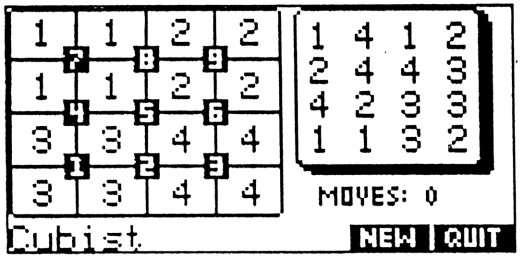
Run this game by pressing **MRKT** from the **ZEPHY** directory in the [LIBRARY] menu.

This game tests your ability to respond to a dynamic market. The game initially comes up with the screen below, indicating the current price per share of stock, the number of stock shares that you hold, the amount of cash that you have and your net worth. Unless you are a poor trader, your net worth should increase from day to day.

When you are ready you can open up the market by pressing **OPEN**. This then starts the trading shown by a graph of the stock's price as it rises and falls. At any time during the day (between when the market is opened and the graph reaches the right hand side of the screen) you can sell or buy stocks by pressing either **BUY** or **SELL**. Remember that you can not buy stocks on credit here so when the money is gone your only choice is to sell.

At the end of the day a report is shown detailing your progress. Don't get too frustrated if you start losing money - it is only a game!

Cubist



Run this game by pressing CUBE from the **ZEPHY** directory in the [LIBRARY] menu.

The object of this game is to arrange the square of numbers on the right to match the square on the left. Pressing one of the numbers on the keypad (1-9) will rotate the corresponding numbers in a clockwise motion around it.

For example, pressing '7' will rotate the four numbers in the top left corner of the square (1 4 on top and 2 4 on bottom) in a clockwise motion (2 1 on top and 4 4 on bottom). Likewise, pressing '5' will rotate the four numbers in the center of the square (4 4 on top and 2 3 on bottom) to (2 4 on top and 3 4 on bottom).

This requires some fore thought and evaluation because each move can affect future moves.

Commands:

NEW - Rescramble the pad and reset the score to try again.
QUIT - End the game.
1 - 9 - Rotate the corresponding sub-square of numbers.

Scoring on this game:

50+	Lost in space. (Try another game!)
25-49	Good try.
10-24	Smart guy.
< 10	You can think in more than two dimensions.