Poker Game Instructions

Okay, so you've seen games before, but this one is very special. It's being marketed by Marcel Barbeau as a little supplement to his allowance. The whole program is written in Assembly language by Bruce Harrison. That means it runs real fast and works as advertised, without bugs or crashes.

How Do I Use This Thing?

Simple! Put the disk in Drive 1, or any disk drive that's handy. The program can be run from Editor/Assembler, TI Extended Basic, Funelweb, or even TI-Writer. From E/A, select Option 5 (RUN PROGRAM FILE) and answer the prompt with DSK1.POKER1. From Extended Basic, just select XB with this disk in Drive 1. (There's a program called LOAD on the disk, and that will load and run the game for you.) From Funelweb, use the Loaders selection, option 3, and file DSK1.POKER1. From TI-Writer, use Option 3 and file name DSK1.POKER1.

A brief title sequence will appear, announcing the name of the game in big letters, and the name of the company that brings you this product. The rules come on-screen, and they're fairly simple. The play of the game is "according to Hoyle" for 5 card draw poker. The order of precedence for hands is "by the book". From lowest to highest, it looks like this:

1 One pair
2 Two pairs
3 Three of a Kind
4 Straight
5 Flush
6 Full House
7 Four of a Kind
8 Straight Flush

A Straight means five cards in sequence, where suits are immaterial. In this game, Aces count only as above Kings, not as below the deuce. A Flush means all cards belong to one suit, regardless of values. If either player folds, cards held do not need to be revealed. In this particular game, that means that if you refuse to bet or "see" a raise, you'll not get to see what the computer had in its hand.

The computer breaks ties whenever possible. For example, if each player has a pair of tens, the tie will be broken by whichever hand has a higher card outside the pair. The same rule applies to all ties, including cases where there are no pairs in either hand. In the rare case of a complete tie, the pot is split equally between the player and the computer.

Winning and Losing

To win the entire game, you have to accumulate more than $399. That means you've taken all of the computer's $200 stake. To lose, you must get down to less than $2, which means you can't put up the Ante for the next hand. You can quit at any time after a hand has been concluded. Simply answer N or n to the "Another hand?" prompt. The ENTER key will be taken as Yes, and another hand will be dealt. At the start of each hand, your

Ante will be placed in the pot for you, as will the computer's Ante, so the Pot will start at $4.

The Betting Process

On each hand, you'll start the bidding, since the computer is always the dealer. For your convenience, there will be a summary of your hand's contents just above the cards. This will tell you whether pairs are present, for example, and the value of the cards. If there are no pairs or other combinations that "count", the highest card will be reported, as for example K high, meaning a King is your highest card. To make betting easier, only a single key needs to be pressed. The number keys from 0 through 9 will bet that number, and the = key will bet $10 for you. Betting 0 means you've folded, and the computer will win that pot. Once you've made your bet, the computer will make its decision whether to bet or not. In most cases it will "see" your bet. In some cases it will also raise you. The prompt "See my raise" can be answered by pressing ENTER or Y for yes, or N for no. If yes, the raise amount will be taken from your money and added to the pot. A no answer will be called a "Fold" on your part, and the computer will win the Pot.

If the computer raises and you "see" that raise, you'll be offered a chance to raise the computer. Enter or N will mean no raise. Pressing a number key (or = for $10) will put a raise in place. The computer will decide whether or not to match your raise, and will either fold or call.

The Computer's Play

Obviously, the computer program "knows" what's in your hand, so it can put your cards on the screen. The program, however, makes no use of that information in its own choices. In other words, it won't cheat. It will, however, try to bluff you by betting on "garbage" hands. This bluffing is governed by a random number process, so you won't be able to tell how good the computer's hand is by how it bets. If you think it's doing a bluff, you can resolve the matter by matching its raises. That will get you the chance to see its hand. Be careful, though, because it might not be bluffing!

Drawing Replacement Cards

After the first round of betting, you'll get a prompt that says "Need cards?" ENTER will be taken as Yes. Now a flashing cursor will be placed near the bottom of the screen, starting at your lowest card. Pressing ENTER will discard that card, Y will retain it. Only three cards may be discarded. Those you discard will be replaced from the top of the remaining deck, and your replacements will be taken before the computer's cards are drawn. This gives you a slight edge on the odds of getting a particular card into your hand. After the draw, your hand will be displayed, re-sorted, and a new report will appear just above your cards. At the top, just under the backs of the computer's cards, you'll see a report of how many cards the computer took. Watch this carefully. Most times, this will say Dealer takes 3, but now and then it will say "Dealer takes 2" or "1" or even the dreaded message "Dealer Pat!" That one means simply that the computer's hand is good enough that it can't be improved by any

replacement of cards. This is an important clue for you. If the computer doesn't take three cards, that means it has three of a kind or better. Anything straight or above will be considered a "Pat" hand, as drawn cards are not likely to improve the hand.

The computer's own logic for betting and raising is different for this second round, and it will sometimes fold when you make your after-draw bet. The computer knows that its hand won't get improved any more, so its rules for its own bets are a bit more strict on the second round.

When all betting on the second round is done, you'll get to see the computer's hand revealed. Just below that hand, you'll see a summary of its content. In the middle of the screen you'll see the summary of the winning hand, or the tie breaking matchup if both hands are "garbage". Let's say, for example, that both hands have no pairs or other matches, but each has a King and an Ace at the top. If one hand has a Queen below that King, while the other has a 10, then the middle of the screen report will say Q beats 10, to indicate how the win was decided. If need be, this comparison will go down to the lowest card in each hand. If they all match (a very rare case) then the hands are tied, and the computer will report that.

At this point, the "Another hand" prompt will be on the screen. Pressing ENTER or Y will get you another hand. The shuffling and dealing will take essentially no time at all, but your new set of five cards will appear. At the top of the screen, the backs of the computer's cards will be facing you. You'll notice that your holdings will be reported on the screen, and this will reflect the deduction of your Ante.

How Does The Game End?

There are three ways in which the game can end. If you lose all your money, or don't have enough to ante for a hand, the computer will end the game. If you accumulate more than $399, you've won, and again the computer will end the game. If you answer N to the "Another hand" prompt, you will end the game. If you have $200 or less when you quit, you'll get a message to the effect that you're a loser. If you quit with more than $200, the computer will chide you for quitting while you're ahead. In the other two cases, you'll get different messages appropriate to the situation. After the message, you will have a chance to start over by pressing Y or y, or you may exit the program by pressing any other key.

How Does It Work?

The core of the program is a very efficient routine to shuffle a deck of cards. The computer creates an array of the numbers from 0 through 51 in that order. It then selects from this array according to a random number. This algorithm takes cards "without replacement" into another array, so that when the process is done, all 52 "cards" are in this second array in random order. Now these cards are dealt from the top of the deck into two "hands" of five cards each, alternating as in a normal human dealing. The player (you) gets the first, third, fifth, seventh, and ninth cards, while the computer gets the

second, fourth, sixth, eighth and tenth cards. This gives you a slight "edge" on the odds, since more cards are in the deck when your card is dealt then when the computer's card is dealt.

Each card in the deck is just a number from 0 through 51. When it deals them, the computer does an integer divide by 13 on each card. The quotient (0 through 3) is used for the suit, and the remainder (0 through 12) is the card value, where 0 is a deuce, 12 is an Ace, and so on. Thus 0 makes the deuce of Spades, 51 makes the Ace of Diamonds, etc. These numbers get combined into five bytes for each hand, where the left (most significant) nybble is the value, and the right nybble is the suit information. This allows the cards in each hand to be sorted for you by a very simple algorithm, so that when your cards are presented, the lowest ones will be on the left and the highest on the right. Cards of equal value in the hand will appear in the order Spades, Clubs, Hearts, and then Diamonds.

The program makes two special sets of characters for the numbers and the suit symbols, arranged so that the card values for the red suits will be shown in red, and the black ones in black. The 10 that appears on the cards is a special character designed so that we can contain the number in one character.

Is There Help Available?

Yes, there is help if you need any. Just write or call the programmer.

Bruce Harrison